3745-27-01 Definitions.

For the purposes of this chapter, the terms are defined as follows:

(A)

(1) "Airport" means any airport certified by the federal aviation administration and open to the public without prior permission and without restrictions within the physical capabilities of the available facilities.

(2) "Alteration" means a change from the requirements specified in the facility's authorizing document that is at least equivalent to rule requirements and requires written concurrence by Ohio EPA. An alteration is not a "modification."

[Comment: If the change is not equivalent to rule requirements, approval through a variance or exemption would be necessary.]

(3) "Applicant" means any person who has applied for a registration certificate, permit to install, an alternative infectious waste treatment technology approval, or an operating license in accordance with Chapter 3745-27, 3745-29, 3745-30, or 3745-37 of the Administrative Code.

(4) "Aquifer" means consolidated or unconsolidated geological units, formations, or series of units or formations that are hydraulically interconnected and that have the ability to receive, store, transmit, and yield water to wells or springs.

(5) "Aquifer system" means one or more geological units or formations that are wholly or partially saturated with water and are able to receive, store, transmit, and yield significant amounts of water to wells or springs.

(6) "Assets" means all existing and all probable future economic benefits obtained or controlled by a particular entity.

(7) "Authorized maximum daily waste receipt" means the maximum amount of solid waste a solid waste disposal facility may receive at the gate in any calendar day. The waste receipt limit shall be expressed in tons per day. The conversion factor between tons and cubic yards shall be one ton to three cubic yards unless the solid waste is baled, in which case a one-ton to one-cubic-yard conversion factor shall be used.

(B)

(1) "Beneficial use" for the purposes of scrap tires means to use a scrap tire in a manner that results in a commodity for sale or exchange or in any other manner authorized as a beneficial use in accordance with rule 3745-27-78 of the Administrative Code. The use of a scrap tire at a scrap tire recovery facility is not a beneficial use of scrap tires. Beneficial use does not apply to products manufactured from scrap tires and sold to a customer, including tire derived fuel.

(2) "Biomass fuels" means fuels from any plant derived organic matter available on a renewable basis including the following:

   (a) Agricultural crop wastes and residues.
(b) Agricultural food and feed crops.
(c) Aquatic plants.
(d) Dedicated energy crops and trees.
(e) Forestry residues and sawdust.
(f) Refuse derived fuel consisting of waste paper, cardboard, wood waste, yard waste, or animal waste.

(3) "Bird hazard" means an increase in the likelihood of bird and aircraft collisions that may cause damage to the aircraft or injury to the occupants of the aircraft.

(4) "Board of directors of a joint district" means a collective body of the boards of county commissioners of the counties establishing a joint solid waste management district as specified in section 343.01 of the Revised Code.

(5) "Board of health" means the board of health of a city or general health district, or the authority having the duties of a board of health in any city as authorized by section 3709.05 of the Revised Code.

(C)

(1) "Commingled yard waste" means yard waste that has been commingled with other solid wastes. Commingled yard waste does include containerized source-separated yard waste including, but not limited to, yard waste in paper or plastic-bags where such bags are commingled with other solid wastes.

(2) "Composting" means the process of biological decomposition of solid wastes under controlled conditions resulting in compost. Controlled conditions include but are not limited to the following:

(a) Adding moisture.
(b) Aerating.
(c) Chipping.
(d) Grinding.
(e) Mixing feedstocks, bulking agents, and additives.
(f) Performing procedures to achieve human pathogen reduction.
(g) Physical turning.
(h) Piling.
(i) Shredding.
(j) Other processing of solid wastes.

(3) "Composting facility" means a site, location, tract of land, installation, or building used for composting of solid waste in accordance with Chapter 3734. of the Revised Code and rules adopted thereunder. The composting facility includes the area of materials placement and any leachate management system structures.
(4) "Current assets" means cash or other assets or resources commonly identified as those that are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.

(5) "Current corrective measures cost estimate" means the most recent of the estimates prepared in accordance with rule 3745-27-18 of the Administrative Code.


(7) "Current liabilities" means obligations whose liquidation is reasonably expected to require either the use of existing resources properly classifiable as current assets or the creation of other current liabilities.

(8) "Current post-closure care cost estimate" means the most recent of the estimates prepared in accordance with rule 3745-27-16 or 3745-27-73 of the Administrative Code.

(D)

(1) "Daily design input capacity" or "DDIC" means the weight of scrap tires that can be processed at a scrap tire recovery facility per day. The DDIC is expressed in tons and shall be calculated as an averaged daily processing amount for all operating days in a calendar month.

(2) "Developed spring" means any spring that has been permanently modified by the addition of pipes or a collection basin to facilitate the collection and use of the spring water.

(3) "Director" means the director of environmental protection or the director's authorized representative.

(E)

(1) "Establish" or "establishment" of a sanitary landfill facility, infectious waste treatment facility, or scrap tire facility means to construct or install any of the proposed facility components, including the excavation that is related to the construction of a facility or any components thereof. "Establish" or "establishment" does not include clearing and grubbing.

(2) "Execute" means to complete and sign a document acceptable to the director for the purpose of establishing a financial assurance instrument.

(3) "Exemption" means a discretionary action of the director that relieves an applicant from a requirement of Chapter 3734. of the Revised Code or any rule adopted thereunder.

(4) "Existing unit" means any unit of a sanitary landfill facility that is receiving solid waste on or before June 1, 1994, and is a geographically contiguous area within the limits of waste placement of the sanitary landfill facility, as the limits of waste placement existed on June 1, 1994.

(5) "Explosive gas monitoring probe," "monitoring probe," or "probe" means a permanent device where the presence of landfill gas can be repeatedly measured with a direct reading instrument.

(F)

(1) "Face amount" means the total amount the insurer is obligated to pay under the policy.

(2) "Fault" means a fracture along which strata on one side of the fracture have been displaced with respect to strata on the other side of the fracture.
(3) "Final slope" means the slope of a landfill when it has reached final grade and includes but is not limited to the composite cap system, the waste, the composite liner system, and the subsurface.

(4) "Fire break" means the area around individual scrap tire storage piles that is maintained free of combustible and vegetative material. The width of the fire break shall be as specified in the applicable rule of Chapter 3745-27 of the Administrative Code. The fire break may include well-mowed grass if the fire break also includes a gravel or paved fire lane not less than twenty feet wide.

(5) "Foundry sand" has the same meaning as in rule 3745-30-01 of the Administrative Code.

(G) "Ground water" means any water below the surface of the earth in a zone of saturation.

(H)

(1) "Hazardous waste" means hazardous waste as defined in Chapter 3734. of the Revised Code and includes waste that is listed specifically as hazardous waste or exhibits one or more characteristics of hazardous waste as defined in Chapter 3745-51 of the Administrative Code.

(2) "Health commissioner" means the individual occupying the office created by sections 3709.11 and 3709.14 of the Revised Code, or the health commissioner's authorized representative.

(3) "Health district" means a city or general health district as created by or under the authority of Chapter 3709. of the Revised Code.

(4) "Holocene" means the most recent epoch of the Quaternary period extending from the end of the Pleistocene to the present.

(5) "Household hazardous waste" means solid waste originally generated by individual households that is listed specifically as hazardous waste or exhibits one or more characteristics of hazardous waste as defined in rule 3745-51-03 of the Administrative Code. Household hazardous waste is excluded from regulation as a hazardous waste pursuant to paragraph (B)(1) of rule 3745-51-04 of the Administrative Code.

(I)

(1) "Incinerator" means any equipment, machine, device, article, contrivance, structure, or part of a structure used to burn solid or infectious wastes to ash.

(2) "Independently audited" refers to an audit performed by an independent certified public accountant in accordance with generally accepted accounting standards, or for a publicly-owned facility, an equivalent comprehensive audit performed by the auditor of the state of Ohio pursuant to Chapter 117. of the Revised Code.

(3) "Industrial solid waste" has the same meaning as in rule 3745-29-01 of the Administrative Code.

(4) "Industrial solid waste landfill facility" has the same meaning as in rule 3745-29-01 of the Administrative Code.

(5) "Infectious agent" means a type of microorganism, pathogen, virus, or proteinaceous infectious particle that can cause or significantly contribute to disease in or death of human beings.
(6) "Infectious wastes" means any wastes or combination of wastes that include the following:

(a) Cultures and stocks of infectious agents and associated biologicals, human blood and blood products, and substances that were or are likely to have been exposed to or contaminated with or are likely to transmit an infectious agent or zoonotic agent, including the following:

(b) Human blood and blood products.

(c) Substances that were or are likely to have been exposed to or contaminated with or are likely to transmit an infectious agent or zoonotic agent, including the following:

(i) Laboratory wastes.

(ii) Pathological wastes.

(iii) Animal blood and blood products.

(iv) Animal carcasses and parts.

(v) Waste materials from the rooms of humans or the enclosures of animals that have been isolated because of a diagnosed communicable disease that are likely to transmit infectious or zoonotic agents. Waste materials from the rooms of humans do not include any wastes of patients who have been placed on blood and body fluid precautions under the "Universal Precaution System" established by the centers for disease control in the public health service of the United States department of health and human services, unless specific wastes generated under the universal precautions system have been identified as infectious wastes under paragraph (I)(6)(c)(vii) of this rule.

(vi) Sharp wastes used in the treatment, diagnosis, or inoculation of human beings or animals.

(vii) Any other waste materials generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals, that the director of health, by rules adopted in accordance with Chapter 119. of the Revised Code, identifies as infectious wastes after determining that the wastes present a substantial threat to human health when improperly managed because they are contaminated with, or are likely to be contaminated with, infectious agents.

(d) Any other waste materials the generator designates as infectious waste.

Patient care waste such as bandages, disposable gowns, or permeable materials that are lightly soiled with blood or other body fluids are not considered an infectious waste unless those wastes are soiled to the extent that the generator of the wastes determines that the materials should be managed as infectious wastes.

(7) "Infectious waste handling area" means any area where infectious wastes are stored, loaded, unloaded, prepared for treatment, or treated. Infectious waste handling areas also include areas where vehicles or containers are decontaminated, areas where transportation of infectious wastes within the facility premises occurs, and areas where treated infectious wastes are unloaded, stored, and loaded.

(8) "Infectious waste treatment unit" or "treatment unit" means the apparatus responsible for the attainment of
the performance standard for treatment and for the reduction in microorganisms that is part of the
treatment process. A free standing shredder or grinder is not considered a treatment unit.

[Comment: If the treatment process is contained within a single, enclosed piece of equipment, then the
treatment unit and treatment process are considered one and the same.]

(9) "Interim slope" means the slope of a landfill as a result of daily filling or when a phase, cell, or unit has
reached its limits and includes but is not limited to daily cover, intermediate cover, transitional cover,
waste, the composite liner system, and the subsurface.

(10) "Internal slope" means the slope as excavated or constructed and includes but is not limited to the
leachate collection layer, protective material, select waste, composite liner system, and the subsurface.

(J) [Reserved.]

(K) [Reserved.]

(L)

(1) "Leachate" means liquid that has come in contact with or been released from solid waste.

(2) "Legitimate recycling facility" means an engineered facility or site where recycling of material other than
scrap tires is the primary objective of the facility.

For the purposes of Chapters 3745-27 and 3745-37 of the Administrative Code, legitimate recycling
facilities are either of the following:

(a) Facilities that accept only source separated recyclables, except scrap tires, or commingled recyclables
   that are currently recoverable utilizing existing technology.

(b) Facilities that meet all of the following:

   (i) Accept mixed or source separated solid waste streams.

   (ii) Recovers for recycling or beneficial use not less than sixty per cent of the weight of solid wastes
        brought to the facility each month (as averaged monthly) for not fewer than eight months in
        each calendar year.

   (iii) Dispose of not more than forty per cent of the total weight of solid wastes brought to the facility
        each month (as averaged monthly) for not fewer than eight months in each calendar year.

For purposes of Chapters 3745-27 and 3745-37 of the Administrative Code, legitimate recycling
facility does not include any facility identified as a solid waste disposal facility as "solid waste"
is defined in this rule, nor does it include any facility identified as a scrap tire collection,
storage, monofill, monocell, or recovery facility or any premises at which the beneficial use of
scrap tires occurs.

(3) "Liabilities" means probable future sacrifices of economic benefits arising from present obligations to
transfer assets or provide services to other entities in the future as a result of past transactions or events.

(4) "Limestone quarry" means an excavation resulting from a mining operation where limestone is the
principal material excavated for commercial sale or use in another location. This term does not include
excavations of limestone resulting from the construction of the sanitary landfill facility.

(5) "Limits of waste placement" means the horizontal and vertical boundaries of a sanitary landfill facility within which the owner or operator has been authorized to dispose of solid waste.

(6) "Lower explosive limit" means the lowest per cent by volume of a mixture of explosive gases in air that will propagate a flame at twenty-five degrees Celsius and atmospheric pressure.

(M)

(1) "Maximum horizontal acceleration in lithified earth material" means the maximum expected horizontal acceleration depicted on a seismic hazard map, with a ninety per cent or greater probability that the acceleration will not be exceeded in two hundred fifty years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment.

(2) "Modification" has the same meaning as in rule 3745-27-02 of the Administrative Code.

(3) "Monocell" means a discrete volume of solid waste, which is provided isolation from other solid wastes, where a segregated waste stream is exclusively disposed within the limits of waste placement of a sanitary landfill facility.

(4) "Monofill" means a specialized sanitary landfill facility where a single segregated waste stream is exclusively disposed.

(5) "Municipal solid waste" means a type of solid waste generated from community, commercial, and agricultural operations, including but not limited to the following:

(a) Solid waste generated by community operations including wastes derived from single and multiple household residences, hotels, motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas.

(b) Solid waste generated by commercial operations including stores, offices, restaurants, warehouses, and other non-manufacturing activities.

(c) Solid waste generated from agricultural operations including single-family and commercial farms, greenhouses, and nurseries.

(d) Sludge from municipal, commercial, or industrial waste water treatment plants, water treatment plants, and air pollution control facilities that is co-disposed with wastes specified in paragraph (M)(5)(a), (M)(5)(b), (M)(5)(c), or (M)(5)(e) of this rule in a sanitary landfill facility.

(e) Fly ash and bottom ash generated from the incineration of municipal solid waste, provided the fly ash and bottom ash are not regulated as hazardous wastes.

(N)

(1) "Net working capital" means current assets minus current liabilities.

(2) "Net worth" means total assets minus total liabilities and is equivalent to owner's equity.

(3) "New unit" means any unit of a sanitary landfill facility that did not receive solid waste prior to June 1,
1994, and that has not been designated an existing unit by the owner or operator. A new unit may be contiguous or noncontiguous.

(4) "Nonputrescible solid wastes" means solid wastes that do not generate explosive gases during decomposition, do not readily biodegrade, and do not cause odors.

(5) "Nuisance" means anything that is injurious to human health or offensive to the senses; interferes with the comfortable enjoyment of life or property; and affects a community, neighborhood, or any considerable number of persons, although the extent of annoyance or damage inflicted upon individual persons may be unequal.

(O)

(1) "Occupied structure" means an enclosed structure where one or more human beings may be present, except those structures that are open to natural free air circulation such that an explosive gas hazard is minimized.

(2) "Open burning" means the burning of solid wastes in an open area or burning of solid wastes in a type of chamber or vessel that is not approved or authorized in rules adopted by the director under section 3734.02 of the Revised Code or, if the solid wastes consist of scrap tires, in rules adopted by the director under section 3734.73 of the Revised Code, or the burning of treated or untreated infectious wastes in an open area or vessel that is not approved in rules adopted by the director under section 3734.021 of the Revised Code.

(3) "Open dump" means a site where solid wastes or untreated infectious wastes have been disposed without a license.

(4) "Open dumping" means the following:

   (a) The deposition of solid wastes, other than scrap tires, into waters of the state, or the final deposition of solid wastes on or into the ground at any place other than a solid waste facility operated in accordance with Chapter 3734. of the Revised Code, and Chapters 3745-27, 3745-29, 3745-30, and 3745-37 of the Administrative Code.

   (b) The deposition of solid wastes that consist of scrap tires on or into the following:

      (i) Waters of the state.

      (ii) The ground at any place other than a scrap tire collection, storage, monofill, monocell, or recovery facility licensed under section 3734.81 of the Revised Code, or at a site or in a manner not specified in division (C)(2), (C)(3), (C)(4), (C)(5), (C)(7), (C)(9), or (C)(10) of section 3734.85 of the Revised Code, or at any licensed solid waste facility if the deposition is not in accordance with Chapters 3745-27 and 3745-37 of the Administrative Code, or at a site or in a manner not in compliance with rule 3745-27-60 of the Administrative Code.

      (iii) At any licensed solid waste facility if the deposition is not in accordance with Chapters 3745-27 and 3745-37 of the Administrative Code.

      (iv) Buildings, trailers, or other vehicles at locations other than a scrap tire transporter's registered business location, a licensed scrap tire facility, or an unregistered scrap tire facility operating in
accordance with rules 3745-27-60 and 3745-27-61 of the Administrative Code for longer than fourteen days. Scrap tires in trailers or vehicles shall be considered open dumped unless written prior authorization is granted by Ohio EPA that allows the vehicle or trailer to have mechanical repairs that will take longer than fourteen days to complete.

[Comment: An unregistered scrap tire facility operating in accordance with rule 3745-27-61 of the Administrative Code includes trailers pre-positioned in accordance with paragraph (C)(8) of rule 3745-27-56 of the Administrative Code.]

(c) The deposition of untreated or treated infectious wastes into waters of the state, or the final deposition of untreated infectious wastes on or into the ground at any place other than a licensed solid waste facility operated in accordance with Chapter 3734. of the Revised Code, and Chapters 3745-27 and 3745-37 of the Administrative Code.

(5) "Operator" or "facility operator" means the person responsible for the on-site supervision of technical operations and maintenance of a solid or infectious waste facility, or any parts thereof, which may affect the performance of the facility and its potential environmental impact, or any person who has authority to make discretionary decisions concerning the daily operations of the solid or infectious waste facility. "Operator" also means the person responsible for the supervision of technical operations of a scrap tire transportation business.

(6) "Original owner" means the person or business who purchased a new, retread, or used tire for use on a wheel or rim. Original owner does not include anyone who has accepted a tire other than a new or retreaded tire, for the purposes of transportation, collection, storage, processing, or disposal.

(7) "Owner" or "property owner" means the person who holds title to the property on which the solid waste facility, infectious waste treatment facility, or scrap tire transportation business is located.

(P)

(1) "Parent corporation" means a corporation, or the ultimate corporation, that directly owns at least fifty percent of the voting stock of the corporation which holds a permit or license issued in accordance with section 3734.05 of the Revised Code and Chapter 3745-27, 3745-29, or 3745-30 of the Administrative Code; the latter corporation is deemed a "subsidiary" of the parent corporation.

(2) "Permittee" means a person to whom a permit to install has been issued.

(3) "Person" includes the state, any political subdivision of the state or other state or local body, the United States and any agency or instrumentality thereof, and any legal entity or organization defined as a person under section 1.59 of the Revised Code, or other entity.

(4) "Phase" means a discrete area of a sanitary landfill facility, that has been designated to facilitate the systematic construction, operation, and closure of the sanitary landfill facility. For a sanitary landfill facility, other than an industrial solid waste landfill facility or residual solid waste landfill facility, a phase is a discrete area that is part of a unit.

(5) "Premises" means one of the following:
(a) Geographically contiguous property owned by the same person.

(b) Noncontiguous property that is owned by the same person and connected by a right-of-way that the person controls and to which the public does not have access. Two or more pieces of property that are geographically contiguous and divided by one or more public or private right-of-way or rights-of-way are a single premises.

(6) "Processed tire" or "processed scrap tire" means a scrap tire that has been altered through a mechanical, chemical, thermal, or controlled combustion process so that the resulting material is a marketable product or is suitable for storage or disposal in a scrap tire monocell or monofill facility. Processed tire includes but is not limited to cut, split, and shredded tires. Baled tires are only considered processed tires for the purpose of disposal at a scrap tire monocell or monofill facility. For the purposes of disposal, processed tires are classified in accordance with the following:

(a) Processed tires that are readily identifiable as scrap tires or pieces of scrap tires by visual inspection are considered scrap tires.

(b) Processed tires that are not readily identifiable as scrap tires or pieces of scrap tires by visual inspection when disposed are considered solid waste rather than scrap tires.

(c) Items manufactured from processed tires and scrap tire material that is a by-product of a manufacturing process when disposed are considered solid waste.

(7) "Public water supply well" means any well connected to a public water system as defined by division (A) of section 6109.01 of the Revised Code.

(Q)

(1) "Qualified ground water scientist" means a scientist or engineer who has received a baccalaureate or post-graduate degree in the natural sciences or engineering and has at least five years relevant experience in ground water hydrology or hydrogeology and related fields to enable that individual to make sound professional judgments regarding ground water monitoring, contaminant fate and transport, and corrective measures.

(R)

(1) "Recycling" means converting solid waste that would otherwise be disposed and returning the converted material to commerce as a commodity for use or exchange in an established and legitimate market. Recycling is not reuse, storage, disposal, or transfer.

(2) "Regional aquifer" means the aquifer used as a primary source of water to wells within one mile of the solid waste disposal facility.

(3) "Registrant" means any person to whom a registration has been issued.

(4) "Regulatory floodplain" means an area covered by a one hundred year flood as depicted on a flood insurance rate map published by the federal emergency management agency.

(5) "Residual solid waste" or "residual waste" has the same meaning as in rule 3745-30-01 of the
Administrative Code.

(6) "Residual waste landfill facility" or "residual waste landfill" has the same meaning as in rule 3745-30-01 of the Administrative Code.

(7) "Responsible party" has the same meaning as in section 3734.041 of the Revised Code.

(8) "Rough tire shreds" or "rough shredded scrap tires" means tire shreds or cut tire pieces that have any dimension greater than four inches.

(1) "Salvaging" means the extracting or removing of materials from the solid waste stream at the working face of a solid waste disposal facility for the intended purpose of recycling or for removal to a salvage facility regulated by Chapter 4737. of the Revised Code and rules promulgated thereunder.

(2) "Sand or gravel pit" means an excavation resulting from a mining operation where the removal of sand or gravel is undertaken for commercial sale or use in another location. This term does not include excavations of sand or gravel resulting from the construction of the sanitary landfill facility.

(3) "Sandstone quarry" means an excavation resulting from a mining operation where sandstone is the principal material excavated for commercial sale or use in another location. This term does not include excavations of sandstone resulting from the construction of a sanitary landfill facility.

(4) "Sanitary landfill facility" or "solid waste landfill" means an engineered facility where the final deposition of solid waste on or into the ground is practiced in accordance with Chapter 3745-27, 3745-29 or 3745-30 as appropriate and 3745-37 of the Administrative Code and includes the units within the limits of waste placement, all ground water monitoring and control system structures, buildings, explosive gas monitoring, control, and extraction system structures, surface water run-on and runoff control structures, sedimentation ponds, liner systems, and leachate management system structures. The sanitary landfill facility includes all portions of the facility described above and those areas within three hundred feet of the limits of waste placement unless an alternate setback is deemed acceptable by the director. If the owner or operator has not obtained approval of a permit to install, which delineates the setback from the limits of waste placement, submitted in accordance with section 3734.05 of the Revised Code, the sanitary landfill facility includes all portions of the facility described above and those areas within three hundred feet of the limits of waste placement unless the property line of the facility is less than three hundred feet from the limits of waste placement, in which case the sanitary landfill facility includes those areas within the property line.

(5) "Scavenging" means the removal by unauthorized personnel of materials from the solid waste stream at waste handling areas of a solid waste disposal facility or solid waste transfer facility.

(6) "Scrap tire" is a type of solid waste and means any unwanted or discarded tire, regardless of size, that has been removed from its original use. "Scrap tire" includes all whole scrap tires and pieces of scrap tires that are readily identifiable as parts of scrap tires by visual inspection.

For purposes of this definition, "unwanted" means the original scrap tire generator, original owner, or manufacturer of the tire no longer wants to use, or is unable to use, the tire for its original purpose, and the tire is discarded. "Discarded" means the original scrap tire generator, original owner, or
manufacturer of the tire has otherwise managed the tire in such a manner that disposal has occurred.

"Scrap tire" does not include the following:

(a) A tire after it has been retreaded or regrooved for resale or reuse, unless it has been declared defective or has been returned to the seller or manufacturer for warranty adjustment.

(b) A tire that is mounted and installed on a vehicle or trailer, or carried on the vehicle or trailer as the spare tire. Trucks with more than four wheels or with different size wheels or tires may carry more than one spare tire.

For purposes of this definition, "installed" means placing the mounted wheel and tire assembly at any of the positions on a vehicle or trailer where a wheel and tire assembly was initially placed on the vehicle or trailer during manufacture, and includes the position normally used for a spare tire or tires.

For purposes of this definition, "mounted" means placing a tire on a wheel rim so that it can be installed on a vehicle. A mounted tire may be a scrap tire unless it is also installed.

(c) Tires from non-motorized vehicles such as bicycles, or tires from small equipment such as lawn mowers, wheelbarrows, etc.

[Comment: Tires from non-motorized vehicles may be recycled, disposed of as scrap tires, or may be disposed of as solid waste.]

(d) At a retreading business, a retreadable casing that has been inspected and individually labeled or marked as suitable for retreading and is stored in an enclosed building or in a manner otherwise authorized by the director.

(e) Tire derived fuel (TDF) or tire derived chips (TDC) as defined in this rule after the TDF or TDC has been transported from the scrap tire recovery facility for use as a fuel or for beneficial use.

(f) Non-pneumatic, hard, pressed tires, such as forklift tires.

(7) "Scrap tire collection facility" means a type of facility for scrap tire storage that meets the following:

(a) Is used for the receipt and storage of whole scrap tires from the public prior to the transportation of the scrap tires to one of the destinations listed in rule 3745-27-65 of the Administrative Code.

(b) Exclusively stores scrap tires in portable containers.

(c) Consists of portable containers where the scrap tires are stored and the aggregate volume of the portable containers does not exceed five thousand cubic feet.

[Comment: If the facility does not meet the above definition for a scrap tire collection facility, then the facility may be a scrap tire storage facility. If the facility includes any equipment for processing (e.g. cutting or shredding equipment) the scrap tires to produce a usable product, then the facility is a scrap tire recovery facility.]

(8) "Scrap tire facility" includes but is not limited to the following:
(a) A scrap tire collection facility, scrap tire storage facility, scrap tire recovery facility, scrap tire monofill facility, scrap tire monocell facility, and scrap tire submergence facility as those terms are defined in this rule.

(b) A scrap tire storage facility.

(c) A scrap tire recovery facility.

(d) A scrap tire monofill facility.

(e) A scrap tire monocell facility.

(9) "Scrap tire generator" means any person or business that generates scrap tires. Scrap tire generator includes the original scrap tire generator and any business that removes tires from vehicles and accepts scrap tires in the normal course of business, including but not limited to tire retail dealers and tire retreaders.

[Comment: A scrap tire generator or original scrap tire generator who stores more than one hundred scrap tires and who does not qualify for one of the exclusions from registration in rule 3745-27-61 or permitting in rule 3745-27-63 of the Administrative Code may also be a scrap tire collection, storage, or recovery facility.]

(10) "Scrap tire handling area" means any area of a scrap tire collection, storage, monocell, monofill, or recovery facility where scrap tires are stored, loaded, unloaded, sorted, baled, shredded, prepared for processing, or otherwise processed. A scrap tire handling area includes the scrap tire storage area but does not include vehicle staging areas, vehicle storage areas, or buildings not used for the processing or storage of scrap tires. Scrap tire handling area also includes that portion of a scrap tire transporter's business location where scrap tires are unloaded, sorted, and loaded.

(11) "Scrap tire monocell facility" means a type of monocell that is used or intended to be used exclusively for the environmentally sound storage or disposal of scrap tires that have been shredded, chipped, or otherwise mechanically processed.

(12) "Scrap tire monofill facility" means a type of monofill that is used or intended to be used exclusively for the environmentally sound storage or disposal of scrap tires that have been shredded, chipped, or otherwise mechanically processed.

(13) "Scrap tire recovery facility" means any site, location, tract of land, installation, or building that is used or intended to be used for the processing of scrap tires for the purpose of extracting or producing usable products, materials, or energy from the scrap tires. Processing includes but is not limited to: a controlled combustion process, mechanical process, thermal process, or chemical process that uses whole, split, or shredded scrap tires as a raw material. Scrap tire recovery facility includes any facility that uses the controlled combustion of scrap tires in a manufacturing process to produce process heat or steam or any facility that produces usable heat or electric power through the controlled combustion of scrap tires in combination with another fuel.

(a) "Mobile scrap tire recovery facility" means a type of scrap tire recovery facility owned or operated by a person not otherwise licensed as a class I or class II scrap tire recovery facility in Ohio and any unit for processing tires that is designed by the manufacturer for regular movement from one
operating site to another and which the owner or operator has used at more than one location during the prior year. "Mobile scrap tire recovery facility" specifically includes any tire cutting, baling, or shredding equipment that is moved from site to site for the purpose of processing scrap tires into a useable product at the site or before the scrap tires are removed from the site.

(b) A "class I scrap tire recovery facility" means a scrap tire recovery facility with a permitted daily design input capacity of two hundred tons of scrap tires or greater.

(c) A "class II scrap tire recovery facility" means a scrap tire recovery facility with a registered daily design input capacity of less than two hundred tons of scrap tires.

(14) "Scrap tire storage area" means the part of a premises including but not limited to the scrap tire collection, storage, or recovery facility where whole scrap tires are stored. At a scrap tire recovery facility, the scrap tire storage area also includes the portion of the premises where processed scrap tires are stored.

(15) "Scrap tire storage facility" means any facility where whole scrap tires are stored prior to the scrap tires being transported to one of the destinations listed in paragraph (D)(8) of rule 3745-27-65 of the Administrative Code.

(a) A "class I scrap tire storage facility" means a scrap tire storage facility that has a permitted capacity of greater than ten thousand square feet and limited to three acres of effective scrap tire storage. A "class II scrap tire storage facility" means a scrap tire storage facility that has a registered capacity of not greater than ten thousand square feet of effective scrap tire storage.

(b) A "class II scrap tire storage facility" means a scrap tire storage facility that has a registered capacity of not greater than ten thousand square feet of effective scrap tire storage.

[Comment: Division (C) of section 3734.71 of the Revised Code specifies that the owner or operator of a class I scrap tire storage facility must also be the owner or operator of a licensed scrap tire monocell, monofill, or recovery facility in Ohio, or a solid waste or scrap tire monocell, monofill, or recovery facility located in another state and operating in compliance with the laws of that state.]

(16) "Scrap tire storage pile" means an area where scrap tires are stored either indoors or outdoors on the floor, on the ground, or in racks. The dimensions of a scrap tire storage pile are determined by the location of fire breaks of at least the width specified in Chapter 3745-27 of the Administrative Code around the storage pile. A scrap tire storage pile may consist of one or more separate racks. A scrap tire storage pile may consist of a combination of racks, on the floor, or on the ground storage of scrap tires.

(17) "Scrap tire submergence facility" means a type of scrap tire monofill facility where only whole scrap tires are submerged in water in an engineered structure.

(18) "Scrap tire transporter" or "transporter" means the registrant for a scrap tire transportation business or anyone in the registrant's employ who signs the scrap tire shipping papers or operates the registrant's scrap tire transportation vehicles.

(19) "Seismic impact zone" means an area where the maximum horizontal acceleration in lithified earth material exceeds one-tenth of the acceleration of gravity.
(20) "Sewage sludge" includes but is not limited to scum and solids removed in primary, secondary, or advanced wastewater treatment processes. Sewage sludge does not include the following:

(a) Ash generated during the firing of sewage sludge in a sewage sludge incinerator.
(b) Grit and screenings generated during preliminary treatment of sewage in a treatment works.
(c) Animal manure.
(d) Residue generated during the treatment of animal manure.
(e) Domestic septage.

(21) "Significant zone of saturation" means a zone of saturation that may act as a preferential pathway of migration away from the limits of solid waste placement.

(22) "Solid waste" has the same meaning as in section 3734.01 of the Revised Code.

(23) "Solid waste disposal facility" means any site, location, tract of land, installation, or building used for incineration, composting, sanitary landfilling, or other approved methods of disposal of solid wastes.

(24) "Solid waste energy recovery facility" means any site, location, tract of land, installation, or building where mixed solid waste or select solid waste streams including scrap tires are used as or intended to be used as fuel to produce energy, heat, or steam.

[Comment: A "solid waste energy recovery facility" that exclusively uses scrap tires and other approved rubber waste as fuel, may be regulated as a "scrap tire recovery facility."]

(25) "Solid waste management district" means a county that has established a resolution, or joint counties which have entered into an agreement, for the purposes of preparing, adopting, submitting, and implementing a solid waste management plan for the county or joint counties and for the purposes of providing for, or causing to be provided for, the safe and sanitary management of solid wastes within all of the incorporated and unincorporated territory of the county or joint counties and in compliance with Chapters 343. and 3734. of the Revised Code.

(26) "Solid waste management policy committee" means a committee established and convened by the board of county commissioners of a county solid waste management district or the board of directors of a joint solid waste management district to prepare the solid waste management plan of the solid waste management district and in compliance with division (B) of section 3734.54 of the Revised Code.

(27) "Solid waste transfer facility" or "transfer facility" means any site, location, tract of land, installation, or building that is used or intended to be used primarily for the purpose of transferring solid wastes that are generated off the premises of the facility from vehicles or containers into other vehicles or containers for transportation to a solid waste disposal facility. The term does not include any facility that consists solely of portable containers that have an aggregate volume of fifty cubic yards or less nor any facility where legitimate recycling activities are conducted. The term does not include any facility that accepts scrap tires other than scrap tires that are accepted incidental to a mixed solid waste shipment.

(28) "Source-separated yard waste" means yard waste that has been separated at the point of generation or at
the point of collection from other solid wastes. Source separation includes but is not limited to such measures as placing yard waste in portable containers and compartments of portable containers dedicated to yard waste collection, and in vehicles dedicated to yard waste collection.

(29) "Surface water" means any water on the surface of the earth.

(T)

(1) "Tangible net worth" means the tangible assets that remain after deducting liabilities; such assets would not include such intangibles as goodwill and rights to patents or royalties.

(2) "Tire," for purposes of fee collection only, has the same meaning as in section 3734.90 of the Revised Code. "Tire" and "scrap tire" as used in this chapter are not restricted to motor vehicle tires but include all pneumatic tires.

[Comment: The definition of "tire" found in section 3734.90 of the Revised Code applies only to the collection of the state fee on the sale of new tires by a wholesaler.]

(3) "Tire adjustment center" means a premises to which defective new tires and tires returned for warranty adjustment are shipped for analysis of failure and final disposition.

(4) "Tire derived fuel" (TDF) or "tire derived chips" (TDC) means a uniformly shredded product obtained from whole tires where the maximum size of ninety-five per cent of the shreds is less than four inches in any dimension. TDC may be used as a civil engineering material or as feedstock for the manufacturing of crumb rubber or other tire derived material.

[Comment: TDC is defined using the ASTM "Standard Practice for Use of Scrap Tires in Civil Engineering Applications," (D6270-17) (www.astm.org), section 3.1.29, for x-minus classified, size reduced scrap tires.]

(5) "Tire manufacturing finishing center" means premises where tires are manufactured, inspected, and processed to either finished stock or scrap.

(6) "Tire retreading business" means premises where scrap tires are recycled by processing the scrap tires and attaching a new tread to the used tire casing.

(7) "Tire sidewall" means the flat circular part of a tire left after the tread has been cut away. Tire sidewall does not include a bagel cut tire or any cut tire where a portion of the tread remains attached to the sidewall.

(8) "Treat" or "treatment" for the purposes of infectious wastes means any method, technique, or process that renders the wastes noninfectious including but not limited to steam sterilization and incineration. Treat or treatment of wastes identified in division (R)(7) of section 3734.01 of the Revised Code, to substantially reduce or eliminate the potential for the wastes to cause lacerations or puncture wounds.

(U)

(1) "Unit" means a discrete area within the limits of waste placement of a sanitary landfill facility, for which the owner or operator is authorized to dispose of solid waste, that is delineated by the owner or operator for the purpose of complying with the siting, construction, operational, closure or post-closure care
ground water monitoring, and financial assurance requirements of Chapter 3745-27 of the Administrative Code.

(2) "Unstable area" means a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of the structural components of a landfill that are responsible for preventing releases from the landfill. Unstable areas can include areas where on-site or local soil conditions result in significant differential settling, areas where the downslope movement of soil or rock due to gravitational influence occurs, or areas where the lowering or collapse of the land surface occurs either locally or over broad regional areas.

(3) "Used tire" means a whole scrap tire. A used tire remains a scrap tire until it has been reused by being installed on a vehicle or trailer.

(V)

(1) "Variance" means an action of the director that alters or changes a requirement of a rule adopted under Chapter 3734. of the Revised Code.

(2) "Vertical expansion" means the extension of the vertical boundary of waste placement that occurs prior to beginning, or being required to begin, closure activities in accordance with rule 3745-27-11 of the Administrative Code. A vertical expansion is a modification. A vertical expansion is not a unit.

(W)

(1) "Waste handling area" means any area of a solid waste facility where solid wastes are stored, loaded, unloaded, baled, shredded, crushed, compacted, or otherwise processed or subjected to salvaging activities. Waste handling areas do not include vehicle staging or vehicle storage areas.

[Comment: For definitions of other types of waste handling areas please see "infectious waste handling area" and "scrap tire handling area."]

(2) "Water pollution" means the unpermitted release of sediment from disturbed areas, solid waste or waste-derived constituents, or leachate to the waters of the state.

(3) "Waters of the state" means all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and other bodies or accumulations of water, surface and underground, natural or artificial, regardless of the depth of the strata in which underground water is located, that are situated wholly or partly within, or border upon, this state, or are within its jurisdiction, except those private waters that do not combine or effect a junction with natural surface or underground waters.

(4) "Wetland" has the same meaning as in rule 3745-1-02 of the Administrative Code.

(5) "Working face" means that portion of a sanitary landfill facility where solid wastes are unloaded for final deposition.

(X) [Reserved.]

(Y)

(1) "Yard waste" means solid waste that includes the following:
(a) Any plant materials from residential trees and edible gardens.

(b) Brush.

(c) Decorative plant materials that do not contain plastic, metal, polystyrene or other non-compostable material, including but not limited to any of the following:
   (i) Pumpkins or gourds.
   (ii) Hay or straw bales.
   (iii) Holiday trees.
   (iv) Discarded or potted flowers.
   (v) Wreaths.
   (vi) Grave blankets.

(d) Grass clippings.

(e) Leaves.

(f) Prunings from trees or shrubs.

(g) Tree trunks and stumps.

Yard waste does not include materials from industrial processing, agricultural processing, or food processing.

(Z)

(1) "Zone of saturation" means that part of the earth's crust, excluding the capillary zone, in which all voids are filled with water.

(2) "Zoonotic agent" means a type of microorganism, pathogen, virus, or proteinaceous infectious particle that causes disease in vertebrate animals, is transmissible to human beings, and can cause or significantly contribute to disease in or death of human beings.

(AA) Incorporation by reference. The text of the incorporated materials is not included in this rule but is hereby made a part of this rule. Only the specific version referenced in this rule is incorporated. Any amendment or revision to a referenced document is not incorporated until this rule has been amended to specify the new version. The materials incorporated by reference are available as follows:

(1) Federal statutes. The full text is available in electronic format at http://www.gpo.gov/fdsys. These laws are also available for inspection and copying at most public libraries and "The State Library of Ohio." Appropriate federal statutes listed in this rule are those amended through January 2017 and include the following:
   (a) Investment Company Act of 1940, 15 U.S.C. 80a-1 to 80a-64.
   (b) U.S.C. Title 11, Bankruptcy.

(2) "Standard Practice for Use of Scrap Tires in Civil Engineering Applications," (D6270-17), approved in
1998, re-approved in 2004 and 2012; amended in 2008 and 2017. Information and copies may be obtained by writing to: "ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, Pennsylvania 19428-2959." These documents are available for purchase at http://www.astm.org.

Effective: 4/22/2019
Five Year Review (FYR) Dates: 1/22/2019 and 04/22/2024

CERTIFIED ELECTRONICALLY

Certification

04/10/2019

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.021, 3734.028, 3734.12, 3734.50, 3734.70, 3734.71, 3734.72, 3734.73, 3734.74
Rule Amplifies: 3734.01, 3734.02, 3734.12, 3734.50, 3734.51, 3734.70, 3734.71, 3734.72, 3734.73, 3734.74, 3734.84, 3734.86
Permit to install.

(A) Except as provided in paragraph (D) of this rule, no person shall establish or modify a solid waste facility or infectious waste treatment facility without obtaining a permit to install issued by the director.

[Comment: According to Chapter 3734. of the Revised Code and the rules promulgated thereunder, solid waste facilities requiring a permit include sanitary landfill facilities (including scrap tire monofills), transfer facilities, class I compost facilities, solid waste incinerators or solid waste recovery facilities, class I scrap tire storage facilities, and class I scrap tire recovery facilities.]

(B) For the purposes of this rule, “establish” or “establishment” of a sanitary landfill facility, infectious waste treatment facility, compost facility, scrap tire facility, or transfer facility means to construct or install any of the proposed facility components, and includes excavation that is related to the construction of a facility or any components thereof. “Establish” or “establishment” does not include clearing and grubbing.

(C) For the purposes of this rule, “modify” or “modification” means:

(1) A sanitary landfill facility undergoing:

   (a) A change in the authorized maximum daily waste receipt established for the facility.

   (b) A substantial horizontal or vertical increase in the limits of waste placement as that term is defined in rule 3745-27-01 of the Administrative Code, including but not limited to those modifications specified in division (A)(2)(d) of section 3734.05 of the Revised Code.

   [Comment: A reduction to the limits of waste placement or total capacity by itself is generally not considered to be a modification, unless the reduction also results in other substantial changes to the facility such that paragraph (C)(1)(c) of this rule is applicable.]

   (c) Any change which may endanger human health or the environment, including but not limited to a change to operation, technique of waste received, type of waste received, or design or construction of the facility, as determined by the director.

(2) A solid waste transfer facility undergoing:

   (a) Any substantial expansion of the waste handling area.
(b) Any substantial change to the location of the waste handling area.

(3) An infectious waste treatment facility undergoing:

(a) A substantial change in waste handling at the facility, including, but not limited to:

(i) Type of waste received.

(ii) Any change in the facility’s treatment technology or technologies.

(b) An increase in the treatment capacity of the facility. For the purposes of this rule, “treatment capacity” means the maximum amount of waste permitted by Ohio EPA to be charged into the treatment unit per hour, or the engineered throughput capacity per hour if no such permitted capacity is authorized.

(c) Any other substantial change which may endanger human health or the environment.

(4) A Class I composting facility undergoing:

(a) Any substantial expansion of the material placement area.

(b) Any substantial change to the location of the material placement area.

(c) Any change in type of waste received.

(5) A solid waste incinerator or solid waste energy recovery facility undergoing:

(a) Any substantial expansion of the waste handling area.

(b) Any substantial change to the location of the waste handling area.

(6) A Class I scrap tire storage facility or Class I scrap tire recovery facility undergoing:

(a) An increase in the designated daily design input capacity (DDIC) only when it requires an increase in the facility’s annual license fee. Any decrease in a facility’s DDIC would not be considered a modification.

(b) Changes requiring the issuance of new or additional special conditions to the permit.

(c) A change to store any whole or processed scrap tires outside of a building or in enclosed containers) if previously there were no scrap tires designated to
be stored outside a building or in enclosed containers or if there were specific limitations on scrap tires stored outside of a building or in enclosed containers.

(d) Any substantial expansion to the scrap tire handling area or scrap tire storage area.

(D) Exceptions. The following are not required to obtain a permit to install:

(1) The solid waste facility is for sewage sludge treatment or disposal when the treatment or disposal is authorized by a current permit issued under Chapter 3704. or 6111. of the Revised Code.

(2) The municipal solid waste landfill is required to install an “interim composite liner system” pursuant to rule 3745-27-20 of the Administrative Code.

(3) The infectious waste treatment facility is owned or operated by the generator of the wastes and treats wastes that are generated at any premises owned or operated by the generator.

(4) The infectious waste treatment facility is owned or operated by a hospital, as defined in section 3727.01 of the Revised Code; and

   (a) Treats sharp wastes that are generated by a generator who has staff privileges at that hospital and produces fewer than fifty pounds of infectious wastes in any one month; or

   (b) Treats wastes that are generated in providing care to a patient by an emergency medical services organization, as defined in section 4765.01 of the Revised Code; or

   (c) Treats wastes generated by an individual for purposes of the individual's own care or treatment.

(5) The infectious waste treatment facility holds a license to operate a crematory facility issued under Chapter 4717. and a permit issued under Chapter 3704. of the Revised Code.

(6) The infectious waste treatment facility treats or disposes of dead animals or parts thereof, or the blood of animals, and is subject to any of the following:


   (b) Chapter 918. of the Revised Code.
(c) Chapter 953. of the Revised Code.

(7) Any unit of a hazardous waste facility for which a hazardous waste facility installation and operation permit is required by Chapter 3734. of the Revised Code.

(8) Solid waste facilities that are holding a current registration pursuant to Chapter 3734. of the Revised Code and rules promulgated thereunder.

(E) Permit application.

(1) Each person proposing to establish or modify a solid waste facility or infectious waste treatment facility shall submit an application for a permit with accompanying detail plans and specifications to the director as he deems necessary in order to determine whether the criteria for approval have been met.

(2) Each application for a permit to install shall be accompanied by a nonrefundable application fee established in Chapters 3734. and 3745. of the Revised Code.

(3) Every applicant for a permit, other than for a permit modification, shall file a disclosure statement, on a form developed by the attorney general, with the director and the attorney general at the same time the applicant files an application for a permit with the director.

(4) The application for a permit to install shall be signed by either the owner or operator of the facility shall be one of the following:

(a) In the case of a corporation, a principal executive officer of at least the level of vice president, or his duly authorized representative, if such representative is responsible for the overall operation of the facility.

(b) In the case of a partnership, a general partner.

(c) In the case of a limited liability company, a manager, member, or other duly authorized representative of the limited liability company, if such representative is responsible for the overall operation of the facility.

(d) In the case of sole proprietorship, the owner.

(e) In the case of a municipal, state, federal, or other governmental facility, the principal executive officer, the ranking elected official, or other duly authorized employee.

(5) The signatures on the application for a permit to install shall constitute personal affirmation that all statements or assertions of fact made in the application are true and complete, comply fully with applicable state requirements, and shall
subject the signatory to liability under those state laws forbidding false or misleading statements.

(6) The applicant for a municipal solid waste landfill, industrial solid waste landfill, residual waste landfill, or solid waste transfer facility, undergoing one or more of the following, shall also submit within thirty days of the public meeting on the application, as specified in division (A)(2)(d) of section 3734.05 of the Revised Code, a copy of the transcript of the public meeting on the application, copies of any exhibits, displays or other materials presented by the applicant at the meeting, and the original copy of any written comments submitted at the meeting.

(a) Establishing a new facility.

(b) Any increase of more than ten per cent in the total capacity of the existing facility.

(c) Any expansion of the limits of solid waste placement of the existing facility.

(d) Any increase in the depth of excavation at the existing facility.

(e) Any change in the technique of waste receipt or type of waste received at the existing facility that may endanger human health.

(F) A permit to install shall be issued, modified, revoked, or denied and may be appealed in accordance with provisions of the rules of procedure of Ohio EPA, Chapter 3745-47 of the Administrative Code and section 3734.09 of the Revised Code.

(G) Issuance of the permit.

(1) In deciding whether to grant or deny a permit to install, the director shall evaluate whether the construction, operation, closure, and if applicable, post closure care of the facility is capable of fulfilling all appropriate regulatory requirements for protecting surface water, ground water, and air by soliciting the input and coordinating the issuance of the permit to install with all relevant divisions of Ohio EPA, as specified in the appendix of this rule. The director may consult with other divisions or persons as the director deems appropriate.

(2) In deciding whether to grant or deny a permit to install, the director may take into consideration the social and economic impact of the air contaminants, water pollutants, or other adverse environmental impact that may be a consequence of issuance of the permit to install.

(H) Terms and conditions.
(1) The director may impose such special terms and conditions as are appropriate or necessary to ensure compliance with rules adopted under division (A) of section 3734.02 of the Revised Code and division (D) of section 3734.12 of the Revised Code.

(2) If the director determines that standards more stringent than those applicable in rules adopted under division (A) of section 3734.02 of the Revised Code and division (D) of section 3734.12 of the Revised Code, or standards pertaining to subjects not specifically addressed by those rules, are necessary to ensure that a solid waste facility constructed at the proposed location will not cause a nuisance, cause or contribute to water pollution, or endanger public health or safety, the director may issue a permit for the facility with such terms and conditions as the director finds necessary to protect public health and safety and the environment. If a permit is issued, the director shall state in the order issuing it the specific findings supporting each such term or condition.

(I) Termination.

(1) A permit to install for a new facility shall terminate three years after the effective date of the permit to install if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation of the new facility.

(2) The owner or operator may request the establishment of a new termination date. Such request shall be submitted to the director and provide justification for the extension of time and an analysis demonstrating that the facility continues to meet the applicable siting criteria and design standards established in the current version of the rules.

(3) The director may establish a new termination date not to exceed twelve months of the current effective date if he determines that the owner or operator has adequately justified an extension of time and has demonstrated that the facility continues to meet the applicable siting criteria and design standards established in the current version of the rules.

(J) Administrative change to the permit. An administrative change to the permit is an amendment that does not result in a modification or alteration to the facility. A permit may be administratively changed for the following reasons:

(1) To update administrative information including but not limited to the telephone number, address, or name of the facility.

(2) To clarify or correct Ohio EPA typographical errors contained in the permit. Such changes must be made solely for the purpose of clarification or correction.
of typographical errors and do not constitute a modification or alteration of the facility.

(3) To establish a new termination date of the permit to install in accordance with paragraph (I)(3) of this rule.

(K) Revocation of the permit. The director may revoke a permit to install if one or a combination of the following occur:

(1) Any cause that would require disqualification pursuant to division (A), (B), (D), or (E) of section 3734.44 of the Revised Code from receiving a permit upon original application.

(2) Fraud, deceit, or misrepresentation in securing the permit or in the conduct of the permitted activity.

(3) Offering, conferring, or agreeing to confer any benefit to induce any other individual or business concern to violate the provisions of Chapter 3734. of the Revised Code, or any rule adopted thereunder, or of any other law relating to the transportation, transfer, treatment, storage, or disposal of solid wastes, infectious wastes, or hazardous wastes.

(4) Coercion of a customer by violence or economic reprisal or the threat thereof to utilize the services of any permit holder.

(5) Preventing, without authorization of the director, any individual or business concern from transferring or disposing of solid wastes or hazardous wastes at a permitted treatment, transfer, storage, or disposal facility other than a facility owned or operated by the permit holder, or preventing, without authorization of the director, any individual or business concern from treating infectious waste at a licensed infectious waste treatment facility other than a facility owned and operated by the permit holder.

(L) This rule shall not exempt any person from compliance with any other applicable law.
Effective: 07/01/2008
R.C. 119.032 review dates: 11/01/2012

Certification

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.12, 3734.021, 3734.73
Rule Amplifies: 3734.02, 3734.12, 3734.05, 3734.021, 3734.73, 3734.09, 3734.44, 3734.76, 3734.77, 3734.78
## APPENDIX

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DSW - Division of Surface Water
DAPC - Division of Air Pollution Control
DDAGW - Division of Drinking and Ground Waters
Exemptions and variances.

(A) Chapters 3745-27, 3745-29, 3745-30 and 3745-37 of the Administrative Code shall not apply to the following activities or facilities:

1. Solid wastes generated within a single-family residence and disposed of on the premises where generated in a manner that does not create a nuisance or health hazard.

2. The temporary storage of solid wastes, other than scrap tires, prior to collection for disposal or transfer. The temporary storage of putrescible solid wastes in excess of seven days, or temporary storage of any solid wastes where such storage causes a nuisance or health hazard in the judgment of the health commissioner or the director or their authorized representative shall be considered open dumping.

   In addition, Chapters 3745-27 and 3745-37 of the Administrative Code shall not apply to the storage of one hundred or fewer scrap tires unless they are stored in such a manner that, in the judgment of the director or the board of health of the health district in which the scrap tires are stored, the storage causes a nuisance, a hazard to public health or safety, or a fire hazard.

3. Vehicles used for hauling solid wastes other than scrap tires.

4. The beneficial use of coal combustion byproducts at coal mining and reclamation operations and abandoned mine lands that are regulated and authorized by the Ohio department of natural resources pursuant to section 1513.02 of the Revised Code.

5. Incinerators or energy recovery facilities that incinerate wastes generated on one or more premises owned by the person who owns the incinerator or energy recovery facility. This does not include a facility that treats infectious waste pursuant to Chapter 3734 of the Revised Code.

6. A junk yard or scrap metal processing facility licensed pursuant to Chapter 4737 of the Revised Code, or a motor vehicle salvage business licensed pursuant to Chapter 4738 of the Revised Code. This exemption does not apply to the management, use, collection, storage, recovery, disposal, or beneficial use of scrap tires at a junk yard, scrap metal processing facility, or motor vehicle salvage business, and shall not be construed to include sites where open dumping or open burning has occurred.

7. Pond and lagoon operations regulated under Chapter 6111 of the Revised Code.

8. Sewage sludge disposal, use, transportation or storage as approved under Chapter 6111 of the Revised Code.

9. Land application of the following solid wastes authorized under Chapter 6111 of the Revised Code:

   a. Agricultural waste for incorporation into soil as a soil amendment or for agricultural or horticultural applications, provided that all of the following conditions are met:

      i. The agricultural waste is limited to source-separated non-processed plant materials including stems, leaves, vines, roots, and raw vegetables, fruits, and grains.

      ii. The agricultural waste is land-applied exclusively on fields owned by the owner of the agricultural production operation that generated the agricultural waste.

      iii. The land application of the agricultural waste does not create a nuisance or health hazard in the judgment of the health commissioner or the director.
(b) Pulp or paper sludge from wastewater treatment works.

(c) Sawdust.

(d) Compost product blended with a solid waste.

(e) Lime-based or gypsum-based waste including but not limited to flue gas desulfurization sludge, lime kiln, or cement kiln dust.

(10) A combustion unit permitted and operating under an air permit that uses solid wastes as fuels or ingredients in accordance with 40 C.F.R. Part 241 and rule 3745-599-10 of the Administrative Code.

(11) Infectious wastes generated on the premises of a single-family residence not utilized for commercial purposes.

(12) Infectious wastes generated by individuals for the purposes of their own care or treatment that are disposed of with solid wastes from the individual's residence.

(13) Tree stumps not otherwise exempted by this rule or Chapter 3734. of the Revised Code that are disposed in a licensed construction and demolition debris disposal facility.

(14) Controlled substances handled in accordance with Chapters 4729. and 3719. of the Revised Code or materials that have been ordered destroyed by a court of law that are destroyed at facilities licensed for the treatment of infectious waste.

(15) Land application of yard waste for incorporation into soil as a soil amendment, for agricultural or horticultural applications, or for land reclamation, provided that such land application does not create a nuisance or health hazard in the judgment of the health commissioner or the director.

(16) The disposal of animals destroyed because of a dangerously infectious or contagious disease in accordance with section 941.14 of the Revised Code.

(B) Exemptions. Pursuant to division (G) of section 3734.02 of the Revised Code, the director may, by order, exempt any person generating, collecting, storing, treating, disposing of, or transporting solid wastes or infectious wastes, or processing solid wastes that consist of scrap tires from any requirement of Chapter 3734. of the Revised Code or any rules adopted thereunder if granting the exemption is unlikely to adversely affect the public health or safety or the environment.

(C) Variances.

(1) Any person may apply for a variance from any provision of this chapter except for those adopted under division (M) of section 3734.02 or section 3734.021 of the Revised Code.

(2) Applications for a variance shall identify each provision for which the variance is requested and shall contain information regarding the reason and justification for the variance and any other information deemed appropriate by the director as specified in paragraph (C)(5) of this rule.

(3) In accordance with division (S)(1) of section 3745.11 of the Revised Code, a non-refundable fee of fifteen dollars shall be paid at the time the application for a variance is submitted. If the application for a variance is part of an application for a permit to install, the variance application fee shall be paid in addition to the permit to install application fee.

(4) The director shall approve or deny an application for a variance or renewal of a variance not later than six months after the date upon which the director receives a complete application with all pertinent
information and data required, unless the application for a variance is part of an application for a permit to install. If an application for a variance is part of an application for a permit to install, the director shall approve or deny an application for a variance or renewal of a variance concurrent with a final or proposed action on the permit to install application.

(5) The director shall issue a variance only if the applicant demonstrates to the director's satisfaction that construction, operation, closure activities, or post-closure activities of the solid waste facility in the manner approved by the variance and any terms or conditions imposed as part of the variance will not create a nuisance or a hazard to public health or safety or the environment and is unlikely to result in a violation of any other requirement of Chapters 3704., 3714., 3734. or 6111. of the Revised Code and any rules adopted thereunder.

(6) In issuing a variance, the director shall comply with the applicable requirements of division (A) of section 3734.02 of the Revised Code.
Replaces: 3745-27-03
Effective: 4/22/2019
Five Year Review (FYR) Dates: 04/22/2024

CERTIFIED ELECTRONICALLY

Certification

04/10/2019

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.12, 3734.021
Rule Amplifies: 941.14, 1513.02, 3734.02, 3734.021
(A) The owner or operator of a sanitary landfill facility which may be deemed a residual waste landfill facility in accordance with paragraph (C) of rule 3745-30-01 of the Administrative Code may obtain authorization from the director in accordance with paragraph (C) of rule 3745-30-02 of the Administrative Code to comply with Chapter 3745-30 of the Administrative Code in lieu of Chapter 3745-27 of the Administrative Code. Upon receiving authorization from the director in accordance with paragraph (C) of rule 3745-30-02 of the Administrative Code, the owner or operator shall comply with the requirements of Chapter 3745-30 of the Administrative Code, except that the owner or operator shall continue to comply with all applicable authorizing document(s), including a plan approval, operational report, or approved permit to install for the sanitary landfill facility, and the current operating license for the sanitary landfill facility until such time as the owner or operator obtains the necessary approvals to change these requirements.

(B) The owner or operator of a sanitary landfill facility which may be deemed an industrial solid waste landfill facility in accordance with paragraph (B) of rule 3745-29-01 of the Administrative Code may comply with Chapter 3745-29 in lieu of Chapter 3745-27 of the Administrative Code if all of the following apply:

(1) The sanitary landfill facility may be defined as an "industrial solid waste landfill facility" as that term is defined in rule 3745-29-01 of the Administrative Code.

(2) The sanitary landfill facility has not been or cannot be deemed a residual waste landfill facility in accordance with paragraph (C) of rule 3745-30-02 of the Administrative Code.

(3) The director has received a complete notification in accordance with paragraph (C) of rule 3745-29-02 of the Administrative Code.

Upon receipt by the director of a complete notification and certification in accordance with paragraph (C) of rule 3745-29-02 of the Administrative Code, the owner or operator shall comply with the requirements of Chapter 3745-29 of the Administrative Code, except that the owner or operator shall continue to comply with all applicable authorizing document(s), including a plan approval, operational report, or approved permit to install for the sanitary landfill facility, and the current operating license for the sanitary landfill facility until such time as the owner or operator obtains the necessary approvals to change these requirements.

(C) A sanitary landfill which exclusively disposes of processed scrap tires in a monofill or monocell is subject to the requirements in rules 3745-27-60 to 3745-27-75 of the Administrative Code.
(D) A sanitary landfill facility which does not receive municipal solid waste on or after June 1, 1994 is not subject to any of the following requirements:

1. Paragraphs (B) and (C)(15) of rule 3745-27-08 of the Administrative Code. In lieu of cap system requirements specified in paragraph (C)(15) of rule 3745-27-08 of the Administrative Code, the owner or operator shall comply with paragraph (C)(16) of rule 3745-27-08 of the Administrative Code.

2. Paragraph (G) of rule 3745-27-11 of the Administrative Code, insofar as it requires compliance with the cap system requirements of paragraph (C)(15) of rule 3745-27-08 of the Administrative Code.

3. Paragraph (C) of rule 3745-27-19 of the Administrative Code, insofar as it requires compliance with the interim composite liner/leachate collection system requirements of paragraph (B) of rule 3745-27-08 of the Administrative Code.


(E) For the purposes of Chapters 3745-27 and 3745-30 of the Administrative Code, the determination of whether spent foundry sand, fly ash, or bottom ash, excluding fly ash and bottom ash produced by a solid waste disposal facility or infectious waste treatment facility, is nontoxic shall be determined by the Ohio environmental protection agency.
R.C. 119.032 review dates: 12/21/2007 and 12/01/2012

CERTIFIED ELECTRONICALLY

Certification

12/21/2007

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02
Rule Amplifies: 3734.02, 3734.12, 3734.72
Applicability and relation to other laws.

(A) Disposal of solid waste under Chapter 3734. of the Revised Code shall only be by the following methods or combination thereof:

1) Disposal at a sanitary landfill facility licensed in accordance with section 3734.05 of the Revised Code.

2) Incinerating at an incinerator licensed in accordance with section 3734.05 of the Revised Code.

3) Composting at a composting facility licensed or registered in accordance with section 3734.05 of the Revised Code.

4) Alternative disposal methods either as engineered fill or land application, provided that the applicant has received prior authorization from the director that use as engineered fill or land application of the solid wastes will not create a nuisance or harm human health or the environment and is capable of complying with other applicable laws.

(a) Request for an alternative disposal method authorization shall provide the following information:

(i) Name and address of the applicant (person responsible for the disposal), the generator, and the land owner. The applicant shall certify that the application is true and complete.

(ii) Description of efforts at the original source of generation to prevent or reduce the generation of the waste, and efforts to recycle or reuse the waste in a manner other than disposal.

(iii) Characterization of the waste. The waste generator shall provide an analysis of the solid waste and a justification as to why the parameters were chosen. The generator shall certify that the analysis is true, accurate and representative of the solid waste.

(iv) Method of disposal (engineered fill or land application), and how the waste will be used or applied.

(v) Quantity of solid waste, rate of disposal and disposal timeframes.

(vi) Plan drawing of the proposed limits for solid waste disposal. The director may require narratives or plan drawings deemed necessary to characterize the waste disposal location and surrounding environs to evaluate nuisance creation, harm to human health or the environment, and capability of complying with other applicable laws.

(vii) Signed written consent from the generator(s) and land owner(s) to the use of the solid waste in the project and at the location.

(viii) Contingency plan for disposal of any solid waste brought to the property that is not acceptable or is otherwise not disposed of on the property.

(ix) Description of other projects, if known, where the waste has been used.

[Comment:] Forms are available from Ohio EPA for alternative disposal method authorization requests.

(b) Ohio EPA may require other such information deemed necessary to determine that the activity will be in compliance with all applicable laws and regulations administered by the director.

(c) Signatures required by paragraphs (A)(4)(a)(i), (A)(4)(a)(iii) and (A)(4)(a)(vii) shall be by the
follows:

(i) In the case of a corporation, by a principal executive officer of at least the level of vice president, or his duly authorized representative.

(ii) In the case of a partnership, by a general partner.

(iii) In the case of a sole proprietorship, by the owner.

(iv) In the case of a municipal, state, federal or other governmental entity, by the principal executive officer, the ranking elected official, or other duly authorized employee.

(B) Solid waste disposal by means of open burning, as defined in Chapter 3745-19 of the Administrative Code, regulations of Ohio EPA, is permitted only as provided therein.

(C) No person shall conduct, permit, or allow open dumping. In the event that open dumping is occurring or has occurred at a property, the person(s) responsible for the open dumping, the owner of the property, or the person(s) who allow or allowed open dumping to occur, shall promptly remove and dispose or otherwise manage the solid waste in accordance with Chapter 3734. of the Revised Code, and shall submit verification that the solid waste has been properly managed.

[Comment: Prompt removal and disposal of solid waste does not relieve any obligations under state or federal environmental statutes. This may include environmental clean-up of the site and/or remediation of ground water contamination resulting from the open dumping.]

(D) Relation to other laws. No provision of Chapters 3745-27, 3745-29, 3745-30, and 3745-37 of the Administrative Code shall exempt any person from compliance with any section of the Ohio Revised Code, or any regulation of any federal agency, or of any department of the state government, including the Ohio department of health and the Ohio department of natural resources.
Five Year Review (FYR) Dates: 04/23/2014 and 04/23/2019

CERTIFIED ELECTRONICALLY

Certification

04/23/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02
Rule Amplifies: 3734.02
3745-27-06 Sanitary landfill facility permit to install application.

(A) A permit to install application as required by section 3734.05 of the Revised Code shall be submitted, and approved by the director, before the establishment or modification of the sanitary landfill facility is begun. Compliance with this rule shall not exempt any person from compliance with any other permit, license, or other obligation for authorization.

(1) The permit to install application shall contain all the information required in paragraphs (B) and (C) of this rule, as specified below, so that the director can determine if the criteria set forth in rules 3745-27-02 and 3745-27-07 of the Administrative Code are satisfied. If Ohio EPA determines that information in addition to that required by paragraphs (B) and (C) of this rule is necessary to determine whether the criteria set forth in rules 3745-27-02 and 3745-27-07 of the Administrative Code are satisfied, the applicant shall supply such information as a precondition to further consideration of the permit to install application.

(a) The permit to install application for a new sanitary landfill facility, a new unit, or one that is submitted in response to division (A)(3), (A)(4) or (A)(5) of section 3734.05 of the Revised Code, shall contain all the information required in paragraphs (B) and (C) of this rule with the exception of paragraph (B)(5)(d) of this rule.

(b) The permit to install application to modify a sanitary landfill facility for a vertical expansion to the upper limits of solid waste placement shall contain the following information:

(i) All of the plan sheets specified in paragraphs (B)(1), (B)(2), (B)(3)(g), (B)(4), (B)(5) and (B)(6) of this rule.

(ii) The plan sheet showing the location of proposed explosive gas control system structures, if necessary, specified in paragraph (B)(3)(f) of this rule.

(iii) Detail drawings, as necessary, specified in paragraph (B)(7) of this rule.

(iv) All the reports specified in paragraphs (C)(1), (C)(2) and (C)(7) of this rule.

(v) The subsurface investigation report, as necessary to provide supporting information for the stability analysis, specified in paragraph (C)(3) of this rule.

(vi) Stability analysis for bearing capacity, static stability, seismic stability and settlement specified in paragraphs (C)(4)(b) to (C)(4)(f) of this rule.

(vii) Calculations, as necessary, specified in paragraph (C)(5) of this rule.

(viii) The quality assurance/quality control and final closure/post-closure care plans, specified in paragraphs (C)(9)(c) and (C)(9)(d) of this rule.

(ix) The letters and list of permits specified in paragraphs (C)(10)(a) and (C)(10)(b) of this rule.

(c) The permit to install application to modify a sanitary landfill facility for a vertical expansion to the lower limits of solid waste placement shall contain the following information:

(i) All of the plan sheets specified in paragraphs (B)(1) to (B)(6) of this rule.

(ii) Detail drawings, as necessary, specified in paragraph (B)(7) of this rule.

(iii) All of the reports specified in paragraphs (C)(1), (C)(2), (C)(3), and (C)(7) of this rule.
(iv) Stability analysis for hydrostatic uplift, bearing capacity, static stability, seismic stability and settlement specified in paragraphs (C)(4)(a) to (C)(4)(e) of this rule.

(v) Calculations, as necessary, specified in paragraph (C)(5) of this rule.

(vi) The explosive gas monitoring and quality assurance/quality control plans specified in paragraphs (C)(9)(b) and (C)(9)(c) of this rule.

(vii) The letters and list of permits specified in paragraphs (C)(10)(a) and (C)(10)(b) of this rule.

(d) The permit to install application to modify a sanitary landfill facility for a change to the information specified in paragraph (C)(8) of this rule shall discuss the change pursuant to paragraph (C)(8) of this rule in addition to the following:

(i) The summary specified in paragraph (C)(1) of this rule.

(ii) Any variance or exemption requests specified in paragraph (C)(2) of this rule.

(iii) If the change is to the authorized maximum daily waste receipt, the calculations showing gross volume and life specified in paragraph (C)(5)(a) of this rule.

(e) The permit to install application to modify a sanitary landfill facility, other than what is listed in paragraphs (A)(1)(b) to (A)(1)(d) of this rule, shall contain the information specified by paragraphs (B) and (C) of this rule that are affected by the change and shall incorporate any alterations that were previously approved for those components affected by the change.

(2) The permit to install application shall contain detail engineering plans, specifications, and information that shall follow the format specified in paragraphs (B) and (C) of this rule. Detail shall be sufficient to allow clear understanding for technical review of the permit application, to provide assurance that the facility is designed and will be operated in accordance with Chapters 3745-27 and 3745-37 of the Administrative Code.

(3) [Reserved.]

(4) For regulatory review purposes, the initial application and any subsequent revisions to the application, shall be submitted in duplicate to the director with a third copy sent to the board of health of the health district where the facility is or will be located. Any revisions to the application must be accompanied by an index listing the change and the page(s) where the change occurred. Upon written request from Ohio EPA, the applicant shall submit two additional and identically complete copies of the revised application to the director and a notarized statement that, to the best of the knowledge of the applicant, the detail engineering plans, specifications, and information in the permit application are true and accurate.

(5) Concurrent to submitting the permit to install application, the applicant shall also do the following:

(a) Submit a disclosure statement to the office of the attorney general as required in rules 109:6-1-01 to 109:6-1-04 of the Administrative Code.

(b) Submit to the division of Ohio EPA regulating air pollution control and water pollution control, written notification of intent to site a sanitary landfill facility and a written request for information pertaining to any regulatory requirements under Chapter 3704. or 6111. of the Revised Code.

(6) The permit to install application, notwithstanding any deficiencies, may be considered and acted upon if sufficient information is provided in the application for the director to determine whether the criteria set
forth in rules 3745-27-02 and 3745-27-07 of the Administrative Code are satisfied.

(7) Upon issuance of the permit to install, the director will send one copy of the permit to install and approved permit application to the board of health where the facility is or will be located, will return one copy to the applicant, and will retain two copies in Ohio EPA's files.

(8) The permit to install shall remain in effect until the director has discontinued the post-closure care period of the sanitary landfill facility, unless the permit has been revoked or terminated in accordance with rule 3745-27-02 of the Administrative Code.

(B) Plan sheets. The following detail engineering plans, specifications, and information for all unit(s) of a sanitary landfill facility shall be shown by means of drawings and narrative descriptions where appropriate. Minimum dimensions of the plan drawings shall be twenty-four inches by thirty-six inches.

(1) The detail engineering plan cover sheet, to be numbered sheet 1, shall contain the following information:

(a) The name of the sanitary landfill facility.

(b) The precise geographic location and boundaries of the sanitary landfill facility and the area within a five-mile radius including all airport runways to be shown on a road map with a scale of one inch equals no greater than one mile.

(c) The name and address of the permit to install applicant for the sanitary landfill facility.

(d) The name and address of the owner(s) and operator(s) of the sanitary landfill facility, if different from the applicant.

(e) The name and address of the person who prepared the plans.

(f) Index of plan sheets.

(2) Plan drawings, showing the following items located within the facility boundary or within one thousand feet of the limits of solid waste placement or as otherwise specified in this paragraph, shall contain all information in paragraphs (B)(2)(a) to (B)(2)(c) of this rule. Those items specified in paragraphs (B)(2)(b) and (B)(2)(c) of this rule shall be illustrated on a series of plan drawings which shall be numbered consecutively: 2A, 2B, 2C, etc. All items specified in an individual subheading shall be shown on the same plan drawing, or a note shall be on the plan sheet stating the item does not exist within the specified distance from the limits of solid waste placement. An individual plan drawing may contain information specified in more than one individual subheading. A scale of one inch equals no greater than two hundred feet shall be used.

(a) All plan drawings required by paragraph (B)(2) of this rule shall include the following:

(i) The property lines of land owned or leased for the sanitary landfill facility as determined by a property survey conducted by a professional surveyor registered in Ohio.

(ii) The limits of solid waste placement.

(iii) All occupied structures.

(iv) Existing topography showing streams, lakes, springs, wetlands, and other surface waters, with a contour interval no greater than five feet.

(v) The north arrow.
(vi) The location of all survey marks.

(vii) The unit(s) of the sanitary landfill facility.

(viii) The facility boundary.

(b) The following based on publicly available information. For the purposes of this rule, "publicly available information" means written or published information from public or private sources that is reasonably available to the public, and includes but is not limited to visual surveys from public right-of-ways and public lands of the area surrounding the proposed sanitary landfill facility and/or written or oral surveys of the landowners around the proposed sanitary landfill facility.

[Comment: As long as the applicant can document that a reasonable attempt was made to obtain the information, the application will be considered complete even if information is lacking (e.g. the written or oral survey is not responded to).]

(i) All zoning classifications, property owners, and political subdivisions.

(ii) All man-made potential explosive gas migration pathways, including underground utilities (sewers, water lines, electric cables), field tiles, french drains, pipelines, and all other potential sources of explosive gas including oil wells and gas wells and other landfills.

(iii) The limits of all regulatory flood plains.

(iv) National park or recreation areas, candidate areas for potential inclusion into the national park system, and any state park or established state park purchase areas.

(v) State nature preserves, state wildlife areas, national and state scenic rivers, any national wildlife refuge, special interest areas, research natural areas in the Wayne national forest, outstanding national resource waters, and exceptional coldwater habitats, or exceptional warmwater habitats as defined in Chapter 3745-1 of the Administrative Code.

(vi) All public and private water supply wells within two thousand feet of the limits of solid waste placement (use a scale insert if necessary).

(vii) The limits of all wellhead protection areas or groundwater source water assessment and protection areas that have been endorsed or delineated by Ohio EPA for a public water supply.

(viii) Faults that have had displacement in Holocene time.

(ix) All surface and underground mining of coal and noncoal minerals and the angle of draw within two thousand feet of the limits of solid waste placement (use a scale insert if necessary) and all oil and gas wells.

(x) The limits of all aquifers declared by the federal government under the Safe Drinking Water Act, 42 U.S.C 300f et. seq. (2003), to be a sole source aquifer.

(c) The limits of disturbance and the facility boundary. The limits of disturbance includes but is not limited to the limits of excavation, borrow areas, storage areas, staging areas, areas to be cleared and grubbed, and roadways.

(3) Plan drawings, showing the following items located within three hundred feet of the limits of solid waste placement, shall contain all information in paragraphs (B)(3)(a) to (B)(3)(h) of this rule. Those items specified in paragraphs (B)(3)(a) to (B)(3)(h) of this rule shall be illustrated on a series of plan drawings.
which shall be numbered consecutively: 3A, 3B, 3C, etc. All items specified in an individual subheading shall be shown on the same plan drawing (unless specified otherwise). An individual plan drawing may contain information specified in more than one individual subheading. A scale of one inch equals no greater than two hundred feet shall be used.

(a) All plan drawings required by paragraph (B)(3) of this rule shall include those items specified in paragraph (B)(2)(a) of this rule.

(b) The location of existing or proposed pipes and conduits, electric lines, french drains, roads, and railroads; and any easements bordering or within the proposed facility boundaries.

(c) The location of all subsurface investigation sites, which are any location where subsurface conditions are investigated by data collection and/or evaluation, including but not limited to borings, test pits, monitoring wells, piezometers, tensiometers, geophysical survey stations and soil gas survey stations; and all proposed ground-water monitoring wells.

(d) Potentiometric maps of the uppermost aquifer system and all significant zones of saturation above the uppermost aquifer system (more than one plan sheet may be used).

(e) The location of any permanent ground water control structures.

(f) The location of any existing or proposed explosive gas control system.

(g) A diagram showing the phases of the sanitary landfill facility.

(h) The land set aside for leachate treatment/pretreatment facilities as required in paragraphs (K)(5) and (K)(6) of rule 3745-27-19 of the Administrative Code.

(4) Plan drawings for the entire sanitary landfill facility showing the boundaries and elevations of the following items shall be on plan drawings numbered consecutively 4A, 4B, 4C, etc. The scale on these drawings shall be one inch equals no greater than two hundred feet and contour intervals shall be no greater than five feet for slopes less than or equal to twenty-five per cent and ten feet for slopes greater than twenty-five per cent.

(a) The horizontal and vertical limits of excavation proposed in the permit to install application, showing any areas where added geologic material necessary to comply with the isolation distance requirement in rule 3745-27-07 of the Administrative Code is to be placed.

(b) The horizontal limits and top and bottom elevations of the recompacted soil liner proposed in the permit to install application.

(c) The top elevation of the leachate collection layer, pipe inverts, and layout of the leachate collection and management system(s), including any leachate storage tanks, proposed in the permit to install application.

(d) The horizontal limits and top and bottom elevations of all existing waste and waste placement proposed in the permit to install application. Limits and elevations of existing waste can be determined by surveys. If a sanitary landfill facility was not required or does not have survey results, the owner or operator shall provide justification of the limits shown in the permit to install application. If the authorizing document(s) does not show limits of existing waste placement, then the elevation of final waste placement shall be deemed to be two feet below the final grade shown, unless alternative limits are satisfactorily demonstrated to Ohio EPA.
(e) If a separatory liner/leachate collection system is required, its horizontal limits and top and bottom elevations.

(f) The horizontal limits and top and bottom elevations of the composite cap system; surface water control structures including permanent ditches to control run-on and runoff; and sedimentation ponds including the inlet and outlet; and any permanent ground water control structures proposed in the permit to install application.

(g) Establish a grid system with northings and eastings not more than five hundred feet apart.

(5) Cross sections of the following shall be on plan drawings numbered consecutively 5A, 5B, 5C, etc. and shall clearly show the horizontal and vertical scale used:

(a) The hydrogeology at a sanitary landfill facility intercepted by borings or other subsurface investigation methods and showing the following:

(i) Existing topography.

(ii) The horizontal and vertical limits of excavation proposed in the permit to install application.

(iii) The horizontal limits and top and bottom elevations of any added geologic material.

(iv) The horizontal limits and bottom elevations of the recompacted soil liner.

(v) Geologic stratigraphy and significant zones of saturation corresponding to information from the subsurface investigation.

(vi) The uppermost aquifer system and all saturated stratigraphic units above the uppermost aquifer system.

(vii) All subsurface investigation logs, and monitoring well and piezometer construction diagrams, intercepted by the cross-section.

(viii) Any permanent ground water control structures.

(b) The perimeter of the property showing the natural potential explosive gas migration pathways.

(c) The length and width of the sanitary landfill facility dividing the facility into quarters (i.e. three cross-sections in each direction) showing the following:

[Comment: Additional cross-sections may be submitted.]

(i) Existing topography.

(ii) The proposed horizontal and vertical limits of excavation.

(iii) The horizontal limits and top and bottom elevations of all existing waste and all proposed areas of waste placement.

(iv) The horizontal limits and top and bottom elevations of the proposed composite cap system.

(d) If the permit to install application is for a vertical expansion, show the following at an interval no greater than every three hundred feet of length and width of the vertical expansion:

(i) Limits of existing waste with the date of the survey.
(ii) Approved and proposed limits of waste placement.

(iii) Separatory liner/leachate collection systems.

(6) Plan drawings showing the systematic development of each phase of the unit(s) of the sanitary landfill facility. Each plan drawing numbered consecutively 6A, 6B, 6C, etc. shall show the phase, all previously operated phases, the grid system established in accordance with paragraph (B)(4)(g) of this rule, and all of the following:

(a) The location of any ground water monitoring wells, piezometers, explosive gas permanent monitors and punch bar stations and alarms, leachate collection and management structures, or surface water control structures to be installed prior to accepting waste in the depicted phase.

(b) The extent of waste placement for that phase.

(c) The contours of any previously filled phases.

(d) The limits of final cover, transitional cover, and intermediate cover on the previously filled phases.

(e) The contours of the bottom limits of solid waste placement for the depicted phase.

(f) The location of access roads for the depicted phase.

(g) The permanent and temporary measures to be utilized to control surface water run-on and runoff, erosion, and any temporary or permanent ground water control structures.

(7) The following detail drawings shall be on plan drawings numbered consecutively 7A, 7B, 7C, etc.:

(a) Recompacted soil liner, flexible membrane liner, and geosynthetic clay liner (if applicable), liner cushion layer, leachate collection layer, and filter layer including any engineered components that are constructed through the composite liner system, and the interface between phases.

(b) Composite cap system, including any engineered components that are constructed through the composite cap system, and surface water control structures.

(c) Relationship of the composite cap system to the leachate collection and management system and recompacted soil liner, flexible membrane liner, and geosynthetic clay liner (if applicable).

(d) All leachate collection and management system elements, including but not limited to the following:

   (i) Leachate collection layer.

   (ii) Collection pipes, including bedding media and boots.

   (iii) Filter layer.

   (iv) Sumps.

   (v) Conveyance apparatus.

   (vi) Storage tanks.

(e) Permanent ground water control structures, if any.

(f) Ground water monitoring well and piezometer construction.
(g) Explosive gas control system elements.

(h) Separatory liner/leachate collection systems, if applicable.

(i) Sedimentation pond and discharge structures and surface water run-on and runoff control structures.

(j) Other necessary details, including but not limited to, structural fill for berms and subbase, gas collection layer, interim composite liner/leachate collection system, and transitional cover.

(C) Reports. The following information shall be presented in narrative form in a report with a table of contents and divided and labeled according to paragraphs (C)(1) to (C)(10) of this rule.

(1) Summary. Summary of the facility environs and a demonstration that the sanitary landfill facility will meet the criteria for permit approval by the director specified in rules 3745-27-02 and 3745-27-07 of the Administrative Code. The demonstration shall include a discussion of the facility's compliance with any applicable authorizing document(s), the facility's limits of waste placement, the location restriction demonstrations, and operational criteria.

[Comment: The discussion of the facility's, owner's, or operator's compliance status should compare the limits of waste placement specified in the facility's authorizing document(s) with the information on existing waste required by paragraphs (B)(4) and (B)(5) of this rule. The discussion should also include the facility's, owner's, or operator's compliance with the location restriction demonstrations required by rule 3745-27-20 of the Administrative Code and the operational requirements in rule 3745-27-19 of the Administrative Code.]


(3) Site investigation. A hydrogeologic and geotechnical site investigation report(s), which shall at a minimum include the following:

(a) Sufficient information to allow the director to determine the suitability of the site for solid waste disposal through the following:

   (i) Identification and characterization of the hydrogeology of the uppermost aquifer system and all stratigraphic units that exist above the uppermost aquifer system.

   (ii) Characterization of the site geology and hydrogeology to allow for the evaluation of the proposed design of the sanitary landfill facility and to ensure that it will be in compliance with the requirements of rule 3745-27-07 and rule 3745-27-10 of the Administrative Code.

[Comment: The narrative portion of the hydrogeologic and geotechnical report focuses on the siting and ground water monitoring issues. The subsurface investigation portion of the report also addresses stability and design issues.]

(b) A description, based on publicly available information, of the regional geology and hydrogeology within one mile of the proposed sanitary landfill facility. This shall include, but is not limited to, the following:

[Comment: Publicly available information regarding unstable areas is placed in a separate section located in the stability analysis in paragraph (C)(4) of this rule.]
(i) The identification and average yield of the regional aquifer system(s).

(ii) The direction of ground water flow in the regional aquifer system(s).

(iii) The identification of recharge and discharge areas of the regional aquifer system(s).

(iv) Regional stratigraphy, including any regional stratigraphic or structural features, such as the bedrock surface, bedrock dip, or joint systems, that may influence the ground water flow system.

(v) A description of the regional geomorphology, including the location of surface water bodies, flood plains, etc. and a description of any topographic features that may influence the ground water flow system.

(c) The following documents:

(i) If any surface or underground mines were identified in accordance with paragraph (B)(2)(b)(ix) of this rule, a letter from the Ohio department of natural resources, division of mineral resources management or other appropriate agency verifying type, mining method, location, depth, and status.

(ii) Documentation of who owns the mineral rights below the sanitary landfill facility.

(iii) If any oil or gas wells were identified in accordance with paragraph (B)(2)(b)(ix) of this rule, a letter from the Ohio department of natural resources or other appropriate agency verifying type, location, depth and status.

(iv) A letter from the army corps of engineers agreeing with the wetland delineation, as depicted on the plan drawing with the information required by paragraph (B)(2)(a)(iv) of this rule, including if appropriate, that no wetlands are present, and if any wetlands are isolated.

(d) A detailed description and analysis of the geology and hydrogeology under the proposed sanitary landfill facility. This description shall be based on data collected using appropriate subsurface investigatory methods such as borings, piezometers, monitoring wells, tensiometers, geophysical surveys, soil gas surveys, dutch cone penetrometers, and test pits. The description and analysis shall include, but is not limited to, the following:

[Comment: This information may also be used in the stability analysis required by paragraph (C)(4) of this rule.]

(i) The consolidated and unconsolidated stratigraphic units from the ground surface down to the base of the uppermost aquifer system including the following:

(a) Characteristics, composition and features including the following:

(i) For unconsolidated stratigraphic units, the textural classification using the Unified Soil Classification System (USCS), as described in ASTM D2487-00.

(ii) For consolidated stratigraphic units, the rock type(s) such as limestone, dolomite, coal, shale, siltstone, sandstone.

(iii) Color; moisture content; stratigraphic features such as layering, interbedding, or weathering; fracturing, jointing, and other types of secondary porosity; and any visible accessory minerals such as pyrite, calcite or gypsum.
(iv) Hydraulic conductivity.

(b) Thickness.

(c) Lateral extent.

(d) Depth and elevation.

(e) Variations in texture, saturation, stratigraphy, structure, or mineralogy exhibited by each stratigraphic unit that could influence the ground water flow or quality in the uppermost aquifer system or any overlying zones of saturation.

(ii) The local geomorphology at the proposed sanitary landfill facility including surface water bodies or topographic features that may influence the ground water flow in the uppermost aquifer system or any overlying significant zones of saturation.

(iii) Any local structural geology features under the proposed sanitary landfill facility that may influence the ground water flow in the uppermost aquifer system or any overlying significant zones of saturation.

(iv) The uppermost aquifer system and all significant zones of saturation above the uppermost aquifer system. This description shall include the depth to, and lateral and vertical extent of, the uppermost aquifer system and all significant zones of saturation above the uppermost aquifer system. This description and analysis shall include but not be limited to the following:

(a) Temporal fluctuations in ground water levels over a period of time to determine the seasonal effects on ground water flow directions.

[Comment: Temporal fluctuations will also be used for determining the temporal high phreatic and piezometric surfaces, required to address stability issues.]

(b) An interpretation of the ground water flow system, including hydraulic conductivity, rate of flow, direction of flow, vertical and lateral components of flow, and interconnections between and within the uppermost aquifer system and any significant zones of saturation above the uppermost aquifer system. This interpretation shall be described in both narrative and map form.

(c) Identification and characterization of recharge and discharge areas within the boundaries of the proposed sanitary landfill facility. This shall include any relationships of ground water with seeps, springs, streams, and other surface water features.

(d) Yield of any significant zones of saturation and of the uppermost aquifer system(s).

(v) If the applicant chooses, site specific justification that an unconsolidated aquifer system capable of sustaining a yield of one hundred gallons per minute for a twenty-four-hour period (based on evidence gathered in accordance with paragraph (C)(3)(b) of this rule), is not located beneath the facility.

(e) A description and quantification of the ground water quality of the uppermost aquifer system and all significant zones of saturation above the uppermost aquifer system. The description and quantification of ground water quality shall describe and quantify the rate, extent, and concentration of any ground water contamination located under the facility.
(f) Subsurface investigation information. The following information will be used to prepare the site
investigation report narrative required in paragraphs (C)(3)(b), (C)(3)(d) and (C)(3)(e) of this rule
and the stability analyses required in paragraph (C)(4) of this rule. All submitted information shall
be adequate to satisfy the performance standards of paragraphs (C)(3)(a) and (C)(4) of this rule. At a
minimum the information shall include the following:

[Comment: The narrative portion of the hydrogeologic and geotechnical report focuses on the siting
and ground water monitoring issues. The subsurface investigation portion of the report also
addresses stability and design issues.]

(i) Publicly available information collected and used to prepare the site investigation report narrative
required in paragraph (C)(3)(b) of this rule and the plan sheets required in paragraph (B)(2) of
this rule. For the purposes of this rule, "publicly available information" means written or
published information from public or private sources that is reasonably available to the public,
and includes but is not limited to visual surveys from public right-of-ways and public lands of
the area surrounding the proposed sanitary landfill facility and/or written or oral surveys of the
landowners around the proposed sanitary landfill facility. At a minimum, the publicly available
information includes the following:

[Comment: As long as the applicant can document that a reasonable attempt was made to obtain
the information, the application will be considered complete even if information is lacking (e.g.
the written or oral survey is not responded to).]

(a) All well logs, and, where applicable, the decommissioning records, for public and private
water supply wells within one mile of the proposed sanitary landfill facility.

(b) The Ohio department of natural resources division of water county ground water resource
maps or other appropriate regional hydrogeological data.

(c) Other publicly available information.

(ii) Information collected at the site for each stratigraphic unit from the surface to the bottom of the
uppermost aquifer system or to one hundred and fifty feet below the proposed composite liner
system, whichever is shallower. The information will be used to prepare the site investigation
report narrative required in paragraph (C)(3)(d) of this rule. This information shall be presented
on logs appropriate for the subsurface investigatory method used. At a minimum the
information shall include the following:

[Comment: The subsurface investigation conducted to provide the information required by this
paragraph may be combined with the subsurface investigation conducted to provide the
information required by paragraph (C)(3)(f)(v) of this rule.]

(a) Location of the subsurface investigation site (northing and easting location coordinates).

(b) Surface elevation surveyed to the nearest tenth of a foot.

(c) Depth interval for each stratigraphic unit.

(d) Field descriptions of the consolidated and unconsolidated units. At a minimum the
information shall include the following:

(i) Textural classification for each unconsolidated stratigraphic unit using the Unified Soil
Classification System (USCS), described in ASTM D2487-00.
(ii) Color.

(iii) Moisture content.

(iv) Stratigraphic features such as layering, interbedding, or weathering.

(v) Structural features such as fracturing or jointing.

(vi) Visible accessory minerals such as pyrite, calcite or gypsum.

(vii) Rock type such as limestone, dolomite, coal, shale, siltstone or sandstone.

(viii) Thickness.

(ix) Variations in texture, saturation, stratigraphy, structure or mineralogy in each stratigraphic unit.

(e) Depth to saturation.

(f) Hydraulic conductivity, including the following:

(i) For saturated unconsolidated stratigraphic units, at least one field measurement of hydraulic conductivity per saturated unconsolidated unit and one additional measurement per saturated unconsolidated unit for each twenty acres.

(ii) For unconsolidated stratigraphic units, from which an undisturbed sample can be collected, at least one laboratory measurement of vertical hydraulic conductivity per unconsolidated unit and one additional measurement per unconsolidated unit for each twenty acres.

(iii) For saturated consolidated stratigraphic units, at least one field measurement of hydraulic conductivity per saturated consolidated unit and one additional measurement per saturated consolidated unit for each twenty acres.

[Comment: Most field methods for measuring hydraulic conductivity primarily evaluate lateral hydraulic conductivity, but also account for at least some effects of vertical hydraulic conductivity over the tested interval. In cases where laboratory measurements of vertical hydraulic conductivity are obtained for unconsolidated saturated units which are wholly or partially saturated, the vertical hydraulic conductivity should be compared to the field hydraulic conductivity to help evaluate the extent to which near-vertical fractures may be contributing to ground water flow through the unit. Hydraulic conductivity data should be interpreted with respect to the primary and secondary porosity features that are observed or are reasonably expected to occur in the investigated units, as well as the stratigraphic and structural features of the investigated units.]

(g) Yield of any significant zones of saturation and of the uppermost aquifer.

(h) If an unconsolidated aquifer system capable of sustaining a yield of one hundred gallons per minute for a twenty-four-hour period is suspected beneath the facility based on evidence gathered in accordance with paragraph (C)(4)(b) of this rule, and the applicant proposes to revise that finding, the applicant must provide adequate site-specific information on the suspected aquifer system to justify any requested revision, including but not limited to the yield of any aquifer systems below the uppermost aquifer system.
(iii) Construction diagrams of all monitoring wells and piezometers. At a minimum the diagrams shall include the following:

(a) The top-of-casing elevation used for water level measurement reference surveyed to the nearest hundredth foot.

(b) The boring diameter and the inside diameter of the well casing.

(c) The total depth of the boring and the total depth of the well.

(d) The screened interval depth and elevation, and the screen slot size.

(e) A description of all construction materials and depth intervals for all construction materials.

(iv) Data gathered by sampling and analyzing the ground water from the uppermost aquifer system and all significant zones of saturation above the uppermost aquifer system. These samples shall, at a minimum, be analyzed for compounds 1 to 78 listed in appendix I of rule 3745-27-10 of the Administrative Code.

(v) Information collected at the site and used to prepare the stability analysis required in paragraph (C)(4) of this rule. This information shall be presented on logs appropriate for the subsurface investigatory method used. The subsurface investigatory method(s) and frequency must be adequate to find the unconsolidated stratigraphic units susceptible to bearing capacity failure, static stability failure, seismic stability failure, or settlement, at the site. The information shall be collected for each unconsolidated stratigraphic unit under the facility down to fifty feet below the proposed depths of excavation. At a minimum the information shall include the following:

[Comment: Ohio EPA recommends a frequency of one subsurface investigatory site for every four acres on a more or less uniform grid across the site. However, for sites which are located in areas where landslides or mass movements of unconsolidated material have occurred, or are underlain by complex geology with multiple unconsolidated stratigraphic units, more borings may be necessary pursuant to paragraph (A)(1) of this rule. Sites which are located in areas with a consistent stratigraphy, which is supported by comprehensive and reliable information from previous studies, may use a lower frequency of borings. Ohio EPA recommends against boring through cap, existing waste, or liner to obtain this information. Other methods or increased borings around the landfill footprint should be used.]

[Comment: Given the objective of finding thin unconsolidated stratigraphic units susceptible to bearing capacity failure, static stability failure, seismic stability failure, or settlement, the unconsolidated stratigraphic units should be logged continuously, and the subsurface investigation may also need to go deeper if publicly available data gathered pursuant to paragraph (C)(4)(g) of this rule or if field data gathered pursuant to paragraph (C)(3)(d)(i) of this rule indicate that deeper susceptible units exist.]

[Comment: The subsurface investigation conducted to provide the information required by this paragraph may be combined with the subsurface investigation conducted to provide the information required by paragraph (C)(3)(f)(ii) of this rule.]

(a) Northing and easting location coordinates.

(b) Surface elevation surveyed to the nearest tenth of a foot.

(c) Depth interval for each stratigraphic unit.
(d) Field descriptions of the unconsolidated units. At a minimum the information shall include the following:

(i) Textural classification for each unconsolidated stratigraphic unit using the Unified Soil Classification System (USCS), described in ASTM D2487-00.

(ii) Color.

(iii) Moisture content.

(iv) Stratigraphic features such as layering, interbedding, or weathering.

(v) For fine-grained unconsolidated units (e.g. silts and clays), field descriptions of consistency and plasticity or dilatancy.

(vi) Thickness.

(vii) Variations in texture, saturation, stratigraphy, structure or mineralogy in each stratigraphic unit.

(e) Identification of the depth interval of any samples collected including those submitted for laboratory testing.

(f) Depth to phreatic and piezometric surfaces.

[Comment: "Phreatic surface" is synonymous with the term "water table" and "piezometric surface" is synonymous with the term "potentiometric surface." Hydrogeologic investigations generally use "water table" for a water level surface in an unconfined saturated unit and "potentiometric surface" for the pressure head surface associated with a confined saturated unit. In hydrogeologic applications, the "water table" is considered a special type of potentiometric surface where the head pressure is equal to atmospheric pressure.]

[Comment: Any piezometric surfaces associated with bedrock that may affect the facility during excavation or construction may also be identified.]

(g) Results from penetration testing following ASTM D1586-99, plus the corrected and normalized standard penetration number, or results from mechanical cone penetration testing following ASTM D3441-98.

(h) If appendix I of rule 3745-27-08 of the Administrative Code will be used, the vertical hydraulic conductivity of each unsaturated stratigraphic unit.

(vi) Laboratory analysis on representative samples of all the unconsolidated stratigraphic units under the facility down to a minimum of fifty feet below the proposed depths of excavation. The information is used to prepare the stability analysis required in paragraph (C)(4) of this rule. At a minimum the information shall include the following:

[Comment: Undisturbed samples from at least ten per cent of the borings passing through each susceptible unit, or a minimum of three, whichever is greater, should be collected to provide representative data.]

(a) Grain size distribution (sieve and hydrometer curves).
(b) Atterberg limits.

(c) Specific gravity.

(d) In situ unit weight.

(e) In situ moisture content.

(f) Dry unit weight.

(g) For unconsolidated stratigraphic units susceptible to bearing capacity failure, the effective drained or undrained peak shear strength parameters as appropriate using direct shear (ASTM D3080-03), unconsolidated undrained compression (ASTM D2850-03a), or consolidated undrained triaxial compression (ASTM D6467-99).

(h) For unconsolidated stratigraphic units susceptible to static stability failure or seismic stability failure, the effective shear strength using ASTM D3080-03 (direct shear test) or ASTM D4767-02 (consolidated undrained triaxial compression test), or ASTM D6467-99 (torsional ring shear test).

(i) For unconsolidated stratigraphic units susceptible to static stability failure or seismic stability failure due to excessive increase in pore pressures from construction and operation activities, the undrained shear strength using fully saturated samples shall be determined using ASTM D2850-03a (unconsolidated-undrained triaxial compression).

(j) For unconsolidated stratigraphic units susceptible to settlement, the following parameters:

(i) The coefficient of consolidation.

(ii) The over consolidation ratio.

(iii) The pre-consolidation pressure.

(iv) The compression index.

(v) The swelling index.

(vi) The in situ void ratio.

(vii) The effective porosity.

(vii) Any other data generated.

(g) A detailed description of how the subsurface investigation was conducted including the following:

(i) The subsurface investigatory and sampling methods used in characterizing the geologic and hydrogeologic properties of the consolidated and unconsolidated stratigraphic units at the proposed sanitary landfill facility and an explanation of why the particular subsurface investigatory method(s) was chosen.

(ii) The analytical procedures and methodology used to characterize the unconsolidated and consolidated materials obtained from test pits and borings.

(iii) The methodology, equipment, and procedures used to define the uppermost aquifer system and all significant zones of saturation above the uppermost aquifer system, including the following:
Well and piezometer construction specifications.

(b) Water level measurement procedures.

(iv) The methodology, equipment, and procedures used to determine the ground water quality in the uppermost aquifer system and any significant zones of saturation above the uppermost aquifer system, including the following:

(a) Detection of immiscible layers.

(b) Collection of ground water samples, including the following:

(i) Well evacuation.

(ii) Sample withdrawal.

(iii) Sample containers and handling.

(iv) Sample preservation.

(c) Performance of field analysis, including the following:

(i) Procedures and forms for recording data and the exact location, time, and facility-specific considerations associated with the data acquisition.

(ii) Calibration of field devices.

(d) Decontamination of equipment.

(e) Analysis of ground water samples.

(f) Chain of custody control, including the following:

(i) Standardized field tracking reporting forms to record sample custody in the field prior to and during shipment.

(ii) Sample labels indicating a unique sample number, date, time, sample media, sample type, analytical methods, any preservatives, and any other information necessary for effective sample tracking.

(g) Field and laboratory quality assurance and quality control including the following, the number of which shall be enough to adequately demonstrate the accuracy of the analysis results:

(i) Collection of duplicate samples.

(ii) Submission of field-bias blanks.

(iii) Potential interferences.

(4) Stability analysis. The following analyses establishing the stability of the sanitary landfill facility and the subsurface. The analyses shall provide sufficient information to allow Ohio EPA to sufficiently characterize the facility geology to allow for the evaluation of the proposed design of the sanitary landfill facility.
(a) The hydrostatic uplift analysis shall include the following:

(i) The scope, extent, and findings of the subsurface investigation conducted in accordance with paragraph (C)(3) of this rule, as it pertains to hydrostatic uplift.

(ii) A narrative description of the rationale used for the selection of the analysis input parameters.

(iii) A description of the method used to calculate hydraulic uplift.

(iv) A description of the assessed failure modes and conditions.

(v) A narrative description of the rationale used for the selection of the critical cross section that, at a minimum, shall consider the worst case intersection of the highest phreatic or piezometric surface with the maximum excavation depth.

(vi) A plan drawing showing the temporal high phreatic and piezometric surfaces (prepared in compliance with paragraph (B)(3)(d) of this rule) and the horizontal and vertical limits of excavation (prepared in compliance with paragraph (B)(4)(a) of this rule).

(vii) A profile view of the critical area that fully depicts the analysis input model including the following:

(a) The material boundaries.

(b) The applicable dimensions, including but not limited to the depth of excavation, and depth to the temporal high phreatic and piezometric surfaces.

(c) The material types.

(d) The in situ unit weights and saturated unit weights.

(viii) The actual calculations and/or computer output.

(b) The bearing capacity analysis for any vertical sump risers on the composite liner system shall include the following:

(i) The scope, extent, and findings of the subsurface investigation conducted in accordance with paragraph (C)(3) of this rule, as it pertains to bearing capacity.

(ii) A narrative description of the rationale used for the selection of the analysis input parameters.

(iii) A description of the method used to calculate bearing capacity.

(iv) A description of the assessed failure modes and conditions.

(v) A profile view of the critical cross section that fully depicts the analysis input model including the following:

(a) The material boundaries.

(b) The temporal high piezometric surface.

(c) The material types.

(d) The in situ unit weights and saturated unit weights.
(vi) The plan view of the critical cross section including northings and eastings for the endpoints of the section.

(vii) The actual calculations and/or computer output.

(c) The static stability analysis shall include the following:

(i) The scope, extent, and findings of the subsurface investigation conducted in accordance with paragraph (C)(3) of this rule, and earthen materials testing program as it pertains to static stability.

(ii) A narrative description of the rationale used for the selection of the analysis input parameters.

(iii) A description of the method used to calculate static stability.

(iv) An assessment of failure modes and conditions that at a minimum should include the following:

(a) Deep-seated translational and rotational failure mechanisms of internal slopes, interim slopes and final slopes for drained conditions and, as applicable, undrained conditions.

(b) Shallow translational and rotational failure mechanisms of internal slopes and final slopes for saturated conditions and drained conditions.

(v) For each of the failure modes and conditions assessed, provide a narrative description of the rationale used for the selection of the critical cross sections for the internal slopes, interim slopes, and final slopes.

(vi) A profile view of the critical cross sections that fully depicts the analysis input model including the following:

(a) The material boundaries.

(b) The temporal high phreatic and piezometric surfaces.

(c) The material types.

(d) The in situ unit weights and, where applicable, the in situ saturated unit weights.

(e) The material shear strengths.

(vii) The plan view of the critical cross sections that includes the northings and eastings for the endpoints of the sections.

(viii) A summary of the results using two dimensional limit equilibrium methods or other methods acceptable to the director for each of the critical cross sections.

(ix) The actual calculations and/or computer output.

(d) The seismic stability analysis shall include the following:

(i) The scope, extent, and findings of the subsurface investigation conducted in accordance with paragraph (C)(3) of this rule, and earthen materials testing program as it pertains to seismic stability.

(ii) A narrative description of the rationale used for the selection of the analysis input parameters.
(iii) A description of the method used to calculate the seismic stability.

(iv) An assessment of failure modes and conditions that, at a minimum, should include the following:

(a) Deep-seated translational and rotational failure mechanisms of final slopes for drained conditions.

(b) Deep-seated translational and rotational failure mechanisms of internal slopes and interim slopes for drained conditions, if required by the director.

(c) Shallow translational and rotational failure mechanisms of final slopes for drained conditions.

(d) Liquefaction failure mechanisms of internal slopes, interim slopes, and final slopes.

(v) For each of the failure modes and conditions, provide a narrative description of the rationale used for the selection of the critical cross sections for the internal slopes, interim slopes, and final slopes.

(vi) The profile views of the critical cross sections that fully depict the analysis input model including the following:

(a) The material boundaries.

(b) The temporal high phreatic and piezometric surfaces.

(c) The material types.

(d) The in situ unit weights and, where applicable, the in situ saturated unit weights.

(e) The material shear strengths.

(vii) The plan views of the critical cross sections that include the northings and eastings for the endpoints of the sections.

(viii) A summary of the results using two or three dimensional limit equilibrium methods or other methods acceptable to the director for each of the critical cross sections.

(ix) The actual calculations and/or computer output.

(e) The settlement analyses of the composite liner system shall include the following:

(i) The scope, extent, and findings of the subsurface investigation conducted in accordance with paragraph (C)(3) of this rule, and earthen materials testing program as it pertains to settlement.

(ii) A narrative description of the rationale used for the selection of the analysis input parameters.

(iii) A description of the method used to calculate the settlement.

(iv) A description of the assessed failure modes and conditions.

(v) A summary of the results.

(vi) The actual calculations of settlement and/or computer output.

(f) If a separatory liner is used and is designed with a slope other than that specified by rule 3745-27-08
of the Administrative Code, the settlement analysis of the separatory liner shall include the following:

(i) A narrative description of the rationale used for the selection of the analysis input parameters.

(ii) A description of the method used to calculate the settlement.

(iii) A description of the assessed failure modes and conditions.

(iv) A summary of the results.

(v) The actual calculations of settlement and/or computer output.

(g) A description, based on publicly available information, of unstable areas within one mile of the limits of solid waste placement. For the purposes of this rule, "publicly available information" means written or published information from public or private sources that is reasonably available to the public, and includes but is not limited to visual surveys from public right-of-ways and public lands of the area surrounding the proposed sanitary landfill facility and/or written or oral surveys of the landowners around the proposed sanitary landfill facility. The description shall include the following:

[Comment: As long as the applicant can document that a reasonable attempt was made to obtain the information, the application will be considered complete even if information is lacking (e.g. the written or oral survey is not responded to).]

(i) Regional stratigraphic or structural features that are susceptible to bearing capacity failure, static stability failure, seismic stability failure, or settlement.

(ii) Areas susceptible to liquefaction.

(iii) Areas susceptible to mass movement such as landslides, debris slides and falls, and rock falls.

(iv) Areas impacted by natural and human induced activities such as cutting and filling, draw down of ground water, rapid weathering, heavy rain, seismic activity and blasting.

(v) Presence of karst terrain.

(vi) Presence of underground mining.

(vii) Areas susceptible to coastal and river erosion.

If the sanitary landfill facility is located in any of these unstable areas, provide an analysis using the publicly available information and findings of the subsurface investigation conducted in accordance with paragraph (C)(3) of this rule, that the structural components will maintain their integrity.

(5) Calculations. The following design calculations with references to equations used, showing site-specific input and assumptions that demonstrate compliance with the design requirements of rule 3745-27-08 of the Administrative Code:

(a) Calculations showing gross volume of the sanitary landfill facility in cubic yards and anticipated life in years, and the gross volume in cubic yards and anticipated life in years of each unit of the sanitary landfill facility.

(b) Recompacted soil liner thickness calculations, from appendix I of rule 3745-27-08 of the
Administrative Code, if any.

(c) Calculations for leachate head and flow.

(d) If leachate is to be recirculated, calculations for amount of leachate to be recirculated and the leachate head and flow.

(e) Calculations for sizing any leachate storage tanks based on the volume of leachate generated after final closure.

(f) Pump size and pipe size calculations based on paragraphs (C)(5)(c) and (C)(5)(d) of this rule.

(g) Pipe strength and pipe deflection calculations for the leachate collection and management system.

(h) An itemized written final closure cost estimate, in current dollars, based on the following:
   
   (i) The cost of final closure of a sanitary landfill facility in accordance with rule 3745-27-11 of the Administrative Code.

   (ii) A third-party conducting the final closure activities, assuming payment to employees of not less than the applicable prevailing wage.

(i) An itemized written post-closure care cost estimate, in current dollars, based on the following:

   (i) The cost of post-closure care of the unit(s) of the sanitary landfill facility in accordance with rule 3745-27-14 of the Administrative Code.

   (ii) A separate estimate for each noncontiguous unit(s) of the sanitary landfill facility.

   (iii) A third-party conducting the post-closure care activities, assuming payment to its employees of not less than the applicable prevailing wage.

(j) Soil erosion calculations.

(k) Calculations for sizing surface water control structures and verifying that scouring and crushing is minimized.

(l) Sedimentation basin calculations.

(m) Other relevant calculations.

(6) Location restriction demonstrations. For proposed new unit(s), the location restriction demonstrations in accordance with rule 3745-27-20 of the Administrative Code.

(7) Construction information. Discussion of the following construction information:

   (a) Installation of the items specified in rule 3745-27-10 of the Administrative Code.

   (b) Demonstration of physical and chemical resistance as required in paragraphs (D)(10) and (D)(13) of rule 3745-27-08 of the Administrative Code.

   (c) Compaction equipment slope limitations.

(8) Operational information. State the following information, which if modified, could require a permit:
(a) Authorized maximum daily waste receipt, as defined in rule 3745-27-01 of the Administrative Code, requested for the sanitary landfill facility.

(b) Technique of waste receipt, including but not limited to acceptance of baled waste or loose waste.

(c) Type of waste to be received, including but not limited to municipal solid waste, industrial solid waste, residual solid waste, asbestos or asbestos containing waste that is subject to the provisions of NESHAP, 40 CFR Part 61, subpart M, July 1, 2003, or construction and demolition debris.

(d) Type of equipment to be used to construct, operate, and maintain the sanitary landfill facility.

[Comment: A change in equipment that decreases the capability of the owner or operator to handle the waste received, may be considered to endanger human health and may require a permit.]

(9) Plans. The following plans:

(a) Ground water detection monitoring plan as required in rule 3745-27-10 of the Administrative Code, and, if applicable, the ground water quality assessment plan and/or corrective measures plan required pursuant to rule 3745-27-10 of the Administrative Code.

(b) Explosive gas monitoring plan as required in rule 3745-27-12 of the Administrative Code.

(c) The quality assurance/quality control plan for the engineered components addressing the following:

(i) Surveying.

(ii) Calibration of testing equipment.

(iii) Sampling and testing procedures to be used in the field and in the laboratory, including but not limited to the following:

(a) Testing required by rule 3745-27-08 of the Administrative Code.

(b) Testing required due to design requirements that must be met.

(c) Voluntary testing.

Procedures shall establish testing frequency, parameters, and sample locations.

(iv) Procedures to be followed if a test fails.

(d) The "final closure/post-closure plan" as detailed in paragraph (B) of rule 3745-27-11 of the Administrative Code.

(10) Notifications and certification. All applications shall include the following:

(a) Letters of intent to establish or modify a sanitary landfill facility, which include a description of property and facility boundaries, shall be sent via certified mail or any other form of mail accompanied by a receipt to the following entities (copies of these letters of intent with copies of the mail receipts shall be included with the application):

(i) The governments of the general purpose political subdivisions where the sanitary landfill facility is located, e.g., county commissioners, legislative authority of a municipal corporation, or the board of township trustees.
(ii) The single county or joint county solid waste management district.

(iii) The owner or lessee of any easement or right of way bordering or within the proposed facility boundaries that may be affected by the proposed sanitary landfill facility.

(iv) The local zoning authority having jurisdiction, if any.

(v) The airport administrator and the federal aviation administration, if the placement of solid waste will occur within five miles of any airport runway. "Airport" is defined in rule 3745-27-01 of the Administrative Code.

(vi) The park system administrator, if any part of the sanitary landfill facility is located within or shares the park boundary.

(vii) The conservancy district, if any part of the sanitary landfill facility is located within or shares the conservancy district boundary.

(b) A list of the permits, licenses, plan approvals, authorizations or other approvals that have been applied for and the local, state or federal office or agency where application has been made.

(c) Wetland demonstration. Applications which propose to locate the sanitary landfill facility in wetlands, as defined in rule 3745-27-01 of the Administrative Code, shall include a copy of a certification and permit approved in accordance with section 401 and 404 of the Clean Water Act, 33 U.S.C 1251 et seq. (2003), or other permit or certification authorizing the discharge of dredge or fill material under state law.

(d) Proof of property ownership or lease agreement to use the property as a sanitary landfill facility.
Five Year Review (FYR) Dates: 04/23/2014 and 04/23/2019

CERTIFIED ELECTRONICALLY

Certification

04/23/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.12
Rule Amplifies: 3734.02, 3734.05, 3734.12
Additional criteria for approval of sanitary landfill facility permit to install applications.

(A) General criteria. The director shall not approve any permit to install application for a sanitary landfill facility unless the director determines all of the following:

(1) Establishment or modification and operation of the sanitary landfill facility will not violate Chapter 3704., 3734., or 6111. of the Revised Code.

(2) The sanitary landfill facility will be capable of being constructed, operated, closed, and maintained during the post-closure care period in accordance with Chapter 3745-27 of the Administrative Code, and with the terms and conditions of the permit.

(3) The applicant, and/or the person(s) listed as owner and operator if the owner and operator are not the applicant, who has been or is currently responsible for the management or operation of one of more solid waste facilities, has managed or operated such facility in substantial compliance with applicable provisions of Chapters 3704., 3734., 3714., and 6111. of the Revised Code, and any rules, permits or other authorizations issued thereunder, and has maintained substantial compliance with all applicable orders issued by the director, the environmental review appeals commission, or courts having jurisdiction in accordance with Chapter 3746-13 of the Administrative Code, in the course of such previous or current management or operations. The director may take into consideration whether substantial compliance has been maintained with any applicable order from a board of health maintaining a program on the approved list and any other courts having jurisdiction.

(4) The person listed as operator meets the requirements of division (L) of section 3734.02 of the Revised Code and rules adopted thereunder.

(5) The applicant meets the requirements of sections 3734.42 to 3734.44 of the Revised Code and rules adopted thereunder.

(B) Discretionary criteria. The director may consider, when determining whether or not to approve a permit to install application for a sanitary landfill facility, the following:

(1) The impact the establishment or modification of the sanitary landfill facility may have on corrective measures that have been taken, are presently being taken, or are proposed to be taken at the facility or in the immediate area.

(2) The technical ability of the owner or operator to adequately monitor the impact of the sanitary landfill facility on the environment.

(C) Design criteria. The director shall not approve a permit to install application for any of the following unless the director determines that the application conforms to the appropriate sections of rule 3745-27-08 of the Administrative Code as follows:

(1) Proposed new unit(s) of a new landfill or proposed new unit(s) contiguous or noncontiguous to an existing landfill shall comply with paragraphs (B), (C), and (D) of rule 3745-27-08 of the Administrative Code.

[Comment: This requirement does not apply to new unit(s) designated on June 1, 1994 that are within a previously authorized fill area. Construction in an existing unit and new unit(s) designated as of June 1, 1994, must be in accordance with the applicable authorizing document(s), including a plan approval, operational report, and permit to install. See paragraph (C) of rule 3745-27-19 of the Administrative Code. Unfilled areas of an existing unit and new unit(s) designated as of June 1, 1994, and not provided with a bottom liner/leachate collection system in accordance with paragraph (D) of rule 3745-27-08 of
the Administrative Code are subject to paragraph (C) of rule 3745-27-19 and paragraph (A) of rule 3745-27-20 of the Administrative Code.]

(2) A proposed vertical expansion, as defined in rule 3745-27-01 of the Administrative Code, shall do the following:

(a) At a minimum, comply with paragraphs (B)(1)(a) and (B)(1)(e) to (B)(1)(h), paragraph (B)(2) as required, paragraph (B)(3) as relevant, paragraphs (C)(4) to (C)(7), and paragraphs (D)(1) to (D)(3) and (D)(18) to (D)(27) of rule 3745-27-08 of the Administrative Code if the expansion is above the authorized fill area(s) of the sanitary landfill facility.

(b) At a minimum, comply with paragraphs (B), (C), and (D) of rule 3745-27-08 of the Administrative Code if the vertical expansion is below the authorized fill area(s) of the sanitary landfill facility.

[Comment: If a landfill is permitted to vertically expand below a previously approved, but unfilled, area, that area must be constructed in accordance with current rule requirements.]

(3) Vertical expansion construction. For a permit application submitted after the effective date of this rule that includes a vertical expansion over an authorized fill area, the expansion area(s) must be constructed over either of the following:

(a) A separatory liner system constructed in accordance with rule 3745-27-08 of the Administrative Code.

(b) An authorized fill area that is underlain by a composite liner or engineered liner previously approved by the director, and a leachate collection system.

(4) Applications for a sanitary landfill facility submitted in response to divisions (A)(3) and (A)(4) of section 3734.05 of the Revised Code shall comply with paragraphs (B), (C), and (D) of rule 3745-27-08 of the Administrative Code, with the exception that filled areas of the sanitary landfill facility shall, at a minimum, meet the requirements of paragraphs (D)(1) to (D)(4), (D)(18) to (D)(23), and (D)(25) to (D)(27) of rule 3745-27-08 of the Administrative Code.

(5) Permit to install applications exclusively requesting a change in technique of waste receipt, or type of waste received, or type of equipment used, need not comply with rule 3745-27-08 of the Administrative Code.

(6) Applications exclusively requesting a change in the authorized maximum daily waste receipt (AMDWR) and submitted pursuant to paragraph (E) of this rule need not comply with rule 3745-27-08 of the Administrative Code.

(7) Other modifications of a sanitary landfill facility, as that term is defined in rule 3745-27-02 of the Administrative Code shall comply with the relevant paragraphs of rule 3745-27-08 of the Administrative Code.

(D) [Reserved.]

(E) Additional criteria for authorized maximum daily waste receipt (AMDWR) increase applications.

The director shall not approve a permit to install application for a permanent change in the AMDWR for the sanitary landfill facility unless the owner or operator demonstrates that the sanitary landfill facility can operate in compliance with all applicable solid waste regulations while receiving the requested maximum daily waste receipt. An adequate demonstration for a sanitary landfill facility includes, but is not limited to, the following:
(1) An explanation of the overall site design including construction time frames and fill sequences for the sanitary landfill facility.

(2) Operational criteria such as the sanitary landfill facility's equipment availability, cover availability, and manpower.

(3) If applicable, the owner's or operator's previous compliance history throughout the life of the sanitary landfill facility and the daily logs for any period that the sanitary landfill facility was out of compliance.

[Comment: An application for a temporary increase in the AMDWR must satisfy the criteria specified in rule 3745-37-14 of the Administrative Code.]

(F) Applicability of location restriction demonstrations to proposed new unit(s).

(1) Proposed new unit(s). For a permit to install application for a proposed new unit(s), the director shall not approve the permit to install application for the proposed new unit(s), unless the director determines that the owner or operator has demonstrated compliance with the location restriction demonstration requirements specified in rule 3745-27-20 of the Administrative Code.

(2) The director shall not approve a permit to install application submitted in accordance with divisions (A)(3) and (A)(4) of section 3734.05 of the Revised Code unless the director determines that the owner or operator has demonstrated that any unfilled areas of the sanitary landfill facility comply with the location restriction demonstration requirements specified in rule 3745-27-20 of the Administrative Code.

(G) Applicability of siting criteria.

For the purposes of this rule, an "authorized fill area" is an area within the limits of solid waste placement of a sanitary landfill facility which is authorized, by a permit(s) to install, plan approval, operational report, or other authorizing document(s) to accept solid waste as of the date of submittal of the permit to install application for a new unit.

The director shall not approve the permit to install application for a sanitary landfill facility unless the director determines that the application meets the criteria specified in paragraph (H) of this rule, as follows:

(1) Call-in permits. A sanitary landfill facility for which the permit to install application, including any proposed new unit(s) and/or a proposed vertical expansion, is submitted in response to division (A)(3) or (A)(4) section 3734.05 of the Revised Code, shall meet all the criteria specified in paragraph (H) of this rule; however, the director may approve the application for one or more noncontiguous unit(s) which meet the criteria specified in paragraph (H) of this rule, even though other unit(s) do not meet the criteria specified in paragraph (H) of this rule.

[Comment: The purpose of a call-in permit is to upgrade a facility to the standards in Chapter 3745-27 of the Administrative Code. The review of a call-in permit should be distinguished from a "voluntary" expansion, or AMDWR permit application. Since the call-in process looks at the entire facility, including any expansions proposed in the call-in application, a voluntary application which may be approvable by itself may not be adequate when viewed in the context of the entire facility. It is the applicant's option to submit voluntary vertical or lateral expansions with the call-in application or to submit a voluntary application before the call-in application.]

(2) Operation changes. A permit to install application that exclusively proposes a substantial change in technique of waste receipt, or type of waste received, or type of equipment used at the sanitary landfill facility, need not comply with the criteria specified in paragraph (H) of this rule.
(3) AMDWR increase. A permit to install application which exclusively proposes a change in the AMDWR limit for the sanitary landfill facility need not comply with the criteria specified in paragraph (H) of this rule.

(4) Other modification permits. A permit to install application that incorporates a "modification" of the sanitary landfill facility, as that term is defined in rule 3745-27-02 of the Administrative Code, and the modification does not incorporate a capacity increase or otherwise change the vertical or horizontal limits of waste placement, need not comply with the criteria specified in paragraph (H) of this rule.

(5) Vertical expansion. For the purposes of this rule, a vertical expansion, as defined in rule 3745-27-01 of the Administrative Code, includes the proposed vertical expansion and all waste within the vertical projection above or below the proposed vertical expansion. When evaluating a proposed vertical expansion, the director shall apply the following criteria:

(a) All of the criteria specified in paragraph (H) of this rule, except for paragraph (H)(4) of this rule (general setbacks).

[Comment: Paragraph (H)(4) of this rule includes setbacks for natural areas, 300 feet from facility boundary, 1000 feet from domicile, and 200 feet from surface waters.]

(b) The criteria specified below apply to all areas of the authorized fill area that are contiguous to the proposed vertical expansion but which are not directly above or below the proposed vertical expansion:

(i) Paragraph (H)(1) of this rule (location in national park, etc.).

(ii) Paragraph (H)(2) of this rule (ground water aquifer system protection).

[Comment: Paragraph (H)(2) includes protection standards for sand/gravel pits, limestone/sandstone quarries, sole source aquifer system, one hundred gallons per minute (gpm) aquifer system, and fifteen-foot separation distance.]

[Comment: See diagram no. 1 in appendix I of this rule. Vertical expansion permits seek a voluntary vertical change in waste placement boundaries. A decision for final denial of a voluntary vertical expansion permit application does not alter the current authorizing document(s) for the facility. Filling may continue in the authorized fill area in accordance with the applicable authorizing document(s).]

(6) Proposed new unit(s).

Proposed new unit(s) of a sanitary landfill facility shall meet all of the criteria specified in paragraph (H) of this rule; however, the director may approve the application for one or more noncontiguous proposed new unit(s) that meet the criteria specified in paragraph (H) of this rule, even though other proposed new unit(s) do not meet the criteria specified in paragraph (H) of this rule.

[Comment: If a proposed new unit(s) is an expansion to the authorized fill area of an existing landfill, see paragraph (G)(7) of this rule for the applicability of siting criteria to the authorized fill area of the existing landfill.]

(7) "Authorized fill area," that is contiguous or noncontiguous to a proposed new unit(s).

(a) Noncontiguous authorized fill area. When evaluating a proposed new unit(s), the criteria specified in paragraph (H) of this rule do not apply to an authorized fill area that is noncontiguous with the new unit(s) proposed in the permit to install application.
(b) Contiguous authorized fill area. When evaluating a permit to install application that includes a proposed contiguous new unit(s) without a vertical expansion above or below some or all of the authorized fill areas, the following apply:

[Comment: In the situation addressed in this paragraph, the permit to install application proposes a "new unit" (lateral expansion area) of the facility that is contiguous to the currently permitted fill area (the "authorized fill area"). All siting criteria apply to the "new unit;" however, paragraphs (G)(7)(b)(i) and (G)(7)(b)(ii) of this rule specify the criteria that apply to the authorized fill area. A final denial decision on the voluntary proposed new unit(s) application does not alter the approval to fill in the authorized fill area.]

(i) When evaluating a proposed new unit(s), the following criteria specified in paragraph (H) of this rule do not apply to the authorized fill area contiguous with the new unit(s) proposed in the permit to install application:

(a) Paragraph (H)(3) of this rule (ground water setbacks).

(b) Paragraph (H)(4) of this rule (general setbacks).

[Comment: Paragraph (H)(3) of this rule includes setbacks for five year time of travel to public water supply well, underground mines, and one thousand feet from water supply well. Paragraph (H)(4) of this rule includes setbacks for natural areas, three hundred feet from facility boundary, one thousand feet from domicile, and two hundred feet from surface waters.]

(ii) When evaluating proposed new unit(s), the following criteria always apply to the authorized fill area contiguous to the new unit(s) in the permit to install application:

(a) Paragraph (H)(1) of this rule (location in national park, etc.).

(b) Paragraph (H)(2) of this rule (ground water aquifer system protection).

[Comment: Paragraph (H)(2) of this rule includes protection standards for sand/gravel pits, limestone/sandstone quarries, sole source aquifer system, one hundred gpm aquifer system, and fifteen foot separation distance.]

(c) Contiguous new unit, authorized fill area, and vertical expansion. When evaluating a permit to install application that includes a proposed contiguous new unit(s) and also includes a vertical expansion above or below some or all of the authorized fill area, the following apply:

(i) Evaluate the vertical expansion component of the permit to install application in accordance with paragraph (G)(5) of this rule, and, if it meets the criteria specified in paragraph (G)(5) of this rule, then

(ii) Evaluate the proposed new unit(s) component of the permit to install application and the authorized fill area in accordance with paragraph (G)(6) of this rule.

[Comment: See diagram no. 3 in appendix I of this rule. If the vertical expansion component
does not meet the criteria specified in paragraph (G)(5) of this rule, then the applicant may consider revising the application to meet the requirements specified in paragraph (G)(7)(b) of this rule. A final denial decision on this voluntary permit does not alter the filling approved in the authorized fill area.]

(H) Siting criteria.

(1) National parks, national recreation areas, and state parks.

The limits of solid waste placement of the sanitary landfill facility are not located within one thousand feet of or within any of the following areas, in existence on the date of receipt of the permit to install application by Ohio EPA:

(a) National park or recreation area.

(b) Candidate area for potential inclusion in the national park system.

(c) State park or established state park purchase area.

(d) Any property that lies within the boundaries of a national park or recreation area but that has not been acquired or is not administered by the secretary of the United States department of the interior.

The one-thousand-foot setback from the limits of solid waste placement does not apply if the applicant obtains a written authorization from the owner(s) and the designated authority of the areas designated in paragraph (H)(1) of this rule to locate the limits of solid waste placement within one thousand feet. Such authorizations must be effective prior to the issuance date of the permit.

[Comment: Pursuant to division (M) of section 3734.02 of the Revised Code, the limits of solid waste placement cannot be located within these areas.]

If the sanitary landfill facility is located within a park or recreation area and exclusively disposes of wastes generated within the park or recreation area, this paragraph shall not apply.

(2) Ground water aquifer system protection.

(a) Sand or gravel pit.

The sanitary landfill facility is not located in a sand or gravel pit where the sand or gravel deposit has not been completely removed.

For the purposes of this paragraph, a sand or gravel pit is an excavation resulting from a mining operation where the removal of sand or gravel is undertaken for use in another location or for commercial sale. This term does not include excavations or sand or gravel resulting from the construction of the sanitary landfill facility.

(b) Limestone or sandstone quarry.

The sanitary landfill facility is not located in a limestone quarry or sandstone quarry.

For the purposes of this paragraph, a limestone or sandstone quarry is an excavation resulting from a mining operation where limestone or sandstone is the principal material excavated for use in another location or for commercial sale. This term does not include excavation of limestone resulting from the construction of the sanitary landfill facility.
(c) Sole source aquifer.

The sanitary landfill facility is not located above an aquifer declared by the federal government under the Safe Drinking Water Act, 42 U.S.C 300f et. seq. (2003), to be a sole source aquifer prior to the date of receipt of the permit to install application by Ohio EPA.

(d) One hundred gallons per minute (gpm) aquifer system.

The sanitary landfill facility is not located above an unconsolidated aquifer system capable of sustaining a yield of one hundred gpm for a twenty-four-hour period to an existing or future water supply well located within one thousand feet of the limits of solid waste placement of the sanitary landfill facility.

(e) Isolation distance.

The isolation distance between the uppermost aquifer system and the bottom of the recompacted soil liner of a sanitary landfill facility is not less than fifteen feet of in-situ or added geologic material constructed in accordance with rule 3745-27-08 of the Administrative Code.

(3) Ground water setbacks.

(a) Five year time of travel.

The limits of solid waste placement of the sanitary landfill facility and any temporary or permanent leachate ponds or lagoons are not located within the surface and subsurface areas of either of the following:

(i) Surrounding an existing or proposed public water supply well through which contaminants may move toward and may reach the public water supply well through underground geologic or man-made pathways within a period of five years.

For the purposes of this paragraph, a proposed public water supply well is a well for which plans have been submitted to Ohio EPA for inclusion in a public water supply system on, or before, the date the permit to install application was received by Ohio EPA and for which a final denial has not been issued.

(ii) A wellhead protection area or a drinking water source protection area for a public water system using ground water.

For the purposes of this paragraph, a wellhead protection area includes areas near or surrounding a public water supply well or well field as delineated by the owner or operator of the public water supply well or well field and endorsed by Ohio EPA.

For purposes of this paragraph, a drinking water source protection area for a public water system using ground water includes areas near or surrounding a public water supply well or well field as delineated by Ohio EPA. For the purposes of this paragraph, the prohibition against siting in a drinking water source protection area for a public water system using ground water shall not be effective until a map of the delineated area is sent by Ohio EPA and received by the owner or operator of the relevant public water supply well or well field.

[Comment: Information on wellhead protection areas and a drinking water source protection area for a public water system using ground water may be obtained from Ohio EPA's division of drinking and ground waters.]
(b) Underground mine.

The sanitary landfill facility is not located within an area of potential subsidence due to an underground mine or within the angle of draw of an underground mine in existence on the date of receipt of the permit to install application by Ohio EPA unless the potential impact to the facility due to subsidence is minimized.

[Comment: Removal or filling of the mines is an acceptable method for minimizing the potential for subsidence.]

(c) One thousand feet from water supply well.

The limits of solid waste placement of the sanitary landfill facility are not located within one thousand feet of a water supply well or a developed spring in existence on the date the permit to install application was received by Ohio EPA, unless one or more of the following conditions are met:

(i) The water supply well or developed spring is controlled by the owner or operator of the sanitary landfill facility and provided the following:

(a) The water supply well or developed spring is needed as a source of nonpotable water in order to meet the requirements of the approved permit.

(b) No other reasonable alternate water source is available.

(c) The water supply well or developed spring is constructed to prevent contamination of the ground water.

(ii) The water supply well or developed spring is at least five hundred feet hydrogeologically upgradient of the limits of solid waste placement of the sanitary landfill facility and the applicant demonstrates that the potential for migration of landfill gas to that well or developed spring is minimized.

[Comment: If the applicant does not meet the demonstration, then the limits of solid waste placement must be located at least one thousand feet hydrogeologically downgradient of the water supply well or developed spring.]

[Comment: Constructing a landfill with a composite bottom liner system or an active gas management system is an acceptable means to minimize the potential for gas migration.]

(iii) The water supply well or developed spring is separated from the limits of solid waste placement of the sanitary landfill facility by a hydrogeologic barrier.

(iv) The water supply well or developed spring was constructed and is used solely for monitoring ground water quality.

For the purposes of this paragraph, a developed spring is any spring that has been permanently modified by the addition of pipes or a collection basin to facilitate the collection and use of the spring water.

(4) General setbacks.

(a) One thousand feet from natural areas.
The limits of solid waste placement of the sanitary landfill facility are not located with one thousand feet of the following, that are in existence on the date of receipt of the permit to install application by Ohio EPA:

(i) Areas designated by the Ohio department of natural resources as either a state nature preserve, including all lands dedicated under the Ohio natural areas law, a state wildlife area, or a state wild, scenic or recreational river.

(ii) Areas designated, owned, and managed by the Ohio historical society as a nature preserve.

(iii) Areas designated by the United States department of the interior as either a national wildlife refuge or a national wild, scenic or recreational river.

(iv) Areas designated by the United States forest service as either a special interest area or a research natural area in the Wayne national forest.

(v) Stream segments designated by Ohio EPA as either a state resource water, a coldwater habitat, or an exceptional warmwater habitat.

[Comment: Stream segments designated as state resource waters may include some wetlands. Those wetlands that do not meet this designation are addressed in paragraph (H)(4)(d) of this rule.]

(b) Three hundred feet from property line.

The limits of solid waste placement of the sanitary landfill facility are not located with three hundred feet of the sanitary landfill facility's property line.

(c) One thousand feet from domicile.

The limits of solid waste placement of the sanitary landfill facility are not located within one thousand feet of a domicile, whose owner has not consented in writing to the location of the sanitary landfill facility, in existence on the date of receipt of the permit to install application by Ohio EPA.

(d) Two hundred feet from surface waters.

The limits of solid waste placement of the sanitary landfill facility are not located within two hundred feet of areas determined by Ohio EPA or the United States army corps of engineers to be a stream, lake, or wetland.

[Comment: Pursuant to division (A) or (G) of section 3734.02 of the Revised Code, an applicant may request a variance or exemption from any of the siting criteria contained in this rule. However, pursuant to division (M) of section 3734.02 of the Revised Code, the director shall not issue a permit, variance or exemption that authorizes a new sanitary landfill facility, or an expansion of an existing sanitary landfill facility, within the boundaries of the areas indicated in paragraph (H)(1) of this rule.]
Five Year Review (FYR) Dates: 05/28/2014 and 04/24/2019

CERTIFIED ELECTRONICALLY

Certification

05/28/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.12
Rule Amplifies: 3734.02, 3734.12
DIAGRAM 2
NONCONTIGUOUS UNITS

TOP VIEW

Authorized Fill Area
NO Siting Criteria Apply

New Unit
ALL Siting Criteria Apply
(H)(1), (H)(2), (H)(3) & (H)(4)

SIDE VIEW

Authorized Fill Area

New Unit
DIAGRAM 3
CONTIGUOUS NEW UNIT WITH VERTICAL EXPANSION

TOP VIEW

Authorized Fill Area

Siting Criteria (H)(1) & (H)(2) Apply

Siting Criteria (H)(1), (H)(2) & (H)(3) Apply

ALL Siting Criteria Apply (H)(1), (H)(2), (H)(3) & (H)(4)

New Unit

SIDE VIEW (Vertical Expansion Above)

Authorized Fill Area

New Unit

SIDE VIEW (Vertical Expansion Above & Below)

Authorized Fill Area

New Unit

Vertical Expansion
### Appendix II

#### SITING CRITERIA 3745-27-07(H)

<table>
<thead>
<tr>
<th>TYPE OF PERMIT</th>
<th>GW Aquifer Protection</th>
<th>GW Setbacks</th>
<th>General Setbacks</th>
<th>Location Restrictions required by Subtitle D see 3745-27-20 (airport, flood plain, fault area, seismic zone, unstable areas)</th>
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<td>nat'l parks (1)</td>
<td>sand</td>
<td>quarry</td>
<td>sole source</td>
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<td>(G)(1) call-in permit (includes all expansion areas proposed in application)</td>
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<td>(G)(2) operational changes</td>
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<td>(G)(5)(a) vertical expansion</td>
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<tr>
<td>(G)(5)(b) AFA not above/below vertical expansion but contiguous to VE</td>
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<td>(G)(7)(b) contiguous AFA</td>
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* **AFA** means authorized fill area  
* **AMDWR** means authorized maximum daily waste receipt  
* **VE** means vertical expansion  
* **Failure to comply with 3745-27-20 is a compliance issue. Substantial compliance is a permit approval criterion. See 3745-27-07(A)(3).**
3745-27-08 Sanitary landfill facility construction.

(A) Applicability. The construction requirements for a sanitary landfill facility specified in this rule are applicable to a particular facility or permit to install application as specified in rules 3745-27-06, 3745-27-07, 3745-27-11, 3745-27-19, and 3745-27-20 of the Administrative Code.

[Comment: The construction requirements specified in this rule represent the minimum standards that must be met by all sanitary landfill facilities. Authorizing documents such as permits to install also establish construction requirements, but they may be different than the rule requirements based on site specific factors. Since the authorizing document must meet, at a minimum, the requirements in this rule, if there are differences between the requirements of this rule and the authorizing document for the facility, the compliance standard shall be based on the authorizing document. The owner or operator is required to comply with the approved authorizing documents unless changes are required by specific references in this rule or other applicable rules or authorized by a director's action.]

(B) Engineered components for sanitary landfill facilities. The owner or operator shall incorporate the following engineered components in the design and construction of a sanitary landfill facility:

(1) All sanitary landfill facilities, at a minimum, shall include the following:

   (a) Survey marks.

   (b) A prepared in-situ foundation.

   (c) A composite liner system that includes the following:

      (i) A recompacted soil liner.

      (ii) A flexible membrane liner.

   (d) A leachate collection and management system that includes the following:

      (i) A leachate collection layer.

      (ii) Leachate collection pipes.

      (iii) A filter layer.

      (iv) A sump.

      (v) Leachate conveyance apparatus.

   (e) Surface water control structures including sedimentation ponds.

   (f) A composite cap system that includes the following:

      (i) A soil barrier layer.

      (ii) A flexible membrane liner.

      (iii) A drainage layer.

      (iv) A cap protection layer.

   (g) An explosive gas control system.
(h) Access roads.

(2) Supplemental engineered components that may be required to address site specific conditions include, but are not limited to, the following:

(a) Permanent ground water control structures to control the impact of ground waters on other engineered components.

(b) Structural fill for berms and subbase.

(c) Added geologic material to meet the isolation distance requirement of rule 3745-27-07 of the Administrative Code.

(d) Liner cushion layer.

(e) Leachate storage tanks, if there is no permitted discharge to a public sewer system or a permitted waste water treatment system.

(f) Separatory liner/leachate collection systems may include the following components:
   (i) A gas collection layer.
   (ii) A recompacted soil liner.
   (iii) A flexible membrane liner.
   (iv) A leachate collection layer.
   (v) Leachate collection pipes.
   (vi) A filter layer.
   (vii) A geosynthetic clay liner.

(g) Interim composite liner/leachate collection system that includes the following components:
   (i) A recompacted soil liner.
   (ii) A flexible membrane liner.
   (iii) A leachate collection layer.
   (iv) Leachate collection pipes.
   (v) A filter layer.
   (vi) A sump.
   (vii) Leachate conveyance apparatus.

(h) A gas collection system.

(3) Optional engineered components that an owner or operator may propose for use in a sanitary landfill facility include, but are not limited to, the following:

(a) Geosynthetic clay liner in lieu of a portion of the recompacted soil liner of the composite liner system.
(b) Geosynthetic clay liner in lieu of the recompacted soil barrier layer of the composite cap system.

(c) Engineered subbase for a geosynthetic clay liner in a composite cap system.

(d) Transitional cover.

(C) General design criteria. The objective of the design for any engineered component or system of components shall be to meet or exceed the specifications for design, construction and quality assurance testing required in paragraph (D) of this rule along with the following general design criteria:

(1) The composite liner system shall be designed to do the following:

(a) Serve as a barrier to prevent the discharge of any leachate to ground or surface waters.

(b) For new facilities or lateral expansions of existing facilities, the composite liner system shall have at least a 2.0 percent slope in all areas, except along flow lines augmented by leachate collection pipes, after accounting for one hundred percent of the primary consolidation settlement and the secondary consolidation settlement of the compressible materials beneath the facility which includes, as applicable, in-situ soil, added geologic material, structural fill material, and recompacted soil liner.

For the purposes of this paragraph, secondary settlement shall be calculated using a 100-year time frame or another time frame acceptable to the director.

(c) For existing facilities where an owner or operator proposes to vertically expand over a composite liner system that was constructed after December 31, 2003, the slope of the existing composite liner system located beneath the vertical expansion shall meet the design standard in paragraph (C)(1)(b) of this rule.

[Comment: When initially designing and constructing a composite liner system, a conservative approach may be necessary to account for further settlement of the underlying materials caused by any potential vertical expansion above the initial design.]

[Comment: An owner or operator may revise the applicable authorizing document(s) or modify the facility, with Ohio EPA approval, to meet the design standard in paragraph (C)(1)(b) of this rule.]

(d) For existing facilities where an owner or operator proposes to vertically expand over a composite liner system that was constructed before December 31, 2003, the owner or operator shall demonstrate to the director that the existing composite liner system located beneath the vertical expansion maintains, at a minimum, positive drainage in the leachate collection system and has no more than one foot of head of leachate after accounting for the additional waste and one hundred percent of the primary consolidation settlement and the secondary consolidation settlement of the compressible materials beneath the facility which includes, as applicable, in-situ soil, added geologic material, structural fill material, and recompacted soil liner.

For the purposes of this paragraph, secondary settlement shall be calculated using a 100-year time frame or another time frame acceptable to the director.

(e) Have a maximum slope based on the following:

(i) Compaction equipment limitations.

(ii) Slope stability.

(2) The separatory liner/leachate collection system shall be designed to do the following:
(a) Serve as a barrier to direct all leachate from new waste placement into the leachate collection system associated with the vertical expansion and to manage any explosive gas generated from the waste placement below the barrier.

(b) Have at least a 10.0 percent constructed grade in all areas except along flow lines augmented by leachate collection pipes, or have some other minimum slope based on a design acceptable to the director.

(c) Have a maximum slope based on the following:

   (i) Compaction equipment limitations.

   (ii) Slope stability.

(d) The leachate collection and management system portion of the separatory liner shall be designed to limit the level of leachate to a maximum of one foot on the separatory liner throughout the operation and post closure of the facility.

(e) Include a combination of engineered components as listed in paragraph (B)(2)(f) of this rule that will function throughout the operational life and post closure period of the landfill. Alternative specifications to those included in paragraph (D) of this rule may be proposed in any new permit or permit modification.

(f) Minimize the amount of waste filled beneath the separatory liner system needed to obtain the required minimum slope.

(3) The leachate collection and management system shall be designed to do the following:

(a) Any components located outside of the limits of solid waste placement shall be no less protective of the environment than the sanitary landfill facility by complying with this paragraph.

(b) The selection and specifications for the materials that will make up the leachate collection layer shall be protective of the flexible membrane liner or the design must include a liner cushion layer.

(c) Limit the level of leachate in areas other than sumps to a maximum of one foot throughout the operation and post closure of the facility.

   For the purposes of this rule, a sump is an excavated depression of limited size that serves as a collection and transfer point for leachate.

(d) Have at least a 0.5 percent grade for the leachate collection pipes after accounting for one hundred percent of the primary consolidation settlement and the secondary consolidation settlement of the compressible materials beneath the facility which includes, as applicable, in-situ soil, added geologic material, structural fill material, and recompacted soil liner.

   For the purposes of this paragraph, secondary settlement shall be calculated using a 100-year time frame or another time frame acceptable to the director.

(4) The composite cap system shall be designed to do the following:

(a) Minimize infiltration of surface water.

(b) Serve as a barrier to prevent leachate outbreaks.
(c) Have at least a 5.0 percent grade in all areas except where surface water control structures are located.

(d) Have a maximum slope based on the following:

   (i) Compaction and maintenance equipment limitations.

   (ii) Slope stability.

(e) Provide protection for all composite cap system components from the effects of the formation of landfill gas.

(5) If applicable, the design of the explosive gas control system may utilize a passive venting system or an active extraction system to satisfy air pollution control requirements and shall be designed to maintain explosive gas concentrations below the explosive gas threshold limits in rule 3745-27-12 of the Administrative Code.

(6) The design of all geosynthetic materials specified in the engineered components, including but not limited to, flexible membrane liners, geosynthetic clay liners, and geosynthetic drainage nets, shall not rely on any of the tensile qualities of these geosynthetic components.

(7) The design for the stability of all engineered components and the waste mass shall address any configuration throughout the applicable developmental and post closure periods. Potential failures associated with internal, interim and final slopes as these slopes are defined in rule 3745-27-06 of the Administrative Code, shall be used to define the minimum construction specifications and materials that, at a minimum, will meet the following:

   (a) The factor of safety for hydrostatic uplift shall not be less than 1.40 at any location during the construction and operation of the facility.

   (b) The factor of safety for bearing capacity of any vertical sump risers on the composite liner system shall not be less than 3.0.

   (c) The factor of safety for static slope stability shall not be less than 1.50 using two dimensional limit equilibrium methods or another factor of safety using a method acceptable to the director when assessed for any of the following failure modes and conditions:

      (i) Deep-seated translational and deep-seated rotational failure mechanisms of internal slopes, interim slopes, and final slopes for drained conditions and as applicable conditions representing the presence of excess pore water pressure at the onset of loading or unloading. For slopes containing geosynthetic interfaces placed at grades greater than 5.0 percent, residual shear strength conditions shall be used for any soil to geosynthetic or geosynthetic to geosynthetic interfaces.

      [Comment: Ohio EPA considers any failure that occurs through a material or along an interface that is loaded with more than 1,440 pounds per square foot to be a deep seated failure mode.]

      (ii) Shallow translational and shallow rotational failure mechanisms of internal slopes and final slopes for unsaturated conditions.

      [Comment: Peak shear strengths can be used for most shallow failure modes.]

   (d) The factor of safety for seismic slope stability shall not be less than 1.00 using two or three dimensional limit equilibrium methods, or another factor of safety using a method acceptable to the
director when assessed for any of the following failure modes and conditions:

(i) Deep-seated translational and deep-seated rotational failure mechanisms of final slopes for drained conditions and as applicable conditions representing the presence of excess pore water pressure at the onset of loading or unloading. For slopes containing geosynthetic interfaces placed at grades greater than 5.0 percent, residual shear strength conditions shall be used for any soil to geosynthetic or geosynthetic to geosynthetic interfaces.

If required by the director, deep-seated translational and deep-seated rotational failure mechanisms of interim and internal slopes for drained conditions and as applicable conditions representing the presence of excess pore water pressure at the onset of loading or unloading. For slopes containing geosynthetic interfaces placed at grades greater than 5.0 percent, residual shear strength conditions shall be used for any soil to geosynthetic or geosynthetic to geosynthetic interfaces.

(ii) Shallow translational and shallow rotational failure mechanisms of final slopes for unsaturated conditions.

(e) The factor of safety against liquifaction shall not be less than 1.00 for internal slopes, interim slopes and final slopes.

(f) The factor of safety for static slope stability shall not be less than 1.10 using two dimensional limit equilibrium methods or other methods acceptable to the director when assessed for any of the following failure modes and conditions:

(i) If required by the director, shallow translational and shallow rotational failure mechanisms of internal slopes in which the protective soils over the leachate collection layer have reached field capacity. Calculations shall use the maximum head predicted for the fifty year, one hour design storm.

(ii) Shallow translational and shallow rotational failure mechanisms of final slopes in which the cover soils over the drainage layer have reached field capacity. Calculations shall use the maximum head predicted for the one hundred year, one hour design storm.

[Comment: The number of digits after the decimal point indicates that rounding can only occur to establish the last digit. For example, 1.485 can be rounded to 1.49, but not 1.5 or 1.50.]

(D) Design, construction and testing specifications. The owner or operator shall meet or exceed the following specifications in the design, construction, and quality assurance testing of all engineered components of a sanitary landfill facility.

[Comment: The order of the engineered components in this paragraph reflects a logical bottom to top or a typical construction sequencing approach. Reporting requirements will be dependent on which engineered components are being certified. In general, a test pad certification report submitted to Ohio EPA for written concurrence may be used repeatedly in future construction certifications provided the soil properties of the borrow soil remain the same. Pre-construction testing results for borrow soils or shear strength testing results for geosynthetic components may be submitted as often as necessary during the construction process to allow for their continued use. A single construction certification report for each construction project shall be submitted in accordance with rule 3745-27-19 of the Administrative Code to Ohio EPA for written concurrence with all quality assurance testing and for approval of all alterations that are included in the certification report.]
(1) For survey marks: at least three permanent survey marks, with each located on separate sides of the proposed sanitary landfill facility, shall be established prior to any construction and within easy access to the limits of solid waste placement in accordance with the following:

(a) Survey marks shall be referenced horizontally to the "1927 North American Datum," "1983 North American Datum," or "State Plane Coordinate System" and vertically to the "1929 or 1988 North American Vertical Sea Level Datum" as identified on the 7.5 minute series quadrangle sheets published by the United States geological survey.

(b) Survey marks shall be at least as stable as a poured concrete monument ten inches in diameter installed to a depth of forty-two inches below the ground surface. Each constructed survey mark shall include a corrosion resistant metallic disk which indicates horizontal and vertical coordinates of the survey mark and shall contain a magnet or ferromagnetic rod to allow identification through magnetic detection methods.

(c) Survey control standards for the survey marks shall be in accordance with the following:

(i) For the first facility survey mark established from the known control point, minimum horizontal distance accuracy shall be one foot horizontal to two thousand five hundred feet horizontal.

(ii) For each facility survey mark established from the first facility survey mark, minimum horizontal accuracy shall be one foot horizontal distance to five thousand feet horizontal.

(iii) For the first facility survey mark established from the known control point and for each facility survey mark established from the first facility survey mark, minimum vertical accuracy shall be one inch to five thousand feet horizontal.

[Comment: Certification of the establishment of survey marks should follow the requirements in paragraph (H)(6) of this rule.]

(2) For surface water control structures: surface water run-on and run-off control structures shall comply with the following:

(a) Accommodate the peak flow from the twenty-five year/twenty-four hour storm event.

(b) Minimize silting and scouring.

(c) Use non-mechanical means for all permanent structures.

(3) For sedimentation ponds: sedimentation ponds shall comply with the following:

(a) Minimum storage volume, excluding sediment volume, shall be based on the larger of the following:

(i) The calculated run-off volume from a ten year/twenty-four hour storm event.

(ii) The scheduled frequency of pond clean-out, that shall be no more often than once per year, multiplied by 0.125 acre-feet per year for each acre of disturbed area within the upstream drainage area.

(b) The principal spillway shall safely discharge the flow from a ten-year/twenty-four hour storm event using non-mechanical means.

(c) The inlet elevation of the emergency spillway shall provide flood storage with no flow entering the emergency spillway while allowing flow through the principal spillway during a twenty-five
year/twenty-four hour storm event.

(d) The combination of principal and emergency spillways shall safely discharge the flow from a one hundred year/twenty-four hour storm event using non-mechanical means.

(e) The embankment design shall provide for no less than one foot net freeboard when flow is at the design depth, after allowance for embankment settlement.

(4) For permanent ground water control structures: permanent ground water control structures shall adequately control ground water infiltration through the use of non-mechanical means such as impermeable barriers or permeable drainage structures. However, no permanent ground water control structures may be used to dewater an aquifer system, except if the recharge and discharge zone of the aquifer system are located entirely within the boundary of the sanitary landfill facility.

(5) For the in-situ foundation: the unconsolidated or consolidated stratigraphic units that make up the in-situ foundation shall comply with the following:

(a) Be free of debris, foreign material, and deleterious material.

(b) Not be comprised of solid waste.

(c) Not have any abrupt changes in grade that may result in damage to the composite liner system.

(d) Be proof rolled, if applicable.

(e) Be determined to have adequate strength to satisfy bearing capacity and slope stability strength requirements.

(f) Have quality control testing of any stratigraphic units that have not been anticipated and that are more susceptible to slope failure than the stratigraphic units that were tested and reported in the permit to install. This testing shall be in accordance with the following:

(i) The effective shear strength of each unconsolidated stratigraphic unit that may be susceptible to slope failure and the recompacted soil liner shall be determined using ASTM D3080-98 (direct shear test) or ASTM D4767-95 (consolidated-undrained triaxial compression test), or ASTM D6467-99 (torsional ring shear test).

(ii) The undrained shear strength of all applicable unconsolidated stratigraphic units using fully saturated samples shall be determined using ASTM D2850-95 (unconsolidated-undrained triaxial compression).

[Comment: Record drawings for the bottom of recompacted soil liner are required in the certification report. All necessary surveying should be completed before beginning construction of the recompacted soil liner.]

(6) For structural fill: rock fills or soil fills for a structural berm or subbase shall comply with the following:

(a) Be durable rock for rock fills only.

(b) Be free of debris, foreign material, and deleterious material.

(c) Not be comprised of solid waste.

(d) Not have any abrupt changes in grade that may result in damage to the composite liner system.
(e) For soil fills, have pre-construction testing of the borrow soils performed on representative samples to determine the maximum dry density and optimum moisture content according to ASTM D698-00a (standard proctor), or ASTM D1557-00 (modified proctor) at a frequency of no less than once for every ten thousand cubic yards.

(f) Be constructed in lifts to achieve uniform compaction of soil fills. Each lift shall comply with the following:

(i) Be constructed in loose lifts of twelve inches or less.

(ii) Be compacted to at least ninety five percent of the maximum dry density as determined by ASTM D698-00a (standard proctor) or at least ninety percent of the maximum dry density as determined by ASTM D1557-00 (modified proctor).

(g) Be determined to have adequate strength to satisfy bearing capacity and slope stability strength requirements.

(h) Have quality control testing of the soil fills on the constructed lifts performed to determine the density and moisture content according to ASTM D2922-01 and ASTM D3017-01 (nuclear methods), ASTM D1556-00 (sand cone), ASTM D2167-94 (rubber balloon) or other methods acceptable to the director or his authorized representative at a frequency of no less than five tests per acre per lift. The locations of the individual tests shall be adequately spaced to represent the constructed area.

(7) For added geologic material: added geologic material shall comply with the following:

(a) Provide at least fifteen feet of isolation distance between the uppermost aquifer system and the bottom of the recompacted soil liner.

(b) Be free of debris, foreign material, and deleterious material.

(c) Not be comprised of solid waste.

(d) Shall have low permeability, good compactability, cohesiveness, relatively uniform texture, and shall not contain large objects in such quantities as may interfere with its application and intended purpose. The soil shall be a well-compacted loam, silt loam, clay loam, silty clay loam, silty clay or other soil types that can achieve the intended purpose.

(e) Not have any abrupt changes in grade that may result in damage to the composite liner system.

(f) Have pre-construction testing of the borrow soils performed on representative samples to determine the following:

(i) The maximum dry density and optimum moisture content according to ASTM D698-00a (standard proctor), or ASTM D1557-00 (modified proctor) at a frequency of no less than once for every ten thousand cubic yards.

(ii) The recompacted laboratory permeability using ASTM D5084-00e1 (falling head) at a frequency of no less than once for every ten thousand cubic yards.

(iii) The grain size distribution according to ASTM D422-63 (sieve and hydrometer) at a frequency of no less than once for every three thousand cubic yards.

(g) Be constructed in lifts to achieve uniform compaction. Each lift shall comply with the following:
(i) Be constructed in loose lifts of twelve inches or less.

(ii) Be constructed of a soil with a maximum clod size that does not exceed the lift thickness.

(iii) Be compacted to at least ninety five percent of the maximum dry density as determined by ASTM D698-00a (standard proctor) or at least ninety percent of the maximum dry density as determined by ASTM D1557-00 (modified proctor).

(iv) Be placed with a soil moisture content that shall not be less than two percent below or more than four percent above the optimum moisture content as determined by ASTM D698-00a or ASTM D1557-00.

(v) Have a maximum permeability of one times ten to the negative five centimeters per second (1 X 10^-5 cm/sec).

(h) Be determined to have adequate strength to satisfy bearing capacity and slope stability strength requirements.

(i) Have quality control testing of the constructed lifts performed to determine the density and moisture content according to ASTM D2922-01 and ASTM D3017-01 (nuclear methods), ASTM D1556-00 (sand cone), ASTM D2167-92 (rubber balloon) or other methods acceptable to the director or his authorized representative at a frequency of no less than five tests per acre per lift. The locations of the individual tests shall be adequately spaced to represent the constructed area. Any penetrations shall be repaired using bentonite.

(8) For recompacted soil liners: the recompacted soil liner shall comply with the following:

(a) Be at least five feet thick or as follows:

   (i) An alternate thickness, to be no less than three feet, based on the result of the calculations outlined in appendix I of this rule.

   (ii) Three feet thick if used in conjunction with a geosynthetic clay liner that meets the specifications in paragraph (D)(9) of this rule.

   (iii) An alternate thickness, to be no less than one and one-half feet thick, based on the results of the calculations outlined in appendix I of this rule if used in conjunction with a geosynthetic clay liner that meets the specifications in paragraph (D)(9) of this rule.

   (iv) Two feet thick for the recompacted soil liner component of an interim composite liner/leachate collection system.

   (v) Two feet thick for the recompacted soil liner component of a separatory liner/leachate collection system.

(b) Be free of debris, foreign material, and deleterious material.

(c) Not be comprised of solid waste.

(d) Be placed beneath all areas of waste placement.

(e) Not have any abrupt changes in grade that may result in damage to the geosynthetics.

(f) Have pre-construction testing of the borrow soils performed on representative samples and the results
submitted to the appropriate Ohio EPA district office no later than seven days prior to the intended use of the material in the construction of the recompacted soil liner. The pre-construction testing shall determine the following:

(i) The maximum dry density and optimum moisture content according to ASTM D698-00a (standard proctor), or ASTM D1557-00 (modified proctor) at a frequency of no less than once for every one thousand five hundred cubic yards.

(ii) The grain size distribution according to ASTM D422-63 (sieve and hydrometer) at a frequency of no less than once for every one thousand five hundred cubic yards.

(iii) The atterberg limits according to ASTM D4318-00 at a frequency of no less than once for every one thousand five hundred cubic yards.

(iv) The recompacted laboratory permeability according to ASTM D5084-00e1 (falling head) at a frequency of no less than once for every ten thousand cubic yards.

(g) Be constructed in lifts to achieve uniform compaction. Each lift shall include the following:

(i) Be constructed with qualified soils and the corresponding construction details established by written concurrence from Ohio EPA with the test pad certification report required by paragraph (E) of this rule and the following specifications or an alternative to qualifying soils with a test pad if it is demonstrated to the satisfaction of the director or his authorized representative that the materials and techniques will result in each lift having a maximum permeability of $1 \times 10^{-7}$ cm/sec and the following specifications:

(a) With loose lifts of eight inches or less.

(b) With a maximum clod size of three inches or half the lift thickness, whichever is less.

(c) With one hundred percent of the particles having a maximum dimension not greater than two inches.

(d) With not more than ten percent of the particles, by weight, having a dimension greater than 0.75 inches.

(ii) Be compacted to at least ninety-five percent of the maximum dry density as determined by ASTM D698-00a (standard proctor) or at least ninety percent of the maximum dry density as determined by ASTM D1557-00 (modified proctor) or an alternative compaction specification approved by the director.

(iii) Be placed with a minimum soil moisture content that shall not be less than the optimum moisture content as determined by ASTM D698-00a or ASTM D1557-00 or an alternative soil moisture content specification approved by the director.

(iv) Have a maximum permeability of one times ten to the negative seven centimeters per second ($1 \times 10^{-7}$ cm/sec).

(h) Be adequately protected from damage due to desiccation, freeze/thaw cycles, wet/dry cycles, and the intrusion of objects during construction and operation.

(i) Be determined to have adequate strength to satisfy bearing capacity and slope stability strength.
requirements.

(j) Have quality control testing of the constructed lifts performed to determine the density and moisture content according to ASTM D2922-01 and ASTM D3017-01 (nuclear methods), ASTM D1556-00 (sand cone), ASTM D2167-94 (rubber balloon), or other methods acceptable to the director or his authorized representative at a frequency of no less than five times per acre per lift. The locations of the individual tests shall be adequately spaced to represent the constructed area. Any penetrations shall be repaired using bentonite.

(9) For geosynthetic clay liners: a geosynthetic clay liner used in lieu of part of the recompacted soil liner pursuant to paragraph (D)(8) of this rule, or in lieu of the recompacted soil barrier layer, pursuant to paragraph (D)(21) of this rule, shall comply with the following:

(a) Be negligibly permeable to fluid migration.

(b) Have a dry bentonite mass per unit area of at least 0.75 pounds per square foot at zero percent moisture content.

(c) Have pre-construction testing of the geosynthetic clay liner material performed on representative samples and the results submitted to the appropriate Ohio EPA district office no later than seven days prior to the intended use of the material. The pre-construction testing shall determine:

(i) The internal drained shear strength using ASTM D6243-98 (direct shear test) at least twice for the initial use and at least once for each subsequent construction event. Tests involving geosynthetic clay liner material shall be conducted with hydrated samples.

[Comment: If a shear stress point plots below the Mohr-Coulomb shear strength failure envelope defined by the required factor of safety, it will be considered a failed test.]

(ii) The dry bentonite mass (at zero percent moisture content) per square foot of geosynthetic clay liners according to ASTM D5993-99 at a frequency of no less than once per fifty thousand square feet.

(iii) The interface shear strength according to paragraph (G) of this rule.

(d) Be installed in the following manner:

(i) To allow no more than negligible amounts of leakage by a minimum overlap of six inches, or, for end-of-panel seams, a minimum overlap of twelve inches. Overlap shall be increased in accordance with manufacturer's specifications or to account for shrinkage due to weather conditions.

(ii) In accordance with the manufacturer's specifications in regards to handling and the use of granular or powdered bentonite to enhance bonding at the seams.

(iii) Above the recompacted soil liner when used in liner systems or above an engineered subbase pursuant to paragraph (D)(22) of this rule when used in cap systems. Geosynthetic clay liners without internal reinforcement shall not be used in areas beneath leachate collection piping, in sump areas, or on any slope with a grade that is steeper than ten percent.

(iv) On a surface that shall not have any sharp edged protrusions or any particles protruding more than one quarter of one inch.
(10) For flexible membrane liners. The flexible membrane liner shall comply with the following:

(a) Be, at a minimum, a sixty mil high density polyethylene (HDPE) geomembrane for composite liner systems or be, at a minimum, a forty mil geomembrane for composite cap systems or other materials and/or thicknesses acceptable to the director.

(b) Be physically and chemically resistant to attack by the solid waste, leachate, or other materials that may come in contact with it using U.S. EPA method 9090 or other documented data.

(c) Have pre-construction interface testing performed according to paragraph (G) of this rule.

(d) Be placed above and in direct and uniform contact with the recompacted soil liner or the recompacted soil barrier layer or the geosynthetic clay liner.

(e) Be seamed to allow no more than negligible amounts of leakage; the seaming material shall be physically and chemically resistant to chemical attack by the solid waste, leachate, or other materials that may come in contact with the seams.

(f) Have quality control testing in accordance with the following, unless the manufacturer's specifications for testing are more stringent, in which case the manufacturer's specifications shall be used:

(i) For the purpose of testing every seaming apparatus in use each day, peel tests according to an appropriate method shall be performed on scrap pieces of flexible membrane liner when an apparatus is started, operators change, an apparatus is restarted, or at the beginning of each seaming period.

(ii) Nondestructive testing shall be performed on one hundred percent of the flexible membrane liner seams.

(iii) Destructive testing for peel according to the appropriate ASTM method shall be performed on randomly selected samples at a frequency of no less than once per five hundred feet of seam completed by a particular seaming apparatus. An alternate means may be used if it is demonstrated to the satisfaction of the director or his authorized representative that the alternate means meets the requirements of this paragraph.

(11) For the liner cushion layer: the liner cushion layer shall be placed above the flexible membrane liner and protect it from damage that may be caused by construction materials and activities and have pre-construction interface testing performed according to paragraph (G) of this rule.

(12) For the leachate collection layer: the leachate collection layer shall be placed above the composite liner system which may be protected by the cushion layer and shall comply with the following:

(a) Be comprised of granular materials that meet the following requirements:

(i) Have a minimum thickness of one foot.

(ii) Have no more than five percent of the particles, by weight, passing through the 200-mesh sieve.

(iii) Have no more than five percent carbonate content by weight.

(iv) Have a minimum permeability of one times ten to the negative two centimeters per second (1 X 10^{-2} cm/sec).

(v) Granular materials shall have quality control testing in accordance with the following at a
frequency of no less than once for every three thousand cubic yards of material:

(a) Permeability using ASTM D2434-68 (constant head).

(b) Grain size distribution using ASTM D422-63 (sieve).

(c) Carbonate content using ASTM D3042-97 at a pH of 4.0.

(vi) An alternate material and/or thickness may be used provided that it is demonstrated to the satisfaction of the director or his authorized representative that the material meets the requirements of this paragraph. The appropriate quality control testing and frequency of testing needs to be approved by Ohio EPA prior to use.

(b) A geosynthetic drainage net used in lieu of a granular drainage layer shall meet the following requirements:

(i) Have a minimum transmissivity to ensure that the leachate collection system meets the one foot of head of leachate requirement of this rule. The transmissivity shall be adjusted for elastic deformation, creep deformation, biological clogging, and chemical clogging by using the appropriate reduction factors.

(ii) The composite liner system must be protected from the intrusion of objects during construction and operation by at least twelve inches of permeable material acceptable to the director.

(iii) Have quality control testing for transmissivity using ASTM D4716-01 at the maximum projected load and a frequency of once per fifty thousand square feet.

(iv) Any geosynthetic materials shall have pre-construction interface testing performed according to paragraph (G) of this rule.

(13) For leachate collection pipes: the leachate collection pipes shall comply with the following:

(a) Be imbedded in the drainage layer.

(b) Be designed not to crush or deform under expected maximum loads and settlement to an extent where the crushing or deformation negatively impacts the performance of the leachate collection and management system.

If an owner or operator is proposing a vertical expansion over areas that have leachate collection pipes in place, the leachate collection pipes will be re-evaluated and this performance standard shall be applied to allow for any additional loads or settlement from the vertical expansion. A conservative design may be needed initially to prepare for any possible future expansion.

(c) Be provided with access for clean-out devices which shall be protected from differential settling.

(d) Have lengths and configurations that shall not exceed the capabilities of clean-out devices.

(e) Have joints sealed to prevent separation.

(f) Be physically and chemically resistant to attack by the solid waste, leachate, or other materials with which they may come into contact. Sealing material and means of access for cleanout devices shall also be resistant to physical and chemical attack by the solid waste, leachate, or other materials with which they may come into contact.
(g) An alternative to leachate collection pipes may be used if it is demonstrated to the satisfaction of the director or his authorized representative that the means for leachate transport meet the requirements of this paragraph.

(14) For filter layers: the filter layer of the leachate collection and management system shall comply with the following:

(a) Be placed above the leachate collection layer and leachate collection pipes.

(b) Be designed to minimize clogging of the leachate collection layer, leachate collection pipes, and sumps.

(15) For sumps: the leachate collection and management system shall incorporate an adequate number of sumps that shall comply with the following:

(a) Be protected from adverse effects from leachate and differential settling.

(b) Be equipped with automatic high level alarms located no greater than one foot above the top elevation of the sump.

(16) For leachate conveyance apparatus: the leachate collection and management system shall incorporate adequate measures that will automatically remove leachate from the landfill to the leachate storage tank(s), a permitted discharge to a public sewer, or a permitted waste water treatment system to facilitate the transfer of leachate from the storage tank(s) for the purpose of disposal. Any leachate conveyance apparatus located outside of the limits of solid waste placement shall comply with the following:

(a) Be monitored, as required by the director or his authorized representative.

(b) Be double cased with a witness zone.

(c) Be protected from the effects of freezing temperatures, crushing, or excess deflection.

(17) For leachate storage tanks: leachate storage tanks shall have adequate storage capacity to receive the anticipated amount of leachate removed during normal operations from the leachate sumps to maintain a maximum one foot of head and at a minimum have at least one week of storage capacity using design assumptions simulating final closure completed in accordance with rule 3745-27-11 of the Administrative Code. Any leachate storage tanks located outside of the limits of solid waste placement shall be monitored, as required by the director or his authorized representative, and include one of the following:

(a) For above ground leachate storage tanks be provided with spill containment no less than one hundred ten percent of the tank volume.

(b) For underground leachate storage tanks, be double cased with a witness zone.

(18) For access roads: all access roads used for waste hauling that are constructed within the horizontal limits of waste placement shall comply with the following:

(a) Not have grades in excess of twelve percent.

(b) Be designed to be stable and to prevent damage to the liner or cap systems caused by the effects of traffic loading and braking or any other action.

(19) For transitional covers: within sixty days of a portion of the facility reaching final elevations, transitional
cover, as specified in rule 3745-27-19 of the Administrative Code, shall be installed and comply with the following:

(a) A twenty-four inch thick layer of soil that shall be nonputrescible and have low permeability, good compactability, cohesiveness, and relatively uniform texture, and shall not contain large objects in such quantities as may interfere with its application and intended purpose. The soil shall be a well-compacted loam, silt loam, clay loam, silty clay loam, silty clay or other soil types that can achieve the intended purpose.

(b) The soil shall be of sufficient thickness and fertility to support vegetation and shall be seeded as soon as practicable. Healthy grasses or other vegetation shall form a complete and dense vegetative cover within one year of soil placement.

(c) In preparation for construction of the final cap system in accordance with this paragraph, the transitional cover shall be partially or completely removed or otherwise prepared as necessary for construction of the final cap system.

[Comment: The term transitional cover has replaced the term interim final cover.]

(20) For a gas collection system: the gas collection system shall be installed prior to the final cap system and shall comply with the following:

(a) Collect and transport gas and condensate without adversely impacting the final cap system.

(b) Facilitate maintenance to portions of the component without requiring the entire system to be closed down.

[Comment: Condensate may be allowed to remain in the waste mass provide that there is a composite liner and leachate collection system.]

(21) For cap soil barrier layers: design and construction of a recompacted soil barrier layer in the composite cap system shall comply with the following:

(a) Be at least one of the following:

(i) Eighteen inches thick.

(ii) A geosynthetic clay liner that complies with paragraph (D)(9) of this rule with an engineered subbase, constructed in accordance with paragraph (D)(22) of this rule.

(b) Be free of debris, foreign material, and deleterious material.

(c) Not be comprised of solid waste.

(d) Be placed above all areas of waste placement.

(e) Not have any abrupt changes in grade that may result in damage to the geosynthetics.

(f) Have pre-construction testing of the borrow soils performed on representative samples and the results submitted to the appropriate Ohio EPA district office no later than seven days prior to the intended use of the material in the construction of the cap soil barrier layer. The pre-construction testing shall determine the following:

(i) The maximum dry density and optimum moisture content according to ASTM D698-00a (standard...
proctor), or ASTM D1557-00 (modified proctor) at a frequency of no less than once for every one thousand five hundred cubic yards.

(ii) The grain size distribution according to ASTM D422-63 (sieve and hydrometer) at a frequency of no less than once for every one thousand five hundred cubic yards.

(iii) The recompacted laboratory permeability using ASTM D5084-00e1 (falling head) at a frequency of no less than once for every ten thousand cubic yards.

(g) Be constructed in lifts to achieve uniform compaction. Each lift shall:

(i) Be constructed of soil in accordance with the following:

(a) With loose lifts of eight inches or less.

(b) With a maximum clod size of three inches or half the lift thickness, whichever is less.

(c) With one hundred percent of the particles having a maximum dimension not greater than two inches.

(d) With not more than ten percent of the particles, by weight, having a dimension greater than 0.75 inches.

(e) With at least fifty percent of the particles, by weight, passing through the 200-mesh screen.

(f) Alternative soil specifications may be used provided that it is demonstrated to the satisfaction of the director or his authorized representative that the materials and techniques will result in each lift having a maximum permeability of $1 \times 10^{-6}$ cm/sec.

(ii) Be compacted to at least ninety five percent of the maximum dry density as determined by ASTM D698-00a (standard proctor) or at least ninety percent of the maximum dry density as determined by ASTM D1557-00 (modified proctor) or an alternative compaction specification approved by the director.

(iii) Be placed with a minimum soil moisture content that shall not be less than the optimum moisture content as determined by ASTM D698-00a (standard proctor), or ASTM D1557-00 (modified proctor) or an alternative moisture content specification approved by the director.

(iv) Have a maximum permeability of one times ten to the negative six centimeters per second ($1 \times 10^{-6}$ cm/sec).

(h) Be adequately protected from damage due to desiccation, freeze/thaw cycles, wet/dry cycles, and the intrusion of objects during construction of the cap system.

(i) Have quality control testing of the constructed lifts performed to determine the density and moisture content according to ASTM D2992-01 and ASTM D3017-01 (nuclear methods), ASTM D1556-00 (sand cone), ASTM D2167-94 (rubber balloon) or other methods acceptable to the director or his authorized representative at a frequency of no less than five tests per acre per lift. The locations of the individual tests shall be adequately spaced to represent the constructed area. Any penetrations shall be repaired using bentonite.

[Comment: If an acceptable demonstration is made that the transitional cover can be prepared to function as a cap soil barrier layer, the director may approve an alteration for the use of the transitional
cover materials in the demonstrated area.]

(22) For engineered subbases: if a geosynthetic clay liner is used in the composite cap system in accordance with paragraph (D)(21) of this rule, it shall be placed above an engineered subbase. Design and construction of the engineered subbase shall comply with the following:

(a) The thickness of the subbase shall be sufficient to achieve an evenly graded surface and shall be a minimum of twelve inches thick.

(b) Be free of debris, foreign material, and deleterious material.

(c) Not be comprised of solid waste.

(d) Not have any abrupt changes in grade that may result in damage to the geosynthetics.

(e) Not have any sharp edged protrusions or any particles protruding more than one quarter of one inch.

(f) Have pre-construction testing of the borrow soils performed on representative samples to determine the maximum dry density and optimum moisture content according to ASTM D698-00a (standard proctor), or ASTM D1557-00 (modified proctor) at a frequency of no less than once for every ten thousand cubic yards.

(g) Be constructed in lifts to achieve uniform compaction. Each lift shall include the following:

   (i) Be constructed of soil as follows:

      (a) Be constructed in loose lifts of twelve inches or less.

      (b) Be constructed of a soil with a maximum clod size that does not exceed the lift thickness.

   (ii) Be compacted to at least ninety five percent of the maximum dry density as determined by ASTM D698-00a (standard proctor) or at least ninety percent of the maximum dry density as determined by ASTM D1557-00 (modified proctor).

(h) Have quality control testing of the constructed lifts performed to determine the density and moisture content according to ASTM D2922-01 and ASTM D3017-01 (nuclear methods), ASTM D1556-00 (sand cone), ASTM D2167-94 (rubber balloon) or other methods acceptable to the director or his authorized representative at a frequency of no less than five tests per acre per lift. The locations of the individual tests shall be adequately spaced to represent the constructed area. Any penetrations shall be repaired using bentonite.

   [Comment: If an acceptable demonstration is made that the transitional cover can be prepared to function as an engineered subbase, the director may approve an alteration for the use of the transitional cover materials in the demonstrated area.]

(23) For cap geosynthetic clay liners: a geosynthetic clay liner meeting the requirements of paragraph (D)(9) of this rule shall be placed above the engineered subgrade in the composite cap system.

(24) For cap flexible membrane liners: a flexible membrane liner meeting the requirements of paragraph (D)(10) of this rule shall be placed above the recompacted soil barrier layer or the geosynthetic clay liner in the composite cap system.

(25) For the cap drainage layers: the drainage layer for the composite cap system shall comply with the following:
(a) Be comprised of granular materials that meet the following requirements:

(i) Have a minimum thickness of one foot.

(ii) Not clog or freeze.

(iii) Not damage the underlying flexible membrane liner.

(iv) Have no more than five percent of the particles, by weight, passing through the 200-mesh sieve.

(v) Have no greater than ten percent carbonate content by weight.

(vi) Have a minimum permeability of one times ten to the negative three centimeters per second ($1 \times 10^{-3}$ cm/sec).

(vii) Granular materials shall have quality control testing in accordance with the following at a frequency of no less than once for every three thousand cubic yards of material:

(a) Permeability using ASTM D2434-68 (constant head).

(b) Grain size distribution using ASTM D422-63 (sieve).

(c) Carbonate content using ASTM D3042-97 at a pH of 4.0.

(viii) An alternative material and/or thickness may be used provided it is demonstrated to the satisfaction of the director or his authorized representative that the material meets the requirements of this paragraph. The appropriate quality control testing and frequency of testing needs to be approved by Ohio EPA prior to use.

(b) A geosynthetic drainage net used in lieu of a granular drainage layer shall meet the following requirements:

(i) Have a minimum transmissivity to ensure that the cap system meets the slope stability requirements of this rule. The transmissivity shall be adjusted for elastic deformation, creep deformation, biological clogging, and chemical clogging by using the appropriate reduction factors.

(ii) The composite liner system must be protected from the intrusion of objects during construction.

(iii) Have quality control testing for transmissivity using ASTM D4716-01 at the maximum projected load and a frequency of once per fifty thousand square feet.

(iv) Any geosynthetic materials shall have pre-construction interface testing performed according to paragraph (G) of this rule.

(26) For cap protection layers: a cap protection layer shall comply with the following:

(a) Be placed above the cap drainage layer.

(b) Be a minimum of thirty-six inches thick for facilities located in the northern tier of counties in Ohio (Williams, Fulton, Lucas, Ottawa, Erie, Lorain, Cuyahoga, Lake, Geauga, and Ashtabula counties) and thirty inches thick for facilities located elsewhere in Ohio. The thickness of the drainage layer may be used to satisfy the thickness requirement of the cap protection layer.
(c) Have a maximum projected erosion rate of five tons per acre per year.

(d) Have sufficient fertility in the uppermost portion to support vegetation.

(e) Be constructed as follows:

   (i) With best management practices for erosion control.

   (ii) In a manner that healthy grasses or other vegetation shall form a complete and dense vegetative
        cover within one year of placement.

(27) For explosive gas control systems: an explosive gas control system shall not compromise the integrity of
        the cap system, the leachate management system, or the composite liner system, and shall comply with
        the following:

(a) Accommodate waste settlement.

(b) Provide for the removal of condensate.

(c) Prevent lateral movement of explosive gas from the sanitary landfill facility.

(d) Prevent fires within the limits of solid waste placement.

(E) Test pad construction and certification. The construction of the recompacted soil liner shall be modeled by an
    approved test pad. The test pad shall determine the construction details required to achieve the permeability
    standard for recompacted soil liners and shall establish a set of parameters for certification of the soils to be
    used in the construction of the recompacted soil liner. Test pad construction and certification shall comply
    with the following:

(1) Be designed such that the proposed tests are appropriate and the results of each test are valid.

(2) Have an area large enough to perform valid field permeability testing and a minimum width three times
    the width of compaction equipment, and a minimum length two times the length of compaction
    equipment, including power equipment and any attachments.

(3) Have a thickness of no less than thirty inches.

(4) Have the following pre-construction testing performed on representative samples of the test pad
    construction soils at a minimum frequency of twice per lift for:

   (a) The maximum dry density and optimum moisture content according to ASTM D698-00a (standard
       proctor), or ASTM D1557-00 (modified proctor).

   (b) Grain size distribution using ASTM D422-63 (sieve and hydrometer).

   (c) Atterberg limits using ASTM D4318-00.

(5) Be constructed as follows:

   (a) Prior to the construction of the sanitary landfill component that the test pad will models.

   (b) The construction details include the following:

      (i) The maximum loose lift thickness.
(ii) The minimum soil moisture content that shall not be less than the optimum moisture content as determined by ASTM D698-00a or ASTM D1557-00.

(iii) The minimum soil dry density that shall not be less than ninety five percent of the maximum "Standard Proctor Density" using ASTM D698-00a or at least ninety percent of the maximum "Modified Proctor Density" using ASTM D1557-00.

(iv) The specific type and weight of compaction equipment manufactured for the purpose of compacting cohesive soils.

(v) The minimum number of passes of the compaction equipment. For the purpose of this rule, one pass is defined as a single contact of the compactor over an area.

(6) Be reconstructed as follows:

(a) With new borrow soil as many times as necessary to meet the permeability requirement.

(b) Whenever there is a significant change in soil material properties.

(c) Whenever the owner or operator would like to amend the construction details.

(7) Have quality control testing of the constructed lifts performed to determine the density and moisture content according to ASTM D2922-01 and ASTM D3017-01 (nuclear methods), ASTM D1556-00 (sand cone), ASTM D2167-94 (rubber balloon) or other methods acceptable to the director or his authorized representative at a frequency of no less than three tests per lift. The locations of the individual tests shall be adequately spaced to represent the constructed area. Any penetrations shall be repaired using bentonite.

(8) Have post-construction testing performed for field permeability using one of the following:

(a) ASTM D6391-99 (two stage borehole).

(b) ASTM D3385-94 (double ring infiltrometer).

(c) ASTM D5093-90 (sealed double ring infiltrometer).

(d) Other methods acceptable to the director or his authorized representative.

(9) Be described in a certification report, signed and sealed by a professional engineer registered in the state of Ohio, containing a narrative that proposes: the construction details, the range of soil properties that will be used to construct the recompacted soil liner, and the results of all the testing required by this paragraph. The report shall be submitted to the appropriate Ohio EPA district office for written concurrence no later than fourteen days prior to the intended construction of the recompacted soil liner that will be modeled by the test pad.

(10) An alternative to the test pads required by this rule may be used if it is demonstrated to the satisfaction of the director or his authorized representative that the alternative meets the permeability requirements in this rule.

(F) [Reserved.]

(G) Pre-construction interface testing and reporting. The specific soils and representative samples of the geosynthetic materials that will be used at the site shall be tested for interface shear strength over the entire range of normal stresses that will develop at the facility. Prior to the initial use of each specific geosynthetic
material(s) in the construction of engineered components at a facility, the appropriate shear strengths for all 
soil to geosynthetic and geosynthetic to geosynthetic interfaces that include the material(s) shall be 
determined at least twice using ASTM D5321-92 (direct shear test) or ASTM D6243-98 (direct shear test for 
GCL) and at least once for each subsequent construction event using samples of the materials identified by 
the initial two tests to be at the highest risk for slope failure. Tests involving the flexible membrane liner 
interface shall be conducted with a recompacted soil that has the highest moisture content and the lowest 
density specified for construction of the recompacted soil liner. Tests involving geosynthetic clay liner 
material shall be conducted with hydrated samples. The results of pre-construction testing required by this 
rule must meet all applicable specifications in this rule and the set of approved parameters in the permit to 
install application that were established by the slope stability analysis and shall be evaluated and signed and 
sealed by a professional engineer registered in the state of Ohio and submitted to the appropriate Ohio EPA 
district office no later than seven days prior to the intended use of the materials.

[Comment: If a shear stress point plots below the shear strength failure envelope defined by the required 
factor of safety, it will be considered a failed test.]

[Comment: In order to initially test a soil to geosynthetic interface, one should run two tests over the entire 
range of normal stress to determine the shear strength failure envelope of that interface. Each test should 
consist of a representative sample of soil and geosynthetic.]

(H) Construction certification report. Pursuant to rule 3745-27-19 of the Administrative Code, a construction 
certification report shall be prepared and signed and sealed by a professional engineer registered in the state 
of Ohio and other professionals skilled in the appropriate discipline(s) and submitted to Ohio EPA and to the 
approved health department. Copies of the daily construction activity logs must be kept at the facility and 
upon request made available to Ohio EPA. The construction certification report shall include the following:

(1) A narrative section that identifies the engineering components that were constructed during the 
construction event and includes the following:

(a) A summary of the design and construction specifications given in the approved permit to install and a 
comparison with the components that were constructed during the construction event.

(b) A summary of how construction was impacted by weather and equipment limitations and other 
difficulties encountered.

(2) All alterations and other changes that relate to the installation of any of the components to be certified are 
to be presented as follows:

(a) A listing of all alterations previously concurred with by Ohio EPA.

(b) All alteration requests and supporting documentation which are proposed for concurrence. The 
alteration request shall be equivalent or more protective than the approved permit to install.

[Comment: Rule 3745-27-19 of the Administrative Code requires that the owner or operator obtain 
Ohio EPA's written concurrence with the certification report prior to placing waste in the phase. If 
an alteration will be submitted within a certification report, it is highly recommended that the 
appropriate district office of Ohio EPA be notified prior to construction. Ohio EPA may not concur 
with alterations submitted after they are constructed. If this occurs, reconstruction or amendment of 
the altered component will be required prior to waste placement.]

(c) A list of any other changes made by the owner or operator which do not require Ohio EPA 
concurrence but which affect construction or the record drawings.
(3) Results of all testing required by this rule and the quality assurance/quality control plan for the construction of any engineered component or group of components. If the results of pre-construction testing of borrow soils were submitted in a format that is acceptable to Ohio EPA, only summary tables of data need to be included in the construction certification report. However, if a quality assurance/quality control plan is not required by the applicable authorizing document(s), including an approved permit(s) to install, plan approval, operational report, or approved closure plan, the owner or operator shall include the results of testing, testing procedures, sampling frequency and location, parameters tested for, etc., performed to certify compliance with this rule.

[Comment: All quality assurance/quality control tests that do not meet the specifications outlined in this rule or the approved permit to install are failed tests that must be investigated and assessed. An area with a verified failure must be reconstructed to meet specifications. Reconstructed areas shall be retested at a frequency acceptable to the director. Reconstruction and retesting shall be performed in accordance with rule 3745-27-19 of the Administrative Code.]

(4) Results of all surveys required by this rule, the quality assurance/quality control plan, or the approved permit to install for the construction of any engineered component or group of components. Survey data shall at a minimum be reported in a table(s) at the northing and easting for each designated survey point established to be no more than one hundred feet apart. The northings and eastings shall be based on the grid system established in the permit in accordance with rule 3745-27-06 of the Administrative Code. If the permit to install does not establish a grid system, the owner or operator shall establish a grid system for the purposes of construction certification. Additional points should be established at grade breaks and other critical locations.

(a) For the purpose of confirming the constructed elevations of the composite liner system and its distance to the uppermost aquifer system, the bottom of recompacted soil liner elevations shall be compared to the elevations in the approved permit to install.

(b) The survey grid shall also be used to demonstrate the thickness of the following constructed components with a comparison of the constructed thickness to the thickness specified in the approved permit to install:

(i) Added geologic material.

(ii) The recompacted soil liner.

(iii) The leachate collection layer.

(iv) The separatory soil barrier layer.

(v) The separatory leachate collection layer

(vi) The cap drainage layer.

(vii) The cap protection layer.

(5) Record drawings of the constructed facility components showing the following:

(a) Plan views with topographic representation with the elevations of the top of recompacted soil liner and the location of any berms and leachate collection pipes with inverts noted.
(b) Plan views with topographic representation with the elevations of the top of the separatory soil barrier layer and the location of any berms and leachate collection pipes with inverts noted.

(c) Plan views with topographic representation with the horizontal limits of all existing waste and the top elevations of the composite cap system and surface water control structures including permanent ditches to control run on and run off; and sedimentation ponds including the inlet and outlet; and any permanent ground water control structures.

(d) Plan views of the deployment of the flexible membrane liner panels and the location and identification of the destructive tests and all repairs.

(e) The location and as-built detail drawings of all components to be certified using the same views as required in rule 3745-27-06 of the Administrative Code.

(f) If the certification report is submitted for the composite cap system, cross sections showing the top elevations of the existing waste, top elevations of the composite cap system, and the elevations of the surface water management system. The cross sections shall be taken at the same locations and using the same scale as in the approved permit to install. Otherwise, the cross sections shall be taken at an interval no greater than every three hundred feet of length and width.

(6) After the initial construction and establishment of facility survey marks, the following information summarizing the activities performed to construct and establish the facility survey marks:

(a) An identification and description of the known control point(s) used to establish the horizontal and vertical coordinate(s) of the facility survey marks.

(b) The horizontal and vertical coordinates of the known control point(s) and facility survey marks.

(c) A summary of surveying activities performed in determining the coordinates of the facility survey marks.

(d) A copy of the 7.5 minute series quadrangle sheet(s) used in establishing the survey marks with the known control point(s) and the location of the facility survey marks clearly identified.

(e) A detailed drawing(s) illustrating the design of the facility survey marks, as constructed.

(7) Qualifications of testing personnel. A description of the experience, training, responsibilities in decision making, and other qualifications of the personnel that provided construction oversight and conducted all the testing on the engineered components for which the certification report is submitted.

(8) Documentation demonstrating that any oil or gas wells that have been identified within the limits of solid waste placement have been properly plugged and abandoned in accordance with Chapter 1509. of the Revised Code prior to any construction in the area of the well(s).

(9) A notarized statement that, to the best of the knowledge of the owner or operator, the certification report is true, accurate, and contains all information required by this rule and by a quality assurance/quality control plan.

[Comment: A recommended format for the certification report will be developed by Ohio EPA]
Five Year Review (FYR) Dates: 05/28/2014 and 04/24/2019

CERTIFIED ELECTRONICALLY

Certification

05/28/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.12
Rule Amplifies: 3734.02, 3734.12
Appendix I

Equation (1) \( D = N \times (6.6 \times 10^{-9}) \), where:

\( D \) = liner thickness (ft), not to exceed 5 feet.

\( N \) = time (seconds), calculated in procedure (3)

Equation (2) \( T = \frac{D}{AK} \), where:

\( T \) = time (seconds)

\( D \) = thickness of geologic stratum (cm)

\( K \) = hydraulic conductivity of geologic stratum (cm/sec)

\( A \) = constant determined by type of geologic stratum where:

\( A = 2.0 \) for clay
\( A = 2.5 \) for silt
\( A = 3.5 \) for sand or gravel
\( A = 5.0 \) for fractured bedrock
\( A = \) the inverse of the porosity of the non-fractured bedrock material

Procedure:

1. Calculate \( T \) for each geologic stratum that is to be present between the uppermost aquifer system and the base of the recompacted soil liner using equation (2).

2. The values for \( T \) calculated in procedure (1) shall be summed to yield \( T \) for the entire section between the uppermost aquifer system and the base of the recompacted soil liner.

3. Subtract \( T \) from \( 7.9 \times 10^8 \) seconds to get \( N \) (seconds).

4. Insert \( N \) into equation (1) to determine required liner thickness.
Sanitary landfill facility operating record.

(A) Applicability.

The owner or operator of a sanitary landfill facility shall establish an operating record, which shall be an indexed repository of documents pertaining to a single sanitary landfill facility. An owner or operator is not subject to the requirements of this rule, if, prior to June 1, 1994, the owner or operator has ceased acceptance of solid waste in all units of the sanitary landfill facility as determined by the notification required by paragraph (E) of rule 3745-27-11 of the Administrative Code.

(B) Establishing and maintaining an operating record.

(1) The owner or operator of a new sanitary landfill facility shall establish the operating record by placing in the operating record the documents specified in paragraph (I) of this rule prior to waste receipt at the sanitary landfill facility.

(2) The owner or operator of a sanitary landfill facility receiving solid waste on or after June 1, 1994, shall maintain the operating record in accordance with this rule.

[Comment: Implementation deadlines and other reporting requirements are found in other parts of this chapter, including rules 3745-27-10, 3745-27-11, 3745-27-12, 3745-27-14, 3745-27-15, 3745-27-16, 3745-27-18, 3745-27-19, and 3745-27-20 of the Administrative Code.]

(C) Location and inspection of operating record.

The operating record shall be located at the sanitary landfill facility. Upon the commencement of the post-closure care period for all units of a sanitary landfill facility, the director may approve an alternative location for the operating record. The operating record shall be available for inspection by Ohio EPA and the approved health department during normal business hours.

(D) Contents of documents in operating record.

(1) All documents submitted into the operating record shall comply with the requirements of the applicable regulations.

(2) The owner or operator may revise documents previously placed in the operating record by placing the revised document, or the revised portion of the document, into the operating record. The owner or operator shall clearly indicate in the revised document the changes made to the document. Whenever a document is revised, the owner or operator shall promptly submit to Ohio EPA and the approved health department a copy of the revised document, or revised portion of the document, and a revised operating record index by regular mail. This submission is in addition to annual submission by certified mail or any other form of mail accompanied by a receipt of the operating record index.

(3) The owner or operator shall not submit documents or revisions to documents to the operating record which constitute either of the following:

(a) A "modification" as that term is defined in rule 3745-27-02 of the Administrative Code without first obtaining a permit to install from Ohio EPA.

(b) An "alteration" as that term is defined in paragraph (A) of rule 3745-27-01 of the Administrative Code without first obtaining written concurrence from Ohio EPA.

(E) Review of documents by Ohio EPA.
Ohio EPA may review documents in the operating record and require changes or additional submissions if the documents do not satisfy the requirements of Chapter 3745-27 or 3745-37 of the Administrative Code. Upon receipt of notification that a document does not comply with the applicable requirements specified in Chapter 3745-27 of the Administrative Code, the owner or operator shall change the document to attain compliance with the applicable requirements.

(F) Annual update of the operating record.

The owner or operator shall update the operating record, at least annually, no later than April first of each year during both the operating life of the facility and the post-closure care period, by doing the following:

(1) Placing all new documents or revisions to existing documents into the operating record.

(2) Mailing, via certified mail or any other form of mail accompanied by a receipt, a current operating record index in accordance with paragraph (I)(1) of this rule to Ohio EPA and the approved health department.

[Comment: In accordance with the requirements of other rules, the owner or operator may be required to submit documents to Ohio EPA at other times, e.g. ground water data must be submitted within seventy-five days of sampling a well in accordance with paragraph (C)(10) of rule 3745-27-10 of the Administrative Code.]

(G) Removal of documents from the operating record.

Documents may not be removed from the facility operating record without the written approval of the appropriate Ohio EPA district office. Such written approval shall clearly identify the documents to be removed and the circumstances justifying removal. Pages and/or plan sheets of documents in the operating record may be removed without prior approval when corresponding revised pages and/or plan sheets have been submitted into the operating record in accordance with this rule.

(H) Signature.

(1) Documents or revisions to documents submitted to the operating record shall be signed by the owner or operator and the person(s) responsible for the preparation and/or review of the documents, if not the owner or operator.

(2) The signature shall constitute a personal affirmation that to the best of the knowledge of the signor the submitted documents are true and complete and comply with the requirements of Chapter 3734. of the Revised Code and the rules adopted thereunder. The signature shall be notarized for the following documents:

(a) Operating record index.

(b) Any revisions to a document.

(I) Operating record contents. The operating record shall consist of the following documents:

(1) An operating record index. The operating record index shall clearly identify each document in the operating record and the date of each document's initial submittal and the date of all subsequent revisions submitted into the operating record. The operating record index shall include a summary of the contents of each document and a description of each revision made to a document.

(2) The approved permit(s) to install, operational report, and/or plan approval, whichever document(s) is applicable. In addition, if not contained in the permit to install application, include the following as
appropriate:

(a) The PCB and hazardous waste prevention and detection program that is required by rule 3745-27-19 of the Administrative Code.


(c) The "explosive gas monitoring plan" required pursuant to rule 3745-27-12 of the Administrative Code.

(d) Ground water detection monitoring plan required pursuant to rule 3745-27-10 of the Administrative Code.

(e) The final closure/post-closure care plan and all other plans, notifications, and documents required pursuant to rule 3745-27-11 of the Administrative Code.

(f) The location restriction demonstrations required by rule 3745-27-20 of the Administrative Code.

(g) The surface water control system structures design, if any, in accordance with rule 3745-27-19 of the Administrative Code.

(3) Copies of any alterations concurred with in writing by Ohio EPA which change the requirements of the approved permit(s) to install, operational report, and/or plan approval that are not included as a part of a certification report.

(4) For those facilities which were required to designate existing and new units in accordance with paragraph (M) of this rule effective June 1, 1994, the plan drawings required by that paragraph.

(5) The interim composite liner/leachate collection system design, if required by paragraph (A)(2) of rule 3745-27-20 of the Administrative Code.


(7) Inspection records, generator certifications, waste screening documentation, or notifications for the PCB and hazardous waste prevention and detection program that are required by rule 3745-27-19 of the Administrative Code.

(8) All construction, final closure, or interim final cover certification reports required to be submitted by this chapter, that are submitted after June 1, 1994.

(9) All explosive gas monitoring information required to be collected after June 1, 1994, and all other plans, notifications, and documents required to be prepared or submitted after June 1, 1994, pursuant to rule 3745-27-12 of the Administrative Code.

(10) All ground water monitoring information required to be collected after June 1, 1994, and all other plans, notifications, and documents required to be prepared or submitted after June 1, 1994, pursuant to rule 3745-27-10 of the Administrative Code.

(11) All other notifications and documents required pursuant to rule 3745-27-11 of the Administrative Code.

(12) The current operating license for the sanitary landfill facility.

(13) Copies of all effective permits issued for the facility by the director under Chapter 3704. or 6111. of the
Revised Code and a listing of any pending permit applications submitted for the facility in accordance with Chapter 3704. or 6111. of the Revised Code.

(14) A copy of all administrative and judicial orders, judgments, and settlement agreements issued in accordance with Chapter 3734. of the Revised Code and a copy of all administrative and judicial orders, judgments and settlement agreements issued after June 1, 1994 in accordance with Chapters 3704., 3767., and 6111. of the Revised Code that pertain to the sanitary landfill facility.

(15) Other environmental monitoring plans, other information, or other documents as may be required by this chapter after June 1, 1994.

(16) If applicable, the financial assurance instrument for corrective measures required by rule 3745-27-18 of the Administrative Code.

(J) Schedule for implementation of documents in operating record.

The owner or operator shall implement the appropriate documents in the operating record in accordance with the schedules and requirements of Chapter 3745-27 of the Administrative Code.

[Comment: The owner or operator should refer to the following rules for implementation deadlines and requirements: rule 3745-27-10 of the Administrative Code (ground water monitoring program); rules 3745-27-11 and 3745-27-14 of the Administrative Code (final closure and post-closure care); rule 3745-27-12 of the Administrative Code (explosive gas monitoring program); rules 3745-27-15, 3745-27-16, and 3745-27-18 of the Administrative Code (financial assurance); rule 3745-27-19 of the Administrative Code (certification reports, surface water management, PCB and hazardous waste prevention and detection program); and rule 3745-27-20 of the Administrative Code (installation of interim composite liner/leachate collection system, location restriction demonstrations).]
Five Year Review (FYR) Dates: 04/23/2014 and 04/23/2019

CERTIFIED ELECTRONICALLY

Certification

04/23/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.12
Rule Amplifies: 3734.02, 3734.12
Ground water monitoring program for a sanitary landfill facility.

(A) Applicability.

(1) General applicability. In accordance with the schedule in paragraphs (A)(2) and (A)(3) of this rule, the owner or operator of a sanitary landfill facility shall implement a ground water monitoring program capable of determining the impact of the facility on the quality of ground water occurring within the uppermost aquifer system and all significant zones of saturation above the uppermost aquifer system underlying the sanitary landfill facility. The ground water monitoring program has the following elements:

(a) A ground water detection monitoring program which shall be documented within a ground water detection monitoring plan. The ground water detection monitoring plan shall be submitted into the operating record in accordance with rule 3745-27-09 of the Administrative Code. The ground water detection monitoring plan shall include, but is not limited to, a description of the following:

(i) A monitoring system in accordance with paragraph (B) of this rule.

(ii) Sampling and analysis procedures, including an appropriate statistical method, in accordance with paragraph (C) of this rule.

(iii) Detection monitoring procedures, including monitoring frequency and a parameter list, in accordance with paragraph (D) of this rule.

(b) A ground water quality assessment monitoring program which is implemented when there is a statistically significant increase over background of waste-derived constituents within the ground water system determined during detection monitoring unless a demonstration of a false positive is presented under paragraph (D)(7)(c)(i) or presented and approved under paragraph (D)(7)(c)(ii) of this rule. A ground water quality assessment monitoring program includes, but is not limited to, the following:

(i) A ground water quality assessment plan in accordance with paragraphs (E)(4) and (E)(5) of this rule.

(ii) Determinations of rate, extent, and concentration of waste-derived constituents detected in the ground water in accordance with paragraph (E)(5) of this rule.

(iii) Notification to persons residing on or owning land above the
contaminant plume in accordance with paragraph (E)(11) of this rule.

(iv) Submission of a ground water quality assessment report in accordance with paragraph (E)(7) of this rule.

(v) Where applicable the requirements of paragraphs (B) to (D) of this rule.

(vi) Where applicable, submission of a compliance monitoring plan in accordance with paragraph (E)(8) of this rule.

(c) A corrective measures program which is implemented when waste-derived constituents from the facility have entered the ground water. A corrective measures program includes, but is not limited to, the following:

(i) A corrective measures plan in accordance with paragraphs (F)(2) and (F)(3) of this rule.

(ii) Proposed concentration levels in accordance with paragraph (F)(7) of this rule.

(iii) A public meeting held to discuss the results of the ground water quality assessment report and corrective measures plan with interested persons in accordance with paragraph (F)(4) of this rule.

(iv) Selection and implementation of a corrective measure in accordance with paragraph (F)(10) of this rule.

(v) Where applicable, the requirements of paragraphs (B) to (D) of this rule.

(2) Schedule for implementation of revisions to the ground water monitoring program.

(a) The owner or operator of an operating sanitary landfill facility subject to rule 3745-27-19 of the Administrative Code, shall make any applicable revisions to the facility ground water monitoring program, submit revisions to the operating record, and implement any measures required by amendments to this rule within two hundred seventy days of the effective date of the rule.

(b) The owner or operator of a sanitary landfill facility that is subject to post closure care in accordance with rule 3745-27-14 of the Administrative Code and that
ceased acceptance of waste after March 1, 1990, as determined by the notification required by paragraph (E) of rule 3745-27-11 of the Administrative Code, shall revise their ground water monitoring program to comply with this rule.

The owner or operator of a facility subject to rule 3745-27-09 of the Administrative Code shall submit and implement revisions to the operating record within two hundred seventy days of the effective date of this rule. The owner or operator of a facility not subject to rule 3745-27-09 of the Administrative Code shall implement the revisions and mail copies of the revisions by certified mail, or any other form of mail accompanied by a receipt, to Ohio EPA and the approved health department within two hundred seventy days of the effective date of this rule.

[Comment: Owners and operators are only required to revise the portions of the facility’s current ground water monitoring plans that do not comply with the amendments to this rule and are not required to submit a whole new plan. All variance approvals issued under the provisions of this rule continue in effect.]

[Comment: All owners or operators of facilities currently operating, and those that have closed since March 1, 1990, shall amend their closure plans and ground water monitoring program plans to comply with this rule. The only exception to this requirement is for those owners or operators required to follow a past version of this rule by an order of the director.]

(c) The owner or operator of a sanitary landfill facility that is subject to post closure care in accordance with rule 3745-27-14 of the Administrative Code and is conducting a ground water monitoring program under findings and orders issued by the director shall continue monitoring, pursuant to findings and orders.

(d) The owner or operator of a sanitary landfill facility conducting a ground water monitoring program subject to paragraph (A)(2)(c) of this rule may request, on forms prescribed by the director, to comply with rule 3745-27-10 of the Administrative Code except for the provisions of paragraph (A)(2)(c) of this rule. Upon the director’s approval of the request, the owner or operator shall then comply with rule 3745-27-10 of the Administrative Code except for the provisions of paragraph (A)(2)(c) of this rule.

[Comment: There are landfill facilities currently required to follow past versions of this rule due to orders from the director. Paragraph (C) of this rule allows these facilities to continue to follow the orders issued by the director.]
Paragraph (D) of this rule allows the owners or operators of facilities under orders to follow past versions of this rule to request modification of the applicable order to allow them to follow the current version of this rule.]

(3) The owner or operator shall implement and comply with the requirements of a ground water quality assessment monitoring program and/or a corrective measures program when required by paragraph (E) or (F) of this rule. Implementation shall be in accordance with the timeframes specified in paragraphs (E) and (F) of this rule.

(4) For the purposes of this rule, the ground water monitoring program, which includes the detection monitoring program, and where required, the assessment monitoring and corrective measures programs, are implemented upon the commencement of sampling of ground water monitoring wells in accordance with paragraph (D), (E), or (F) of this rule.

(5) A qualified ground water scientist shall certify, in accordance with rule 3745-27-09 of the Administrative Code, any ground water detection monitoring plan, the ground water quality assessment plan, the compliance monitoring plan, and the corrective measures plan, and any revisions thereof and reports and data, submitted in accordance with this rule.

(6) The ground water monitoring program shall be documented within the operating record. Any revision(s) to the ground water monitoring program shall be submitted to the operating record in accordance with rule 3745-27-09 of the Administrative Code prior to implementation of the revision(s). The owner or operator of a facility not subject to rule 3745-27-09 of the Administrative Code shall mail copies of the revisions by certified mail, or any other form of mail accompanied by a receipt, to Ohio EPA and the approved health department prior to implementation of the revision(s). No approval is necessary prior to implementing the revision(s) to the ground water monitoring program unless specifically required by this rule.

(B) Ground water monitoring system.

(1) The ground water monitoring system, for detection monitoring, assessment monitoring, or corrective measures, shall consist of a sufficient number of wells, installed at appropriate locations and depths, to yield ground water samples from both the uppermost aquifer system and any significant zones of saturation that exist above the uppermost aquifer system that do the following:

(a) Represent the quality of the background ground water that has not been
affected by past or present operations at the sanitary landfill facility.

(b) Represent the quality of the ground water passing directly downgradient of the limits of solid waste placement.

The director may require or otherwise authorize an owner or operator to conduct surface water monitoring (i.e. seeps, springs or streams) as part of the ground water monitoring system in areas where it may not be practical to place a well. Such surface water samples shall be representative of ground water quality passing directly downgradient of the limits of solid waste placement.

[Comment: The director’s authorization to conduct surface water monitoring under this rule should include provisions for: sampling procedures; constituents to be analyzed; and analyzing the resulting data.]

(2) Where the uppermost aquifer system exists more than one hundred fifty feet beneath the recompacted clay liner of the sanitary landfill facility, the ground water monitoring system shall consist of a sufficient number of wells, installed at appropriate locations and depths, to yield ground water samples from an adequate number of significant zones of saturation, in accordance with paragraphs (B)(1)(a) and (B)(1)(b) of this rule, to ensure detection of any contaminant release from the facility.

(3) All monitoring wells shall be designed, installed, and developed in a manner that allows the collection of ground water samples that are representative of ground water quality in the geologic unit being monitored, and that are in accordance with the following criteria:

(a) Monitoring wells shall be cased in a manner that maintains the integrity of the monitoring well boreholes.

(b) The annular space (i.e., the space between the borehole and the well casing) above the sampling depth shall be sealed to prevent the contamination of the samples and the ground water.

(c) The casing shall be screened or perforated and surrounded by sand or gravel in such a way that allows for the following:

(i) For the minimization of the passage of formation materials into the well.

(ii) For the monitoring of discrete portions of the uppermost aquifer system or any significant zones of saturation above the uppermost aquifer
(d) The owner or operator shall document in the operating record, in accordance with rule 3745-27-09 of the Administrative Code, the design, installation, development, maintenance and abandonment of any monitoring wells, piezometers, and other measurement, sampling, and analytical devices.

(e) The monitoring wells, piezometers, and other measurement, sampling, and analytical devices shall be operated and maintained to perform to design specifications throughout the life of the monitoring program.

(f) Monitoring wells constructed or used for the purposes of this rule are not required to comply with Chapter 3745-9 of the Administrative Code.

(4) The number, spacing, and depth of ground water monitoring wells shall be as follows:

(a) Based on site specific hydrogeologic information including that information listed in paragraphs (C)(3)(a) to (C)(3)(g) of rule 3745-27-06 of the Administrative Code.

(b) Capable of detecting a release from the sanitary landfill facility to the ground water at the closest practicable location to the limits of solid waste placement.

(5) The owner or operator shall evaluate, at least annually until the end of the post-closure care period, the ground water surface elevation data obtained in accordance with paragraph (C)(3) of this rule to determine whether the requirements of paragraph (B) of this rule for locating the monitoring wells continue to be satisfied. The results of this evaluation including potentiometric maps for every geologic unit monitored shall be included in a report to be submitted to the appropriate Ohio EPA district office not later than twelve months from the previous report submitted to comply with this paragraph. If the evaluation shows that paragraph (B) of this rule is no longer satisfied, the owner or operator shall immediately revise the number, location, and/or depth of the monitoring wells to bring the ground water monitoring system into compliance with this requirement and place documentation of the revision into the operating record in accordance with paragraph (B)(3)(d) of this rule.

(C) The owner or operator shall comply with the following requirements regarding ground water sampling, analysis, and statistical methods.

(1) General requirements. The ground water monitoring program shall include consistent
sampling and analysis procedures and statistical methods that are protective of human health and the environment and that are designed to ensure monitoring results that provide an accurate representation of ground water quality at the background and downgradient wells installed in accordance with paragraph (B), (D), (E), or (F) of this rule. The following shall be included in the ground water detection monitoring plan, ground water quality assessment monitoring plan, compliance monitoring plan, and corrective measures plan:

(a) A written sampling and analysis plan, which documents the sampling and analysis procedures that shall be utilized in the ground water monitoring program. The owner or operator is required to use the procedures documented within the sampling and analysis plan.

[Comment: The analysis methods used, including method detection limits and practical quantitation limits for the constituents analyzed, do not have to be documented within the sampling and analysis plan. They do have to be submitted with the analysis data as required in paragraph (C)(10) of this rule.]

(b) The statistical method selected by the owner or operator shall be in accordance with paragraphs (C)(6) and (C)(7) of this rule.

(c) The statistical determination of a statistically significant increase over background for a monitoring parameter shall be in accordance with paragraph (C)(8) of this rule.

(d) The number of samples collected shall be in accordance with paragraph (C)(9) of this rule.

(e) Submission of ground water and statistical analysis shall be in accordance with paragraph (C)(10) of this rule.

(2) A sampling and analysis plan shall, at a minimum, include a detailed description of the equipment, procedures, and techniques to be used for the following:

(a) Measurement of ground water elevations.

(b) Detection of immiscible layers.

(c) Collection of ground water samples, including the following:
(i) Well evacuation.

(ii) Sample withdrawal.

(iii) Sample containers and handling.

(iv) Sample preservation.

(d) Performance of field analysis, including the following:

(i) Procedures and forms for recording raw data and the exact location, time, and facility-specific conditions associated with the data acquisition.

(ii) Calibration of field devices.

(e) Decontamination of equipment.

(f) Chain of custody control, including the following:

(i) Standardized field tracking reporting forms to record sample custody in the field prior to and during shipment.

(ii) Sample labels containing all information necessary for effective sample tracking.

(g) Field and laboratory quality assurance and quality control, including the following:

(i) Collection of duplicate samples during each sampling event.

(ii) Collection of field and equipment blanks if non-dedicated sampling equipment is used.

(iii) Collection of trip blanks.

The number of duplicate samples, field blanks, trip blanks, and equipment blanks shall be enough to adequately demonstrate the accuracy of the analysis results.
(h) The identification of well maintenance problems encountered during routine sampling of the wells and the process to assure that necessary maintenance is performed.

(3) Measurement of ground water elevations.

(a) (i) Ground water elevations shall be measured in all wells to be sampled that round of sampling prior to any purging and sampling.

(ii) The total depth of the monitoring well(s) shall be measured in all wells at least annually for those wells that do not have a dedicated pump installed. The depth of monitoring well(s) with a dedicated pump shall be measured whenever maintenance allows. The measurement of well depth shall be taken prior to any purging and/or sampling.

(b) The owner or operator shall at least semiannually and in conjunction with any major sampling event involving more than half the wells in the system or zone monitored determine, for the uppermost aquifer system and for all significant zones of saturation monitored, the direction of ground water flow each time ground water elevation measurements are performed.

(c) Ground water elevations in all wells monitoring the same unit(s) or portion of unit(s) of a sanitary landfill facility shall be measured within a period of time short enough to avoid temporal variations in ground water flow which could preclude an accurate determination of ground water flow rate and direction, but within a period of time not to exceed twenty-four hours.

(d) Potentiometric maps shall be constructed using the collected ground water elevation measurements and shall be included with the sampling data submittal.

(4) The owner or operator shall establish background ground water quality, unless the exception in paragraph (C)(5) of this rule applies, by analyzing ground water samples collected from hydraulically upgradient wells(s) for each of the monitoring parameters or constituents required in the ground water monitoring program.

(5) Background ground water quality at a sanitary landfill facility may be based on sampling of wells that are not hydraulically upgradient where either of the following occur:

(a) Hydrogeologic conditions do not allow the owner or operator to determine
which wells are upgradient.

(b) Sampling of other wells will provide an indication of background ground water quality that is as representative or more representative than that provided by upgradient wells.

(6) Statistical methods. Within ninety days of completing collection of the Eight background samples necessary to comply with paragraphs (D)(5)(a)(ii) and (D)(5)(b)(ii) of this rule but no later than four hundred fifty days after implementing the ground water monitoring program, the owner or operator shall specify one of the following statistical methods to be used in evaluating ground water monitoring data. The statistical method chosen shall be conducted separately for each of the parameters required to be statistically evaluated in paragraph (D)(5) of this rule. The statistical method specified shall ensure protection of human health and the environment and shall comply with the performance standards outlined in paragraph (C)(7) of this rule. The owner or operator shall submit to the operating record any changes made to the statistical method. For owners or operators not subject to rule 3745-27-09 of the Administrative Code, submit to Ohio EPA any changes made to the statistical method. This submission of the revised statistical method shall be made thirty days prior to submitting to the operating record and/or Ohio EPA the first set of ground water analytical data analyzed using the revised statistical method. The statistical method specified shall be selected from one of the following:

(a) A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each monitoring well is compared to the upper tolerance or prediction limit.

(b) A control chart approach that gives control limits for each constituent.

(c) A parametric analysis of variance ("ANOVA") followed by multiple comparisons procedures to identify statistically significant evidence of contamination. This shall include estimation and testing of the contrasts between each monitoring well's mean and the background mean levels for each constituent.

(d) An analysis of variance ("ANOVA") based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination. This shall include estimation and testing of the contrasts between
each monitoring well's median and the background median levels for each constituent.

(e) Another statistical test method submitted by the owner or operator and approved by the director or his authorized representative.

[Comment: The statistical method to be used during the initial statistical comparison required under paragraph (D)(5) of this rule needs to be submitted within ninety days of collecting the eighth background sample. If it is anticipated that the statistical method to be used will be an intrawell method, then the statistical plan shall be submitted ninety days after the eighth sample has been collected from the well in question. If it is anticipated that the statistical method to be used will be an interwell method, then the statistical plan shall be submitted ninety days after a total of eight samples have been collected from the background wells. The eight background samples collected shall be evenly distributed across all background wells.]

(7) Performance standards for statistical methods. Any statistical method chosen in accordance with paragraph (C)(6) of this rule shall comply with the following performance standards as appropriate:

(a) The statistical method used to evaluate ground water monitoring data shall be appropriate for the distribution of chemical parameters or waste-derived constituents. If the distribution of the chemical parameters or waste-derived constituents is shown by the owner or operator to be inappropriate for a normal theory test, then the data should be transformed or a distribution free theory test should be used. If the distributions for the constituents differ, more than one statistical method may be needed.

(b) If an individual well comparison procedure is used to compare an individual monitoring well constituent concentration with background constituent concentrations or a ground water concentration level, the test shall be conducted at a type I error level not less than 0.01 for each testing period. If multiple comparisons procedures are used, the type I experimentwise error rate for each testing period shall be not less than 0.05; however, the type I error rate of not less than 0.01 for individual monitoring well comparisons shall be maintained. This performance standard does not apply for tolerance intervals, prediction intervals, or control charts.

(c) If a control chart approach is used to evaluate ground water monitoring data,
the specific type of control chart and its associated parameter values shall be protective of human health and safety and the environment. The parameters shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent.

(d) If a tolerance interval or a prediction interval is used to evaluate ground water monitoring data, the levels of confidence, and for tolerance intervals, the percentage of the population that the interval must contain, shall be protective of human health and safety and the environment. These parameters shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(e) The statistical method shall account for data below the limit of detection with one or more statistical procedures that ensure protection of human health and the environment. Any practical quantitation limit (PQL) used in the statistical method shall be the lowest concentration level that can be reliably achieved within the specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.

(f) If necessary, the statistical method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

(g) Background data can be added only in blocks of data resulting from the analysis of four or more statistically independent samples after the data have been statistically compared to the current background data and no statistical differences are detected, unless another method is deemed acceptable to the director.

(h) Prior to using an intra-well statistical method under the ground water detection monitoring program, the owner or operator shall submit to the operating record in accordance with rule 3745-27-09 of the Administrative Code, a demonstration that the ground water has not been affected by the landfill within the relevant well(s). The owner or operator of a facility not subject to rule 3745-27-09 of the Administrative Code shall mail copies of the revisions by certified mail, or any other form of mail accompanied by a receipt, to Ohio EPA and the approved health department.
(8) Determination of a statistically significant increase over background. The owner or operator shall determine whether or not there is a statistically significant increase over background for each parameter or constituent required to be statistically analyzed within the ground water monitoring program. The owner or operator shall make this determination each time he assesses ground water quality. To determine whether a statistically-significant increase or decrease has occurred, the owner or operator shall compare the ground water quality of each parameter or constituent at each downgradient ground water monitoring well to the background value of that parameter or constituent according to the statistical procedures specified in paragraphs (C)(6) and (C)(7) of this rule.

(9) Sample number. The number of samples collected to establish ground water quality data shall be consistent with the appropriate statistical procedures determined pursuant to paragraphs (C)(6) and (C)(7) of this rule. The sampling procedures shall be those specified under paragraph (D) of this rule for detection monitoring, paragraph (E) of this rule for assessment and/or compliance monitoring, and paragraph (F) of this rule for corrective measures.

(10) Submission of results. All ground water elevation, sample analysis and statistical analysis results generated in accordance with paragraphs (B), (C), (D), (E) and (F) of this rule shall be submitted to Ohio EPA not later than seventy-five days after sampling the well. All ground water data and an accompanying text shall be submitted to Ohio EPA in a form specified by the director or his authorized representative. The data and accompanying text required to be submitted in accordance with this paragraph shall be placed in the operating record in accordance with rule 3745-27-09 of the Administrative Code. The accompanying text shall consist of, at a minimum, the following:

(a) Lab data sheets.

(b) Field and laboratory quality assurance / quality control (QA/QC) data.

(c) Chain of custody and sample receipt forms including preservation methods.

(d) Data summary table(s).

(e) Statistical analysis results and summary table(s) including the results from any test for normality.
(f) The potentiometric maps required by paragraph (C)(3) of this rule.

(g) A description of the analysis methods used including method detection limits, and practical quantitation limits for the constituents analyzed.

[Comment: The items requested in paragraph (C)(10) of this rule with the exception of paragraph (C)(10)(C) of this rule, may be submitted on an electronic format compatible with Ohio EPA software.]

(D) Ground water detection monitoring program. The owner/operator shall comply with the following requirements regarding ground water detection monitoring:

(1) Monitoring parameters. The owner or operator shall determine the concentration or value of the parameters listed in appendix I in ground water in accordance with paragraph (D) of this rule.

(2) Alternate monitoring parameter list. The owner or operator of a sanitary landfill facility may propose, in writing, to delete any of the appendix I monitoring parameters to be used to meet the requirements of paragraphs (D)(5) to (D)(8) of this rule. The director may approve the alternative list of appendix I monitoring parameters if the removed parameters are not reasonably expected to be in or derived from the waste contained or deposited in the sanitary landfill facility. Upon approval by the director or his authorized representative, the owner or operator may use the alternative list. The owner or operator shall, at a minimum, consider the following factors in proposing an alternative inorganic parameter list:

(a) Which of the parameters specified in appendix I of this rule shall be deleted from the parameters required to be monitored in paragraph (D)(5) of this rule.

(b) The types, quantities, and concentrations of constituents in wastes managed at the sanitary landfill facility.

(c) The concentrations of the appendix I constituents in the leachate from the relevant unit(s) of the sanitary landfill facility.

(d) Any other relevant information that the director or his authorized representative deems necessary.

(3) Alternate inorganic parameter list. The owner or operator of a sanitary landfill facility
may propose, in writing, that an alternative list of inorganic indicator parameters be used to meet the requirements of paragraph (D)(5) of this rule in lieu of some or all of the inorganic parameters listed in appendix I of this rule. The director shall approve the alternative inorganic indicator parameters if the alternative list will provide a reliable indication of inorganic releases from the sanitary landfill facility to the ground water. Upon approval by the director or his authorized representative, the owner or operator shall use the alternative list. The owner or operator shall, at a minimum, consider the following factors in proposing an alternative inorganic parameter list:

(a) The types, quantities, and concentrations of constituents in wastes managed at the sanitary landfill facility.

(b) The mobility, stability, and persistence of waste constituents or their reaction products in the unsaturated zone beneath the sanitary landfill facility.

(c) The detectibility of the indicator parameters, waste constituents, and their reaction products in the ground water.

(d) The concentrations or values and coefficients of variation of monitoring parameters or constituents in the background ground water quality.

(4) Alternative parameters for low-yield wells not screened in the uppermost aquifer system. The owner or operator may propose in writing, that an alternative list of any of the appendix I monitoring parameters be used to meet the requirements of paragraph (D)(5)(c) of this rule for those monitoring wells not screened in the uppermost aquifer system that cannot produce enough water within a twenty-four hour period to allow for the analysis of all of the required parameters. Upon approval by the director or his authorized representative, the owner or operator may use the alternative parameter list. The owner or operator shall, at a minimum, consider the following factors in proposing an alternative list for low-yield wells not screened in the uppermost aquifer:

(a) Whether the monitoring well is constructed in accordance with paragraph (B)(3) of this rule.

(b) Whether the well screen is properly placed across the significant zone or saturation in order to maximize yield.

(c) A calculation of the maximum sustainable yield of the significant zone of saturation.
(d) Field data demonstrating the time necessary for the well to recover completely after purging.

(e) The amount of water needed to analyze for all required parameters. This should include a discussion of which parameters will be deleted and the amount of water needed to analyze for these deleted parameters as well as the listing of the parameters which will be analyzed for in the samples and how much water is required to analyze for these parameters.

(5) Monitoring parameters, frequency, location. The owner or operator shall monitor the ground water monitoring well system in accordance with the following:

(a) For monitoring wells screened within the uppermost aquifer system beneath the sanitary landfill facility, the owner or operator shall, during the active life of the facility (including final closure) and the post-closure care period, monitor the wells:

(i) For one of the following parameter lists:

   (a) Parameters 1 through 66 in appendix I of this rule.

   (b) The alternative parameter list approved in accordance with paragraphs (D)(2) and/or (D)(3) of this rule.

(ii) At least semiannually by collecting the following samples:

   (a) During the initial one hundred and eighty days after implementing the ground water detection monitoring program (the first semiannual sampling event), a minimum of four independent samples from each monitoring well screened in the uppermost aquifer system (background and downgradient) and analyzed for the parameters specified in paragraph (D)(5)(a)(i) of this rule. The owner or operator shall collect and analyze for the parameters specified in paragraph (D)(5)(a)(i) of this rule, by collecting a minimum of eight independent background samples during the initial year of sampling to use for the statistical analysis provisions of this rule. The owner or operator of a sanitary landfill facility with an existing ground water monitoring system, may use existing data to meet the provisions
of this paragraph provided the information required pursuant to paragraph (C) of this rule is available.

[Comment: Existing data to meet the provision of the above rule is allowed provided that the sampling and analysis procedures used to collect and analyze the sample are documented, available for review and consistent with paragraph (C)(1) of this rule.]

(b) Beginning one year after implementing the ground water detection monitoring program and continuing during subsequent semiannual sampling events, at least one sample from each monitoring well screened in the uppermost aquifer system (background and downgradient) must be collected and analyzed for the parameters specified in paragraph (D)(5)(a)(i) of this rule.

(iii) Beginning with receiving the results from the first monitoring event collected pursuant to paragraph (D)(5)(a)(ii)(b) of this rule and semiannually thereafter, by statistically analyzing the results from wells screened in the uppermost aquifer system for the parameters specified in paragraph (D)(5)(a)(i) of this rule.

(b) For monitoring wells not screened in the uppermost aquifer system at the sanitary landfill facility, the owner or operator shall, during the active life of the facility (including final closure) and the post-closure care period, monitor the wells:

(i) For one of the following parameter lists:

(a) Parameters numbered 18, 25, 33, 61, 63, 64, 65, and 66, in appendix I of this rule.

(b) The alternate parameter list approved in accordance with paragraphs (D)(2), (D)(3) and/or (D)(4) of this rule.

(ii) At least semiannually by collecting the following samples:

(a) During the initial one hundred and eighty days after
implementing the ground water detection monitoring program (the first semiannual sampling event), a minimum of four independent samples must be collected from each monitoring well not screened in the uppermost aquifer system (background and downgradient) and analyzed for the parameters specified in paragraph (D)(5)(b)(i) of this rule. The owner or operator shall collect and analyze for the parameters specified in paragraph (D)(5)(b)(i) of this rule, by collecting a minimum of eight independent background samples during the initial year of sampling to use for the statistical analysis provisions of this rule. The owner or operator of a sanitary landfill facility with an existing ground water monitoring system, may use existing data to meet the provisions of this paragraph provided the information required pursuant to paragraph (C) of this rule is available.

[Comment: Existing data to meet the provisions of the above rule is allowed provided that the sampling and analysis procedures used to collect and analyze the sample are documented, available for review and consistent with paragraph (C)(1) of this rule.]

(b) Beginning one year after implementing the ground water detection monitoring program and during subsequent semiannual sampling events, at least one sample from each monitoring well not screened in the uppermost aquifer system (background and downgradient) must be collected and analyzed for the parameters specified in paragraph (D)(5)(b)(i) of this rule.

(iii) Beginning with receiving the results from the first monitoring event collected pursuant to paragraph (D)(5)(b)(ii)(b) of this rule and at least semiannually thereafter, by statistically analyzing the results from monitoring wells not screened within the uppermost aquifer system for the parameters specified in paragraph (D)(5)(b)(i) of this rule.

(c) All monitoring wells shall be monitored for constituents in appendix I of this rule or the alternative parameter list approved in accordance with paragraphs (D)(2), (D)(3), and/or (D)(4) of this rule at least annually during the active life
of the sanitary landfill facility (including final closure) and during the post-closure care period.

(d) At least one sample from each well in the monitoring system per sampling event shall be field analyzed for parameters 67, 68, and 69 listed in appendix I of this rule.

(e) If a new well or replacement well is to be added to an existing monitoring system, the owner or operator shall statistically analyze the ground water analysis data from the well in accordance with the applicable rules as soon as possible but no later than one year from installation.

(6) Alternative sampling and statistical analysis frequency. During the active life (including final closure) of a sanitary landfill facility and the post-closure care period, the owner or operator may propose, in writing, an alternative frequency for ground water sampling and/or statistical analysis required by paragraph (D)(5) of this rule. The director or his authorized representative may approve a proposed alternative frequency provided the alternative frequency sampling and/or analysis frequency is not less than annual. Upon approval by the director or his authorized representative, the owner or operator may use the alternative sampling/analysis frequency. The owner operator shall, at a minimum, consider the following factors in proposing an alternative sampling and/or analysis frequency:

(a) Lithology of the aquifer system and all stratigraphic units above the uppermost aquifer system.

(b) Hydraulic conductivity of the uppermost aquifer system and all stratigraphic units above the uppermost aquifer system.

(c) Ground water flow rates for the uppermost aquifer system and all zones of saturation above the uppermost aquifer system.

(d) Minimum distance between the upgradient edge of the limits of waste placement of the sanitary landfill facility and the downgradient monitoring well system.

(e) Resource value of the uppermost aquifer system.

(7) Determination of a statistically significant increase over background in detection monitoring parameters.
(a) The owner or operator shall comply with paragraph (D)(7)(b) of this rule, if the owner or operator determines a statistically significant change, according to the statistical procedures specified in paragraphs (C)(6) and (C)(7) of this rule, for any of the following:

(i) Parameters 1 through 66 in appendix I of this rule, or the alternate parameter list approved in accordance with paragraphs (D)(2) and/or (D)(3), of this rule in samples from monitoring wells screened in the uppermost aquifer system.

(ii) Parameters 18, 25, 33, 61, 63, 64, 65, and 66 of appendix I of this rule or the alternate parameter list approved in accordance with paragraphs (D)(2), (D)(3), and/or (D)(4) of this rule in samples for all monitoring wells not screened in the uppermost aquifer system.

(b) The owner or operator shall submit a written notification to Ohio EPA of a statistically significant increase over background not later than seventy-five days after withdrawing a sample from the well, that upon analysis demonstrates a statistically significant change. A copy of this notification shall be placed in the operating record in accordance with rule 3745-27-09 of the Administrative Code. The notification must indicate which wells and parameters have shown a statistically significant increase over background levels.

(c) Demonstration of a false positive. The owner or operator may do one of the following to demonstrate a false positive:

(i) Use the 1 of M resampling method to demonstrate that the statistically significant increase over background was a false positive. The 1 of M resampling method to be used shall be documented within the statistical analysis plan required by paragraph (C)(6) of this rule and shall be protective of human health and safety and the environment. The number of resamples to be used shall be documented with the statistical method specified by the owner/operator as required by paragraph (C)(6) of this rule. If the owner or operator demonstrates using the 1 of M resampling method that the statistically significant increase over background was a false positive, then the owner or operator may return to detection monitoring. The owner or operator shall submit a report documenting the demonstration to Ohio EPA within one hundred and eighty days from initial sampling.
[Comment: The 1 of M method is a statistical resampling procedure to verify the statistically significant increase over background determined for the first sample taken from a monitoring well. The number of resamples used with the method will vary depending on the number of background samples available. The number of resamples usually does not exceed two. As an example, for the Ohio EPA, a 1 of 2 method means the original sample plus one resample with the analysis data from both samples having to demonstrate a statistically significant increase above background in order for the owner/operator to be required to enter the ground water quality assessment program.]

(ii) Demonstrate that a source other than the sanitary landfill facility caused the contamination or that the statistically significant increase over background resulted from error in the sampling, analysis, statistical evaluation or natural variation in ground water quality. A report documenting this demonstration must be submitted to and approved by the director or his authorized representative. If the owner or operator does not obtain approval to continue detection monitoring within two hundred ten days from initial sampling, the owner or operator shall comply with the provisions of paragraph (E) of this rule.

(E) Ground water quality assessment monitoring program. The owner or operator shall comply with the following requirements regarding ground water quality assessment monitoring.

(1) General requirements. Unless the director approves the report submitted in accordance with paragraph (D)(7)(c) of this rule, the owner or operator shall implement a ground water quality assessment plan capable of determining the concentration, rate, and extent of migration of waste-derived constituent(s) in the ground water upon determining a statistically significant increase over background in accordance with paragraph (D)(7) of this rule. The owner or operator shall implement and comply with the ground water quality assessment plan and the requirements of this rule.

[Comment: The ground water quality assessment plan is a self-implementing plan which does not require approval from Ohio EPA prior to implementation by the owner or operator.]

(2) The owner or operator may undertake during the implementation of the ground water quality assessment plan, activities necessary to prevent the continued release of waste-derived constituents from the regulated unit to the ground water. Any activities
undertaken by the owner or operator in accordance with this paragraph shall be in compliance with all applicable federal and Ohio statutes and regulations.

(3) Submission of ground water quality assessment plan. Within one hundred and thirty-five days of notifying Ohio EPA of a statistically significant increase over background in accordance with paragraph (D)(6)(b) of this rule, the owner or operator shall submit to the Ohio EPA, and to the operating record in accordance with rule 3745-27-09 of the Administrative Code, a ground water quality assessment plan.

[Comment: The ground water quality assessment plan is required to be certified by a qualified ground water scientist in accordance with rule 3745-27-10(A)(5) of the Administrative Code.]

(4) Ground water quality assessment plan elements. The plan to be submitted in accordance with paragraph (E)(3) of this rule shall include, at a minimum, detailed descriptions of the following:

(a) Hydrogeologic conditions at the sanitary landfill facility.

(b) The detection monitoring program implemented by the sanitary landfill facility, including the following:

   (i) The number, location, depth, and construction of detection monitoring wells with documentation.

   (ii) A summary of detection monitoring ground water analytical data with written documentation of the results.

   (iii) A summary of statistical analyses applied to the data.

(c) The investigatory approach to be followed during the assessment, including but not limited to the following:

   (i) The proposed number, location, depth, installation method, and construction of assessment monitoring wells.

   (ii) The proposed method(s) for gathering additional hydrogeologic information.
(iii) The planned use of supporting methodology (i.e., soil gas or geophysical surveys).

(d) The techniques, procedures, and analytical equipment to be used for ground water sampling during the assessment. This description shall include those sampling and analysis elements listed within paragraph (C)(2) of this rule.

(e) Data evaluation procedures, including but not limited to the following:

(i) Planned use of statistical data evaluation for the ground water quality assessment program and/or for compliance monitoring.

(ii) Planned use of computer models.

(iii) Planned use of previously gathered information.

(iv) Criteria which will be utilized to determine if additional assessment activities are warranted.

(f) A schedule of implementation which incorporates the requirements specified in paragraph (E)(5) of this rule.

(g) Provisions for installing additional wells, as necessary, for determining the nature and extent of any release of waste-derived constituents per paragraph (E)(6) of this rule.

(h) Provisions for installing at least one additional monitoring well at the facility boundary in the direction of downgradient ground water flow from the affected well and as many additional wells as necessary to meet the provisions of paragraph (E)(6) of this rule.

(5) Assessment monitoring schedule, frequency, and parameters.

(a) Within one hundred thirty-five days of notifying Ohio EPA of a statistically significant change in accordance with paragraph (D)(7) of this rule, the owner or operator shall do the following:

(i) Sample the affected well(s) and analyze the samples for all waste-derived constituents, including all constituents listed in appendix I
and appendix II of this rule. Any background wells within the flow path or closest to the affected well and screened within the same geologic unit as the affected well shall be sampled and analyzed for appendix I and II parameters.

(ii) Within seventy-five days of commencing the sampling required in paragraph (E)(5)(a)(i) of this rule, sample all monitoring wells screened within the same geologic units at the facility as the affected well, not sampled under paragraph (E)(5)(a)(i) of this rule. These samples shall be analyzed for those waste-derived constituents found to be above background levels in the affected monitoring wells sampled under paragraph (E)(5)(a)(i) of this rule.

(b) The owner or operator shall sample all monitoring wells in the ground water quality assessment monitoring program, as follows. A monitoring well is considered part of the ground water quality assessment monitoring program if the well is needed or used to meet the provisions of paragraph (E)(6) of this rule:

(i) At least semiannually for the following:

(a) All parameters in appendix I of this rule or the alternative parameter list approved under paragraph (D)(2), and/or (D)(3) of this rule.

(b) All the constituents reported to the director in accordance with paragraph (E)(5)(C) of this rule.

(ii) At least annually for one of the following.

(a) All parameters in appendix II of this rule.

(b) The remaining appendix II parameters if the director has deleted appendix II parameters in accordance with paragraph (E)(5)(e) of this rule.

(c) Within seventy-five days of sampling the ground water monitoring wells in accordance with paragraph (E)(5)(a) of this rule and after all subsequent samplings, the owner or operator shall place a notice in the operating record
identifying all constituents, that have been detected. The owner or operator shall send a copy of this notice to the appropriate Ohio EPA district office and the approved health department.

[Comment: Paragraph (C)(10) of this rule requires all ground water analysis and statistical analysis results to be submitted to the operating record within seventy-five days after sampling a monitoring well.]

(d) Within one hundred and eighty days of implementing the ground water quality assessment Plan, the owner or operator shall collect additional statistically independent samples (a minimum of four) from any background well sampled pursuant to paragraph (E)(5)(a)(i) of this rule that does not have at least four independent analysis results of each waste-derived constituent detected in the monitoring well(s), demonstrating a statistically significant increase.

[Comment: Except for paragraph (E)(9)(a) of this rule, no statistical evaluation of any data is required to be performed under the ground water quality assessment program.]

(e) Upon the written request of the owner or operator, the director may delete any of the appendix II monitoring parameters for a sanitary landfill facility unit(s) if the owner or operator can show that the deleted constituents are not reasonably expected to be in or derived from the waste contained in the unit(s).

(f) Ground water monitoring wells not used to make a determination according to paragraph (E)(6) of this rule shall continue to be monitored in accordance with the ground water monitoring program applicable to those wells prior to the initiation of assessment monitoring.

[Comment: If a well was in compliance with the requirements for the ground water detection monitoring program prior to initiation of the ground water assessment monitoring program and the well is not necessary to make a determination in accordance with paragraph (E)(6) of this rule, then the well shall continue to be monitored under the ground water detection monitoring program requirements as the ground water assessment monitoring program continues.]

(6) A determination of rate, extent, and concentration. The owner or operator shall implement the "ground water quality assessment plan" which satisfies the requirements
of paragraphs (E)(3), (E)(4), and (E)(5) of this rule and, at a minimum, determines the following:

(a) The rate and extent of migration of the waste-derived constituents in the ground water.

(b) The concentrations of the waste-derived constituents in the ground water.

This shall include portions of the contaminant plume that exist beyond the facility boundary, unless the owner/operator demonstrates to the director that, despite the owner’s/operator’s best efforts, the owner/operator was unable to obtain the necessary permission to undertake such action. At a minimum, the owner/operator shall submit a copy of their written access request and if a response is provided, a copy of the written statement from the off-site property owner(s) indicating that off-site access is denied. The owner/operator is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases will be determined on a case-by-case basis.

(7) Ground water assessment report. The owner or operator shall make a determination according to paragraph (E)(6) of this rule within the time frame specified in the submitted ground water quality assessment plan. The owner or operator shall submit to the director, not later than fifteen days after making a determination, a written ground water quality assessment report containing an assessment of the ground water quality including all data generated as part of implementation of the ground water quality assessment plan.

(8) After complying with paragraph (E)(6) of this rule, if the release of waste-derived constituents to ground water as characterized within the report required under paragraph (E)(7) of this rule exclusively consists of one or more of parameters numbered 63 through 78 of appendix I of this rule, then the owner or operator may submit a compliance monitoring plan with the ground water quality assessment report submitted in accordance with paragraph (E)(7) of this rule to Ohio EPA and the operating record instead of a corrective measures plan as required under paragraph (F) of this rule. The owners or operators of facilities not subject to rule 3745-27-09 of the Administrative Code, may submit the compliance monitoring plan with the ground water quality assessment report submitted in accordance with paragraph (E)(7) of this rule to Ohio EPA. This section of the rule is also applicable to sites meeting the above criteria that have previously submitted corrective measures plans that have not been approved as of the effective date of this rule. These facilities may submit a compliance monitoring
plan as an addendum to the existing corrective measures plan. The owner/operator complying with the provisions of paragraph (E)(8) of this rule is exempt from complying with paragraph (E)(12) of this rule, but shall comply with paragraphs (C)(10), (E)(10) and (E)(11) of this rule.

The compliance monitoring plan shall be implemented with the first semiannual sampling event that occurs after the submittal of the compliance monitoring plan. The compliance monitoring plan shall, at a minimum, include the following:

[Comment: Activities conducted while in compliance monitoring are to demonstrate that the contamination released to the environment continues to be non-hazardous and that the source control measures implemented have limited the growth of the contaminant plume, prevented new contaminants from being released, and stopped the increase in the concentrations of the contaminants already released.]

(a) A description of the monitoring wells to be sampled. The wells to be sampled during compliance monitoring shall, at a minimum, include all wells that were sampled in order to make a determination under paragraph (E)(6) of this rule.

(b) A description of the techniques, procedures, and analytical equipment to be used for ground water sampling during compliance monitoring. This description shall include those sampling and analysis elements listed within paragraph (C)(2) of this rule.

(c) Provisions for sampling the monitoring wells designated under paragraph (E)(8)(a) of this rule on a semiannual basis and analyzing the samples for the following:

(i) For monitoring wells screened within the uppermost aquifer system beneath the sanitary landfill facility, the parameters required under paragraph (D)(5)(a) of this rule and the waste-derived contaminants determined to have been released from the landfill to the ground water.

(ii) For monitoring wells not screened within the uppermost aquifer system beneath the sanitary landfill facility, the parameters required under paragraph (D)(5)(b) of this rule and the waste-derived constituents determined to have been released from the landfill to the ground water.

(d) Provisions for sampling the monitoring wells designated under paragraph
(E)(8)(a) of this rule on an annual basis and analyzing the samples for the parameters required under paragraph (D)(5)(C) of this rule.

(e) Provisions for sampling the monitoring wells designated under paragraph (E)(8)(a) of this rule for the schedule and parameters required under paragraph (D)(5)(d) of this rule.

(f) Provisions for performing statistical analysis on the semiannual analytical results. Statistical analysis shall be performed using the appropriate statistical procedures specified within paragraphs (C)(6) and (C)(7) of this rule. For statistical analysis, the owner/operator shall do the following:

(i) For contaminants determined to have been released to the ground water in accordance with paragraph (E)(6) of this rule, sample and analyze the monitoring wells designated under paragraph (E)(8)(a) of this rule at least eight times during the initial year of compliance monitoring to establish background unless otherwise approved by the director. Statistical analysis shall commence with the first semiannual sampling event following completion of collecting the background samples.

(ii) Commence statistically analyzing the sampling results of constituents to be monitored in accordance with paragraph (E)(8)(C) of this rule and not being monitored in accordance with paragraph (E)(8)(f)(i) of this rule with the initial sampling event required under this paragraph.

[Comment: The above rule requires that all contaminants released from the facility have a new statistical background established for them prior to statistically analyzing the results. For those constituents that have not been released from the facility, the old statistical background data set is still appropriate to use and statistical analysis may begin for these constituents with the first sampling event required under this paragraph.]

(g) Provisions for fulfilling the requirements of paragraph (E)(6) of this rule in accordance with the requirements of paragraph (E) of this rule when a statistically significant increase is determined for parameters 1 through 62 within appendix I of this rule.

[Comment: If a statistical analysis demonstrates a statistically significant increase
over background in concentration for parameters 1 through 62 of appendix I, then the facility is required to update the ground water quality assessment plan and determine the concentration of any contaminant released as well as the rate and extent of migration of the contaminants.]

(h) Provisions for sampling the monitoring wells designated under paragraph (E)(8)(a) of this rule for the parameters listed within appendix II of this rule if any parameter not included within parameters 1 through 62 within appendix I of this rule demonstrates a statistically significant increase over the new background established under the provisions of paragraph (E)(8)(f) of this rule. If any constituent from appendix II of this rule is detected, then the owner/operator shall commence provisions for fulfilling the requirements of paragraph (E)(6) of this rule in accordance with paragraph (E) of this rule. If no parameters from appendix II of this rule are detected, then the owner/operator shall revise the compliance monitoring plan and implement the revised compliance monitoring plan during the next regularly scheduled semiannual sampling event.

[Comment: If a statistical analysis demonstrates a statistically significant increase over the new background in concentration for any parameter other than parameters 1 through 62 of appendix I, then the facility is required to sample for the parameters within appendix II of this rule. If an appendix II parameter is detected, then the owner or operator is required to update the ground water quality assessment plan and determine the concentration of any contaminant released as well as the rate and extent of migration of the contaminants.]

(i) Provisions for continuing to implement the compliance monitoring plan until the end of the post-closure care period for the sanitary landfill facility unless otherwise approved by the director.

(j) Activities necessary to prevent the continued release of waste-derived constituents to the ground water. The described activities shall be implemented with the submittal of the compliance monitoring plan. The director may require additional activities necessary to prevent the continued release of waste-derived constituents to the ground water.

(9) Reinstatement of detection monitoring.

(a) If the owner or operator determines that the concentrations of all waste-derived
constituents are shown to be at or below background values, using the statistical procedures described in paragraph (C)(6) of this rule for two consecutive sampling events, then the owner or operator may request, in writing, that the director approve reinstatement of the detection monitoring program described in paragraphs (C) and (D) of this rule.

(b) The owner or operator may demonstrate that a source other than the sanitary landfill facility caused the contamination, or that the statistically significant change resulted from error in sampling, analysis, statistical evaluation, or natural variation in ground water quality. A report documenting this demonstration must be submitted to director and request that the director approve reinstatement of the detection monitoring program described in paragraphs (C) and (D) of this rule.

(c) Until the director approves reinstatement of the detection monitoring program, the owner or operator shall comply with paragraphs (E)(10) and (F) of this rule.

(10) Semiannual determination of rate, extent, and concentration. If the owner or operator determines, based on the determination made according to paragraph (E)(6) of this rule, that waste-derived constituents from the facility have entered the ground water, then the owner or operator shall continue to make the determination required in accordance with paragraph (E)(6) of this rule on a semiannual basis until released from this obligation by the director or unless an alternate time interval is established by the director. The owner or operator shall submit documentation of the semiannual determination of rate, extent, and concentration with the reports required to be submitted in accordance with paragraph (E)(11) of this rule.

(11) Notification of adjacent landowners. After the determination of rate, extent, and concentration in accordance with paragraph (E)(6) of this rule, the owner or operator shall notify by certified mail, or any other form of mail accompanied by a receipt, all persons who own land or reside on the land that directly overlies, or is reasonably expected to overlie, any part of the plume of the contamination, as determined in accordance with paragraph (E)(5) of this rule, of the rate, extent, and concentration of the waste-derived constituents in the ground water. The owner or operator shall place the return receipts or other evidence of notification into the operating record. Annually, the owner or operator shall re-notify persons or notify additional persons based on the results of the determinations of rate, extent, and concentration in accordance with paragraph (E)(5) of this rule until released from this obligation by the director.
(12) Semiannual assessment activities report. The owner or operator shall submit to the appropriate Ohio EPA district office and to the approved health department, upon implementation of the ground water quality assessment plan submitted under paragraph (E)(2) of this rule, a report on the activities being conducted at the facility as part of implementation of the ground water quality assessment plan. All monitoring and reporting required by paragraph (E) of this rule shall continue until the director releases the owner/operator from this obligation or the corrective measures plan is approved. Any documents or data previously submitted by the owner/operator during the six month period need not be submitted with the semiannual report. Previously submitted documents or data shall be referenced within the semiannual report as having been submitted. This report shall be submitted semiannually and contain the following:

(a) A narrative description of all assessment activities that have occurred since the previous report.

(b) All data generated as part of the assessment program since the previous report.

(F) Corrective measures program.

(1) General requirements. Unless otherwise specified in paragraph (E)(8) or (E)(9) of this rule, upon determining in accordance with paragraph (E) of this rule that waste-derived contaminants have been detected in the ground water the owner or operator shall implement a corrective measures program plan capable of evaluating all practicable ground water remediation procedures, attaining the concentration level for waste-derived contaminants detected in the ground water, controlling the source of the release, identifying specific ground water monitoring requirements to monitor the effectiveness of the corrective measures and eliminating further releases. The owner or operator shall implement the corrective measures program in accordance with the corrective measures plan and the requirements of this rule.

(2) Corrective measures plan. Unless otherwise specified in paragraph (E)(8) or (E)(9), and within one hundred and eighty days of making a determination in accordance with paragraph (E)(6) of this rule, the owner or operator shall submit a corrective measures plan to the director and into the operating record. The corrective measures plan shall evaluate all practicable remediation procedures which are available for remediating any contamination discovered during assessment monitoring. The evaluated remediation procedures shall, at a minimum, do the following:
(a) Be protective of human health and safety and the environment.

(b) Attain the proposed ground water concentration levels specified in accordance with paragraph (F)(7) of this rule.

(c) Control the source(s) of releases to reduce or eliminate, to the maximum extent practicable, further releases of waste-derived constituents into the environment.

(d) Comply with standards for management of wastes as specified in paragraph (F)(13) of this rule.

(e) Contain a revised ground water corrective measures monitoring plan which identifies specific ground water monitoring requirements to monitor the effectiveness of the corrective measures. The ground water corrective measures monitoring plan shall, at a minimum, contain provisions:

(i) For determining semiannually, that ground water remediation standards established in accordance with paragraph (F)(7) of this rule are achieved for those contaminants determined to have been released to ground water.

(ii) For semiannual monitoring for the presence above background levels of parameters numbered 1-66 of appendix I of this rule determined not to have been released to ground water.

(iii) Which meet the applicable provisions of paragraphs (B) to (D) of this rule.

(3) The owner or operator shall evaluate each proposed remediation procedure within the corrective measures plan. This evaluation shall, at a minimum, consider the following:

(a) Any potential remediation procedure, which shall be assessed for the long-term and short-term effectiveness and the protection it affords. This shall include the degree of certainty that the remediation procedure will prove successful. Factors to be considered include the following:

(i) Magnitude of reduction of existing risks.

(ii) Magnitude of residual risks in terms of likelihood of further releases due
to waste remaining following implementation of a remediation procedure.

(iii) The type and degree of long-term management required, including monitoring, operation, and maintenance.

(iv) Short-term risks that may affect the community, workers, or the environment during implementation of such a remediation procedure, including potential threats to human health and safety and the environment associated with excavation, transportation, redisposal, or containment.

(v) Potential for human and environmental receptor exposure to remaining wastes, considering the potential threat to human health and safety and the environment associated with excavation, transportation, redisposal, or containment.

(vi) Long-term reliability of the engineering and institutional controls.

(vii) Potential need for replacement of the remediation procedure.

(viii) Time until full protection is achieved.

(b) The effectiveness of the remediation procedure in controlling the source in order to reduce further releases, including the following:

(i) The extent to which containment practices will reduce further releases.

(ii) The extent to which treatment technologies may be used.

(c) The need to coordinate with, and obtain necessary approvals and permits from, other agencies.

(d) The available capacity and location of needed treatment, storage, and disposal services.

(e) The ease or difficulty of implementing a potential remedy(s) based on consideration of the following types of factors:
(i) Degree of difficulty associated with constructing the technologies.

(ii) Expected operation reliability of the technologies.

(iii) Availability of necessary equipment and specialists.

(f) The degree to which community concerns are addressed by a potential corrective measure.

(g) The performance, reliability, ease of implementation, and potential impacts of the potential remediation procedures, including safety impacts, cross-media impacts, and control of exposure to any residual contamination.

(h) A schedule for initiating and completing each remediation procedure discussed in the plan. In establishing this schedule, the owner or operator shall consider the following:

(i) The extent and nature of any contamination.

(ii) The practical capability of remedial technologies to achieve compliance with ground water concentration levels established in accordance with paragraph (F)(6) of this rule and other objectives of the remediation procedure.

(iii) The availability of treatment or disposal capacity for wastes managed during implementation of the remediation procedure.

(iv) The desirability of utilizing technologies that are not currently available, but which may offer significant advantages over currently available technologies in terms of protection, reliability, safety, or the ability to achieve remedial objectives.

(v) Potential risks to human health and the environment from contaminant exposure prior to completion of the remediation procedure.

(vi) Practicable capability of the owner or operator.

(vii) Other relevant factors.
(i) Resource value of the aquifer system, including the following:

(i) Current and future uses.

(ii) Proximity and withdrawal rate of users.

(iii) Ground water quantity and quality.

(iv) The potential damage to wildlife, crops, vegetation, and physical structures resulting from exposure to waste constituents.

(v) The hydrogeologic characteristics of the facility and surrounding area.

(vi) Ground water removal and treatment costs.

(vii) The cost and availability of alternate water supplies.

(j) Practical capability of the owner or operator.

(k) Other relevant factors.

(4) Public meeting. The owner or operator shall:

(a) Within thirty days of submitting the corrective measures plan to the director, place copies of the ground water quality assessment report and the corrective measures plan in the nearest public library, or other publicly accessible equivalent location, to the affected sanitary landfill facility. The owner or operator shall periodically revise and update the copies, but no later than the annual update of the operating record in accordance with rule 3745-27-09 of the Administrative Code. The copies shall be made available to the public until a remedy is selected by the director.

(b) Within sixty days of submitting the corrective measures plan to the director, discuss the results and content of the ground water quality assessment report and the corrective measures plan in a public meeting with interested and affected parties. The owner or operator shall provide adequate and reasonable public notice of the meeting, and the public meeting must be held at a place and time reasonably convenient to the interested and affected parties.

(c) Solicit public comment on the proposed corrective measures plan. Any public
comments received shall be placed in the operating record and submitted to the appropriate Ohio EPA district office and the approved health department.

(5) The director or his authorized representative may require the owner or operator to evaluate, as part of the corrective measures study, one or more specific potential remediation procedure(s).

(6) Interim corrective measures. If, at any time during the assessment described in paragraphs (E) and (F) of this rule, the director determines that the facility threatens human health or safety or the environment, the director may require the owner or operator to implement the following measures:

(a) Notify all persons, via certified mail or any other form of mail accompanied by a receipt, who own the land or reside on the land that directly overlies or lies adjacent to any part of the plume of contamination.

(b) Take any interim measures deemed necessary by the director to ensure the protection of human health and safety and the environment. Interim measures should, to the extent practicable, be consistent with the objectives of and contribute to the performance of any remediation procedure that may be required pursuant to paragraphs (F)(1), (F)(2), (F)(3), and (F)(7) of this rule. The following factors may be considered by the director in determining whether interim measures are necessary:

(i) The amount of time required to develop and implement a final remediation procedure.

(ii) Actual or potential exposure of nearby populations or environmental receptors to waste-derived constituents.

(iii) Actual or potential contamination of drinking water supplies or sensitive ecosystems.

(iv) Any further degradation of the ground water that may occur if remedial action is not initiated expeditiously.

(v) Weather conditions that may cause waste-derived constituents to migrate or be released.
(vi) Risks of fire, explosion, or potential for exposure to waste-derived constituents as a result of an accident or failure of a container or handling system.

(vii) Other situations that threaten human health and the environment.

(7) Ground water remediation standards. The corrective measures plan shall propose a concentration level for each waste-derived constituent which has been detected in the ground water at a statistically significant level. These shall be established as follows:

(a) The proposed concentration levels in the ground water shall be protective of human health and safety and the environment.

(b) Unless an alternate level is deemed necessary to protect environment receptors, then the following apply:

(i) For constituents for which a maximum contaminant level has been promulgated under section Chapter 3745-81 of the Administrative Code, the maximum contaminant level for that constituent.

(ii) For constituents for which maximum contaminant levels have not been promulgated, the background concentration for the constituent from wells in accordance paragraphs (C)(4) and (C)(5) of this rule.

(iii) If the owner or operator can demonstrate to the director that a waste-derived constituent is already present in the ground water at a background level, then the proposed concentration levels shall not be set below background levels unless the director determines that cleanup to levels below background levels is necessary to protect human health and the environment and such cleanup is in connection with an area-wide remedial action under other authorities.

(c) In establishing the proposed concentration levels that meet the requirements of paragraph (F)(7)(b) of this rule, the permittee shall consider the following:

(i) Multiple contaminants in the ground water.

(ii) Exposure threat to sensitive environmental receptors.
(iii) Other site-specific exposure or potential exposure to ground water.

(iv) The reliability, effectiveness, practicability, and other relevant factors of the remediation procedure.

(d) The director or his authorized representative may establish an alternative ground water remediation standard for constituents for which maximum contaminant levels have not been established. These ground water remediation standards shall be appropriate health based levels that satisfy the following criteria:

(i) The level is derived in a manner consistent with federal guidelines for assessing the health risks of environmental pollutants.

(ii) The level is based on scientifically valid studies conducted in accordance with standard laboratory practices.

(iii) For known or suspected carcinogens, the proposed concentration levels shall be established at concentration levels below those that represent a cumulative (due to lifetime exposure) excess upper-bound lifetime cancer risk to an individual within the 1 x 10^-4 to 1 x 10^-6 range.

(iv) For systematic toxicants, the proposed concentration levels shall be reduced to levels to which the human population (including sensitive subgroups) could be exposed on a daily basis without appreciable risk of deleterious effects during a lifetime. For the purposes of this rule, "systematic toxicants" include toxic chemicals that cause effects other than cancer or mutation.

(8) Determination that remediation is not necessary. The director may determine that remediation of a release of waste-derived constituents from the sanitary landfill facility is not necessary if the owner or operator demonstrates one of the following:

(a) The ground water is additionally contaminated by substances that have originated from a source other than the sanitary landfill facility and those substances are present in concentrations such that cleanup of the release from the sanitary landfill facility would provide no significant reduction in risk to actual or potential receptors.
(b) The constituent(s) present in ground water that:

(i) Is not currently or reasonably expected to be a source of drinking water; and

(ii) Is not hydraulically connected with waters to which the waste-derived constituent(s) are migrating or are likely to migrate in a concentration(s) that would exceed the ground water remediation standards established under paragraph (F)(7) of this rule.

(c) Remediation of release(s) is technically impractical.

(d) Remediation results in unacceptable cross-media impacts.

(9) A determination by the director pursuant to paragraph (F)(8) of this rule shall not affect the director's authority to require the owner or operator to undertake source control measures or other measures that may be necessary to eliminate or minimize further releases to ground water, to prevent exposure to ground water, or to remediate ground water to concentrations that are technically practicable and significantly reduce threats to human health and the environment.

(10) Selection of corrective measure. The director shall select from the corrective measures plan, or designate according to paragraph (F)(6) of this rule, the corrective measure which best meets the criteria listed in paragraphs (F)(2), (F)(3), and (F)(7) of this rule. The owner or operator shall implement the corrective measure designated by the director in accordance with the schedule of implementation selected by the director.

[Comment: Upon the selection of a corrective measure by the director, the owner/operator shall comply with the financial assurance requirements of rule 3745-27-18 of the Administrative Code.]

(11) Determination that corrective measure not technically practicable. The director may determine, based on information developed by the owner or operator after implementation of the remediation procedure has begun, or from other information, that compliance with the requirement(s) for the remediation procedure selected under paragraph (F)(10) of this rule is not technically practicable. In making such a determination, the director shall consider the following:

(a) The owner's or operator's efforts to achieve compliance with the
(b) Whether other currently available or new methods or techniques could practicably achieve compliance with the requirements.

(12) Alternative measures. If the director determines that compliance with a remediation procedure requirement is not technically practicable, then the director may require that the owner or operator do the following:

(a) Implement alternate measures to control human or environmental receptor exposure to residual contamination, as necessary, to protect human health and safety and the environment.

(b) Implement alternate measures for control of the sources of contamination, or for removal or decontamination of equipment, units, devices, or structures required to implement the remediation procedure(s), that are both of the following:

(i) Technically practicable.

(ii) Consistent with the overall objective of the remediation procedure.

(13) All solid wastes that are managed pursuant to a remediation procedure required under paragraph (F)(10) of this rule, or an interim measure required under paragraph (F)(6) of this rule, shall be managed in a manner:

(a) That is protective of human health and the environment.

(b) That complies with applicable laws and regulations.

(14) Semiannual corrective measures activities report. The owner or operator shall submit to the appropriate Ohio EPA district office and the approved health department, upon implementation of the remediation procedure chosen under paragraph (F)(10) of this rule, a report of the activities being conducted at the facility as part of implementation of the corrective measures program. Any documents or data previously submitted by the owner/operator during the semiannual period need not be submitted with the semiannual report. Previously submitted documents or data shall be referenced within the semiannual report as having been submitted. This report shall be submitted semiannually and contain the following:
(a) A narrative description of all remedial activities that have occurred since the previous report.

(b) All data generated as part of the remedial activities at the facility.

(15) Completion of corrective measures. The corrective measures selected pursuant to paragraph (F)(10) of this rule shall be considered complete when the following occurs:

(a) The owner or operator complies with the ground water remediation standards established under paragraph (F)(7) of this rule at all points within the plume of contamination that lie beyond the limits of waste placement.

(b) Compliance with the ground water remediation standards established under paragraph (F)(7) of this rule has been achieved by demonstrating semiannually via ground water monitoring that the contamination has not exceeded the ground water remediation standard(s) for a period of three years or until the end of the post-closure care period, whichever is longer, using the statistical procedures and performance standards in paragraphs (C)(6) and (C)(7) of this rule. The director may specify an alternative length of time during which the owner or operator shall demonstrate that the contamination has not exceeded the ground water protection standard(s) taking into account the following considerations:

(i) Extent and concentration of the contamination.

(ii) Behavior characteristics of the contamination in the ground water.

(iii) Accuracy of monitoring or modeling techniques, including any seasonal, meteorological, or other environmental variabilities that may affect the accuracy.

(iv) Characteristics of the ground water.

(c) All actions required to complete the corrective measure have been satisfied.

(16) Certification corrective measures completed. Upon completion of the corrective measure, the owner or operator shall certify within fourteen days to the director that the corrective measure has been completed in compliance with paragraph (F)(15) of this rule. The certification shall be signed by the owner or operator and a qualified ground water scientist. A copy of the
certification shall be placed in the operating record. Upon approval by the director of the certification, the owner or operator shall be released from the financial assurance requirements for corrective measures under rule 3745-27-18 of the Administrative Code.

Effective date:  
August 15, 2003

R.C. 119.032 review dates:  June 21, 2001; August 15, 2008

Promulgated under:  
RC Chapter 119.

Statutory authority:  
R.C. 3734.02, 3734.12

Rule amplifies:  
RC Sections 3734.02, 3734.12.

Prior effective date:  
3-10-90; 6-1-94
APPENDIX I

<table>
<thead>
<tr>
<th>Compound</th>
<th>CAS RN2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Antimony</td>
<td>See note 3</td>
</tr>
<tr>
<td>2) Arsenic</td>
<td>See note 3</td>
</tr>
<tr>
<td>3) Barium</td>
<td>See note 3</td>
</tr>
<tr>
<td>4) Beryllium</td>
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<td>5) Cadmium</td>
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<td>6) Chromium</td>
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<tr>
<td>7) Cobalt</td>
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<tr>
<td>8) Copper</td>
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<td>9) Lead</td>
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<tr>
<td>10) Nickel</td>
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</tr>
<tr>
<td>11) Selenium</td>
<td>See note 3</td>
</tr>
<tr>
<td>12) Silver</td>
<td>See note 3</td>
</tr>
<tr>
<td>13) Thallium</td>
<td>See note 3</td>
</tr>
<tr>
<td>14) Vanadium</td>
<td>See note 3</td>
</tr>
<tr>
<td>15) Zinc</td>
<td>See note 3</td>
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<tr>
<td>16) Acetone</td>
<td>67-64-1</td>
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<tr>
<td>17) Acrylonitrile</td>
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<td>18) Benzene</td>
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<td>19) Bromochloromethane</td>
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<td>20) Bromodichloromethane</td>
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</tr>
<tr>
<td>21) Bromoform; Tribromomethane</td>
<td>75-25-2</td>
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<tr>
<td>22) Carbon disulfide</td>
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<tr>
<td>23) Carbon tetrachloride</td>
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</tr>
<tr>
<td>24) Chlorobenzene</td>
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<tr>
<td>25) Chloroethane; Ethyl chloride</td>
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<td>26) Chloroform; Trichloromethane</td>
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<td>27) Dibromochloromethane; Chlorodibromomethane</td>
<td>124-48-1</td>
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<tr>
<td>28) 1,2-Dibromo-3-chloropropene; DBCP</td>
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<tr>
<td>29) 1,2 Dibromoethane;Ethylene dibromide;EDB</td>
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<td>30) o-Dichlorobenzene; 1,2-Dichlorobenzene</td>
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<td>31) p-Dichlorobenzene; 1,4-Dichlorobenzene</td>
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<td>32) trans-1,4-Dichloro-2-butene</td>
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<td>33) 1,1-Dichloroethane; Ethylidene chloride</td>
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<td>34) 1,2-Dichloroethane; Ethylidene dichloride</td>
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<td>35) 1,1-Dichloroethylene; 1,1-Dichloroethene; Vinlylidene chloride</td>
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<td>38) 1,2-Dichloropropane; Propylene dichloride</td>
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<td>39) cis-1,3-Dichloropropene</td>
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<td>40) trans-1,3-Dichloropropene</td>
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41) Ethylbenzene .......................... 100-41-4
42) 2-Hexanone; Methyl butyl ketone. ................. 591-78-6
43) Methyl bromide; Bromomethane .......................... 74-83-9
44) Methyl chloride; Chloromethane .......................... 74-87-3
45) Methylene bromide; Dibromomethane. ................. 74-95-3
46) Methylene chloride; Dichloromethane. ................. 75-09-2
47) Methyl ethyl ketone; MEK; 2-Butanone ................. 78-93-3
48) Methyl iodide; Iodomethane .............................. 74-88-4
49) 4-Methyl-2-pentanone; Methyl isobutyl ketone ....... 108-10-1
50) Styrene. .................................. 100-42-5
51) 1,1,1,2-Tetrachloroethane. .............................. 630-20-6
52) 1,1,2,2-Tetrachloroethane. .............................. 79-34-5
53) Tetrachloroethylene; Tetrachloroethene; Perchloroethylene .............................. 127-18-4
54) Toluene. .................................. 108-88-3
55) 1,1,1-Trichloroethane; Methylchloroform. .......... 71-55-6
56) 1,1,2-Trichloroethane. .................................. 79-00-5
57) Trichloroethylene; Trichloroethene ....................... 79-01-6
58) Trichlorofluoromethane; CFC-11 .......................... 75-69-4
59) 1,2,3-Trichloropropane ................................. 96-18-4
60) Vinyl acetate. .................................. 108-05-4
61) Vinyl chloride .................................. 75-01-4
62) Xylenes .................................. See note 4
63) Ammonia
64) Chloride
65) Sodium
66) Potassium
67) Temperature
68) pH
69) Specific conductance
70) Total dissolved solids
71) Total alkalinity
72) Nitrate-nitrite
73) Sulfate
74) Magnesium
75) Calcium
76) Turbidity
77) Iron
78) Manganese

Note 1. Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

Note 2. Chemical Abstract Service registry number.

Note 3. Analysis for these compounds shall be representative of the quality background ground water that has not been affected by past or present operations at the sanitary landfill facility and representative of the quality of ground water passing directly downgradient of the limits of solid waste placement.
Note 4. Xylene (total): this entry includes o-xylene (CAS RN 96-47-6), m-xylene (CAS RN 108-38-3), p-xylene (CAS RN 106-42-3), and unspecified xylenes (dimethylbenzenes) (CAS RN 1330-20-7).
### APPENDIX II

<table>
<thead>
<tr>
<th>Compound</th>
<th>CAS RN2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Acenaphthene; 1,2-Dihydroacenaphthylene</td>
<td>83-32-9</td>
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<tr>
<td>2) Acenaphthylene</td>
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<tr>
<td>3) Acetone; 2-Propanone</td>
<td>67-64-1</td>
</tr>
<tr>
<td>4) Acetonitrile; Methyl cyanide</td>
<td>75-05-8</td>
</tr>
<tr>
<td>5) Acetophenone; 1-Phenylethanone</td>
<td>98-86-2</td>
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<td>6) 2-Acetylaminoflourene; 2-AAF; N-9H-flouren-2-yl-acetamide</td>
<td>53-96-3</td>
</tr>
<tr>
<td>7) Acrolein; 2-Propanal</td>
<td>107-02-8</td>
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<tr>
<td>8) Acrylonitrile; 2-Propenenitrile</td>
<td>107-13-1</td>
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<tr>
<td>9) Aldrin; 1,2,3,4,10,10-hexachlore-1,4,4a,5,8,8a-hexahydro(1a,4a,4ab,5a,8a,8ab)-1,4:5,8-Dimethanonaphthalene</td>
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<td>10) Allyl chloride; 3-Chloro-1-propene</td>
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<td>12) Anthracene</td>
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<td>13) Antimony</td>
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<td>14) Arsenic</td>
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<td>15) Barium</td>
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<td>16) Benzene</td>
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<td>17) Benzo[a]anthracene; Benzanthracene</td>
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<td>20) Benzo[ghi]perylene</td>
<td>191-24-2</td>
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<tr>
<td>21) Benzo[a]pyrene</td>
<td>50-32-8</td>
</tr>
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<td>22) Benzyl alcohol; Benzenemethanol</td>
<td>100-51-6</td>
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<tr>
<td>23) Beryllium</td>
<td>See note 4</td>
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<td>24) alpha-BHC; 1,2,3,4,5,6-Hexachlorocyclohexane, (1a,2a,3b,4a,5b,6b)</td>
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<tr>
<td>25) beta-BHC; 1,2,3,4,5,6-Hexachlorocyclohexane, (1a,2b,3a,4b,5a,6b)</td>
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<td>26) delta-BHC; 1,2,3,4,5,6-Hexachlorocyclohexane, (1a,2a,3a,4b,5a,6b)</td>
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<td>27) gamma-BHC; Lindane; 1,2,3,4,5,6-Hexachlorocyclohexane, (1a,2a,3b,4a,5a,6b)</td>
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<td>28) bis(2-Chloroethoxy)methane; 1,1'-(methylenedioxy)]bis[2-chloroethane]</td>
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<td>29) bis(2-Chloroethyl) ether; Dichloroethyl ether; 1,1'-oxybis[2-Chloroethane]</td>
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<td>31) bis(2-Ethylhexyl) Phthalate; 1,2-Benzenedicarboxylic acid, bis(2-Ethylhexyl) ester</td>
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<tr>
<td>32) Bromochloromethane; Chlorobromomethane</td>
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<td>33) Bromodichloromethane; Dibromochloromethane</td>
<td>75-27-4</td>
</tr>
<tr>
<td>34) Bromoform; Tribromomethane</td>
<td>75-25-2</td>
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</tbody>
</table>
35) 4-Bromophenyl phenyl ether; 1-Bromo-4-phenoxy-benzene . . 101-55-3
36) Butyl benzyl phthalate; Benzyl butyl phthalate;
   1,2-Benzenedicarboxylic acid, Butyl phenylmethyl ester . . 85-68-7
37) Cadmium . . . . . . . . . . . . . . . . . . . . . . . . See note 4
38) Carbon disulfide . . . . . . . . . . . . . . . . . . . . . . 75-15-0
39) Carbon tetrachloride; Tetrachloromethane . . . . . . . . . 56-23-5
40) Chlorodane; 1,2,4,5,6,8,8-octochloro-2,3,3a,4,7,7a-
   hexahydro-4,7-methano-1H-indene. . . . . . . . . . . . . See note 6
41) p-Chloroaniline; 4-Chlorobenzenamine ..................... 106-47-8
42) Chlorobenzene ............................................ 108-90-7
43) Chlorobenzilate; 4-Chloro-a-(4-Chlorophenyl)-a-
   Hydroxybenzeneacetic acid, Ethyl ester .................. 510-15-6
44) p-Chloro-m-Cresol; 4-Chloro-3-Methylphenol ............... 59-50-7
45) Chloroethane; Ethyl chloride ................................ 75-00-3
46) Chloroform; Trichloromethane ................................ 67-66-3
47) 2-Chloronaphthalene ...................................... 91-58-7
48) 2-Chlorophenol ............................................. 95-57-8
49) 4-Chlorophenyl phenyl ether; 1-Chloro-4-phenoxy benzene... 7005-72-3
50) Chloroprene; 2-Chloro-1,3-butadiene ......................... 126-99-8
51) Chromium .................................................. See note 4
52) Chrycene ................................................................ 218-01-9
53) Cobalt ....................................................... See note 4
54) Copper ....................................................... See note 4
55) m-Cresol; 3-Methylphenol .................................. 108-39-4
56) o-Cresol; 2-Methylphenol .................................. 95-48-7
57) p-Cresol; 4-Methylphenol .................................. 106-44-5
58) Cyanide ...................................................... 57-12-5
59) 2,4-D; 2,4-Dichlorophenoxyacetic acid ...................... 94-75-7
60) 4,4'-DDD; 1,1'-(2,2-Dichloroethylidene)bis
    [4-chlorobenzene] ........................................ 72-54-8
61) 4,4'-DDE; 1,1'-(2,2-Dichloroethenyldiene)bis
    [4-chlorobenzene] ........................................ 72-55-9
62) 4,4'-DDT; 1,1'-(2,2,2-Trichloroethylidene)bis
    [4-chlorobenzene] ........................................ 50-29-3
63) Diallate; bis(1-Methylethyl)-carbamotheoic acid
    S-(2,3-Dichloro-2-propenyl) ester .......................... 2303-16-4
64) Dibenz[a,h]anthracene .................................... 53-70-3
65) Dibenzo[def]anthracene .................................. 132-64-9
66) Dibromochloromethane; Chlorodibromomethane ............ 124-48-1
67) 1,2-Dibromo-3-chloropropane; DBCP ......................... 96-12-8
68) 1,2-Dibromomethane; Ethylene dibromide; EDB ............. 106-93-4
69) Di-n-butyl phthalate; 1,2-Benzenedicarboxylic
    acid dibutyl ester ........................................ 84-74-2
70) o-Dichlorobenzene; 1,2-Dichlorobenzene ................... 95-50-1
71) m-Dichlorobenzene; 1,3-Dichlorobenzene .................. 541-73-1
72) p-Dichlorobenzene; 1,4-Dichlorobenzene ................. 106-46-7
73) 3,3'-Dichlorobenzidine; 3,3'-Dichloro-[1,1'-bi-
    phenyl]-4,4'-diamine .................................... 91-94-1
74) trans-1,4-Dichloro-2-butene ............................... 110-57-6
75) Dichlorodifluoromethane; CFC 12 ............................75-71-8
76) 1,1-Dichloroethane; Ethylidene chloride ........................75-34-3
77) 1,2-Dichloroethane; Ethylene dichloride ..................107-06-2
78) 1,1-Dichloroethylene; 1,1-Dichloroethene;
   Vinylidene chloride ....................................... 75-35-4
79) cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene ...........156-59-2
80) trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene .... 156-60-5
81) 2,4-Dichlorophenol ........................................120-83-2
82) 2,6-Dichlorophenol ...........................................87-65-0
83) 1,2-Dichloropropane; Propylene dichloride ...............78-87-5
84) 1,3-Dichloropropane; Trimethylene dichloride ............142-28-9
85) 2,2-Dichloropropane; Isopropylidene chloride .......... 594-20-7
86) 1,1-Dichloropropene; 1,1-Dichloro-1-propene .......... 563-58-6
87) cis-1,3-Dichloropropene; ........................................ 10061-01-5
88) trans-1,3-Dichloropropene; ........................................ 10061-02-6
89) Dieldrin; 3,4,5,6,9,9-Hexachloro-1a,2,2a,3,6,6a,
    7,7a-octahydro-2,7:3,6-dimethanonaphthalene
    [2,3-b]oxirene, (1aa,2b,2aa,3b,6b,6aa,7b,7aa)............... 60-57-13
90) Diethyl phthalate; 1,2-Benzenedicarboxylic
    acid, Diethyl ester ........................................... 84-66-2
91) O,O-Diethyl O-2-Pyrazinyl phosphorothioate; Thionazin... 297-97-2
92) Dimethoate; Phosphorodithioic acid O,O-Dimethyl-S-
93) p-(Dimethylamino)azobenzene; N,N-Dimethyl-4-(phenylazo)benzenamine ........ 60-11-7
94) 7,12-Dimethylbenzaanthracene .......................... 57-97-6
95) 3,3'-Dimethylbenzidene; 3,3'-Dimethyl[1,1'bi
   phenyl]-4,4'-diamine ........................................ 119-93-7
96) 2,4-Dimethylphenol; m-Xylenol .................................. 105-67-9
97) Dimethyl phthalate; 1,2-Benzenedicarboxylic
    acid, dimethyl ester .......................................... 131-11-3
98) m-Dinitrobenzene .............................................. 99-65-0
99) 4,6-Dinitro-o-cresol; 4,6-Dinitro-2-methylphenol;
    2-Methyl-4,6-dinitrophenol .................................. 534-52-1
100) 2,4-Dinitrophenol .............................................. 51-28-5
101) 2,4-Dinitrotoluene; 1-Methyl-2,4-dinitrobenzene .... 121-14-2
102) 2,6-Dinitrotoluene; 2-Methyl-1,3-dinitrobenzene .... 606-20-2
103) Dinoseb; DMBP; 2-sec-Butyl-4,6-dinitrophenol;
    2-(1-Methylpropyl)-4,5-dinitrophenol ..................... 88-85-7
104) Di-n-octyl phthalate; 1,2-Benzenedicarboxylic
    acid, Diocetyl ester ........................................ 117-84-0
105) Diphenylamine; N-phenylbenzamine ....................... 122-39-4
106) Disulfoton; Phosphorodithioic acid O,O-diethyl
    S-[2-(ethylthio)ethyl] ester .................................. 298-04-4
107) Endosulfan I; 6,7,8,9,10-Hexachloro-1,5,5a,6,9,
    9a-hexahydro-6,9-methano-2,4,3-benzodioxoa thiepin,
    3-oxide ...................................................... 959-98-8
108) Endosulfan II; 6,7,8,9,10-Hexachloro-1,5,5a,6,9,
    9a-hexahydro-6,9-methano-2,4,3-benzodioxoa
thiepin, 3-oxide (3a,5aa,6b,9b,9aa) .................................. 33213-65-9
109) Endosulfan sulfate; 6,7,8,9,10-hexachloro-1,5,5a,6,9,
9a-hexahydro-6,9-methano-2,4,3-benzodioxa
thiepin, 3-3-dioxide ........................................... 1031-07-8
110) Endrin; 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-
octhydro-2,7:3,6-dimethanonaphth[2,3-
b]oxirene, (1aa,2b,2ab,3a,6a,6ab,7b,7aa) ............... 72-20-83
111) Endrin aldehyde; 2,2a,3,3,4,7-hexachlorodecahydro-
1,2,4-methenocyclopenta[cd]pentalene-5-carboxaldehyde,
(1a,2b,2ab,4b,4ab,5b,6ab,6bb,7r*) ......................... 7421-93-43
112) Ethylbenzene ........................................... 100-41-4
113) Ethyl methacrylate; 2-Methyl-2-propenoic acid, ethyl
ester .................................................. 97-63-2
114) Ethyl methanesulfonate; Methanesulfonic acid, ethyl
ester .................................................. 62-50-0
115) Famphur; Phosphorothioic acid, O-[4-[(dimethylamino)
sulfonyl]phenyl]0,0-dimethyl ester ........................ 52-85-7
116) Flouranthe ............................................. 206-44-0
117) Flourene; 9H-flourene .................................. .86-73-7
118) Heptachlor; 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-
tetrahydro-4,7-methano-1H-indene ....................... 76-44-8
119) Heptachlor epoxide; 2,3,4,5,6,7,7-Heptachloro-1a,1b,
5,5a,6,6a-hexahydro-2,5-methano-2h-indeno
[1,2-b]oxirene, (1aa,1bb,2a,5a,5ab,6b,6aa) ............... 1024-57-33
120) Hexachorobenzene .................................... 118-74-1
121) Hexachlorobutadiene; 1,1,2,3,4,4-Hexachloro-1,3-butadiene. 87-68-3
122) Hexachiorocyclopentadiene; 1,2,3,4,5,5-Hexachloro-
1,3-cyclopentadiene ....................................... 77-47-4
123) Hexachloroethane ..................................... 67-72-1
124) Hexachloropropene; 1,1,2,3,3,3-Hexachloro-1-propene. 1888-71-7
125) 2-Hexanone; Methyl butyl ketone ....................... 591-78-6
126) Indeno(1,2,3-cd)pyrene ................................ 193-39-5
127) Isobutyl alcohol; 2-Methyl-1-propanol ................. .78-83-1
128) Isodrin; 1,2,3,4,10,10-Hexachloro-1,4a,5,8,8a-
hexahydro-1,4,5,8-dimethanonaphthalene,
(1a,4a,4ab,5b,8b,8ab) .................................. 465-73-63
129) Isophorone; 3,5,5-Trimethyl-2-cyclohexen-1-one ............ .78-59-1
130) Isosafrole; 5-(1-Propenyl)-1,3-benzodioxole .......... 120-58-1
131) Kepone; 1,1a,3,3a,4,5,5a,5b,6-decachlorocta
hydro-1,3,4-methano-2H-cyclobuta[cd9]pentalen-2-one. 143-50-0
132) Lead .................................................. See note 4
133) Mercury ................................................ See note 4
134) Methacrylonitrile; 2-Methyl-2-propenenitrile .......... 126-98-7
135) Methapyrilene; N,N-dimethyl-N'-2-pyridinyl-N'-
(1/2-thienylmethyl)-1,2-ethanediamine. ............... 91-80-5
136) Methoxychlor; 1,1'-2,2,2-Trichloroethyldene)bis
[4-Methoxybenzene] ..................................... 72-43-5
137) Methyl bromide; Bromomethane ........................ .74-83-9
138) Methyl chloride; Chloromethane ........................................ 74-87-3
139) 3-Methylcholanthrene; 1,2-Dihydro-3-methyl-
benze[j]aceanthrylene ........................................... 56-49-5
140) Methyl ethyl ketone; MEK; 2-Butanone ......................... 78-93-3
141) Methyl iodide; Iodomethane ..................................... 74-88-4
142) Methyl methacrylate; 2-Methyl-2-propenoic acid, methyl 
ester ........................................................................ 80-62-6
143) Methyl methanesulfonate; Methanesulfonic acid, methyl 
ester ........................................................................ 66-27-3
144) 2-Methylnaphthalene ................................................. 91-57-6
145) Methyl parathion; Parathion methyl; Phosphorothioic 
acid, 0,0-dimethyl 0-(4-nitrophenyl) ester ................................. 298-00-0
146) 4-Methyl-2-pentanone; Methyl isobutyl ketone ................... 108-10-1
147) Methylene bromide; Dibromomethane .................................. 74-95-3
148) Methylene chloride; Dichloromethane ................................. 75-09-2
149) Naphthalene ......................................................................... 91-20-3
150) 1,4-Naphthoquinone; 1,4-Naphthalenedione ......................... 130-15-4
151) 1-Naphthylamine; 1-Naphthalenamine ................................ 134-32-7
152) 2-Naphthylamine; 2-Naphthalenamine ................................ 91-59-8
153) Nickel ....................................................................................... See note 4
154) o-Nitroaniline; 2-Nitroaniline; 2-Nitrobenzenamine ............ 88-74-4
155) m-Nitroaniline; 3-Nitroaniline; 3-Nitrobenzenamine ........... 99-09-2
156) p-Nitroaniline; 4-Nitroaniline; 4-Nitrobenzenamine . 100-01-6
157) Nitrobenzene ........................................................................... 98-95-3
158) o-Nitrophenol; 2-Nitrophenol .......................................... 88-75-5
159) p-Nitrophenol; 4-Nitrophenol ........................................... 100-02-7
160) N-Nitrosodi-n-butylamine; N-Butyl-N-nitroso-1-butanamine. . 924-16-3
162) N-Nitrosodimethylamine; N-Methyl-N-nitroso methanamine . 62-75-9
163) N-Nitrosodiphenylamine; N-Nitroso-N-phenyl benzenamine .. 86-30-6
164) N-Nitrosodipropylamine; N-Nitroso-N-dipropylamine; 
di-n-propylnitrosamine; N-Nitroso-N-propyl- 1-propanamine...621-64-7
165) N-Nitrosomethylthalamine; N-Methyl-N-nitroso 
ethanamine. .................................................................... 10595-95-6
166) N-Nitrosopiperidine; 1-Nitrosopiperidine ............................ 100-75-4
167) N-Nitrosopyrrolidine; 1-Nitrosopyrrolidine ....................... 930-55-2
168) S-Nitro-o-toluidine; 2-Methyl-5-nitrobenzenamine ............... 99-55-8
169) Parathion; Phosphorothioic acid, O,O-diethyl O-
(4-nitrophenyl) ester ..................................................... 56-38-2
170) Pentachlorobenzene ....................................................... 608-93-5
171) Pentachloronitrobenzene .................................................. 82-68-8
172) Pentachlorophenol ................................................................. 87-86-5
173) Phenacetin; N-(4-Ethoxyphenyl)acetamide ............................ 62-44-2
174) Phenanthrene ................................................................... 85-01-8
175) Phenol .................................................................................... 108-95-2
176) p-Phenylenediamine; 1,4-Benzenediamine ......................... 106-50-3
177) Phorate; Phosphorodithioic acid, O,O-Diethyl S-
[(ethylthio)methyl] ester .................................................. 298-02-2
178) Polychlorinated biphenyls; PCBs; aroclors;
1,1'-Biphenyl, chloro derivatives ........................... See note 7
179) Pronamide; 3,5-Dichloro-N-(1,1-dimethyl-2-
propynyl)benzamide ........................................ 23950-58-5
180) Propionitrile; Ethyl cyanide ............................ 107-12-0
181) Pyrene ................................................................ 129-00-0
182) Safrole; 5-(2-Propenyl)-1,3-benzodioxole ............. 94-59-1
183) Selenium .......................................................... See note 4
184) Silver .............................................................. See note 4
185) Silvex; 2,4,5-TP; 2-(2,4,5-Trichlorophenoxy)propanoic
acid ........................................................................ 93-72-1
186) Styrene; EthenyIbenzene .................................... 100-42-5
187) Sulfide .............................................................. 18496-25-8
188) 2,4,5-T; 2,4,5-Trichlorophenoxyacetic acid .......... 93-76-5
189) 1,2,4,5-Tetrachlorobenzene ............................... 95-94-3
190) 1,1,1,2-Tetrachloroethane .................................. 630-20-6
191) 1,1,2,2-Tetrachloroethane .................................. 79-34-5
192) Tetrachloroethylene; Tetrachloroethene;
Perchloroethylene .................................................. 127-18-4
193) 2,3,4,6-Tetrachlorophenol ................................... 58-90-2
194) Thallium ............................................................ See note 4
195) Tin .................................................................. See note 4
196) Toluene; Methylbenzene ...................................... 108-88-3
197) o-Toluidine; 2-Methylbenzenamine ....................... 95-53-4
198) Toxaphene ......................................................... See note 8
199) 1,2,4-Trichlorobenzene ........................................ 120-82-1
200) 1,1,1-Trichloroethane; Methylchloroform ............... 71-55-6
201) 1,1,2-Trichloroethane .......................................... 79-00-5
202) Trichloroethylene; Trichloroethene ....................... 79-01-6
203) Trichlorofluoromethane; CFC-11 .......................... 75-69-4
204) 2,4,5-Trichlorophenol ......................................... 95-95-4
205) 2,4,6-Trichlorophenol ......................................... 88-06-2
206) 1,2,3-Trichloropropane ........................................ 96-18-4
207) o,o,o-Triethyl phosphorothioate; Phosphorothioic acid,
o,o,o-triethyl ester .................................................. 126-68-1
208) sym-Trinitrobenzene; 1,3,5-Trinitrobenzene ............ 99-35-4
209) Vanadium .......................................................... See note 4
210) Vinyl acetate; Acetic acid, ethenyl ester .................. 108-05-4
211) Vinyl chloride; Chloroethene .................................. 75-01-4
212) Xylene (total); Dimethylbenzene .......................... See note 9
213) Zinc ................................................................. See note 4

Note 1: Common names are those widely used in government regulation,
scientific publications, and commerce; synonyms exist for
many chemicals.

Note 2: Chemical Abstract Service registry number. Where "total" is
entered, all species in ground water that contain this
element are included.

Note 3: When numbers and letters appear in this form at the end of a
chemical name, i.e. (1a,4a,4aB,5a,8a,8aB), the following
Note 4: Analysis for these compounds shall be representative of the quality background ground water that has not been affected by past or present operations at the sanitary landfill facility and representative of the quality of ground water passing directly downgradient of the limits of solid waste placement.

Note 5: CAS No. 108-60-1. This substance is often called bis(2-Chloroisopropyl) ether, the name Chemical Abstracts Service applies to its commercial isomer, propane, 2,2'-oxybis[2-Chloro-(CAS RN 39638-32-9)].

Note 6: Chlordane: This entry includes alpha-chlordane (CAS RN 5103-71-9), beta-Chlordane (CAS RN 5103-74-2), gamma-Chlordane (CAS RN 5566-34-7), and constituents of Chlordane (CAS RN 54-74-9 and CAS RN 12789-03-06).

Note 7: Polychlorinated biphenols (CAS RN 1336-36-3); This category contains congener chemicals, including constituents of Aroclor 1016 (CAS RN 12674-11-2), Aroclor 1221 (CAS RN 11104-28-2), Aroclor 1232 (CAS RN 11141-16-5), Aroclor 1242 (CAS RN 53469-21-9), Aroclor 1248 (CAS RN 12672-29-6), Aroclor 1254 (CAS RN 11097-69-1), and Aroclor 1260 (CAS RN 11096-82-5).

Note 8: Toxaphene: This entry includes congener chemicals contained in technical toxaphene (CAS RN 8001-35-2, i.e., chlorinated camphene.

Note 9: Xylene (total): This entry includes o-xylene (CAS RN 96-47-6), m-xylene (CAS RN 108-38-3), p-xylene (CAS RN 106-42-3), and unspecified xylenes (dimethylbenzenes) (CAS RN 1330-20-7).
3745-27-11 Final closure of a sanitary landfill facility.

(A) Applicability.

(1) The owner or operator of a sanitary landfill facility shall keep the "final closure/post-closure plan" in the operating record of the sanitary landfill facility in accordance with the requirements of rule 3745-27-09 of the Administrative Code.

(2) The owner or operator of a sanitary landfill facility that ceased acceptance of waste prior to June 1, 1994, as determined by the notification required by paragraph (E) of this rule, shall do one of the following, whichever is applicable:

(a) If the director has approved a "final closure/post-closure plan" for a sanitary landfill facility, the owner or operator shall continue to comply with a previously approved "final closure/post-closure plan" and this rule.

(b) If the director has not approved a "final closure/post-closure plan" for the sanitary landfill facility, the owner or operator shall complete closure activities in accordance with the following requirements until a "final closure/post-closure plan" is approved:

(i) Complete closure activities in accordance with paragraphs (F), (G), (H), (I) and (J) of this rule.

(ii) Comply with rule 3745-27-10 of the Administrative Code.


(iv) Comply with rule 3745-27-12 of the Administrative Code.

(c) If the final closure certification report for the sanitary landfill facility has not been submitted in accordance with paragraph (J) of this rule, the owner or operator shall comply with paragraphs (F) to (L) of this rule, and rules 3745-27-10 and 3745-27-16 of the Administrative Code.

(d) The requirements specified in paragraph (A)(2) of this rule do not affect other schedules or requirements specified in administrative or judicial orders or consent agreements. The director may authorize or approve other schedules or requirements. This rule shall not be construed to affect the liability of the owner, operator, permittee, or licensee for past violations of this rule as effective June 1, 1994, March 1, 1990, or of rule 3745-27-10 of the Administrative Code, as effective July 29, 1976.

(B) Final closure/post-closure plan. The owner or operator shall prepare a final closure/post-closure plan in accordance with this rule for the sanitary landfill facility, which shall, at a minimum, contain all the items specified in paragraphs (B)(1) to (B)(10) of this rule. The final closure/post-closure plan shall contain all of the items specified in paragraphs (B)(1) to (B)(10) of this rule for all contiguous unit(s) of a sanitary landfill facility and shall separately address the items specified in paragraphs (B)(1) to (B)(10) of this rule for each noncontiguous unit of a sanitary landfill facility. In the alternative, the owner or operator may prepare separate final closure/post-closure plans for each noncontiguous unit of a sanitary landfill facility.

(1) The name and location of the facility and the unit(s) included in the final closure/post-closure plan.

(2) Any variances or exemptions from the requirements of this rule or rule 3745-27-14 of the Administrative Code or any alternative schedule for completing final closure activities.
[Comment: If a variance, exemption, or alternative schedule is identified, the request must be submitted to the director and must receive prior approval; otherwise, the rule requirements are applicable and enforceable.]

(3) The name, address, and telephone number of the person or office to contact regarding the unit(s) of the sanitary landfill facility during the final closure and post-closure care periods.

(4) Schedule of installation of any explosive gas control systems.

(5) The following information to be presented in the same manner as outlined in rule 3745-27-06 of the Administrative Code:

   (a) Plan drawings of the horizontal limits and top elevations of waste and the cap system; and surface water control structures including permanent ditches to control run-on and runoff; and sedimentation ponds including the inlet and outlet.

   (b) Establish a grid system with northings and eastings not more than five hundred feet apart.

   (c) Detail drawings of the composite cap system including but not limited to the key trench, any penetrations, cap drainage structures, and surface water drainage structures.

   (d) Detail drawings of sedimentation pond and discharge structures and surface water run-on and runoff control structures.

   (e) Static and seismic stability analysis.

   (f) For a sanitary landfill facility subject to paragraph (A)(2)(a) or (A)(2)(b) of this rule, the ground water detection monitoring plan.

   (g) For a sanitary landfill facility subject to paragraph (A)(2)(a) or (A)(2)(b) of this rule, the financial assurance information in accordance with rules 3745-27-15 and 3745-27-16 of the Administrative Code.

(6) Description of availability and suitability of cap material.

(7) Quality assurance/quality control plan for cap system construction.

(8) For a sanitary landfill facility subject to paragraph (A)(2)(a) or (A)(2)(b) of this rule, the explosive gas monitoring plan.

(9) Description of anticipated measures to control erosion.

(10) Contingency plans for leachate, fire, differential settling.

(C) Mandatory closure. The owner or operator shall begin final closure activities in accordance with the final closure/post-closure plan and paragraph (F) of this rule no later than seven days after any of the occurrences specified in this paragraph. Approval of the final closure/post-closure plan does not affect the owner's or operator's obligations to begin and complete final closure activities in accordance with paragraphs (G) and (H) of this rule.

(1) It is mandatory to begin closure activities for a sanitary landfill facility upon the occurrence of any of the following:

   (a) A solid waste disposal license issued for the sanitary landfill facility has expired, and a renewal
license has not been applied for in the manner prescribed in Chapter 3745-37 of the Administrative Code.

(b) A solid waste disposal license issued for the sanitary landfill facility has expired, and another license has been applied for and denied as a final action.

(c) A solid waste disposal license issued for the sanitary landfill facility has been revoked as a final action.

(d) A solid waste disposal license issued for the sanitary landfill facility has been suspended as a final action.

(e) The sanitary landfill facility otherwise ceases to receive solid waste and there is additional approved capacity remaining in the unit(s) of the sanitary landfill facility. However, closure is not mandatory for a period of one year after ceasing to receive solid waste if operations will resume at the sanitary landfill facility during the year.

(2) It is mandatory to begin closure activities for a noncontiguous unit(s) of a sanitary landfill facility upon the occurrence of any of the following:

(a) The owner or operator declares that the noncontiguous unit(s) will cease acceptance of solid waste for disposal by a date certain.

(b) All approved limits of solid waste placement for the noncontiguous unit(s) have been reached, as specified in the plan approval, operational report, approved permit(s) to install, or other authorization of the director.

(3) It is mandatory to begin closure activities for contiguous units of a sanitary landfill facility upon the occurrence of any of the following:

(a) The owner or operator declares that all of the contiguous unit will cease acceptance of solid waste by a date certain.

(b) All approved limits of solid waste placement for all of the contiguous units have been reached, as specified in the plan approval, operational report, approved permit(s) to install, or other authorization of the director.

(4) It is mandatory to begin closure activities for an existing unit of a sanitary landfill facility, if the owner or operator cannot demonstrate, pursuant to paragraph (B) of rule 3745-27-20 of the Administrative Code that the existing unit complies with the applicable location restrictions and is required to close pursuant to rule 3745-27-20 of the Administrative Code.

(D) Notification of anticipated date to cease acceptance of solid waste.

(1) The owner or operator shall provide notice by certified mail or any other form of mail accompanied by a receipt of the anticipated date on which the sanitary landfill facility will cease to accept solid waste if final closure is or will be triggered for all unit(s) by paragraph (C)(1)(a) or (C)(2) of this rule. Such notice shall be provided not less than ninety days prior to the anticipated date on which solid waste will cease to be accepted.

(2) The owner or operator shall send a copy of the notice specified in paragraph (D)(1) of this rule to the following:
(a) The board of health having jurisdiction.

(b) The single or joint county solid waste planning district in which the facility is located.

(c) The director.

(3) Concurrently with the submission of the notice required by paragraph (D)(1) of this rule, the owner or operator shall commence publishing at three-week intervals, prominent notice of the anticipated date on which solid waste will cease to be accepted at the sanitary landfill facility. Such notice shall be published in the county in which the sanitary landfill facility is located and in any other county which has been a source of at least twenty-five per cent of the solid wastes deposited at the sanitary landfill facility over the previous twelve months of operation. Notice shall be provided to the director and the board of health having jurisdiction that affirms the notices have been published in accordance with this paragraph. The public notice requirement shall not apply to a sanitary landfill facility owned by a generator, exclusively disposing of solid wastes generated at premises owned by the generator.

(4) Not less than thirty days prior to the anticipated date on which the facility will cease to accept solid waste, notice shall be provided by certified mail or any other form of mail accompanied by a receipt to the director of any changes to the information that identifies the facility's final closure contact person.

(E) The owner or operator shall send notification by certified mail or any other form of mail accompanied by a receipt to the director and to the board of health having jurisdiction, as to the actual date that the unit(s) of the sanitary landfill facility ceased to accept solid waste. Notification shall be sent to the director and the board of health having jurisdiction not later than seven days after the date specified in the notification.

(F) The owner or operator shall begin final closure activities, for all contiguous unit(s) or for each noncontiguous unit(s) of the sanitary landfill facility, not later than seven days after any of the occurrences in paragraph (C) of this rule. Final closure activities for all unit(s) of a sanitary landfill facility shall include, at a minimum, the items specified in paragraphs (G) and (H) of this rule.

(G) Composite cap system. The owner or operator shall construct a composite cap system in accordance with the following:

(1) The cap design approved in the permit or in a subsequently approved alteration, unless paragraph (G)(2) or (G)(3) or (G)(4) of this rule applies.

(2) If the sanitary landfill facility was subject to paragraph (B)(1) of rule 3745-27-09 of the Administrative Code, as effective June 1, 1994, the cap design in the closure/post-closure plan. If the cap design in the closure/post-closure plan is revised after the effective date of this rule, the cap design is to comply with rule 3745-27-08 of the Administrative Code.

(3) If a unit for a sanitary landfill facility has areas which have been capped, graded, and seeded in accordance with paragraphs (C)(1) to (C)(4) of rule 3745-27-10 of the Administrative Code, as effective July 29, 1976, or in accordance with paragraph (G)(2) or (G)(3) or (G)(4) of this rule, effective June 1, 1994, those areas need not have cap system as as required by rule 3745-27-08 of the Administrative Code.

(4) If closure of the sanitary landfill facility is in accordance with paragraph (M) of the June 1, 1994 effective version of rule 3745-27-11 of the Administrative Code, the owner or operator shall construct a cap in accordance with rule 3745-27-08 of the Administrative Code.

(H) Other closure activities.
(1) The owner or operator shall continue to comply with rule 3745-27-19 of the Administrative Code and all monitoring and reporting activities required during the operating life of the unit(s) of the sanitary landfill facility until the closure certification is submitted and the post-closure care period begins.

(2) The owner or operator shall install the required surface water control structures including permanent ditches to control run-on and runoff and sedimentation pond(s), as shown in the final closure/post-closure plan, and as necessary, grade all land surfaces to prevent ponding of water where solid waste has been placed and institute measures to control erosion.

[Comment: The minimum slope standard in OAC rule 3745-27-08 is a design standard. For closure certification, it is not necessary to regrade the site if there is not a ponding problem, even if the slope no longer meets the design in the closure/post-closure plan.]

(3) The owner or operator shall design and install a ground water monitoring system in accordance with rule 3745-27-10 of the Administrative Code, if a system is not already in place.

(4) The owner or operator shall bait for rodents and treat for other vectors as necessary.

(5) The owner or operator shall record on the plat and deed to the sanitary landfill facility property, or on some other instrument which is normally examined during title search, that will in perpetuity notify any potential purchaser of the property, a notation describing the impacted acreage, exact location, depth, volume, and nature of solid waste deposited in the unit(s) of the sanitary landfill facility.

(6) Upon ceasing acceptance of waste in all unit(s) of a sanitary landfill facility, the owner or operator shall post signs, in such a manner as to be easily visible from all access roads leading onto the sanitary landfill facility, stating in letters not less than three inches high that the sanitary landfill facility no longer accepts solid waste. Signs shall be maintained in legible condition for not less than two years after final closure activities have been completed. This paragraph shall not apply to sanitary landfill facilities owned and permitted by a generator of solid wastes if the sanitary landfill facility exclusively disposes of solid wastes generated at the premises owned by the generator.

(7) Upon ceasing acceptance of waste in all unit(s) of the sanitary landfill facility, the owner or operator shall block, by locked gates, fencing, or other sturdy obstacles, all entrances and access roads to the sanitary landfill facility to prevent unauthorized access during the final closure and post-closure period.

(I) Final closure activities shall be completed not later than one hundred and eighty days after any of the occurrences in paragraph (C) of this rule, unless an alternate schedule has been approved by the director.

(J) Final closure certification. Not later than ninety days after the completion of final closure activities for all contiguous unit(s) and for each noncontiguous unit(s), the owner or operator shall submit to the director, and to the board of health having jurisdiction, a written certification report. The final closure certification shall include verification that the unit(s) of the sanitary landfill facility has been closed in accordance with this rule and the "final closure/post-closure plan". The final closure certification shall at a minimum include the following:

(1) A list of the construction certification reports for construction of the composite cap system with the date of submittal and a topographic map of the entire sanitary landfill facility showing the areas certified by each report. The map shall also show the horizontal limits of waste placement and the surface water control structures including permanent ditches to control run-on and runoff, and the following if present: the sedimentation pond(s) including the inlet or outlet, the outlet of any permanent ground water control structures, and the explosive gas control system.
(2) A demonstration that the ground water monitoring system meets the requirements of rule 3745-27-10 of the Administrative Code.

(3) A copy of the plat and deed or other instrument which is normally examined during a title search, showing the notation required by paragraph (H)(5) of this rule and bearing the mark of recordation of the office of the county recorder for the county in which the property is located.

(4) A demonstration that the sign required by paragraph (H)(6) of this rule has been posted, and that all entrances and access roads have been blocked as required by paragraph (H)(7) of this rule.

(K) The health commissioner and the director, or their authorized representatives, upon proper identification, may enter any unit(s) of the sanitary landfill facility at any time during the final closure period for the purpose of determining compliance with this rule.

(L) It is the responsibility of the owner or operator to complete final closure of the unit(s) of a sanitary landfill facility in a manner that minimizes the need for further maintenance and minimizes post-closure formation and release of leachate and explosive gases to air, soil, ground water, or surface water to the extent necessary to protect human health and the environment.
Five Year Review (FYR) Dates: 04/23/2014 and 04/23/2019

CERTIFIED ELECTRONICALLY

Certification

04/23/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.12
Rule Amplifies: 3734.02, 3734.12
Explosive gas migration monitoring for a sanitary landfill facility.

(A) Applicability and implementation. This rule applies to the following:

(1) The owner or operator of a sanitary landfill facility in operation on or after June 1, 1994.

(2) The owner or operator, subsequent owner, lessee, or other person who has control of the land on which the closed landfill is located, of any previously licensed closed landfill, that ceased acceptance of waste prior to June 1, 1994, and after July 1, 1970, and is so situated that a residence or other occupied structure is located within one thousand feet horizontal distance from emplaced wastes.

(3) Persons specified in paragraph (A)(2) of this rule who become subject to the requirements of this rule because a new occupied structure was built within one thousand feet, shall submit an "explosive gas monitoring plan" within one year of construction of the occupied structure. The plan shall be implemented within sixty days of approval or in accordance with a schedule approved by the director.

(4) Persons subject to this rule on the effective date of this rule may revise their "explosive gas monitoring plan," in accordance with paragraph (H)(2) of this rule.

(5) For the purposes of this rule, "occupied structure" means an enclosed structure where one or more human beings may be present, but does not include structures that are open to natural free air circulation such that the explosive gas hazard is minimized.

(6) For the purposes of this rule, the "explosive gas monitoring plan" is implemented upon the commencement of explosive gas sampling in accordance with this rule.

(7) This rule does not apply to the following:

(a) A sanitary landfill or closed sanitary landfill that exclusively disposes, or disposed, of solid waste generated on the premises where the landfill or closed landfill is located.

(b) A sanitary landfill or closed sanitary landfill that exclusively disposes, or disposed, of solid wastes generated on one or more premises owned by the person who owns the landfill or closed landfill.

(c) A sanitary landfill or closed sanitary landfill owned or operated by a person other than the generator of the wastes that exclusively disposes, or disposed of, either of the following:

(i) Nonputrescible solid wastes.

(ii) Nonputrescible wastes generated by a single generator at one or more premises owned by the generator.

(d) For the purposes of this paragraph, "nonputrescible solid wastes" are those solid wastes that do not generate explosive gases during decomposition. Nonputrescible solid wastes include residual wastes with the exception of residual wastes generated from pulp and papermaking operations as identified by paragraph (B)(3) of rule 3745-30-01 of the Administrative Code.

(B) The director shall not approve an "explosive gas monitoring plan" unless he determines the following:

(1) The explosive gas monitoring plans, specifications, and information, are documented in a manner acceptable to the director. If additional information is necessary to determine whether the "explosive gas monitoring plan" can be approved, the person identified in paragraph (A) of this rule shall supply such information as a precondition to further consideration.
(2) The document must show that the explosive gas monitoring system is designed and capable of being constructed and operated in accordance with this rule and with any terms and conditions of an approved explosive gas monitoring plan.

An "explosive gas monitoring plan" submitted to the director for approval, notwithstanding its deficiencies, shall be considered and acted upon if sufficient information is provided and the director can determine whether the criteria set forth in this paragraph are satisfied.

(C) The "explosive gas monitoring plan" shall contain the items specified in paragraphs (D) and (E) of this rule.

(D) For a sanitary landfill facility subject to paragraph (A) of this rule, the content of the explosive gas monitoring system design document shall include the items specified in paragraphs (D)(1) to (D)(5) of this rule in that order.

(1) Completed application form as prescribed by the director.

(2) Site environs:

(a) Detailed scale topographical map(s) [1" = 200 feet] of the site showing the following:

(i) The property boundary and facility boundary of the sanitary landfill facility and the horizontal limits of solid waste placement.

(ii) A zone encompassing the landfill defined by the locus of points extending outward one thousand feet from the horizontal limits of waste placement and parallel to the limits of waste placement. A second similar zone defined by a locus of points extending outward two hundred feet from the horizontal limits of waste placement and parallel to the limits of waste placement.

(iii) All property boundaries, property ownership, political subdivisions, and zoning classifications within the one thousand foot zone.

(iv) On-site and off-site structures within the one thousand foot zone.

(v) All potential explosive gas migration pathways within the one thousand foot zone that are manmade including, but not limited to, roads, railroads, underground utilities, mines, field tiles, storm sewers, water lines, electric cables, and pipelines.

(vi) All other potential sources of explosive gas within the one thousand foot zone including, but not limited to, oil and gas wells, other landfills and any swamps.

(b) Legal description of landfill property.

(c) The following geological information:

(i) The ground water table depth in the proximity of the fill, fluctuations in ground water levels, and factors that influence ground water level fluctuations.

(ii) Discussion of site and surrounding area topography.

(iii) Discussion of any natural site characteristics that may act as natural impervious boundaries to gas migration or allow natural venting of gas.

(iv) Discussion characterizing all potential explosive gas migration pathways identified in paragraphs (D)(2)(a)(v) and (D)(2)(c)(vi) of this rule and their associated explosive gas hazard.
(v) Discussion and identification of any other sources of explosive gases within the one thousand foot zone which may potentially cause subsurface migration of explosive gas.

(vi) Geologic cross section of the perimeter of the landfill property showing the potential natural pathways. Cross sections shall equal the depth of the fill at the defined points.

(3) Landfill characteristics:

(a) Lowest elevation of waste placement, if known.

(b) Depth of excavation, if known.

(c) Discussion of historical operations of landfill, including dates of origin, operation, and closure, previous landfill ownership, previous landfill operators, and previous or current regulatory authorizations granted for the site.

(d) Discussion of any records or information regarding the type of wastes disposed of at the site.

(e) Discussion of site construction details to include the type and characteristics of the liner (if any), type and characteristics of final cover, and an evaluation of existing cover conditions.

(f) Description of any existing and operating gas extraction or gas venting system.

(g) Description of any existing explosive gas monitoring system and an evaluation of its effectiveness.

(4) Review of explosive gas generation potential:

(a) Review and summary of historical records pertaining to explosive gas investigations, visual/olfactory inspections or complaints, incidents of dead vegetation, odor problems, or snow melt possibly due to gas presence.

(b) Discussion of the latest explosive gas investigation for this site. (Investigative methods may include barhole sampling, monitoring probes in the landfill, and site observations of odor, final cover damage, and vegetative effects due to gas migration.)

(5) Description of the proposed explosive gas monitoring system, including the following:

(a) Proposed permanent monitor and punch bar station locations, depths, screen intervals, and identification designations.

(i) For sanitary landfill facilities subject to paragraph (A)(1) of this rule, the owner or operator shall use the following:

(a) Permanent monitors or punch bar stations in such locations and in such numbers that explosive gas migration through the unconsolidated stratigraphic unit or fractured bedrock pathway towards the facility boundary will be detected. A punch bar may be used if the explosive gas pathway does not represent a potential hazard to an occupied structure.

(b) For occupied structures located within the horizontal limits of waste placement, explosive gas alarms in the occupied structure upon the consent of the owner of the occupied structure.

(c) For occupied structures located within two hundred feet of the horizontal limits of waste placement, explosive gas alarms in the occupied structure upon the consent of the owner of the occupied structure and either permanent monitor(s) or punch bar stations between the
landfill and the structure in such locations and in such numbers that explosive gas migration through the unconsolidated stratigraphic unit or fractured bedrock pathway towards the structure will be detected. A punch bar may be used only if the explosive gas pathway does not represent a potential hazard to the occupied structure.

(d) For occupied structures located within one thousand feet of the limits of waste placement, permanent monitor(s) or punch bar stations may be used between the landfill and the structure in such locations and in such numbers that explosive gas migration through the unconsolidated stratigraphic unit or fractured bedrock pathway towards the structure will be detected. A punch bar may be used only if the explosive gas pathway does not represent a potential hazard to the occupied structure.

(e) For occupied structures located within one thousand feet of the limits of waste placement where permanent monitors or punch bar stations cannot be properly located, explosive gas alarms in the occupied structure upon the consent of the owner of the occupied structure.

(ii) For a sanitary landfill facility subject to paragraph (A)(2) of this rule, the person listed in paragraph (A)(2) shall use the following:

(a) For occupied structures located within the horizontal limits of waste placement, explosive gas alarms in the occupied structure upon the consent of the owner of the occupied structure.

(b) For occupied structures located within two hundred feet of the horizontal limits of waste placement, explosive gas alarms in the occupied structure upon the consent of the owner of the occupied structure and either permanent monitor(s) or punch bar stations between the landfill and the structure in such locations and in such numbers that explosive gas migration through the unconsolidated stratigraphic unit or fractured bedrock pathway towards the structure will be detected. A punch bar may be used only if the explosive gas pathway does not represent a potential hazard to the occupied structure.

(c) For occupied structures located within one thousand feet of the limits of waste placement, permanent monitor(s) or punch bar stations may be used between the landfill and the structure in such locations and in such numbers that explosive gas migration through the unconsolidated stratigraphic unit or fractured bedrock pathway towards the structure will be detected. A punch bar may be used only if the explosive gas pathway does not represent a potential hazard to the occupied structure.

(d) For any occupied structure located within one thousand feet of the limits of waste placement where permanent monitors or punch bar stations cannot be properly located, explosive gas alarms in the occupied structure upon consent of the owner or the occupied structure.

(b) Methods of construction, materials used in construction, installation procedures and quality assurance measures, and security measures to be utilized. The selection of the design, materials, and methods of construction for the permanent monitors shall be demonstrated to be able to detect the migration and to determine the concentration of explosive gas in the unconsolidated stratigraphic unit or fractured bedrock pathway. All permanent monitors shall be designed to eliminate the potential contamination or dilution of explosive gas samples or contamination of ground water.

(c) Location and installation of new and replacement permanent monitors. If the person identified in paragraph (A) of this rule must install a new permanent monitor or replace a damaged or inaccessible permanent monitor then he shall observe the following requirements:
(i) A new permanent monitor, located and constructed in accordance with the approved "explosive
gas monitoring plan," shall be installed within one year of new occupied structures or explosive
gas pathways being built within one thousand feet of solid waste placement, or topographic or
other changes occurring in the vicinity of the landfill, such that a potential for explosive gas
migration towards any occupied structure is created.

(ii) A damaged or inaccessible permanent monitor shall be replaced in accordance with the approved
"explosive gas monitoring plan" before the next monitoring event.

(iii) The materials and construction of the new or replacement permanent monitor shall be in
accordance with the "explosive gas monitoring plan" pursuant to paragraph (D)(5)(b) of this
rule.

(iv) The replacement permanent monitor shall be located to monitor the same pathway and shall be
located in the same vicinity as the damaged permanent monitor.

(v) The installation of the new or replacement permanent monitor shall be certified in accordance
with paragraph (F) of this rule.

(d) Procedure for abandonment of permanent monitors shall be in compliance with rule 3745-9-10 of the
Administrative Code, if applicable. A damaged or inaccessible permanent monitor or a permanent
monitor which does not meet the requirements of paragraph (D)(5)(b) of this rule shall be
abandoned in accordance with the approved "explosive gas monitoring plan."

(e) For the purposes of this rule, a "permanent monitor" is a monitor which will perform throughout the
duration of the monitoring period and which meets the performance standards established in
paragraph (D)(5)(a) and (D)(5)(b).

(f) Location and installation of new and replacement punch bar stations. If the person identified in
paragraph (A) of this rule must locate a new punch bar station or relocate an inaccessible punch bar
station, then he shall observe the following requirements:

(i) A new punch bar station shall be located by the next monitoring event after a new occupied
structure or explosive gas pathway is built within one thousand feet of solid waste placement, if
an explosive gas pathway does not represent a potential hazard to the occupied structure.
Otherwise a permanent monitor shall be installed in accordance with paragraph (D)(5)(c) of this
rule.

(ii) An inaccessible punch bar station shall either be relocated in the same vicinity or replaced by a
permanent monitor before the next monitoring event.

(iii) The location of the new or relocated punch bar station shall be certified in accordance with
paragraph (F) of this rule.

(E) The explosive gas monitoring, sampling and reporting procedures document shall be written with such detail
and clarity as to be readily understandable by monitoring personnel conducting sampling at the site.
Appropriate sections and appendices shall be referenced in the text. Necessary appendices are listed in
paragraph (E)(5) of this rule and shall be prepared by the person preparing the document. This document
shall address the following areas in the following organizational format:

(1) Monitoring frequency. Permanent monitors and punch bar stations shall be monitored at the following
minimum frequencies:
(a) Quarterly, except as specified in paragraphs (E)(1)(b) to (E)(1)(d) of this rule.

(b) Monthly prior to closure if any portion of the sanitary landfill is not lined with a flexible membrane liner.

(c) For a sanitary landfill facility subject to paragraph (A)(2) of this rule, semiannually between the end of five years' post-closure and the director's granting authorization under paragraph (G) of this rule to cease monitoring.

(d) Upon approval by the director, for a sanitary landfill facility subject to paragraph (A)(1) of this rule and regulated under Chapter 3745-29 or Chapter 3745-30 of the Administrative Code, monitoring frequencies after the fifth year of post-closure care may be decreased to semiannual monitoring if the owner or operator can demonstrate that semiannual monitoring will detect off-site migration of explosive gases and is protective of human health and the environment.

(2) Parameters to be monitored including detailed step-by-step instructions of the proper procedures to be utilized in conducting monitoring. The following parameters shall be monitored at all permanent monitor locations and punch bar stations, as noted, in the following order:

(a) Gas pressure in the permanent monitor.

(b) Initial combustible gas concentration in per cent methane by volume (% CH\textsubscript{4} v/v). The monitoring equipment shall have a detection limit below twenty-five percent of the lower explosive limit. For the purposes of this rule "initial" means immediately after the gas pressure measurement so as not to inadvertently vent the monitor.

[Comment: The monitor should not be vented prior to measuring the concentration of combustible gas.]

(c) Water level in the permanent monitor.

(d) Ambient barometric pressure.

(e) Ambient air temperature.

(f) Observed weather conditions (sunny, overcast, recent precipitation, snow cover, etc.).

(g) Relative humidity.

(3) Detailed step-by-step instructions of how to validate and evaluate field sampling results, including comparing the sampling results to the appropriate explosive gas threshold limit as established in paragraph (E)(5)(a) of this rule.

(4) Detailed step-by-step discussion of how to report sampling results to appropriate authorities. Results shall be submitted to the appropriate district office of Ohio EPA and the local health district on a form prescribed by the director. The results shall be submitted within fifteen days of the date of sampling, unless the contingency procedures, pursuant to paragraph (E)(5) of this rule, are being followed.

(5) Contingency procedures which shall provide for the following:

(a) Establishment of either of the following explosive gas threshold limits:

(i) One hundred per cent of the lower explosive limit (5% CH\textsubscript{4} v/v) at or within the facility boundary.
(ii) Twenty-five per cent of the lower explosive limit (1.25% CH₄ v/v) in structures.

(b) Detailed step-by-step discussion of how appropriate authorities will be notified upon the detection of explosive gas which equals or exceeds the explosive gas threshold limits in paragraph (E)(5)(a) of this rule, including, if appropriate, telephone numbers. The person identified in paragraph (A) of this rule shall immediately notify the appropriate local public safety authorities such as the local health district, fire department, police department, and the appropriate Ohio EPA district office.

(c) The extent to which monitoring frequency will be increased, which shall at a minimum be weekly, upon validated finding of explosive gas concentration above the threshold limit.

(d) Describe any additional monitors to be installed.

   [Comment:] The additional monitors may be monitoring wells, alarms, or use of a punch bar.

(e) Detailed discussion of the criteria to be used to determine when contingency monitoring is no longer warranted. The criteria shall include a minimum of four sequential monitoring events which no longer exceed the explosive gas threshold limit, over a minimum period of two weeks, and may establish a lower threshold limit for ceasing contingency procedures. Upon submitting the report detailed in paragraph (E)(5)(g)(iii) of this rule, the person identified in paragraph (A) of this rule may cease following the contingency procedures.

(f) Detailed discussion of steps to be taken to ensure protection of human health and the environment.

   [Comment:] This may include an escalating course of action such as adjusting the active gas extraction system, installation of alarms in buildings, installation of vents or barriers or expanding the active gas extraction system, to installation of a new active gas extraction system. For a sanitary landfill facility subject to paragraph (A)(1) of this rule, as the steps are implemented, the closure and post-closure cost estimates may need to be updated in accordance with rule 3745-27-15 of the Administrative Code. If at any point it appears that the steps as approved in the "explosive gas monitoring plan" are not effective in protecting human health and the environment, the director may issue orders to take further actions pursuant to paragraph (I) of this rule.

(g) Detailed discussion of reporting procedures.

   (i) Within seven days of the initial detection of explosive gas concentration above the threshold limit, submit to the appropriate Ohio EPA district office and the local health district, the monitoring results and the description of the steps taken or to be taken to ensure protection of human health and the environment. Steps to be taken to ensure protection of human health may include installation of explosive gas alarms in occupied structures upon the consent of the owner of the occupied structure.

   (ii) Every thirty days from the date of the initial detection of explosive gas concentrations above the threshold limit, until the criteria to no longer follow contingency procedures are met, submit to the appropriate Ohio EPA district office and the local health district, a report containing the following:

      (a) Analysis and summary of the results from the contingency monitoring, including the lateral extent of explosive gas concentration above the threshold limit and a characterization of the explosive gas pathway(s). Characterization of the pathway shall include degree of saturation and porosity (textural classification or fracturing); and the possible causes of the increase in gas concentrations, such as landfill operational procedures, gas control system failure or
upset, climatic conditions, or closure activity.

(b) Summary of the steps taken to ensure protection of human health and the environment and an analysis of their effectiveness.

(iii) When criteria to no longer follow contingency procedures are met, submit to the appropriate district office of Ohio EPA and the local health district a report containing the following:

(a) Analysis and summary of the results from the contingency monitoring, including the lateral extent of explosive gas concentration above the threshold limit and a characterization of the explosive gas pathway(s). Characterization of the pathway shall include degree of saturation and porosity (textural classification or fracturing).

(b) Consideration of possible causes of the increase in gas concentrations, such as landfill operational procedures, gas control system failure or upset, climatic conditions, or closure activity.

(6) Appendices, each of which must be prepared by the person preparing the document and placed at the end thereof:

(a) Appendix A: reporting forms.

(b) Appendix B: Copies of letters of notification to the appropriate authorities stating that they will be notified if explosive gas concentrations exceed the threshold limits. The letters should include details as to the location of the sanitary landfill facility, proximity of occupied structures and the threshold limit values. Copies of letters to every owner of an occupied structure seeking consent to install an explosive gas alarm in accordance with paragraph (D)(5)(a) of this rule.

(c) Appendix C: geologic boring logs utilized in development of paragraph (D)(2)(c)(vi) of this rule.

(d) Appendix D: reserved for the certification report required under paragraph (F) of this rule.

(e) Other appendices as necessary.

(F) Upon installation of new or replacement permanent monitors, a certification report shall be submitted with the initial reporting of the monitoring results in accordance with the approved "explosive gas monitoring plan." The certification report shall include the following:

(1) Record drawing showing the locations of all punch bar stations and permanent monitors with their associated identification designations.

(2) Geologic logs from the installation of each permanent monitor.

(3) Depth and length of screened intervals for each permanent monitor.

(4) For persons subject to paragraph (A)(2) of this rule with an "explosive gas monitoring plan" approved on or before the effective date of this rule, a geologic cross section of the perimeter of the side of the landfill property if a new occupied structure was built within one thousand feet of solid waste placement and there is no cross section for that side in the approved "explosive gas monitoring plan."

(G) After monitoring for twenty years after closure for a sanitary landfill facility subject to paragraph (A)(2) of this rule, or after monitoring for thirty years after closure for a sanitary landfill facility subject to paragraph (A)(1) of this rule, the person identified in paragraph (A) of this rule may submit a written request to the director for authorization to discontinue monitoring and to abandon any permanent monitors in accordance
with the approved "explosive gas monitoring plan." Authorization to discontinue monitoring and abandon any permanent monitors may be granted upon the director's finding that there is no significant likelihood of future explosive gas formation and migration sufficient to require contingency procedures.

[Comment. A residual solid waste facility required to comply with this rule is still obligated to monitor for explosive gas migration in accordance with paragraph (G) of this rule even though the post-closure care period may be shorter.]

(H) Revising the "explosive gas monitoring plan."

(1) Upon the demolition of an occupied structure, or the elimination of a potential explosive gas migration pathway, or other circumstances which may eliminate the potential hazard to occupied structures, the person identified in paragraph (A) of this rule may submit a written request to the appropriate district office of Ohio EPA for concurrence to discontinue monitoring or abandon the affected permanent monitor(s) or punch bar stations.

(2) The person identified in paragraph (A) of this rule shall submit a written request to alter the explosive gas monitoring, sampling and reporting procedures in the approved "explosive gas monitoring plan" to the appropriate district office of Ohio EPA for concurrence prior to implementation.

(I) Upon the director's finding that explosive gas formation and migration threaten human health, safety or the environment, he may order the person identified in paragraph (A) of this rule to perform such measures to abate or minimize the formation or migration of explosive gas.

(J) The director may require the installation of additional punch bar stations or permanent monitors or abandonment of permanent monitors as necessary to monitor explosive gas pathways or eliminate the potential contamination of ground water.

(K) For a sanitary facility subject to paragraph (A)(1) of this rule and subject to Chapter 3745-27 of the Administrative Code, The "explosive gas monitoring plan" "certification reports, all monitoring results and contingency reports, and all revisions shall be submitted into the operating record in accordance with rule 3745-27-09 of the Administrative Code.
Five Year Review (FYR) Dates: 04/23/2014 and 04/23/2019

CERTIFIED ELECTRONICALLY

Certification

04/23/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.041, 3734.12
Rule Amplifies: 3734.02, 3734.041, 3734.12
3745-27-13 Procedure to engage in filling, grading, excavating, building, drilling, or mining on land where a hazardous waste facility or solid waste facility was operated.

(A) No person shall, without authorization from the director, engage in filling, grading, excavating, building, drilling, or mining on land where a hazardous waste facility or solid waste facility was operated. Any person proposing to engage in these activities on land where a hazardous waste facility or solid waste facility was operated shall comply with the requirements of this rule.

(B) "Facility," for the purposes of this rule, means:

(1) The limits of solid waste placement, solid waste handling area, or area of hazardous waste treatment, storage, or disposal.

(2) Those areas within three hundred feet of the limits of solid waste placement or area of hazardous waste treatment, storage or disposal if the filling, grading, excavating, building, drilling, or mining activities in these areas are likely to impact the integrity of the waste placement or any ancillary structures.

[Comment: Impacting the integrity of the solid waste placement or hazardous waste treatment, storage or disposal area(s), and any ancillary structures related thereto, includes any activity resulting in damage to leachate tanks or lines or causing waste, leachate, and/or gas to be moved from the limits of waste placement, e.g., by causing slope failure.]

(C) This rule does not apply to filling, grading, excavating, building, drilling, or mining at any of the following sites:

(a) Facilities where waste was not disposed in the ground or where waste no longer remains, including:

(i) A solid waste landfill facility licensed or permitted or formerly licensed or permitted under Chapter 3745-37 of the Administrative Code for which the owner or operator has closed the solid waste landfill facility by removal and decontamination pursuant to an administrative or judicial authorization.

(ii) A solid waste composting facility.

(iii) A solid waste incinerator.

(iv) A solid waste transfer facility.

(v) A hazardous waste treatment, storage, or disposal facility for which the owner or operator has closed the hazardous waste management unit by removal and decontamination pursuant to rules 3745-55-10 to 3745-55-15, and/or 3745-66-10 to 3745-66-15 of the Administrative Code or pursuant to an administrative or judicial authorization, if that closure was based upon either residential or industrial land use exposure assumptions.

(b) Those facilities exempted from regulation under Chapters 3745-27 and 3745-37 of the Administrative Code or by rule 3745-27-03 of the Administrative Code.

(2) This rule does not apply to filling, grading, excavating, building, drilling, or mining in conjunction with one of the following activities:

(a) Filling, grading, excavating, building, drilling, or mining at facilities where the activities are already authorized through a final action of the director, including:
(i) A solid waste facility for which the owner or operator obtained a permit to install, plan approval, or other authorization for the facility in accordance with the requirements of Chapter 3734. of the Revised Code and an effective solid waste disposal license in accordance with the requirements of Chapter 3745-37 of the Administrative Code, and the filling, grading, excavating, building, drilling, or mining is in accordance with the development, operating, maintenance, or monitoring practices authorized at the facility by the permit, license, plan approval, judicial order or other authorization from the director.

(ii) A hazardous waste treatment, storage, or disposal facility for which the owner or operator has obtained a permit, plan approval, or other authorization for the facility in accordance with the requirements of Chapter 3734. of the Revised Code or with the requirements of the "Resource Conservation and Recovery Act of 1976," 90 Stat. 2806, 42 U.S.C. 6921, as amended, and the filling, grading, excavating, building, drilling, or mining is in accordance with the development, operating, maintenance, or monitoring practices authorized at the facility by the permit, plan approval, or other authorization.

(b) Filling, grading, excavating, building, drilling, or mining at facilities where a hazardous waste generator has conducted treatment, storage, or closure in accordance with Chapter 3745-52 of the Administrative Code.

(c) Filling, grading, excavating, building, drilling, or mining at sites subject to either a written agreement entered into by the director with the federal government or a final order issued by the director and under which a person will perform corrective or remedial investigation or action, ground water investigation, maintenance action to protect a remedy, or other investigation or action to abate air or water pollution or soil contamination, or to protect public health and safety under Chapter 3734., 3746., or 6111. of the Revised Code.

[Comment: A final order issued by the director that consists of or contains an operation and maintenance agreement does not relieve any person from the requirement to obtain an authorization under this rule unless that O&M agreement contains explicit authorization to conduct particular filling, grading, excavating, building, drilling, or mining activities.]

(d) Routine maintenance or emergency repair by a public utility, as defined in section 4905.02 of the Revised Code, on land where a public utility has main or distribution lines above or below the surface, located on an easement or right-of-way where a solid waste facility was operated. Public utilities may engage in any such activity within the easement or right-of-way of such sites without prior authorization from the director for purposes of performing emergency repair or emergency replacement of its lines; of the poles, towers, foundations, or other structures supporting or sustaining any such lines; or of the appurtenances to those structures necessary to restore or maintain existing public utility service. A public utility may enter upon any such easement or right-of-way without prior authorization from the director for purposes of performing necessary or routine maintenance of those portions of its existing lines; of the existing poles, towers, foundations, or other structures sustaining or supporting its lines; or of the appurtenances to any such supporting or sustaining structures, located on or above the land surface on any such easement or right-of-way. Within twenty-four hours after commencing any such emergency repair or replacement or maintenance work, the public utility shall notify Ohio EPA of those activities and shall provide such information regarding those activities as Ohio EPA may request. Upon completion of the emergency repair or replacement or maintenance activities, the public utility shall restore any land of the solid waste facility disturbed by those activities to the condition existing prior to the commencement of those activities.
(e) Routine maintenance of final cover or ancillary structures at a facility.

(f) Routine agricultural, horticultural, recreational, or maintenance activities conducted by occupants of single-family homes on their own premises.

(D) Except as provided in paragraph (C) of this rule:

(1) Paragraph (E) of this rule applies to any person proposing to engage in filling, grading, excavating, building, drilling, or mining on one of the following sites:

(a) A solid waste landfill presently or formerly licensed or permitted under Chapter 3734. of the Revised Code or licensed in accordance with Chapter 3745-37 of the Administrative Code.

[Comment: For operating facilities undertaking filling, grading, excavating, building, drilling, or mining activities, the use of a permit alteration or modification is recommended.]

(b) An unlicensed or unpermitted solid waste landfill that accepted solid waste after July 29, 1976.

(c) An unlicensed or unpermitted solid waste transfer facility or solid waste incinerator that accepted solid waste after May 31, 1991.

(d) An unregistered, unlicensed, or unpermitted solid waste compost facility that accepted solid waste after June 1, 1992.

(e) An unregistered, unlicensed, or unpermitted scrap tire monofill facility that accepted scrap tires after March 1, 1996.

(f) A Class I, II, or III residual waste landfill presently or formerly licensed or permitted under Chapter 3734. of the Revised Code or licensed in accordance with Chapter 3745-37 of the Administrative Code.

(g) A hazardous waste treatment, storage, or disposal facility that has not obtained a hazardous waste facility installation and operation permit, a permit renewal, or an approved closure or post-closure plan, and that has not completed closure and post-closure care of any hazardous waste management unit pursuant to rules 3745-55-10 to 3745-55-20, and/or 3745-66-10 to 3745-66-20 of the Administrative Code.

(h) A hazardous waste treatment, storage, or disposal facility that has completed post-closure of any hazardous waste management unit, as required by rules 3745-55-10 to 3745-55-20, and/or 3745-66-10 to 3745-66-20 of the Administrative Code or pursuant to an administrative or judicial order.

(i) A solid or hazardous waste facility that received a covenant not to sue under Chapter 3746. of the Revised Code and has an operation and maintenance agreement pursuant to that covenant that does not authorize the proposed filling, grading, excavating, building, drilling, or mining activities.

[Comment: Ohio Administrative Code rule 3745-300-02 delineates which sites are eligible to pursue a covenant not to sue under Chapter 3746. of the Revised Code.]

(2) Paragraph (F) of this rule applies to any person proposing to engage in filling, grading, excavating, building, drilling, or mining on one of the following sites:

(a) An unlicensed or unpermitted solid waste landfill that ceased acceptance of waste prior to July 29, 1976.
(b) An unlicensed or unpermitted solid waste incinerator that ceased acceptance of waste prior to May 31, 1991.

(c) An unregistered, unlicensed, or unpermitted solid waste compost facility that ceased acceptance of waste prior to June 1, 1992.

(d) An unregistered, unlicensed, or unpermitted scrap tire facility that ceased acceptance of waste prior to March 1, 1996.

(e) A class IV residual waste landfill licensed or permitted or formerly licensed or permitted under Chapter 3745-30 of the Administrative Code.

(f) A hazardous waste treatment, storage, or disposal facility operating pursuant to a hazardous waste facility installation and operation permit, permit renewal, or a closure plan or a post-closure plan for any hazardous waste management unit approved in accordance with rule 3745-55-18 or 3745-66-18 of the Administrative Code.

(g) A solid or hazardous waste facility that received a covenant not to sue pursuant to Chapter 3746. of the Revised Code and does not have an operation and maintenance agreement pursuant to that covenant.

(h) Any other solid or hazardous waste facility not otherwise exempted from this rule.

(3) Paragraph (G) of this rule applies to any person proposing to engage in filling, grading, excavating, building, drilling, or mining for the purpose of conducting sampling, testing, and/or delineating the limits of waste on a facility.

(E) Any person proposing to obtain an authorization from the director for a site identified in paragraph (D)(1) of this rule shall provide such information to Ohio EPA as necessary for it to make a determination that such activity will comply with the requirements of Chapter 3734. of the Revised Code, will not create a nuisance, and is unlikely to adversely affect the public safety or health or the environment, including as appropriate, the following information in the following order:

(1) The location specified on a 7-1/2 minute USGS topographical map and on a topographic map with a maximum scale of one inch equals two hundred feet, legal description, type of facility, demonstration of current property ownership, and demonstration of current facility ownership.

(2) The specific activities and their intended purposes for which authorization is requested.

(3) Discussion of all previous and existing permits, licenses, approvals, and orders pertaining to past and ongoing waste treatment, storage, or disposal activities issued under local, state, and federal environmental regulations for lands upon which authorization under this rule is requested.

(4) Letters of acknowledgment from the owners of all parcels of land to which the authorization pertains.

(5) Copies of certified mail receipts and a statement certifying that letters of notice stating that authorization under this rule is being requested for the affected site have been sent to the following entities:

(a) The board of health of the health district wherein the site is located.

(b) The governments of the general purpose political subdivisions where the site is located, i.e., county commissioner, legislative authority of a municipal corporation, and/or the board of township trustees.
(c) The local zoning authority having jurisdiction over the geographical area where the site is located, if any.

(d) If the site is a solid waste facility, the single county or joint county solid waste management district.

(e) The local fire department for the geographical area where the site is located.

(6) A discussion of the site's present or known prior use of hazardous waste or solid waste treatment, storage or disposal, including a summary and discussion of all available documentation pertaining to the dates of operation, types and quantities of waste handled at the site, and ownership.

(7) A detailed discussion of the closure and/or post-closure activities, if any, performed at the facility and an evaluation of the present condition of the closed facility.

(8) A detailed description of the manner by which the proposed filling, grading, excavating, building, drilling, or mining will be accomplished.

(9) A detailed description of the manner in which the integrity of the waste placement or the ancillary structures will be preserved where the filling, grading, excavating, building, drilling, or mining activities will occur in areas within three hundred feet of the limits of waste placement.

(10) A detailed plan describing the manner by which the proposed filling, grading, excavating, building, drilling, or mining will be accomplished in compliance with all applicable state and federal laws and regulations pertaining to environmental protection, including but not limited to control of air emissions, control of leachate, surface water run-on and run-off, explosive and toxic gas migration, and protection of ground water.

(11) If waste will still remain on the property, a detailed description of a notation or update to any prior recorded notation to be placed on the deed to the property to notify in perpetuity any potential purchaser of the property that the land has been used as a hazardous waste facility or solid waste facility. The notation shall describe the impacted acreage, including the known location, depth, volume, and nature of waste disturbed at the site.

(12) Other such information as Ohio EPA deems necessary to determine that these activities will be in compliance with all applicable laws and regulations administered by the director.

(13) A signature as described in paragraph (I) of this rule.

(F) Any person proposing to obtain an authorization from the director for a site identified in paragraph (D)(2) of this rule shall submit a certified letter to Ohio EPA, thirty days prior to beginning filling, grading, excavating, building, drilling, or mining activities, identifying information necessary to make a determination that the activity will be performed in such a manner that will comply with the requirements of Chapter 3734. of the Revised Code, will not create a nuisance, and is unlikely to adversely affect the public safety or health or the environment. Applications for authorization to engage in filling, grading, excavating, building, drilling, or mining shall include, at a minimum:

(1) Name of the facility, if any, and type of facility.

[Comment: Refer to paragraph (D)(2) of this rule for a list of facility types subject to this paragraph.]

(2) Address of the site.

(3) County and township in which the site is located.
(4) Name, address, and telephone number of person to contact for additional information regarding the activities at the site.

(5) Size of site.

(6) Identification of type and amount of waste present at the site, including a description of the process that created the waste and the time period of waste disposal.

(7) Description of activities proposed at the site.

(8) Description of any institutional control that applies to the site.

(9) Description of the manner in which the control of air emissions, control of leachate, surface water run-on and runoff, explosive and toxic gas migration, and protection of ground water will be performed.

(10) Letters of acknowledgment from the owners of all parcels of land to which the authorization pertains.

(11) A statement that the requirements contained in paragraphs (H)(2) to (H)(6) of this rule will be followed.

(12) A statement that the applicable requirements contained in Chapter 3734. of the Revised Code will be followed by the applicant.

(13) An affidavit affirming that the assertions made in this application are true.

(14) A signature as described in paragraph (I) of this rule.

(G) Any person proposing to obtain an authorization from the director for filling, grading, excavating, building, drilling, or mining for the purpose of sampling material, pursuant to paragraph (D)(3) of this rule, shall submit the following to Ohio EPA seven days prior to beginning filling, grading, excavating, building, drilling or mining activities:

(1) A certified letter identifying information necessary for Ohio EPA to make a determination that the activity will be performed in a manner that will comply with the requirements of Chapters 3704., 3734., and 6111. of the Revised Code, will not create a nuisance, and is unlikely to adversely affect the public safety or health or the environment. Applications for authorization to engage in filling, excavating, or drilling for the purpose of sampling material, shall include, at a minimum:

(a) Name of the facility, if any, and type of facility.

(b) Address of the site.

(c) County and township in which the site is located.

(d) Name, address, and telephone number of a person to contact for additional information regarding the activities at the site.

(e) A statement of the date(s) the sampling activity will occur.

(f) A statement that the applicable requirements contained in paragraph (H) of this rule will be followed.

(g) A statement that the applicable requirements contained in Chapter 3734. of the Revised Code will be followed by the applicant.

(h) A signature as described in paragraph (I) of this rule.
(2) The letter required in paragraph (G)(1) of this rule shall be received by Ohio EPA at least seven days prior to filling, excavating, or drilling for the purpose of sampling material.

[Comment: Paragraph (H) of this rule provides that filling, grading, excavating, building, drilling, or mining activities for sampling, as identified in paragraph (D)(3) of this rule, can begin after Ohio EPA receives the authorization letter or after eight days, whichever comes first, unless the applicant is notified otherwise.]

(3) Filling, grading, excavating, building, drilling, or mining authorized by this paragraph, for the purpose of conducting sampling must be conducted in accordance with the following:

(a) No more than five cubic feet per acre of material shall be disturbed.

(b) No material shall be disturbed below ten feet of the surface.

(c) All solid waste or hazardous waste removed during filling, grading, excavating, building, drilling, or mining shall be stored in accordance with Chapter 3734. of the Revised Code until such time as these materials are properly characterized and treated or disposed. Any liquid wastes released during filling, grading, excavating, building, drilling, or mining activities shall be stored in accordance with Chapter 3734. of the Revised Code until such time as these wastes are properly characterized and treated or disposed.

(d) Each excavation or bore hole shall be backfilled within forty-eight hours of its creation.

(e) Any excavation or bore hole may be backfilled with the material excavated, or may be backfilled with soils, asphalt concrete, concrete, or bentonite. All backfilling must be completed in a manner so as not to compromise the integrity of the facility.

(f) Within thirty days of completion of the activities, a certification report containing a report of the location of sampling where wastes were encountered, a written explanation of what was done with any sampled material, and a written confirmation that any excavation or borehole has been backfilled in accordance with this paragraph shall be submitted to Ohio EPA.

[Comment: Maintaining the integrity of a facility may require replacement of engineered barrier layers.]

(H) Any person engaging in filling, grading, excavating, building, drilling, or mining on land where a hazardous waste facility or solid waste facility was operated and required to obtain authorization under this rule shall comply with the following:

(1) For sites identified in paragraph (D)(1) of this rule, no filling, grading, excavating, building, drilling, or mining activities shall occur until the director issues an authorization for that activity.

(2) For sites identified in paragraph (D)(2) of this rule, filling, grading, excavating, building, drilling, or mining may occur thirty-one days after submitting a request for authorization to the director pursuant to paragraph (F) of this rule, unless the applicant is notified otherwise.

(3) For sites where the sampling of material as identified in paragraph (D)(3) of this rule is proposed, filling, grading, excavating, building, drilling, or mining may occur eight days after submitting a request for authorization to the director pursuant to paragraph (G) of this rule, unless the applicant is notified otherwise.

(4) If solid or hazardous waste or soils are removed from a closed facility, representative sampling of waste
and potentially contaminated soil shall be performed. Copies of sample analysis results and the selection of the appropriate treatment or disposal method shall be submitted, along with a copy of a letter of acceptance from a treatment or disposal facility, to Ohio EPA prior to any removal of waste or contaminated soil from the property. Waste and contaminated soils which have been removed from the closed facility must be collected and disposed of in accordance with all applicable state and federal laws and regulations pertaining to environmental protection, including Chapter 3734. of the Revised Code.

(5) All filling, grading, excavating, building, drilling, or mining activities shall be performed in compliance with Chapters 3704., 3734., and 6111. of the Revised Code and applicable local, state, and federal laws and regulations pertaining to environmental protection, including but not limited to protection of ground water and control of air emissions, leachate, and surface water run-on and run-off.

(6) No excavation of waste shall occur unless the excavated waste is replaced within previously existing horizontal and vertical limits of waste placement or is treated or disposed of at a licensed, permitted treatment or disposal facility, in accordance with Chapter 3734. of the Revised Code and the regulations promulgated thereunder. Any wastes that are suspected or known to be hazardous and are removed from the horizontal and vertical limits of waste placement during filling, grading, excavating, building, drilling, or mining activities, shall be stored in accordance with Chapter 3734. of the Revised Code until such time as these wastes are properly characterized and treated or disposed. Any liquid wastes released during filling, grading, excavating, building, drilling, or mining activities shall be stored in accordance with Chapter 3734. of the Revised Code until such time as these wastes are properly characterized and treated or disposed.

(7) If excavation occurs outside the limits of waste at the site, the material used to backfill any excavated areas may not consist of solid or hazardous waste.

(8) Filling, grading, excavating, building, drilling, or mining activities shall be performed in a manner that prevents migration of leachate, explosive gas, or toxic gas from the facility.

(9) Upon completion of filling, grading, excavating, building, drilling, or mining activities at a closed facility, the condition of the facility cap shall be restored in accordance with the appropriate provisions of Chapter 3734. of the Revised Code and the rules promulgated thereunder, as were applicable at the time the facility originally submitted certification of closure, or the rules the facility was required to close under if certification was never submitted.

(10) For sites identified in paragraph (D)(1) or (D)(2) of this rule, the owner or operator shall provide a certification report within sixty days of completion of the filling, grading, excavating, building, drilling, or mining activities. This report shall contain the following:

(a) A verification to Ohio EPA that the following activities have been completed:

   (i) The owner or operator has filed with the board of health having jurisdiction and with Ohio EPA, a plat or revised existing plat for the unit(s) of the solid waste facility or hazardous waste facility and information describing the acreage, exact location, depth, volume, and nature of the waste deposited in the unit(s) of the solid waste facility or hazardous waste facility that was impacted by the filling, grading, excavating, building, drilling, or mining activities.

   (ii) If waste still remains on the property, the owner shall update any prior recorded notation on the deed to the property, in accordance with state law, to notify any potential purchaser of the property that the land has been used as a hazardous waste facility or solid waste facility and that its use is restricted. The notation shall describe the acreage impacted by the filling, grading, excavating, building, drilling, or mining activities; and the exact location, depth, volume, and
(b) A notarized statement that if a protective layer, engineered cap, or surface soil on the site was disturbed, to the best of the owners or operators knowledge, the protective layer, engineered cap, or surface soil has been restored to a condition more protective than or equivalent to the condition prior to the activities being performed on the site.

(I) Applications for authorization to engage in filling, grading, excavating, building, drilling, or mining on land where a hazardous waste facility or a solid waste facility was operated shall be signed. The signatures shall constitute personal affirmation that all statements or assertions of fact made in the application are true and complete and comply fully with applicable state requirements, and shall subject the signatory to liability under applicable state laws forbidding false or misleading statements, and shall be notarized. The signature shall be made as follows:

(1) In the case of a corporation, by a principal executive officer of at least the level of vice president, or his duly authorized representative if such representative is responsible for the overall operation of the site.

(2) In the case of a partnership, by a general partner.

(3) In the case of a sole proprietorship, by the owner.

(4) In the case of a municipal, state, federal, or other governmental site, by the principal executive officer, the ranking elected official, or other duly authorized employee.

(J) No person shall engage in filling, grading, excavating, building, drilling, or mining on land where a hazardous waste facility or a solid waste facility was operated unless such activity will not result in violation of applicable laws and regulations administered by the director, will not create a nuisance, and will not adversely affect the public safety or health or the environment.

(K) Ohio EPA may ask for additional information or impose special terms and conditions upon any person engaging in filling, grading, excavating, building, drilling, or mining on land where a hazardous waste facility or a solid waste facility was operated as is appropriate or necessary to ensure compliance with all applicable laws and regulations administered by the director, and to ensure protection of public health and safety and the environment.

(L) Any request for authorization from the director, notwithstanding its deficiency, may be considered and acted upon if sufficient information is provided in the request for the director to determine whether the criteria set forth in paragraphs (E), (F), and (G) of this rule are satisfied.

(M) If the person to whom the authorization was granted has not begun the activities described therein, unless otherwise specified, an authorization to engage in filling, grading, excavating, building, drilling, or mining on land where a hazardous waste facility or a solid waste facility was operated shall terminate upon the occurrence of one of the following:

(1) For facilities identified in paragraphs (D)(1) and (D)(2) of this rule, within three years of the issuance date of the authorization.

(2) For facilities identified in paragraph (D)(3) of this rule, within eighteen months of the submission date for the authorization.

(N) The director may deny authorization to any person from engaging in filling, grading, excavating, building, drilling, or mining on land where a hazardous waste facility or a solid waste facility was operated if he concludes at any time that any applicable laws have been or are likely to be violated or that continued
implementation of the activities may cause a risk to human health or safety or the environment.

(O) The director may revoke an authorization to engage in filling, grading, excavating, building, drilling, or mining on land where a hazardous waste facility or a solid waste facility was operated if he concludes at any time that any applicable laws have been or are likely to be violated or that continued implementation of the approved plans may cause a threat to human health or safety or the environment.

(P) Authorization to engage in filling, grading, excavating, building, drilling, or mining on land where a hazardous waste facility or solid waste facility was operated shall be granted, extended, revoked, or denied in accordance with the provisions of Chapters 119. and 3745. of the Revised Code and Chapter 3745-47 of the Administrative Code.

(Q) Authorization to engage in filling, grading, excavating, building, drilling, or mining on land where a hazardous waste facility or solid waste facility was operated does not exempt a facility from closure or other requirements of Chapter 3734. of the Revised Code.
Five Year Review (FYR) Dates: 04/23/2014 and 04/23/2019

CERTIFIED ELECTRONICALLY

Certification

04/23/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02
Rule Amplifies: 3734.01, 3734.02
3745-27-14 Post-closure care of sanitary landfill facilities.

(A) Following completion of final closure activities in accordance with rule 3745-27-11 of the Administrative Code or following closure activities in accordance with paragraph (C) of rule 3745-27-10 of the Administrative Code, as effective July 29, 1976, and completed on or after the date three years prior March 1, 1990, the owner, operator, or permittee shall conduct post-closure care activities at the sanitary landfill facility for a minimum of thirty years. The post-closure care period begins when the certification(s) required by paragraph (J) of rule 3745-27-11 of the Administrative Code have been submitted for all unit(s) of a sanitary landfill facility. Post-closure care activities for a sanitary landfill facility shall include, but are not limited to the following:

1. Continuing operation and maintenance of the leachate management system, the surface water management system, any explosive gas extraction and/or control system, any explosive gas monitoring system, and the ground water monitoring system.

2. Maintaining the integrity and effectiveness of the cap system, including making repairs to the cap system as necessary to correct the effects of settling, dead vegetation, subsidence, ponding, erosion, leachate outbreaks, or other events, and preventing run-on and runoff from eroding or otherwise damaging the cap system.

3. Repairing any leachate outbreaks detected at the sanitary landfill facility by doing the following:
   (a) Contain and properly manage the leachate at the sanitary landfill facility.
   (b) If necessary, collect, treat, and dispose of the leachate, including, if necessary, following the contingency plan for leachate storage and disposal prepared pursuant to rule 3745-27-19 of the Administrative Code.
   (c) Take action to minimize, control, or eliminate the conditions which contribute to the production of leachate.

4. Quarterly inspection of a sanitary landfill facility during each year of the post-closure care period and submittal of a written summary to the appropriate Ohio EPA district office not later than fifteen days after the inspection date detailing the results of the inspection and a schedule of any actions to be taken to maintain compliance with paragraphs (A)(1) and (A)(2) of this rule.

5. Fulfilling all monitoring and reporting requirements in accordance with rule 3745-27-10 of the Administrative Code for ground water, with rule 3745-27-12 of the Administrative Code for explosive gas, with Chapter 3745-76 of the Administrative Code for landfill emissions, and with any monitoring required by any orders or authorizing documents. The frequency of ground water detection monitoring sampling and analysis may be changed in accordance with paragraph (D)(6) of rule 3745-27-10 of the Administrative Code.

6. Submitting a report to the appropriate Ohio EPA district office and approved health department and placing a copy into the operating record not later than the first day of April of each year, which contains the following:
   (a) If a leachate collection system exists, a summary of the quantity of leachate collected for treatment and disposal on a monthly basis during the year, and the location of leachate treatment and/or disposal.
   (b) If a leachate collection system exists, results of analytical testing of an annual grab sample of leachate
for the parameters specified in appendix I of rule 3745-27-10 of the Administrative Code. The grab sample shall be obtained from the leachate management system.

(c) The most recent updated post-closure cost estimate adjusted for inflation and for any change in the post-closure cost estimate required by rule 3745-27-16 of the Administrative Code.

(7) Records and reports generated by paragraphs (A)(4) to (A)(6) of this rule are to be kept for the duration of the post-closure care period at a location where the records and reports are available for inspection by Ohio EPA or the approved health department during normal working hours. If the owner or operator has established an operating record, the records and reports shall be kept in the operating record in accordance with rule 3745-27-09 of the Administrative Code.

(B) Upon completion of the post-closure care period, the owner, operator, or permittee shall submit to the director written certification that the sanitary landfill facility has completed post-closure activities in accordance with this rule and the "final closure/post-closure plan." Based on such factors as the inspection or monitoring results or reports required by paragraphs (A)(4) and (A)(5) of this rule and whether human health or safety or the environment is or will be protected, the director may either discontinue or extend the post-closure care period. The certification shall be accompanied by documentation which demonstrates that all post-closure care activities have been completed. The certification shall be signed and sealed by a professional engineer registered in Ohio. The documentation shall include the following:

(1) A summary of changes to leachate quality and quantity.

(2) Rate of leachate generation and quantity of leachate in the landfill, with an explanation of how these figures were derived.

(3) A summary of any on-going ground water assessment or corrective measures.

(4) A summary of explosive gas migration and generation by the landfill.

(5) An assessment of the integrity and stability of the cap system if post-closure care activities cease.

[Comment: If the landfill shows an improvement to leachate quality, the quantity of leachate generated will not cause an outbreak or slope failure, that ground water monitoring is no longer needed, that it is not generating explosive gas which has the potential to migrate underground, and that the cap system will maintain its integrity and stability if post-closure care activities cease, the director may release the owner, operator, or permittee from continuing post-closure care activities.]

(C) Upon the written request of the owner or operator of a noncontiguous unit(s) of a sanitary landfill facility, which has completed a minimum of thirty years of ground water detection monitoring in accordance with rule 3745-27-10 of the Administrative Code from the date the owner or operator submitted the written certification report pursuant to paragraph (J) of rule 3745-27-11 of the Administrative Code, the director may authorize discontinuance of ground water detection monitoring required by paragraph (A)(4) of this rule at the noncontiguous unit(s) prior to the end of the post-closure care period for the sanitary landfill facility, provided the following:

(1) The owner or operator is not implementing or required to implement a ground water quality assessment program or a corrective measures program pursuant to rule 3745-27-10 of the Administrative Code.

(2) The noncontiguous unit(s) are monitored separately for the purpose of ground water detection monitoring.

(D) The health commissioner and the director, or their authorized representatives, upon proper identification, may enter any closed sanitary landfill facility or closed noncontiguous unit(s) at any time during the post-closure
care period for the purpose of determining compliance with this rule.
Five Year Review (FYR) Dates: 04/23/2014 and 04/23/2019

CERTIFIED ELECTRONICALLY

Certification

04/23/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.12
Rule Amplifies: 3734.02, 3734.12
(A) Applicability.

(1) For sanitary landfill facilities, solid waste transfer facilities, solid waste incinerators, Class I or Class II composting facilities, scrap tire storage facilities, scrap tire recovery facilities, and scrap tire transporters, financial assurance information shall be submitted as part of a permit to install or registration certificate application for a new solid waste facility, for a modification that increases the closure cost estimate of an existing facility, or as part of a permit to install application submitted in response to division (A)(3) or (A)(4) of section 3734.05 of the Revised Code.

(2) For sanitary landfill facilities subject to paragraph (A) of rule 3745-27-11, 3745-29-11, or 3745-30-09 of the Administrative Code, as applicable, the owner or operator shall submit to Ohio EPA a closure financial assurance instrument in accordance with this rule.

(B) Implementation.

(1) The owner or operator of a solid waste facility shall execute and fund the closure financial assurance instrument submitted as a part of a permit to install or registration certification application prior to receipt of solid waste at a new solid waste facility, prior to acceptance of waste pursuant to a modification that increases closure cost estimates of an existing solid waste facility, or prior to issuance of a permit to install for which an application was submitted in response to division (A)(3) or (A)(4) of section 3734.05 of the Revised Code.

(2) The owner or operator of a sanitary landfill facility subject to paragraph (A) of rule 3745-27-11, 3745-29-11, or 3745-30-09 of the Administrative Code, as applicable, shall execute and fund the closure financial assurance instrument within sixty days of approval of the closure/post-closure care plan.

(3) Scrap tire transporters shall execute and fund the closure financial assurance instrument submitted as part of a registration certificate application prior to issuance of a registration certificate.

(C) Closure financial assurance instrument.

(1) Solid waste facilities.

(a) The closure financial assurance instrument for a sanitary landfill facility, solid waste transfer facility, solid waste incinerator, or Class I composting facility shall contain an itemized written estimate, in current dollars, of the cost of closure. The closure cost estimate shall be based on the closure costs at the point in the operating life of
the facility when the extent and manner of its operation would make the closure the most expensive, and shall be based on a third party conducting the closure activities. Ohio EPA may review, approve, or require revisions to the closure cost estimate or to the closure financial assurance instrument.

(b) The closure financial assurance instrument for a scrap tire storage or recovery facility, shall contain an itemized written estimate, in current dollars, of the cost for a third party to complete closure of the facility. Ohio EPA may review, approve, or require revisions to the closure cost estimate or to the closure financial assurance instrument. The cost estimate shall be based on one of the following:

(i) The cost of closure performed in accordance with rule 3745-27-66 of the Administrative Code.

(ii) The fixed fee closure cost estimate calculated in accordance with paragraph (C)(3) of this rule.

(c) The closure financial assurance instrument for a Class II composting facility shall contain a closure cost estimate in the amount of $2.50 per cubic yard, based on the maximum storage capacity as specified in the authorizing document, unless a higher cost estimate is required by the authorizing document, for each of the following items at the facility: compost waste/material; curing compost; cured compost; and bulking agents. Ohio EPA may review, approve, or require revisions to the closure cost estimate or to the closure financial assurance instrument.

(d) The closure financial assurance instrument for a mobile scrap tire recovery facility or for portable equipment operated by a licensed class I or II scrap tire recovery facility at a site other than the facility's licensed site shall contain a closure cost estimate that is $50,000.00.

(2) For a scrap tire transporter, the financial assurance instrument shall contain a closure cost estimate that is $20,000.

(3) For the purposes of this rule, the fixed fee closure cost estimate for a solid waste facility that is a scrap tire storage or scrap tire recovery facility shall be calculated as shown in rule 3745-27-61 of the Administrative Code. The closure cost estimate shall be based on the closure costs at the point in the operating life of the facility when the extent and manner of its operation would make the closure the most expensive, and shall be based on a third party conducting the closure activities. Ohio EPA may review, approve, or require revisions to the closure cost estimate or to the closure financial assurance instrument.

(D) Review of closure financial assurance instruments. The owner or operator of a solid waste facility shall submit to the director, by certified mail or any other form of mail accompanied by a receipt, the most recently adjusted closure cost estimate prepared in accordance with
this paragraph. The owner or operator of a solid waste facility or scrap tire transporter that has a closure cost estimate greater than $20,000.00 shall:

(1) Annually review and analyze the closure cost estimate and shall make any appropriate revisions to these estimates and to the financial assurance instrument whenever a change in the closure activities increases the cost of closure. Any revised closure cost estimate must be adjusted for inflation as specified in paragraph (D)(2) of this rule.

(2) Annually adjust the closure cost estimate for inflation. The adjustment shall be made as specified in this paragraph, using an inflation factor derived from the annual implicit price deflator for gross domestic product as published by the U.S. department of commerce in its February issue of "Survey of Current Business." The inflation factor is the result of dividing the latest published annual deflator by the deflator for the previous year.

   (a) The first adjustment is made by multiplying the closure cost estimate by the inflation factor. The result is the adjusted closure cost estimate.

   (b) Subsequent adjustments are made by multiplying the most recently adjusted closure cost estimate by the most recent inflation factor.

(E) The owner or operator of a solid waste facility or scrap tire transporter shall select a closure financial assurance mechanism from the list of mechanisms specified in paragraphs (F), (G), (H), (I), (J), (K), and (L) of this rule, except as otherwise specified by this rule, provided the owner or operator satisfies the criteria for use of that mechanism.

(F) Closure trust fund.

(1) The owner or operator may satisfy the requirements of this rule by establishing a closure trust fund which conforms to the requirements of this paragraph and by sending an originally signed duplicate of the trust agreement to the director within the time period outlined in paragraph (B) of this rule. The trustee shall be an entity that has the authority to act as a trustee and which trust operations are regulated and examined by a federal or state agency.

(2) The wording of the trust agreement shall be identical to the wording specified in paragraph (A)(1) of rule 3745-27-17 of the Administrative Code on forms prescribed by the director, and the trust agreement shall be accompanied by a formal certification of acknowledgment. Schedule A of the trust agreement shall be updated not later than sixty days after a change in the amount of the current closure cost estimate provided for in the agreement.

(3) A closure trust fund shall be established to secure an amount at least equal to the current closure cost estimate or the scrap tire transporter cost estimate, except as provided in paragraph (M) of this rule. Payments to the trust fund shall be made annually, except as permitted by paragraph (F)(4) of this rule, by the owner or operator over the term of the
applicable authorizing document, including permit to install, or plan approval and shall be based on the authorized maximum daily waste receipt and the approved volume of the solid waste facility; this period is hereafter referred to as the pay-in period. The first payment into the closure trust fund shall be made in accordance with paragraph (B) of this rule. Subsequent payments to the closure trust fund shall be made as follows:

(a) A receipt from the trustee for each payment shall be submitted by the owner or operator to the director. The first payment shall be at least equal to the current closure cost estimate divided by the number of years in the pay-in period, except as provided in paragraph (M) of this rule. Subsequent payments shall be made not later than thirty days after each anniversary date of the first payment. The amount of each subsequent payment shall be determined by performing the following calculation:

Next payment = (CE - CV) / Y

Where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(b) If the owner or operator establishes a trust fund, as specified in this rule, and the value of the trust fund is less than any revised current closure cost estimate made during the pay-in period, the amount of the current closure cost estimate still to be paid into the trust fund shall be paid in over the pay-in period, as defined in paragraph (F)(3) of this rule. Payments shall continue to be made not later than thirty days after each anniversary date of the first payment pursuant to paragraph (F)(3)(a) of this rule. The amount of each payment shall be determined by performing the following calculation:

Next payment = (CE - CV) / Y

Where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(c) The owner or operator may make the first installment required under paragraph (F)(3)(a) or (F)(3)(b) of this rule by providing alternate financial insurance using one of the mechanisms specified in paragraph (G), (I), or (J) of this rule in an amount at least equal to the first installment. On the anniversary date of the first installment, the owner or operator shall pay into the trust an amount at least equal to the first and second installments required under paragraph (F)(3)(a) or (F)(3)(b) of this rule or select an alternate financial assurance mechanism.

(4) The owner or operator may accelerate payments into the trust fund, or the owner or operator may deposit the full amount of the current closure cost estimate at the time the fund is established. However, the owner or operator shall maintain the value of the fund at no less than the value the fund would have if annual payments were made as specified in paragraph (F)(3) of this rule.
(5) If the owner or operator establishes a closure trust fund after having begun funding closure under any mechanism specified in this rule, the closure trust fund shall be established by depositing the total value of all prior mechanisms into the newly established trust fund. The subsequent annual payments shall be made as specified in paragraph (F)(3) of this rule.

(6) After the pay-in period of a trust fund has ended and the current closure cost estimate changes, the owner or operator shall compare the revised estimate to the trustee's most recent annual valuation of the trust fund. If the value of the trust fund is less than the amount of the revised estimate, the owner or operator shall, not later than sixty days after the change in the cost estimate, either deposit a sufficient amount into the trust fund so that its value after payment at least equals the amount of the current closure cost estimate, or obtain alternate financial assurance as specified in this rule to compensate for the difference.

(7) The director shall instruct the trustee to release to the owner or operator such funds as the director specifies in writing, after receiving one of the following requests from the owner or operator for a release of funds:

(a) The owner or operator may submit a written request to the director for the release of the amount in excess of the current closure cost estimate, if the value of the trust fund is greater than the total amount of the current closure cost estimate.

(b) The owner or operator may submit a written request to the director for release of the amount in the trust fund that exceeds the amount required as a result of such substitution, if the owner or operator substitutes any of the alternate financial assurance mechanisms specified in this rule for all or part of the trust fund.

(8) Reimbursement for closure at solid waste facilities.

After beginning closure, the owner or operator, or any other person authorized by the owner, operator, or director to perform closure, may request reimbursement for closure expenditures by submitting itemized bills to the director. After receiving itemized bills for closure activities, the director shall determine whether the closure expenditures are in accordance with the closure/post-closure plan, permit or registration requirements, or applicable rules, or are otherwise justified, and if so, will instruct the trustee to make reimbursement in such amounts as the director specifies in writing. If the director determines that the cost of closure will be greater than the value of the trust fund, the director may withhold reimbursement of such amounts as the director deems prudent until the director determines, in accordance with paragraph (O) of this rule, that the owner or operator is no longer required to maintain financial assurance for closure of the facility.

(9) If one of the following occurs, an owner or operator may request reimbursement from the scrap tire transporter trust fund:
(a) When the requirements of paragraph (O) of this rule have been met.

(b) To remove and properly dispose of any scrap tires which have been open dumped by the scrap tire transporter.

(c) To comply with the requirements of rule 3745-27-79 of the Administrative Code.

(d) To cover the owner's or operator's liability for sudden, accidental occurrences that result in damage or injury to persons or property or to the environment.

(e) For expenditures specified in this rule that may be reimbursed by submitting itemized bills to the director. After receiving itemized bills, the director shall determine whether the expenditures are authorized by this rule and in accordance with applicable requirements of Chapter 3745-27 of the Administrative Code, or are otherwise justified, and if so, will instruct the trustee to make reimbursement in such amounts as the director specifies in writing. If the director has reason to believe that the value of the trust fund will be insufficient to cover the cost of the required activities, the director may withhold reimbursement of such amounts as the director deems prudent until the director determines, in accordance with paragraph (O) of this rule, that the owner or operator is no longer required to maintain scrap tire transporter financial assurance.

(10) The director will agree to termination of trust when one of the following occurs:

(a) The owner or operator substitutes alternate financial assurance for closure as specified in paragraph (F)(6) of this rule.

(b) The director notifies the owner or operator, in accordance with paragraph (O) of this rule that the owner or operator is no longer required by this rule to maintain financial assurance for closure of the facility or for a scrap tire transporter.

(G) Surety bond guaranteeing payment into a closure trust fund.

(1) The owner or operator may satisfy the requirements of this rule by obtaining a surety bond that conforms to the requirements of this paragraph and by delivering the originally signed bond to the director by certified mail or any other form of mail accompanied by a receipt within the time period outlined in paragraphs (A) and (B) of this rule and by submitting a copy of the bond into the operating record in accordance with rule 3745-27-09 of the Administrative Code, if applicable. The surety company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on federal bonds in "Circular 570" of the U.S. department of the treasury.

[Comment: "Circular 570" is published in the "Federal Register" annually on the first day of July; interim changes in the circular are also published in the "Federal Register."]
(2) The wording of the surety bond shall be identical to the wording specified in paragraph (B) of rule 3745-27-17 of the Administrative Code on forms prescribed by the director.

(3) The owner or operator who uses a surety bond to satisfy the requirements of this rule shall also establish a standby trust fund not later than when the bond is obtained. Under the terms of the surety bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the director. This standby trust fund shall meet the requirements specified in paragraph (F) of this rule, except that:

(a) An originally signed duplicate of the trust agreement shall be delivered to the director with the surety bond and placed in the operating record in accordance with rule 3745-27-09 of the Administrative Code, if applicable.

(b) Until the standby trust fund is funded, pursuant to the requirements of this rule, the following are not required:

   (i) Payments into the trust fund as specified in paragraph (F) of this rule.

   (ii) Revisions of Schedule A of the trust agreement to show current closure cost estimate or scrap tire transporter closure cost estimate.

   (iii) Annual valuations as required by the trust agreement.

   (iv) Notices of nonpayment as required by the trust agreement.

(4) The bond shall guarantee that the surety will become liable on the bond obligation unless the owner or operator does one of the following, as applicable:

(a) Funds the standby trust fund in an amount equal to the penal sum of the bond before the beginning of closure of the facility.

(b) For a solid waste facility, funds the standby trust fund in an amount equal to the penal sum not later than fifteen days after a mandatory closure in accordance with the closure/post-closure care plan, permit or registration requirements, and applicable rules.

(c) For a scrap tire transporter, funds the standby trust fund in an amount equal to the penal sum of the bond in accordance with the following, as applicable:

   (i) Before the registration certificate issued to the scrap tire transporter has expired and a renewal registration has not been applied for in the manner prescribed in Chapter 3745-27 of the Administrative Code.

   (ii) Within fifteen days of the denial of a renewal registration certificate applied for by the owner or operator.
(iii) Within fifteen days of the suspension or revocation of the registration certificate issued to the owner or operator.

(d) Provides alternate financial assurance as specified in this rule, and obtains the director's written approval of the alternate financial assurance provided, not later than ninety days after both the owner or operator and the director receive notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety shall become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond shall be in an amount at least equal to the current closure cost estimate or the scrap tire transporter closure cost estimate except as provided in paragraph (M) of this rule.

(7) Whenever the current closure cost estimate increases to an amount greater than the penal sum of the bond, the owner or operator shall, not later than sixty days after the increase in the estimate, either cause the penal sum of the bond to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the director, and into the operating record in accordance with rule 3745-27-09 of the Administrative Code, if applicable, or obtain alternate financial assurance, as specified in this rule, to compensate for the increase. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the director. Notice of an increase or a proposed decrease in the penal sum shall be sent to the director not later than sixty days after the change.

(8) Under the terms of the bond, the bond shall remain in force unless the surety sends written notice of cancellation by certified mail or any other form of mail accompanied by a receipt to the owner or operator and to the director. Cancellation cannot occur, however, during the one hundred twenty day period beginning on the first day that both the owner or operator and the director have received the notice of cancellation, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the director has given prior written consent. The director will provide such written consent to the surety bond company when one of the following occurs:

(a) The owner or operator substitutes alternative financial assurance for closure of a facility or for a scrap tire transporter as specified in this rule.

(b) The director notifies the owner or operator, in accordance with paragraph (O) of this rule that the owner or operator is no longer required to maintain financial assurance for closure of a facility or for a scrap tire transporter.
(H) Surety bond guaranteeing performance of closure.

(1) The owner or operator may satisfy the requirements of this rule by obtaining a surety bond which conforms to the requirements of this paragraph and by delivering the originally signed bond to the director within the time period outlined in paragraphs (A) and (B) of this rule and by submitting a copy of the surety bond into the operating record of the facility in accordance with rule 3745-27-09 of the Administrative Code, if applicable. The surety company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on federal bonds in "Circular 570" of the U.S. department of the treasury.

[Comment: "Circular 570" is published in the "Federal Register" annually on the first day of July; interim changes in the circular are also published in the "Federal Register."]

(2) The wording of the surety bond shall be identical to the wording specified in paragraph (C) of rule 3745-27-17 of the Administrative Code on forms prescribed by the director.

(3) The owner or operator who uses a surety bond to satisfy the requirements of this rule shall also establish a standby trust fund. Under the terms of the surety bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the director. This standby trust fund shall meet the requirements specified in paragraph (F) of this rule except that:

(a) An originally signed duplicate of the trust agreement shall be delivered to the director with the surety bond and placed in the operating record in accordance with rule 3745-27-09 of the Administrative Code, if applicable.

(b) Unless the standby trust fund is funded pursuant to the requirements of this rule, the following are not required:

(i) Payments into the trust fund as specified in paragraph (F) of this rule.

(ii) Revisions of Schedule A of the trust agreement to show current closure cost estimate or the scrap tire transporter cost estimate.

(iii) Annual valuations as required by the trust agreement.

(iv) Notices of nonpayment as required by the trust agreement.

(4) The bond shall guarantee that the surety will become liable on the bond obligation unless the owner or operator does one of the following, as applicable:

(a) For solid waste facilities, performs closure in accordance with the closure/post-closure plan, permit or registration requirements, and applicable rules.

(b) For scrap tire transporters, does the following, as applicable:
(i) Removes and properly disposes of any scrap tires in the scrap tire transporter's possession or which have been open dumped by the scrap tire transporter.

(ii) Complies with the requirements of rule 3745-27-79 of the Administrative Code.

(iii) Provides coverage for the owner's or operator's liability for sudden, accidental occurrences that result in damage or injury to persons or property or to the environment.

(c) Provides alternate financial assurance as specified in this rule, and obtains the director's written approval of the alternate financial assurance provided, not later than ninety days after both the owner or operator and the director receive notice of cancellation of the bond from the surety.

(5)

(a) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a determination by the director that the owner or operator of the solid waste facility has failed to perform closure activities in accordance with the closure/post-closure care plan, permit or registration requirements, and applicable rules, the surety shall perform closure in accordance with the closure/post-closure care plan, permit or registration requirements, and applicable rules, or will deposit the amount of the penal sum into the standby trust fund.

(b) In the case of a scrap tire transporter, following a determination by the director that the owner or operator has failed to perform the activities specified in paragraph (H)(4)(b) of this rule, the surety shall perform the activities specified in paragraph (H)(4)(b) of this rule, or will deposit the amount of the penal sum into the standby trust fund.

(6) The penal sum of the bond shall be in an amount at least equal to the current closure cost estimate or the scrap tire transporter cost estimate.

(7) Whenever the current closure cost estimate increases to an amount greater than the penal sum of the bond, the owner or operator shall, not later than sixty days after the increase in the estimate, either cause the penal sum of the bond to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the director, and into the operating record in accordance with rule 3745-27-09 of the Administrative Code, if applicable, or obtain alternate financial assurance, as specified in this rule, to compensate for the increase. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the director. Notice of an increase or a proposed decrease in the penal sum shall be sent to the director by certified mail or any other form of mail accompanied by a receipt not later than sixty days after the change.
(8) Under the terms of the bond, the bond shall remain in force unless the surety sends written notice of cancellation by certified mail or any other form of mail accompanied by a receipt to the owner or operator and to the director. Cancellation cannot occur, however, during the one hundred twenty day period beginning on the first day that both the owner or operator and the director have received the notice of cancellation as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the director has given prior written consent. The director will provide such written consent to the surety bond company when one of the following occurs:

(a) The owner or operator substitutes alternate financial assurance for closure of a facility or for a scrap tire transporter as specified in this rule.

(b) The director notifies the owner or operator, in accordance with paragraph (O) of this rule that the owner or operator is no longer required by this rule to maintain financial assurance for closure of a facility or for a scrap tire transporter.

(10) The surety shall not be liable for deficiencies in the completion of closure of a facility or scrap tire transporter by the owner or operator after the owner or operator has been notified by the director, in accordance with this rule, that the owner or operator is no longer required to maintain financial assurance for closure of a facility or for a scrap tire transporter.

(I) Closure letter of credit.

(1) The owner or operator may satisfy the requirements of this rule by obtaining an irrevocable standby letter of credit ("letter of credit") which conforms to the requirements of this paragraph and by having the originally signed letter of credit delivered to the director by certified mail or any other form of mail accompanied by a receipt within the time period outlined in paragraphs (A) and (B) of this rule by submitting a copy of the letter of credit into the operating record of the facility in accordance with rule 3745-27-09 of the Administrative Code, if applicable. The issuing institution shall be an entity which has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a federal or state agency.

(2) The wording of the letter of credit shall be identical to the wording specified in paragraph (D) of rule 3745-27-17 of the Administrative Code on forms prescribed by the director.

(3) An owner or operator who uses a letter of credit to satisfy the requirements of this rule shall also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the director shall be deposited promptly and directly by the issuing institution into the standby trust fund in accordance with instructions.
from the director. The standby trust fund shall meet the requirements of the trust fund specified in paragraph (F) of this rule, except that:

(a) An originally signed duplicate of the trust agreement shall be delivered to the director with the letter of credit, and a copy of the letter placed in the operating record in accordance with rule 3745-27-09 of the Administrative Code, if applicable.

(b) Unless the standby trust fund is funded pursuant to the requirements of this rule, the following are not required:

(i) Payments into the trust fund as specified in paragraph (F) of this rule.

(ii) Updating of Schedule A of the trust agreement to show current closure cost estimate or the scrap tire transporter closure cost estimate.

(iii) Annual valuations as required by the trust agreement.

(iv) Notices of nonpayment as required by the trust agreement.

(4) The letter of credit shall be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the names and addresses of the solid waste facility and the owner and the operator and the amount of funds assured for closure of the facility by the letter of credit or in the case of scrap tire transporters, the name and address of the owner and the operator.

(5) The letter of credit shall be irrevocable and issued for a period of at least one year. The letter of credit shall provide that the expiration date will be automatically extended for a period of at least one year unless, at least one hundred twenty days prior to the current expiration date, the issuing institution notifies both the owner and operator and the director by certified mail or any other form of mail accompanied by a receipt of a decision not to extend the expiration date. Under the terms of the letter of credit, the one hundred twenty day period shall begin on the day when both the owner or operator and the director have received the notice, as evidenced by the return receipts.

(6) The letter of credit shall be issued in an amount at least equal to the current closure cost estimate, or the scrap tire transporter closure cost estimate except as provided in paragraph (M) of this rule.

(7) Whenever the current closure cost estimate increases to an amount greater than the amount of the credit, the owner or operator shall, not later than sixty days after the increase, either cause the amount of the credit to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the director, and into the operating record in accordance with rule 3745-27-09 of the Administrative Code, if applicable, or obtain alternate financial assurance, as specified
in this rule, to compensate for the increase. Whenever the current closure cost estimate decreases, the letter of credit may be reduced to the amount of the current closure cost estimate following written approval by the director. Notice of an increase or a proposed decrease in the amount of the letter of credit shall be sent to the director by certified mail or any other form of mail accompanied by a receipt not later than sixty days after the change.

(8) Under the terms of the letter of credit, the director may draw on the letter of credit following a determination that the owner or operator has failed to:

(a) For solid waste facilities, perform closure in accordance with the closure/post-closure care plan, permit or registration requirements, and applicable rules.

(b) For scrap tire transporters, do the following, as applicable:

(i) Remove and properly dispose of any scrap tires which have been open dumped by the scrap tire transporter.

(ii) Comply with the requirements of rule 3745-27-79 of the Administrative Code.

(iii) To cover the owner's or operator's liability for sudden, accidental occurrences that result in damage or injury to persons or property or to the environment.

(c) Provide alternate financial assurance as specified in this rule and obtain written approval of such alternate financial assurance from the director not later than ninety days after the owner and operator and the director have received notice from the issuing institution that it will not extend the letter of credit beyond the current expiration date, the director shall draw on the letter of credit. The director may delay the drawing if the issuing institution grants an extension of the term of the credit. During the thirty days of any such extension the director shall draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this rule and has failed to obtain written approval of such alternate financial assurance from the director.

(9) The director shall return the original letter of credit to the issuing institution for termination when either of the following occur:

(a) The owner or operator substitutes alternate financial assurance for closure of a facility or a scrap tire transporter as specified in this rule.

(b) The director notifies the owner or operator, in accordance with paragraph (O) of this rule that the owner or operator is no longer required to maintain financial assurance for closure of a facility or a scrap tire transporter.

(J) Closure insurance.
(1) The owner or operator may satisfy the requirements of this rule by obtaining closure insurance which conforms to the requirements of this paragraph and by submitting an originally signed certificate of such insurance to the director by certified mail or any other form of mail accompanied by a receipt within the time period outlined in paragraphs (A) and (B) of this rule, and if the facility is a sanitary landfill facility, by submitting a copy of the certificate of insurance into the operating record of the facility in accordance with rule 3745-27-09 of the Administrative Code. At a minimum, the insurer shall be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

(2) The wording of the certificate of insurance shall be identical to the wording specified in paragraph (E) of rule 3745-27-17 of the Administrative Code on forms prescribed by the director.

(3) The closure insurance policy shall be issued for a face amount at least equal to the current closure cost estimate or the scrap tire transporter cost estimate, except as provided in paragraph (M) of this rule. Face amount means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) The closure insurance policy shall guarantee that funds will be available to close the facility whenever closure is mandated. The policy shall also guarantee that once closure begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the director, to such party or parties as the director specifies.

(b) The scrap tire transporter insurance policy shall guarantee that funds will be available to perform the authorized closure activities whenever such activities are mandated. The policy shall also guarantee that once such activities begin, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the director, to such party or parties as the director specifies.

(5) Reimbursement for closure.

The owner or operator, or any other person authorized by the owner, operator, or director to perform closure, may request reimbursement for closure expenditures by submitting itemized bills to the director. After receiving itemized bills for closure activities, the director shall determine whether the closure expenditures are in accordance with the closure/post-closure care plan, permit or registration requirements, and applicable rules, or are otherwise justified, and if so, shall instruct the insurer to make reimbursement in such amounts as the director specifies in writing. If the director has reason to believe that the cost of closure will be greater than the face
amount of the policy, the director may withhold reimbursement of such amounts as the
director deems prudent until the director determines, in accordance with paragraph (O)
of this rule that the owner or operator is no longer required to maintain financial
assurance for closure of the facility or scrap tire transporter.

(6) The owner or operator shall maintain the policy in full force and effect until the director
consents to termination of the policy by the owner or operator as specified in paragraph
(J)(8) of this rule. Failure to pay the premium, without substitution of alternate financial
assurance as specified in this rule, will constitute a violation of these rules, warranting
such remedy as the director deems necessary. Such violation shall be deemed to begin
upon receipt by the director of a notice of future cancellation, termination, or failure to
renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy shall contain a provision allowing assignment of the policy to a successor
owner or operator. Such assignment may be conditional upon consent of the insurer,
provided such consent is not unreasonably refused.

(8) The policy shall provide that the insurer may not cancel, terminate, or fail to renew the
policy except for failure to pay the premium. The automatic renewal of the policy shall,
at a minimum, provide the insured with the option of renewal at the face amount of the
expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel,
terminate, or fail to renew the policy by sending notice by certified mail or any other
form of mail accompanied by a receipt to the owner or operator and to the director.
Cancellation, termination, or failure to renew may not occur, and the policy will remain
in full force and effect unless on or before the date of expiration:

(a) For solid waste facilities, any activities required by the closure/post-closure care
plan, permit or registration requirements, and applicable rules have occurred.

(b) For a scrap tire transporter, following a determination that the owner or operator has
failed to perform the closure activities specified in the registration requirements and
applicable rules.

(c) Closure of the facility is ordered by the director or a court of competent jurisdiction,
or characterization and remediation in accordance with rule 3745-27-79 of the
Administrative Code is ordered by the director or a court of competent jurisdiction.

(d) The owner or operator is named as debtor in a voluntary or involuntary proceeding
under title 11 (bankruptcy), U.S. Code.

(e) The premium due is paid.

(9) Whenever the current closure cost estimate increases to an amount greater than the face
amount of the policy, the owner or operator shall, not later than sixty days after the
increase, either cause the face amount to be increased to an amount at least equal to the
current closure cost estimate and submit evidence of such increase to the director, and
into the operating record in accordance with rule 3745-27-09 of the Administrative Code, if applicable, or obtain alternate financial assurance as specified in this rule to compensate for the increase. Whenever the current closure cost estimate decreases, the face amount may be reduced to the amount of the current closure cost estimate following written approval by the director.

(10) The director will give written consent to the owner or operator that owner or operator may terminate the insurance policy when either of the following occurs:

(a) The owner or operator substitutes alternate financial assurance for closure of a facility or a scrap tire transporter as specified in this rule.

(b) The director notifies the owner or operator, in accordance with paragraph (O) of this rule that the owner or operator is no longer required to maintain financial assurance for closure of a facility or a scrap tire transporter.

(K) Financial test and corporate guarantee for closure of a solid waste facility or a scrap tire transporter.

(1) The owner or operator may satisfy the requirements of this rule by demonstrating that the owner or operator passes a financial test as specified in this paragraph. To pass this test the owner or operator shall demonstrate that less than fifty per cent of the parent corporation's gross revenues are derived from solid waste disposal, solid waste transfer facility operations, or scrap tire transporter, or if there is no parent corporation, the owner or operator shall demonstrate that less than fifty per cent of its gross revenues are derived from solid waste facility, or solid waste transfer facility, or scrap tire transporter operations and either:

(a) The owner or operator shall have the following:

(i) Satisfaction of at least two of the following ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization minus $10 million to total liabilities greater than 0.1; a ratio of current assets to current liabilities greater than 1.5.

(ii) Net working capital and tangible net worth each at least six times the sum of the current closure and current post-closure care cost estimates, scrap tire transporter closure cost estimates, any corrective measures cost estimates, and any other obligations assured by a financial test.

(iii) Tangible net worth of at least ten million dollars.

(iv) Assets in the United States amounting to at least ninety per cent of total assets or at least six times the sum of the current and current post-closure care cost estimates, scrap tire transporter closure cost estimates, any current corrective measures cost estimates, and any other assured by a financial test.
(b) The owner or operator shall have:

(i) Issued a corporate bond for which the owner or operator, as the issuing entity, has not received a current rating of less than BBB as issued by "Standard and Poor's" or Baa as issued by "Moody's." Owners or operators using bonds that are secured by collateral or a guarantee must meet the minimum rating without that security.

(ii) Tangible net worth at least six times the sum of the current and current post-closure care cost estimates, scrap tire transporter closure cost estimates, any corrective measures cost estimates, and any other obligations assured by a financial test.

(iii) Tangible net worth of at least ten million dollars.

(iv) Assets in the United States amounting to at least ninety per cent of total assets or at least six times the sum of the current and current post-closure care cost estimates, scrap tire transporter closure cost estimates, any current corrective measures cost estimates, and any other obligations assured by a financial test.

(2) Current closure and current post-closure care cost estimates, scrap tire transporter closure cost estimates, any current corrective measures cost estimates, and any other obligations assured by a financial test as used in paragraph (K)(1) of this rule refers to the cost estimates required to be shown in the letter from the owner's or operator's chief financial officer.

(3) To demonstrate that requirements of this test are met, the owner or operator shall submit the following items to the director, and into the operating record in accordance with rule 3745-27-09 of the Administrative Code, if applicable:

(a) A letter signed by the owner's or operator's chief financial officer and worded as specified in paragraph (F) of rule 3745-27-17 of the Administrative Code on forms prescribed by the director.

(b) A copy of a report by an independent certified public accountant examining the owner's or the operator's financial statements for the most recently completed fiscal year.

(c) A special report from the owner's or the operator's independent certified public accountant, in the form of an agreed-upon procedures report, to the owner or operator stating the following:

(i) The independent certified public accountant has compared the data which the letter from the chief financial officer specifies as having been derived from the
independently audited year-end financial statements for the most recent fiscal year with the amounts in such financial statements.

(ii) In connection with the agreed-upon procedures report, the independent certified public accountant states that the independent certified public accountant agrees the specified data is accurate.

(4) After the initial submission of the items specified in paragraph (K)(3) of this rule, the owner or operator shall send updated information to the director, and submit updated information into the operating record in accordance with rule 3745-27-09 of the Administrative Code, if applicable, not later than ninety days after the close of each succeeding fiscal year. This information shall include all three items specified in paragraph (K)(3) of this rule.

(5) If the owner or operator no longer meets the requirements of paragraph (K)(1) of this rule, notice shall be sent to the director of the intent to establish alternate financial assurance as specified in this rule. The notice must be sent by certified mail or any other form of mail accompanied by a receipt not later than ninety days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. A copy of the notice shall also be placed in the operating record, if applicable. The owner or operator shall provide alternate financial assurance not later than one hundred twenty days after the end of such fiscal year.

(6) The director may, based on a reasonable belief that the owner or operator no longer meets the requirements of paragraph (K)(1) of this rule, require reports of financial condition at any time from the owner or operator in addition to those specified in paragraph (K)(3) of this rule. If the director finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (K)(1) of this rule, the owner or operator shall provide alternate financial assurance as specified in this rule not later than thirty days after notification of such a finding.

(7) The director may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in the report on examination of the owner's or operator's financial statements. An adverse opinion or disclaimer of opinion will be cause for disallowance. The director shall evaluate other qualifications on an individual basis. The owner or operator shall provide alternate financial assurance as specified in this rule not later than thirty days after notification of the disallowance.

(8) The owner or operator is no longer required to submit the items specified in paragraph (K)(3) of this rule when either of the following occur:

(a) The owner or operator substitutes alternate financial assurance for closure of a facility or a scrap tire transporter as specified in this rule.
(b) The director notifies the owner or operator, in accordance with paragraph (O) of this rule that the owner or operator is no longer required to maintain financial assurance for closure of a facility or scrap tire transporter.

(9) The owner or operator may meet the requirements of this rule by obtaining a written guarantee, hereafter referred to as a corporate guarantee. The guarantor shall be the parent corporation of the owner or operator. The guarantor shall meet the requirements for an owner or operator in paragraphs (K)(1) to (K)(7) of this rule and shall comply with the terms of the corporate guarantee. The wording of the corporate guarantee shall be identical to the wording specified in paragraph (G) of rule 3745-27-17 of the Administrative Code on forms prescribed by the director. The corporate guarantee shall accompany the items sent to the director as specified in paragraph (K)(3) of this rule. The terms of the corporate guarantee shall provide that:

(a) The owner or operator shall perform closure of a facility or scrap tire transporter provided for by the corporate guarantee in accordance with the closure/post-closure care plan, permit or registration requirements, and applicable rules.

(b) The guarantor shall perform the activities in paragraph (K)(9)(a) of this rule or shall establish a trust fund in the name of the owner or operator as specified in paragraph (F) of this rule if the owner or operator fails to perform those activities.

(c) The corporate guarantee shall remain in force unless the guarantor sends notice of cancellation by certified mail or any other form of mail accompanied by a receipt to the owner or operator and to the director. Cancellation may not occur, however, during the one hundred twenty day period beginning on the first day that both the owner or operator and the director have received notice of cancellation, as evidenced by the return receipts.

(d) If the owner or operator fails to provide alternate financial assurance as specified in this rule, and fails to obtain the written approval of such alternate financial assurance from the director not later than ninety days after both the owner or operator and the director have received notice of cancellation of the corporate guarantee from the guarantor, the guarantor shall provide such alternate financial assurance in the name of the owner or operator.

(L) Local government financial test for closure.

(1) For the purposes of this rule, local government means a subdivision of the state of Ohio including, but not limited to, a municipal corporation, a county, a township, a single or joint county solid waste management district, or a solid waste management authority.

(2) A local government may satisfy the requirements of this rule by demonstrating that the local government passes a financial test as specified in this paragraph. This test consists of a financial component, a public notice component, and a record-keeping and
reporting component. In order to satisfy the financial component of the test, a local government must meet the following criteria:

(a) A local government's financial statements shall be prepared in accordance with "Generally Accepted Accounting Principles" for local governments.

(b) A local government must not have operated at a deficit equal to five per cent or more of total annual revenue in either of the past two fiscal years.

(c) A local government must not currently be in default on any outstanding general obligation bonds.

(d) A local government must not have any outstanding general obligation bonds rated lower than BBB as issued by "Standard and Poor's" or Baa as issued by "Moody's." Local governments using bonds that are secured by collateral or a guarantee must meet the minimum rating without that security.

(3) In addition, to satisfy that financial component of the test, a local government must meet either of the following criteria:

(a) A local government must have the following:

   (i) A ratio of cash plus marketable securities to total expenditures greater than or equal to 0.05.

   (ii) A ratio of annual debt service to total expenditures less than or equal to 0.20.

   (iii) A ratio of long term debt issued and outstanding to capital expenditures less than or equal to 2.00.

   (iv) A ratio of the current cost estimates for closure, post-closure care, corrective measures, scrap tire transporter closure, and any other obligations assured by a financial test, to total revenue less than or equal to 0.43.

(b) The local government shall have:

   (i) Outstanding general obligation bonds for which the local government, as the issuing entity, has not received a current rating of less than BBB as issued by "Standard and Poor's" or Baa as issued by "Moody's." Local governments using bonds that are secured by collateral or a guarantee must meet the minimum rating without that security.

   (ii) A ratio of the current cost estimates for closure, post-closure care, corrective measures, scrap tire transporter closure, and any other obligations assured by a financial test, to total revenue less than or equal to 0.43.
(4) In order to satisfy the public notice component of the test, a local government must in each year that the test is used, identify the current cost estimates in either its budget or its comprehensive annual financial report. The facility covered, the categories of expenditures, including closure, post-closure care, corrective measures, scrap tire transporter closure, the corresponding cost estimate for each expenditure, and the anticipated year of the required activity must be recorded. If the financial assurance obligation is to be included in the budget, it should either be listed as an approved budgeted line item, if the obligation will arise during the budget period, or in an appropriate supplementary data section, if the obligation will not arise during the budget period. If the information is to be included in the comprehensive annual financial report, it is to be included in the financial section as a footnote to the annual financial statements.

(5) To demonstrate that the local government meets the requirements of this test, the following three items must be submitted to the director, and into the operating record in accordance with rule 3745-27-09 of the Administrative Code, if applicable:

(a) A letter signed by the local government's chief financial officer and worded as specified in paragraph (H) of rule 3745-27-17 of the Administrative Code on forms prescribed by the director that:

   (i) Lists all current cost estimates covered by a financial test.

   (ii) Certifies that the local government meets the conditions of paragraph (L)(1) of this rule.

   (iii) Provides evidence and certifies that the local governments meets the conditions of either paragraph (L)(2)(a) or (L)(2)(b) of this rule.

(b) A copy of the local government's independently audited year-end financial statements for the latest fiscal year, including the unqualified opinion of the auditor. The auditor must be an independent, certified public accountant or auditor of state.

(c) A special report from the independent certified public accountant or auditor of state, in the form of an agreed-upon procedures report, to the local government stating that:

   (i) The certified public accountant or auditor of state has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited year-end financial statements for the most recent fiscal year with the amounts in such financial statements.

   (ii) In connection with the agreed-upon procedures report, the independent certified public accountant states that the independent certified public accountant agrees the specified data is accurate.
(6) After the initial submission of the items specified in this rule, a local government shall send updated information to the director on forms prescribed by the director, and submit updated information into the operating record in accordance with rule 3745-27-09 of the Administrative Code, if applicable, not later than one hundred eighty days after the close of each succeeding fiscal year. This information shall include all items specified in this rule.

(7) If a local government no longer meets the requirements of this rule, notice shall be sent to the director of the intent to establish alternate financial assurance as specified in this rule. The notice must be sent by certified mail or any other form of mail accompanied by a receipt not later than one hundred fifty days after the end of the fiscal year for which the year-end financial data show that the local government no longer meets the requirements. A copy of the notice shall also be placed in the operating record, if applicable. The local government shall provide alternate financial assurance not later than one hundred eighty days after the end of such fiscal year.

(8) The director may, based on a reasonable belief that the local government no longer meets the requirements of this rule, require reports of financial condition at any time from the local government in addition to those specified in this rule. If the director finds, on the basis of such reports or other information, that the local government no longer meets the requirements of this rule, the local government shall provide alternate financial assurance as specified in this rule not later than thirty days after notification of such a finding.

(9) The director may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant or auditor of state in the report on examination of the local government's financial statements. An adverse opinion or disclaimer of opinion will be cause for disallowance. The director shall evaluate other qualifications on an individual basis. The local government shall provide alternate financial assurance as specified in this rule not later than thirty days after notification of the disallowance.

(10) A local government is no longer required to submit the items specified in this rule when one of the following occur:

(a) The local government substitutes alternate financial assurance for closure as specified in this rule.

(b) The director notifies the local government, in accordance with paragraph (O) of this rule, that the local government is no longer required to maintain financial assurance for closure of a facility or a scrap tire transporter.

(M) Use of multiple financial assurance mechanisms.
The owner or operator may satisfy the requirements of this rule by establishing more than one financial assurance mechanism for each facility or by establishing more than one financial assurance mechanism for scrap tire transporter financial assurance. These mechanisms are limited to a trust fund, surety bond guaranteeing payment into a closure trust fund, letter of credit, insurance, and the local government financial test. The mechanisms shall be as specified in paragraphs (F), (G), (I), (J), and (L) respectively of this rule, except that it is the combination of mechanisms, rather than each single mechanism, which shall provide financial assurance for an amount at least equal to the current closure cost estimate or scrap tire transporter closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, owner or operator may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The director may invoke use of any or all of the mechanisms, in accordance with paragraphs (F), (G), (I), (J), and (L) of this rule, to provide for closure of the facility or provide for the required closure for a scrap tire transporter.

(N) Use of a financial assurance mechanism for multiple facilities.

The owner or operator may use a financial assurance mechanism specified in this rule to meet the requirements of this rule for more than one facility. Evidence of financial assurance submitted to the director shall include a list showing, for each facility, the name, address, and the amount of funds for closure assured by the financial assurance mechanism. The amount of funds available through the financial assurance mechanism shall be no less than the sum of the funds that would be available if a separate financial assurance mechanism had been established and maintained for each facility.

(O) Release of the owner or operator of a solid waste facility or scrap tire transporter from the requirements of this rule.

The director shall notify the owner or operator in writing that the owner or operator is no longer required, by this rule, to maintain financial assurance for closure of the particular facility or scrap tire transporter, unless the director has reason to believe that closure has not been completed in accordance with the requirements of Chapter 3745-27, 3745-29, or 3745-30 of the Administrative Code, as applicable, or the closure/post-closure care plan after receiving certifications from the owner or operator and an independent professional skilled in the appropriate disciplines that closure has been completed in accordance with the final closure/post-closure care plan, permit or registration requirements, and applicable rules.

[Comment: The notice releases the owner or operator only from the requirements for financial assurance for closure of the facility; it does not release the owner or operator from legal responsibility for meeting the post-closure care standards or corrective measures, if applicable.]
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Certification

10/18/2007

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Financial assurance for solid waste facility post-closure care.

(A) Applicability.

(1) Financial assurance information shall be submitted as part of a permit to install for a new sanitary landfill facility, for a modification that increases the post-closure care cost estimate of an existing facility, or as part of a permit to install application submitted in response to division (A)(3) or (A)(4) of section 3734.05 of the Revised Code.

(2) For sanitary landfill facilities subject to paragraph (A) of rule 3745-27-11, 3745-29-11, or 3745-30-09 of the Administrative Code, as applicable, the owner or operator shall submit to Ohio EPA a post-closure care financial assurance instrument in accordance with this rule.

[Comment: The requirements of this rule do not apply to solid waste composting facilities subject to the requirements of rules 3745-27-40 to 3745-27-47 of the Administrative Code; solid waste incinerators subject to the requirements of rules 3745-27-50 to 3745-27-53 of the Administrative Code; solid waste transfer facilities subject to the requirements of rules 3745-27-21 to 3745-27-24 of the Administrative Code; or scrap tire collection, storage, recovery, mobile recovery facilities or scrap tire transporters subject to rules 3745-27-54 to 3745-27-67 of the Administrative Code, because there are no post-closure care requirements for these types of facilities or operations.]

(B) Implementation.

(1) The owner or operator of a sanitary landfill facility shall execute and fund the post-closure care financial assurance instrument submitted as part of a permit to install prior to receipt of solid waste at a new sanitary landfill facility, a modification that increases post-closure care cost estimates of an existing sanitary landfill facility, or prior to issuance of a permit to install for which an application was submitted in response to division (A)(3) or (A)(4) of section 3734.05 of the Revised Code.

(2) The owner or operator of sanitary landfill facilities subject to paragraph (A) of rule 3745-27-11, 3745-29-11, or 3745-30-09 of the Administrative Code, as applicable, shall execute and fund the post-closure care financial assurance instrument within sixty days of approval of the final closure/post-closure care plan.

(C) Post-closure care financial assurance instrument.

The post-closure care financial assurance instrument shall contain an itemized
written estimate, in current dollars, of the cost of post-closure care for the sanitary landfill facility in accordance with rule 3745-27-14, 3745-29-14, or 3745-30-10 of the Administrative Code, as applicable, or for a scrap tire monofill facility in accordance with rule 3745-27-74 of the Administrative Code. The estimate shall be based on a third party conducting the post-closure care activities. Ohio EPA may review, approve, and/or require revisions to the post-closure care cost estimate and/or to the post-closure care financial assurance instrument.

(D) Review of post-closure care financial assurance instruments. The owner or operator of a sanitary landfill facility shall submit to the director, by certified mail or any other form of mail accompanied by a receipt, the most recently adjusted post-closure care cost estimate prepared in accordance with this paragraph:

(1) The owner or operator of a sanitary landfill facility shall annually review and analyze the post-closure care cost estimate and shall make any appropriate revisions to these estimates and to the financial assurance instrument whenever a change in the post-closure care activities increases the cost of post-closure care. Any revised post-closure care cost estimate must be adjusted for inflation as specified in paragraph (D)(2) of this rule.

(2) The owner or operator of a sanitary landfill facility shall annually adjust the post-closure care cost estimate for inflation. The adjustment shall be made as specified in this paragraph, using an inflation factor derived from the annual implicit price deflator for gross domestic product as published by the U.S. department of commerce in its February issue of "Survey of Current Business." The inflation factor is the result of dividing the latest published annual deflator by the deflator for the previous year.

(a) The first adjustment is made by multiplying the post-closure care cost estimate by the inflation factor. The result is the adjusted post-closure care cost estimate.

(b) Subsequent adjustments are made by multiplying the most recently adjusted post-closure care cost estimate by the most recent inflation factor.

(E) The owner or operator of a sanitary landfill facility shall select a post-closure care financial assurance mechanism from the list of mechanisms specified in paragraph (F), (G), (H), (I), (J), (K), or (L) of this rule, except as otherwise specified by this rule, provided the owner or operator satisfies the criteria for use of that mechanism.

(F) Post-closure care trust fund.
(1) The owner or operator may satisfy the requirements of this rule by establishing a post-closure care trust fund which conforms to the requirements of this paragraph and by sending an originally signed duplicate of the trust agreement to the director within the time period outlined in paragraph (B) of this rule. The trustee shall be an entity that has the authority to act as a trustee and which trust operations are regulated and examined by a federal or state agency.

(2) The wording of the trust agreement shall be identical to the wording specified in paragraph (A)(1) of rule 3745-27-17 of the Administrative Code on forms prescribed by the director and the trust agreement shall be accompanied by a formal certification of acknowledgment. Schedule A of the trust agreement shall be updated not later than sixty days after a change in the amount of the current post-closure care cost estimate provided for in the agreement.

(3) A post-closure care trust fund shall be established to secure an amount at least equal to the current post-closure care cost estimate, except as provided in paragraph (M) of this rule. Payments to the trust fund shall be made annually, except as permitted by paragraph (F)(4) of this rule, by the owner or operator over the term of the applicable authorizing document, including permit to install, or plan approval, and shall be based on the authorized maximum daily waste receipt and the approved volume of the sanitary landfill facility; this period is hereafter referred to as the pay-in period. The first payment into the post-closure care trust fund shall be made in accordance with paragraph (B) of this rule. Subsequent payments to the post-closure care trust fund shall be made as follows:

(a) A receipt from the trustee for each payment shall be submitted by the owner or operator to the director. The first payment shall be at least equal to the current post-closure care cost estimate divided by the number of years in the pay-in period, except as provided in paragraph (M) of this rule. Subsequent payments shall be made not later than thirty days after each anniversary date of the first payment. The amount of each subsequent payment shall be determined by performing the following calculation:

\[
\text{Next payment} = \frac{(CE - CV)}{Y}
\]

Where CE is the current post-closure care cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(b) If the owner or operator establishes a trust fund, as specified in this rule,
and the value of the trust fund is less than any revised current post-closure care cost estimate made during the pay-in period, the amount of the current post-closure care cost estimate still to be paid into the trust fund shall be paid in over the pay-in period, as defined in paragraph (F)(3) of this rule. Payments shall continue to be made not later than thirty days after each anniversary date of the first payment pursuant to paragraph (F)(3)(a) of this rule. The amount of each payment shall be determined by performing the following calculation:

\[
\text{Next payment} = \frac{(CE - CV)}{Y}
\]

Where \(CE\) is the current post-closure care cost estimate, \(CV\) is the current value of the trust fund, and \(Y\) is the number of years remaining in the pay-in period.

(c) The owner or operator may make the first installment required under paragraph (F)(3)(a) or (F)(3)(b) of this rule by providing alternate financial insurance using one of the mechanisms specified in paragraph (G), (I), or (J) of this rule in an amount at least equal to the first installment. On the anniversary date of the first installment, the owner or operator shall pay into the trust an amount at least equal to the first and second installments required under paragraph (F)(3)(a) or (F)(3)(b) of this rule or select an alternate financial assurance mechanism.

(4) The owner or operator may accelerate payments into the trust fund or the owner or operator may deposit the full amount of the current post-closure care cost estimate at the time the fund is established. However, the owner or operator shall maintain the value of the fund at no less than the value the fund would have if annual payments were made as specified in paragraph (F)(3) of this rule.

(5) If the owner or operator establishes a post-closure care trust fund after having begun funding post-closure care under any mechanism(s) specified in this rule, the post-closure care trust fund shall be established by depositing the total value of all prior mechanisms into the newly established trust fund. The subsequent annual payments shall be made as specified in paragraph (F)(3) of this rule.

(6) After the pay-in period of a trust fund has ended and the current post-closure care cost estimate changes, the owner or operator shall compare the revised estimate to the trustee's most recent annual valuation of the trust fund. If the value of the trust fund is less than the amount of the revised estimate, the owner or operator shall, not later than sixty days after the change in the cost estimate, either deposit a sufficient amount into the trust fund so that its value
after payment at least equals the amount of the current post-closure care cost estimate, or obtain alternate financial assurance as specified in this rule to compensate for the difference.

(7) The director shall instruct the trustee to release to the owner or operator such funds as the director specifies in writing, after receiving one of the following requests from the owner or operator for a release of funds:

(a) The owner or operator may submit a written request to the director for the release of the amount in excess of the current post-closure care cost estimate, if the value of the trust fund is greater than the total amount of the current post-closure care cost estimate.

(b) The owner or operator may submit a written request to the director for release of the amount in the trust fund that exceeds the amount required as a result of such substitution, if the owner or operator substitutes any of the alternate financial assurance mechanism(s) specified in this rule for all or part of the trust fund.

(8) Reimbursement for post-closure care at sanitary landfill facilities.

After beginning post-closure care, the owner or operator, or any other person authorized by the owner, operator, or director to perform post-closure care, may request reimbursement for post-closure care expenditures by submitting itemized bills to the director. After receiving itemized bills for post-closure care activities, the director shall determine whether the post-closure care expenditures are in accordance with the final closure/post-closure care plan, permit requirements, and applicable rules, or are otherwise justified, and if so, will instruct the trustee to make reimbursement in such amounts as the director specifies in writing. If the director determines that the cost of post-closure care will be greater than the value of the trust fund, he may withhold reimbursement of such amounts as he deems prudent until he determines, in accordance with paragraph (O) of this rule, that the owner or operator is no longer required to maintain financial assurance for post-closure care of the facility.

(9) The director will agree to termination of a trust when one of the following occurs:

(a) The owner or operator substitutes alternate financial assurance for post-closure care as specified in paragraph (F)(6) of this rule.

(b) The director notifies the owner or operator, in accordance with paragraph
(G) Surety bond guaranteeing payment into a post-closure care trust fund.

(1) The owner or operator may satisfy the requirements of this rule by obtaining a surety bond which conforms to the requirements of this paragraph and by delivering the originally signed bond to the director by certified mail or any other form of mail accompanied by a receipt within the time period outlined in paragraphs (A) and (B) of this rule by submitting a copy of the bond into the operating record in accordance with rule 3745-27-09 of the Administrative Code, if applicable.

The surety company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on federal bonds in "Circular 570" of the U.S. department of treasury.

[Comment: "Circular 570" is published in the "Federal Register" annually on the first day of July; interim changes in the circular are also published in the "Federal Register."]

(2) The wording of the surety bond shall be identical to in paragraph (B) of rule 3745-27-17 of the Administrative Code on forms prescribed by the director.

(3) The owner or operator who uses a surety bond to satisfy the requirements of this rule shall also establish a standby trust fund not later than when the bond is obtained. Under the terms of the surety bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the director. This standby trust fund shall meet the requirements specified in paragraph (F) of this rule, except that:

(a) An originally signed duplicate of the trust agreement shall be delivered to the director with the surety bond and placed in the operating record in accordance with rule 3745-27-09 of the Administrative Code, if applicable.

(b) Until the standby trust fund is funded, pursuant to the requirements of this rule, the following are not required:

(i) Payments into the trust fund as specified in paragraph (F) of this rule.

(ii) Revisions of Schedule A of the trust agreement to show current
post-closure care cost estimate.

(iii) Annual valuations as required by the trust agreement.

(iv) Notices of nonpayment as required by the trust agreement.

(4) The bond shall guarantee that the surety shall become liable on the bond obligation unless the owner or operator does one of the following, as applicable:

(a) Funds the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility.

(b) Funds the standby trust fund in an amount equal to the penal sum of the bond not later than fifteen days after a mandatory final closure requirement in accordance with the final closure/post-closure care plan, permit requirements, and applicable rules.

(c) Provides alternate financial assurance as specified in this rule, and obtain the director's written approval of the alternate financial assurance provided, not later than ninety days after both the owner or operator and the director receive notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety shall become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond shall be in an amount at least equal to the current post-closure care cost estimate except as provided in paragraph (M) of this rule.

(7) Whenever the current post-closure care cost estimate increases to an amount greater than the penal sum of the bond, the owner or operator shall, not later than sixty days after the increase in the estimate, either cause the penal sum of the bond to be increased to an amount at least equal to the current post-closure care cost estimate and submit evidence of such increase to the director, and into the operating record in accordance with rule 3745-27-09 of the Administrative Code, if applicable, or obtain alternate financial assurance, as specified in this rule, to compensate for the increase. Whenever the current post-closure care cost estimate decreases, the penal sum may be reduced to the amount of the current post-closure care cost estimate following written approval by the director. Notice of an increase or a proposed decrease in the
penal sum shall be sent to the director not later than sixty days after the change.

(8) Under the terms of the bond, the bond shall remain in force unless the surety sends written notice of cancellation by certified mail or any other form of mail accompanied by a receipt to the owner or operator and to the director. Cancellation cannot occur, however, during the one hundred twenty day period beginning on the first day that both the owner or operator and the director have received the notice of cancellation, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the director has given prior written consent. The director will provide such written consent to the surety bond company when one of the following occurs:

(a) The owner or operator substitutes alternate financial assurance for post-closure care as specified in this rule.

(b) The director notifies the owner or operator, in accordance with paragraph (O) of this rule that the owner or operator is no longer required to maintain financial assurance for post-closure care of the facility.

(H) Surety bond guaranteeing performance of post-closure care.

(1) The owner or operator may satisfy the requirements of this rule by obtaining a surety bond which conforms to the requirements of this paragraph and by delivering the originally signed bond to the director within the time period outlined in paragraphs (A) and (B) of this rule by submitting a copy of the surety bond into the operating record of the facility in accordance with rule 3745-27-09 of the Administrative Code, if applicable.

The surety company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on federal bonds in "Circular 570" of the U.S. department of the treasury.

[Comment: "Circular 570" is published in the "Federal Register" annually on the first day of July; interim changes in the circular are also published in the "Federal Register."]

(2) The wording of the surety bond shall be identical to the wording specified in paragraph (C) of rule 3745-27-17 of the Administrative Code on forms prescribed by the director.
(3) The owner or operator who uses a surety bond to satisfy the requirements of this rule shall also establish a standby trust fund. Under the terms of the surety bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the director. This standby trust fund shall meet the requirements specified in paragraph (F) of this rule except that:

(a) An originally signed duplicate of the trust agreement shall be delivered to the director with the surety bond and placed in the operating record in accordance with rule 3745-27-09 of the Administrative Code, if applicable.

(b) Unless the standby trust fund is funded pursuant to the requirements of this rule, the following are not required:

(i) Payments into the trust fund as specified in paragraph (F) of this rule.

(ii) Revisions of Schedule A of the trust agreement to show current post-closure care cost estimate.

(iii) Annual valuations as required by the trust agreement.

(iv) Notices of nonpayment as required by the trust agreement.

(4) The bond shall guarantee that the surety shall become liable on the bond obligation unless the owner or operator does one of the following, as applicable:

(a) Performs post-closure care in accordance with the final closure/post-closure plan, and applicable rules, and other requirements of the permit or registration.

(b) Provides alternate financial assurance as specified in this rule, and obtains the director's written approval of the alternate financial assurance provided, not later than ninety days after both the owner or operator and the director receives notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a determination by the director that the owner or operator of
the solid waste facility has failed to perform post-closure care activities in accordance with the final closure/post-closure plan, applicable rules, and permit requirements, the surety shall perform post-closure care in accordance with the final closure/post-plan and permit requirements, or applicable rules, or will deposit the amount of the penal sum into the standby trust fund.

(6) The penal sum of the bond shall be in an amount at least equal to the current post-closure care cost estimate.

(7) Whenever the current post-closure care cost estimate increases to an amount greater than the penal sum of the bond, the owner or operator shall, not later than sixty days after the increase in the estimate, either cause the penal sum of the bond to be increased to an amount at least equal to the current post-closure care cost estimate and submit evidence of such increase to the director, and into the operating record in accordance with rule 3745-27-09 of the Administrative Code, if applicable, or obtain alternate financial assurance, as specified in this rule, to compensate for the increase. Whenever the current post-closure care cost estimate decreases, the penal sum may be reduced to the amount of the current post-closure care cost estimate following written approval by the director. Notice of an increase or a proposed decrease in the penal sum shall be sent to the director by certified mail or any other form of mail accompanied by a receipt not later than sixty days after the change.

(8) Under the terms of the bond, the bond shall remain in force unless the surety sends written notice of cancellation by certified mail or any other form of mail accompanied by a receipt to the owner or operator and to the director. Cancellation cannot occur, however, during the one hundred twenty day period beginning on the first day that both the owner or operator and the director have received the notice of cancellation as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the director has given prior written consent. The director will provide such written consent to the surety bond company when one of the following occurs:

(a) The owner or operator substitutes alternate financial assurance for post-closure care as specified in this rule.

(b) The director notifies the owner or operator, in accordance with paragraph (O) of this rule that the owner or operator is no longer required by this rule to maintain financial assurance for post-closure care of the facility.

(10) The surety shall not be liable for deficiencies in the completion of post-closure
care activities by the owner or operator after the owner or operator has been notified by the director, in accordance with this rule, that the owner or operator is no longer required to maintain financial assurance for post-closure care of the facility.

(I) Post-closure care letter of credit.

(1) The owner or operator may satisfy the requirements of this rule by obtaining an irrevocable standby letter of credit ("letter of credit") which conforms to the requirements of this paragraph and by having the originally signed letter of credit delivered to the director by certified mail or any other form of mail accompanied by a receipt within the time period outlined in paragraphs (A) and (B) of this rule and by submitting a copy of the letter of credit into the operating record of the facility in accordance with rule 3745-27-09 of the Administrative Code, if applicable. The issuing institution shall be an entity which has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a federal or state agency.

(2) The wording of the letter of credit shall be identical to the wording specified in paragraph (D) of rule 3745-27-17 of the Administrative Code on forms prescribed by the director.

(3) An owner or operator who uses a letter of credit to satisfy the requirements of this rule shall also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the director shall be deposited promptly and directly by the issuing institution into the standby trust fund in accordance with instructions from the director. The standby trust fund shall meet the requirements of the trust fund specified in paragraph (F) of this rule, except that:

(a) An originally signed duplicate of the trust agreement shall be delivered to the director with the letter of credit, and a copy of the letter placed in the operating record in accordance with rule 3745-27-09 of the Administrative Code, if applicable.

(b) Unless the standby trust fund is funded pursuant to the requirements of this rule, the following are not required:

(i) Payments into the trust fund as specified in paragraph (F) of this rule.

(ii) Updating of Schedule A of the trust agreement to show current
post-closure care cost estimate.

(iii) Annual valuations as required by the trust agreement.

(iv) Notices of nonpayment as required by the trust agreement.

(4) The letter of credit shall be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the names and addresses of the solid waste facility and the owner and the operator and the amount of funds assured for post-closure care of the facility by the letter of credit.

(5) The letter of credit shall be irrevocable and issued for a period of at least one year. The letter of credit shall provide that the expiration date will be automatically extended for a period of at least one year unless, at least one hundred twenty days prior to the current expiration date, the issuing institution notifies both the owner and operator and the director by certified mail or any other form of mail accompanied by a receipt of a decision not to extend the expiration date. Under the terms of the letter of credit, the one hundred twenty day period shall begin on the day when both the owner or operator and the director have received the notice, as evidenced by the return receipts.

(6) The letter of credit shall be issued in an amount at least equal to the current post-closure care cost estimate, except as provided in paragraph (M) of this rule.

(7) Whenever the current post-closure care cost estimate increases to an amount greater than the amount of the credit, the owner or operator shall, not later than sixty days after this increase, either cause the amount of the credit to be increased to an amount at least equal to the current post-closure care cost estimate and submit evidence of such increase to the director, and into the operating record in accordance with rule 3745-27-09 of the Administrative Code, if applicable, or obtain alternate financial assurance, as specified in this rule, to compensate for the increase. Whenever the current post-closure care cost estimate decreases, the letter of credit may be reduced to the amount of the current post-closure care cost estimate following written approval by the director. Notice of an increase or a proposed decrease in the amount of the letter of credit shall be sent to the director by certified mail or any other form of mail accompanied by a receipt not later than sixty days after the change.

(8) Under the terms of the letter of credit, the director may draw on the letter of credit following a determination that the owner or operator has failed to:
(a) Perform post-closure care activities in accordance with the final closure/post-closure care plan, permit requirements, and applicable rules.

(b) Provide alternate financial assurance as specified in this rule and obtain written approval of such alternate financial assurance from the director not later than ninety days after the owner or operator and the director have received notice from the issuing institution that it will not extend the letter of credit beyond the current expiration date, the director shall draw on the letter of credit. The director may delay the drawing if the issuing institution grants an extension of the term of the credit. During the final thirty days of any such extension the director shall draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this rule and has failed to obtain written approval of such alternate financial assurance from the director.

(9) The director shall return the original letter of credit to the issuing institution for termination when either of the following occur:

(a) The owner or operator substitutes alternate financial assurance for post-closure care as specified in this rule.

(b) The director notifies the owner or operator, in accordance with paragraph (O) of this rule that the owner or operator is no longer required to maintain financial assurance for post-closure care of the facility.

(J) Post-closure care insurance.

(1) The owner or operator may satisfy the requirements of this rule by obtaining post-closure care insurance which conforms to the requirements of this paragraph and by submitting a originally certificate of such insurance to the director by certified mail or any other form of mail accompanied by a receipt within the time period outlined in paragraphs (A) and (B) of this rule, and by submitting a copy of the certificate of insurance into the operating record of the facility in accordance with rule 3745-27-09 of the Administrative Code, if applicable. At a minimum, the insurer shall be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

(2) The wording of the certificate of insurance shall be identical to the wording specified in paragraph (E) of rule 3745-27-17 of the Administrative Code on forms prescribed by the director.
(3) The post-closure care insurance policy shall be issued for a face amount at least equal to the current post-closure care cost estimate except as provided in paragraph (M) of this rule. Face amount means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) The post-closure care insurance policy shall guarantee that funds will be available to perform post-closure care whenever mandated. The policy shall also guarantee that once post-closure care begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the director, to such party or parties as the director specifies.

(5) Reimbursement for post-closure care.

After beginning post-closure care, the owner or operator, or any other person authorized by the owner, operator, or director to perform post-closure care, may request reimbursement for post-closure care expenditures by submitting itemized bills to the director. After receiving itemized bills for post-closure care activities, the director shall determine whether the post-closure care expenditures are in accordance with rule 3745-27-14, 3745-29-14, or 3745-30-10 of the Administrative Code, as applicable, and the final closure/post-closure plan, applicable rules, the permit, and/or are otherwise justified, and if so, shall instruct the insurer to make reimbursement in such amounts as the director specifies in writing. If the director has reason to believe that the cost of post-closure care will be greater than the face amount of the policy, he may withhold reimbursement of such amounts as he deems prudent until he determines, in accordance with paragraph (O) of this rule, that the owner or operator is no longer required to maintain financial assurance for post-closure care of the facility.

(6) The owner or operator shall maintain the policy in full force and effect until the director consents to termination of the policy by the owner or operator as specified in paragraph (J)(8) of this rule. Failure to pay the premium, without substitution of alternate financial assurance as specified in this rule, will constitute a violation of these rules, warranting such remedy as the director deems necessary. Such violation shall be deemed to begin upon receipt by the director of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy shall contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon
consent of the insurer, provided such consent is not unreasonably refused.

(8) The policy shall provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy shall, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail or any other form of mail accompanied by a receipt to the owner or operator and to the director. Cancellation, termination, or failure to renew may not occur, and the policy will remain in full force and effect unless on or before the date of expiration:

(a) Post-closure care activities required in the final closure/post-closure care plan, permit requirements, and applicable rules have occurred.

(b) Post-closure care of the facility is ordered by the director or a court of competent jurisdiction.

(c) The owner or operator is named as debtor in a voluntary or involuntary proceeding under title 11 (bankruptcy), U.S. Code.

(d) The premium due is paid.

(9) Whenever the current post-closure care cost estimate increases to an amount greater than the face amount of the policy, the owner or operator shall, not later than sixty days after the increase, either cause the face amount to be increased to an amount at least equal to the current post-closure care cost estimate and submit evidence of such increase to the director, and into the operating record in accordance with rule 3745-27-09 of the Administrative Code, if applicable, or obtain alternate financial assurance as specified in this rule to compensate for the increase. Whenever the current post-closure care cost estimate decreases, the face amount may be reduced to the amount of the current post-closure care cost estimate following written approval by the director.

(10) The director will give written consent to the owner or operator that owner or operator may terminate the insurance policy when either of the following occurs:

(a) The owner or operator substitutes alternate financial assurance for post-closure care as specified in this rule.
(b) The director notifies the owner or operator, in accordance with paragraph (O) of this rule that owner or operator is no longer required to maintain financial assurance for post-closure care of the facility.

(K) Financial test and corporate guarantee for post-closure care.

(1) The owner or operator may satisfy the requirements of this rule by demonstrating that the owner or operator passes a financial test as specified in this paragraph. To pass this test the owner or operator shall demonstrate that less than fifty per cent of the parent corporation's gross revenues are derived from solid waste disposal, solid waste transfer facility operations, or scrap tire transporter operations, or if there is no parent corporation, the owner or operator shall demonstrate that less than fifty per cent of its gross revenues are derived from solid waste facility, solid waste transfer facility, or scrap tire transporter operations and either:

(a) The owner or operator shall have the following:

(i) Satisfaction of at least two of the following ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization minus $10 million to total liabilities greater than 0.1; a ratio of current assets to current liabilities greater than 1.5.

(ii) Net working capital and tangible net worth each at least six times the sum of the current final closure and current post-closure cost estimates, scrap tire transporter final closure cost estimates, any corrective measures cost estimates, and any other obligations assured by a financial test.

(iii) Tangible net worth of at least ten million dollars.

(iv) Assets in the United States amounting to at least ninety per cent of total assets or at least six times the sum of the current final closure and current post-closure care cost estimates, scrap tire transporter final closure cost estimates, any current corrective measures cost estimates, and any other obligations assured by a financial test.

(b) The owner or operator shall have:
(i) Issued a corporate bond for which the owner or operator, as the issuing entity, has not received a current rating of less than BBB as issued by "Standard and Poor's" or Baa as issued by "Moody's." Owners or operators using bonds that are secured by collateral or a guarantee must meet the minimum rating without that security.

(ii) Tangible net worth at least six times the sum of the current final closure and current post-closure care cost estimates, scrap tire transporter final closure cost estimates, any corrective measures cost estimates, and any other obligations assured by a financial test.

(iii) Tangible net worth of at least ten million dollars.

(iv) Assets in the United States amounting to at least ninety per cent of total assets or at least six times the sum of the current final closure and current post-closure care cost estimates, scrap tire transporter final closure cost estimates, any current corrective measures cost estimates, and any other obligations assured by a financial test.

(2) Current final closure and current post-closure care cost estimates, scrap tire transporter final closure cost estimates, current corrective measures cost estimates, and any other obligations assured by a financial test as used in paragraph (K)(1) of this rule refers to the cost estimates required to be shown in the letter from the owner's or operator's chief financial officer.

(3) To demonstrate that requirements of this test are met, the owner or operator shall submit the following items to the director, and into the operating record in accordance with rule 3745-27-09 of the Administrative Code, if applicable:

(a) A letter signed by the owner's or operator's chief financial officer and worded as specified in paragraph (F) of rule 3745-27-17 of the Administrative Code on forms prescribed by the director.

(b) A copy of a report by an independent certified public accountant examining the owner's or the operator's financial statements for the most recently completed fiscal year.

(c) A special report from the owner's or the operator's independent certified public accountant, in the form of an agreed-upon procedures report, to
the owner or operator stating that:

(i) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited year-end financial statements for the most recent fiscal year with the amounts in such financial statements.

(ii) In connection with the agreed-upon procedures report, he states that he agrees the specified data is accurate.

(4) After the initial submission of the items specified in paragraph (K)(3) of this rule, the owner or operator shall send updated information to the director, and submit updated information into the operating record in accordance with rule 3745-27-09 of the Administrative Code, if applicable, not later than ninety days after the close of each succeeding fiscal year. This information shall include all three items specified in paragraph (K)(3) of this rule.

(5) If the owner or operator no longer meets the requirements of paragraph (K)(1) of this rule, notice shall be sent to the director of the intent to establish alternate financial assurance as specified in this rule. The notice must be sent by certified mail or any other form of mail accompanied by a receipt not later than ninety days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. A copy of the notice shall also be placed in the operating record, if applicable. The owner or operator shall provide alternate financial assurance not later than one hundred twenty days after the end of such fiscal year.

(6) The director may, based on a reasonable belief that the owner or operator no longer meets the requirements of paragraph (K)(1) of this rule, require reports of financial condition at any time from the owner or operator in addition to those specified in paragraph (K)(3) of this rule. If the director finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (K)(1) of this rule, the owner or operator shall provide alternate financial assurance as specified in this rule not later than thirty days after notification of such a finding.

(7) The director may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his/her report on examination of the owner's or operator's financial statements. An adverse opinion or disclaimer of opinion will be cause for disallowance. The director shall evaluate other qualifications on an individual basis. The owner or operator shall provide alternate financial assurance as specified in this rule.
not later than thirty days after notification of the disallowance.

(8) The owner or operator is no longer required to submit the items specified in paragraph (K)(3) of this rule when either of the following occur:

(a) The owner or operator substitutes alternate financial assurance for post-closure care as specified in this rule.

(b) The director notifies the owner or operator, in accordance with paragraph (O) of this rule that the owner or operator is no longer required to maintain financial assurance for post-closure care of the facility.

(9) The owner or operator may meet the requirements of this rule by obtaining a written guarantee, hereafter referred to as a corporate guarantee. The guarantor shall be the parent corporation of the owner or operator. The guarantor shall meet the requirements for an owner or operator in paragraphs (K)(1) to (K)(7) of this rule and shall comply with the terms of the corporate guarantee. The wording of the corporate guarantee shall be identical to the wording specified in paragraph (G) of rule 3745-27-17 of the Administrative Code on forms prescribed by the director. The corporate guarantee shall accompany the items sent to the director as specified in paragraph (K)(3) of this rule. The terms of the corporate guarantee shall provide that:

(a) The owner or operator shall perform post-closure care of a facility provided for by the corporate guarantee in accordance with the final closure/post-closure care plan, permit requirements, and applicable rules.

(b) The guarantor shall perform the activities in paragraph (K)(9)(a) of this rule or shall establish a trust fund in the name of the owner or operator as specified in paragraph (F) of this rule if the owner or operator fails to perform those activities.

(c) The corporate guarantee shall remain in force unless the guarantor sends notice of cancellation by certified mail or any other form of mail accompanied by a receipt to the owner or operator and to the director. Cancellation may not occur, however, during the one hundred twenty day period beginning on the first day that both the owner or operator and the director have received notice of cancellation, as evidenced by the return receipts.

(d) If the owner or operator fails to provide alternate financial assurance as
specified in this rule, and fails to obtain the written approval of such alternate financial assurance from the director not later than ninety days after both the owner or operator and the director have received notice of cancellation of the corporate guarantee from the guarantor, the guarantor shall provide such alternate financial assurance in the name of the owner or operator.

(L) Local government financial test for post-closure care.

(1) For the purposes of this rule, local government means a subdivision of the state of Ohio including, but not limited to, a municipal corporation, a county, a township, a single or joint county solid waste management district, or a solid waste management authority.

(2) A local government may satisfy the requirements of this rule by demonstrating that the local government passes a financial test as specified in this paragraph. This test consists of a financial component, a public notice component, and a record-keeping and reporting component. In order to satisfy the financial component of the test, a local government must meet the following criteria:

(a) A local government's financial statements shall be prepared in accordance with "Generally Accepted Accounting Principles" for local governments.

(b) A local government must not have operated at a deficit equal to five per cent or more of total annual revenue in either of the past two fiscal years.

(c) A local government must not currently be in default on any outstanding general obligation bonds.

(d) A local government must not have any outstanding general obligation bonds rated lower than BBB as issued by "Standard and Poor's" or Baa as issued by "Moody's." Local governments using bonds that are secured by collateral or a guarantee must meet the minimum rating without that security.

(3) In addition, to satisfy the financial component of the test, a local government must meet either of the following criteria:

(a) The local government must have the following:
(i) A ratio of cash plus marketable securities to total expenditures greater than or equal to 0.05.

(ii) A ratio of annual debt service to total expenditures less than or equal to 0.20.

(iii) A ratio of long term debt issued and outstanding to capital expenditures less than or equal to 2.00.

(iv) A ratio of the current cost estimates for final closure, post-closure care, corrective measures, scrap tire transporter final closure, and any other obligations assured by a financial test, to total revenue less than or equal to 0.43.

(b) The local government shall have:

(i) Outstanding general obligation bonds for which the local government, as the issuing entity, has not received a current rating of less than BBB as issued by "Standard and Poor's" or Baa as issued by "Moody's." Local governments using bonds that are secured by collateral or a guarantee must meet the minimum rating without that security.

(ii) A ratio of the current cost estimates for final closure, post-closure care, corrective measures, scrap tire transporter final closure, and any other obligations assured by a financial test, to total revenue less than or equal to 0.43.

(4) In order to satisfy the public notice component of the test, a local government must in each year the test is used, identify the current cost estimates in either its budget or its comprehensive annual financial report. The facility covered, the categories of expenditures, including final closure, post-closure care, corrective measures, scrap tire transporter final closure, the corresponding cost estimate for each expenditure, and the anticipated year of the required activity must be recorded. If the financial assurance obligation is to be included in the budget, it should either be listed as an approved budgeted line item, if the obligation will arise during the budget period, or in an appropriate supplementary data section, if the obligation will not arise during the budget period. If the information is to be included in the comprehensive annual financial report, it is to be included in the financial section as a footnote to the annual financial statements.
(5) To demonstrate that a local government meets the requirements of this test, the following three items must be submitted to the director, and into the operating record in accordance with rule 3745-27-09 of the Administrative Code, if applicable:

(a) A letter signed by the local government's chief financial officer and worded as specified in paragraph (H) of rule 3745-27-17 of the Administrative Code on forms prescribed by the director that:

(i) Lists all the current cost estimates covered by a financial test.

(ii) Certifies that the local government meets the conditions of paragraph (L)(1) of this rule.

(iii) Provides evidence and certifies that the local government meets the conditions of either paragraph (L)(2)(a) or (L)(2)(b) of this rule.

(b) A copy of the local government's independently audited year-end financial statements for the latest fiscal year, including the unqualified opinion of the auditor. The auditor must be an independent, certified public accountant or auditor of state.

(c) A special report from the independent certified public accountant or auditor of state, in the form of an agreed-upon procedures report, to the local government stating that:

(i) The certified public accountant or auditor of state has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited year-end financial statements for the most recent fiscal year with the amounts in such financial statements.

(ii) In connection with the agreed-upon procedures report, he states that he agrees the specified data is accurate.

(6) After the initial submission of the items specified in this rule, a local government shall send updated information to the director on forms prescribed by the director, and submit updated information into the operating record in accordance with rule 3745-27-09 of the Administrative Code, if applicable, not later than one hundred eighty days after the close of each succeeding fiscal year. This information shall include all items specified in
(7) If a local government no longer meets the requirements of this rule, notice shall be sent to the director of the intent to establish alternate financial assurance as specified in this rule. The notice must be sent by certified mail or any other form of mail accompanied by a receipt not later than one hundred fifty days after the end of the fiscal year for which the year-end financial data show that the local government no longer meets the requirements. A copy of the notice shall also be placed in the operating record, if applicable. The local government shall provide alternate financial assurance not later than one hundred eighty days after the end of such fiscal year.

(8) The director may, based on a reasonable belief that the local government no longer meets the requirements of this rule, require reports of financial condition at any time from the local government in addition to those specified in this rule. If the director finds, on the basis of such reports or other information, that the local government no longer meets the requirements of this rule, the local government shall provide alternate financial assurance as specified in this rule not later than thirty days after notification of such a finding.

(9) The director may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant or auditor of state in his/her report on examination of the local government's financial statements. An adverse opinion or disclaimer of opinion will be cause for disallowance. The director shall evaluate other qualifications on an individual basis. The local government shall provide alternate financial assurance as specified in this rule not later than thirty days after notification of the disallowance.

(10) The local government is no longer required to submit the items specified in this rule when one of the following occur:

(a) The local government substitutes alternate financial assurance for post-closure care as specified in this rule.

(b) The director notifies the local government, in accordance with paragraph (O) of this rule, that the local government is no longer required to maintain financial assurance for post-closure care of the facility.

(M) Use of multiple financial assurance mechanisms.

The owner or operator may satisfy the requirements of this rule by establishing
more than one financial assurance mechanism for each facility. These mechanisms are limited to a trust fund, surety bond guaranteeing payment into a post-closure care trust fund, letter of credit, insurance, and the local government financial test. The mechanisms shall be as specified in paragraphs (F), (G), (I), (J), and (L) respectively of this rule, except that it is the combination of mechanisms, rather than each single mechanism, which shall provide financial assurance for an amount at least equal to the current post-closure care cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, the owner or operator may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The director may invoke use of any or all of the mechanisms, in accordance with paragraphs (F), (G), (I), (J), and (L) of this rule, to provide for post-closure care of the facility.

(N) Use of a financial assurance mechanism for multiple facilities.

The owner or operator may use a financial assurance mechanism specified in this rule to meet the requirements of this rule for more than one facility. Evidence of financial assurance submitted to the director shall include a list showing, for each facility, the name, address, and the amount of funds for post-closure care assured by the financial assurance mechanism. The amount of funds available through the financial assurance mechanism shall be no less than the sum of the funds that would be available if a separate financial assurance mechanism had been established and maintained for each facility.

(O) Release of the owner or operator of a solid waste facility from the requirements of this rule.

The director shall notify the owner or operator in writing that he is no longer required, by this rule, to maintain financial assurance for post-closure care of a particular facility, unless the director has reason to believe that post-closure care has not been completed in accordance with the requirements of rule 3745-27-14, 3745-29-14, or 3745-30-10 of the Administrative Code and/or the final closure/post-closure plan after receiving certifications from the owner or operator and an independent professional(s) skilled in the appropriate discipline(s) that post-closure care has been completed in accordance with the final closure/post-closure care plan, permit requirements, and applicable rules.

[Comment: The notice releases the owner or operator only from the requirements for financial assurance for post-closure care of the facility; it does not release him from legal responsibility for meeting the final closure standards or corrective measures, if applicable.]
R.C. 119.032 review dates: 11/01/2007 and 11/01/2012

CERTIFIED ELECTRONICALLY

Certification

11/01/2007

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02
Rule Amplifies: 3734.02, 3734.12, 3734.72, 3734.74
3745-27-17    Wording of financial assurance instruments.

(A)

(1) A trust agreement for a trust fund as specified in paragraph (F) of rules 3745-27-15, 3745-27-16, or paragraph (G) of rule 3745-27-18 of the Administrative Code, must be worded as follows on forms prescribed by the director, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

"Trust agreement"

Trust agreement. The "agreement," entered into as of [date] by and between [name of the owner or operator], a [state] [corporation, partnership, association, proprietorship], the "grantor," and [name of corporate trustee], ["incorporated in the state of __________" or "a national bank"], the "trustee."

Whereas, the Ohio Environmental Protection Agency, ("Ohio EPA"), has established certain rules applicable to the grantor, requiring that the owner or operator of a solid waste facility or a scrap tire transporter provide assurance that funds will be available when needed for final closure, post-closure care, or, corrective measures at the facility, or for scrap tire transporter final closure.

Whereas, the grantor has elected to establish a trust to provide all or part of such financial assurance for the facilities identified herein.

Whereas, the grantor, acting through its duly authorized officers, has selected the trustee to be the trustee under this agreement, and the trustee is willing to act as trustee,

Now, therefore, the grantor and the trustee agree as follows:

Section 1. Definitions. As used in this agreement:

(a) The term "grantor" means the owner or operator who enters into this agreement and any successors or assigns of the grantor.

(b) The term "trustee" means the trustee who enters into this agreement and any successor trustee.

(c) The term "director" means the director of environmental protection or the director's authorized representative.

Section 2. Identification of facilities and cost estimates. This agreement pertains to a solid waste facility or a scrap tire transporter and cost estimates identified on attached schedule A [on schedule A, for each facility and scrap tire transporter list the name, address, and the current final closure, post-closure care, scrap tire transporter final closure, or corrective measures cost estimates, or portions thereof, for which financial assurance is demonstrated by this agreement].

Section 3. Establishment of fund. The grantor and the trustee hereby establish a trust fund, the "fund," for the benefit of the Ohio EPA. The grantor and the trustee intend that no third party have access to the fund except as herein provided. The fund is established initially as consisting of the property, which is acceptable to the trustee, described in schedule B attached hereto. Such property and any other property subsequently transferred to the trustee is referred to as the fund, together with all earnings and profits thereon, less any payments or distributions made by the trustee pursuant to this agreement. The fund will be held by the trustee, in trust, as hereinafter provided. The trustee shall not be responsible nor shall it
undertake any responsibility for the amount or adequacy of, nor any duty to collect from the grantor, any payments necessary to discharge any liabilities of the grantor established by the Ohio EPA.

Section 4. Payment for final closure and post-closure care, scrap tire transporter final closure, and corrective measures. The trustee will make such payments from the fund as the director will direct, in writing, to provide for the payment of the costs of final closure, post-closure care, or corrective measures at the facility or scrap tire transporter final closure covered by this agreement. The trustee will reimburse the grantor or other persons as specified by the director from the fund for final closure, post-closure care, scrap tire transporter final closure, or corrective measures expenditures in such amounts as the director will direct, in writing. In addition, the trustee will refund to the grantor such amounts as the director specifies in writing. Upon refund, such funds will no longer constitute part of the fund as defined herein.

Section 5. Payments comprising the fund. Payments made to the trustee for the fund will consist of cash or securities acceptable to the trustee.

Section 6. Trustee management. The trustee will invest and reinvest the principal and income of the fund and keep the fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the grantor may communicate in writing to the trustee periodically, subject, however, to the provisions of this section. In investing, reinvesting, exchanging, selling, and managing the fund, the trustee will discharge the trustee's duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(a) Securities or other obligations of the grantor, or any other owner or operator of the facilities or scrap tire transporter, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. section 80a-2(a), will not be acquired or held, unless they are securities or other obligations of the federal or a state government;

(b) The trustee is authorized to invest the fund in time or demand deposits of the trustee, to the extent insured by an agency of the federal or state government;

(c) The trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and investment. The trustee is expressly authorized in its discretion:

(a) To transfer periodically any or all of the assets of the fund to any common, commingled, or collective trust fund created by the trustee in which the fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein;

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. sections 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the trustee. The trustee may vote such shares in its discretion.

Section 8. Express powers of trustee. Without in any way limiting the powers and discretion conferred
upon the trustee by the other provisions of this agreement or by law, the trustee is expressly authorized
and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or
private sale. No person dealing with the trustee will be bound to see to the application of the purchase
money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and
any and all other instruments that may be necessary or appropriate to carry out the powers herein
granted;

(c) To register any securities held in the fund in its own name or in the name of a nominee and to hold
any security in bearer form or in book entry, or to combine certificates representing such securities with
certificates of the same issue held by the trustee in other fiduciary capacities, or to deposit or arrange for
the deposit of such securities in a qualified central depository even though, when so deposited, such
securities may be merged and held in bulk in the name of the nominee of such depository with other
securities deposited therein by another person, or to deposit or arrange for the deposit of any securities
issued by the United States government, or any agency or instrumentality thereof, with a Federal
Reserve Bank, but the books and records of the trustee will at all times show that all such securities are
part of the fund;

(d) To deposit any cash in the fund in interest-bearing accounts maintained or savings certificates issued
by the trustee, in its separate corporate capacity, or in any other banking institution affiliated with the
trustee, to the extent insured by an agency of the federal or state government;

(e) To compromise or otherwise adjust all claims in favor of or against the fund.

Section 9. Taxes and expenses. All taxes of any kind that may be assessed or levied against or in respect
of the fund and all brokerage commissions incurred by the fund will be paid from the fund. All other
expenses, proper charges, and disbursements, incurred by the trustee in connection with the
administration of this trust, including fees for legal services rendered to the trustee, the compensation of
the trustee to the extent not paid directly by the grantor, and all other proper charges and disbursements
of the trustee will be paid from the fund. Expenses, proper charges, and disbursements include fees for
legal services, rendered to the trustee and the compensation of the trustee to the extent the grantor fails
to compensate the trustee pursuant to section 12.

Section 10. Annual valuation. The trustee will annually, not later than thirty days prior to the
anniversary date of the establishment of the fund, furnish to the grantor and to the director a statement
confirming the value of the trust. Any securities in the fund will be valued at market value as of no more
than sixty days prior to the anniversary date of establishment of the fund. The failure of the grantor to
object in writing to the trustee not later than ninety days after the statement has been furnished to the
grantor and the director will constitute a conclusively binding assent by the grantor, barring the grantor
from asserting any claim or liability against the trustee with respect to matters disclosed in the statement.

Section 11. Advice of counsel. The trustee may periodically consult with counsel, who may be counsel
to the grantor, with respect to any question arising as to the construction of this agreement or any action
to be taken hereunder. The trustee will be fully protected, to the extent permitted by law, in acting upon
the advice of counsel.

Section 12. Trustee compensation. The trustee will be entitled to reasonable compensation from the
grantor for the trustee's services as agreed upon in writing periodically with the grantor.
Section 13. Successor trustee. The trustee may resign or the grantor may replace the trustee, but such resignation or replacement shall not be effective until the grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee will have the same powers and duties as those conferred upon the trustee hereunder. Upon the successor trustee's acceptance of the appointment, and upon the director's written approval, the trustee will assign, transfer, and pay over to the successor trustee the funds and properties then constituting the fund. If for any reason the grantor cannot or does not act in the event of the resignation of the trustee, the trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the grantor, the director, and the present trustee by certified mail or any other form of mail accompanied by a receipt not later than ten days before such change becomes effective. The director's written approval must be given prior to the ten days notice provided by the successor trustee. Any expenses incurred by the trustee as a result of any of the acts contemplated by this section will be paid as provided in section 9.

Section 14. Instructions to the trustee. All orders, requests, and instructions by the grantor to the trustee will be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the grantor may designate by amendment to Exhibit A. The trustee will be fully protected in acting without inquiry in accordance with the grantor's orders, requests, and instructions. All orders, requests, and instructions by the director to the trustee will be in writing, signed by the director, and the trustee will act and will be fully protected in acting in accordance with such orders, requests, and instructions. The trustee will have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the grantor or the director hereunder has occurred. The trustee will have no duty to act in the absence of such orders, requests, and instructions from the grantor or the director except as provided for herein.

Section 15. Notice of nonpayment. The trustee will notify the grantor and the director by certified mail not later than ten days after the expiration of the thirty-day period following the anniversary of the establishment of the trust, if no payment is received from the grantor during the period. After the pay-in period is completed, the trustee is not required to send a notice of nonpayment.

Section 16. Amendment of agreement. This agreement may be amended by an instrument in writing executed by the grantor, the trustee, and the director, or by the trustee and the director if the grantor ceases to exist.

Section 17. Irrevocability and termination. Subject to the right of the parties to amend this agreement as provided in section 16, this trust will be irrevocable and will continue until termination at the written agreement of the grantor, the trustee, and the director, or by the trustee and the director if the grantor ceases to exist. Upon termination of the trust, all remaining trust property, less final trust administration expenses, will be delivered to the grantor, unless the trust is a standby trust fund created in accordance with a surety bond guaranteeing payment into a trust fund, a surety bond guaranteeing performance, or a letter of credit, in which case all remaining trust property, less final trust administration expenses, will be delivered to the provider of the financial assurance.

Section 18. Immunity and indemnification. The trustee will not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this trust, or in carrying out any directions by the grantor or the director issued in accordance with this agreement. The trustee will be indemnified and saved harmless by the grantor or from the trust fund, or both, from and
against any personal liability to which the trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the grantor fails to provide such defense.

Section 19. Choice of law. This agreement will be administered, construed, and enforced according to the laws of the state of Ohio.

Section 20. Interpretation. As used in this agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each section of this agreement will not affect the interpretation or the legal efficacy of this agreement.

In witness whereof the parties have caused this agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written: the parties below certify that the wording of this agreement is identical to the wording specified in paragraph (A)(1) of rule 3745-27-17 of the Administrative Code as such rule was constituted on the date first above written.

[Signature of grantor]

[Title]

Attest:

[Title]

[Seal]

[Signature of trustee]

Attest:

[Title]

[Seal]"

(2) The following is an example of the certification of acknowledgment, which must accompany the trust agreement for a trust fund as specified in paragraph (F) of rules 3745-27-15, 3745-27-16, or in paragraph (G) of rule 3745-27-18 of the Administrative Code:

"State of_____________
County of_____________

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], and the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the board of directors of said corporation, and that she/he signed her/his name thereto by like order.

[Signature of notary public]"

[Comment: As required in paragraph (F)(2) of rules 3745-27-15, 3745-27-16, or paragraph (G)(2) of rule 3745-27-18 of the Administrative Code, the trust agreement must be accompanied by a formal certification of acknowledgment. The previous paragraph is only an example.]
A surety bond guaranteeing payment into a trust fund, as specified in paragraph (G) of rules 3745-27-15, 3745-27-16, or in paragraph (H) of rule 3745-27-18 of the Administrative Code, must be worded as follows on forms prescribed by the director, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

"Financial guarantee bond

Date bond executed: ________________

Effective date: ________________

Principal: [legal name and business address of owner or operator]

Type of organization: [insert "individual," "joint venture," "partnership," or "corporation"]

State of incorporation: ________________

Surety(ies): [name(s) and business address(es)]

Name, address, and final closure, post-closure care, scrap tire transporter final closure, or corrective measures amount(s) for each facility or scrap tire transporter guaranteed by this bond [indicate final closure, post-closure care, scrap tire transporter final closure, or corrective measures amounts separately]:

$ ________________

Total penal sum of bond: $ ________________

Surety's bond number: ________________

Know all persons by these presents, that we, the principal and surety(ies) hereto are firmly bound to the Ohio Environmental Protection Agency ("Ohio EPA"), in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally; provided that, where the surety(ies) are corporations acting as co-sureties, we, the sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each surety binds itself, jointly and severally with the principal, for the payment of such sum only as is set forth opposite the name of such surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas, said principal is required to have an Ohio EPA permit(s) or registration, in order to operate each solid waste facility identified above, or a scrap tire transporter registration;

Whereas, said principal is required to provide financial assurance for final closure, or final closure and post-closure care, or post-closure care, or corrective measures of the facility or scrap tire transporter final closure as a condition of Chapter 3734. of the Revised Code;

Whereas said principal shall establish a standby trust fund in accordance with rule 3745-27-15, 3745-27-16, or 3745-27-18 of the Administrative Code,

Now, therefore, for solid waste facility, the conditions of the obligation are such that if the principal shall faithfully, before the beginning of final closure, post-closure care or corrective measures, of each facility identified above, fund the standby trust fund in the amount identified above for the facility,
Now, therefore, for a scrap tire transporter, the conditions of the obligation are such that if the principal shall faithfully, before the registration expires, fund the standby trust fund in the amount identified above for the scrap tire transporter,

Or, if the principal shall fund the standby trust fund in such an amount not later than fifteen days after an order to begin final closure is issued by the director, or an Ohio court, or a U.S. district court, or other court of competent jurisdiction, or not later than fifteen days after a notice of revocation of the solid waste facility license or the denial, suspension, or revocation of the registration,

Or, if the principal shall provide alternate financial assurance in accordance with rule 3745-27-15, 3745-27-16, or 3745-27-18 of the Administrative Code, as applicable, and obtain the director's written approval of such alternate financial assurance, not later than ninety days after the first day that notice of cancellation has been received by both the principal and the director from the surety(ies), then this obligation will be null and void; otherwise it is to remain in full force and effect.

The surety(ies) shall become liable on this bond obligation only when the principal has failed to fulfill the conditions described above. Upon notification by the director that the principal has failed to perform as guaranteed by this bond, the surety(ies) shall place funds in the amount guaranteed for the facility or scrap tire transporter into the standby trust fund as directed by the director.

The liability of the surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the surety(ies) hereunder exceed the amount of said penal sum.

The surety(ies) may cancel the bond by sending notice of cancellation by certified mail or any other form of mail accompanied by a receipt to the principal and to the director, provided, however, that cancellation shall not occur during the one hundred twenty day period beginning on the first day of receipt of the notice of cancellation by both the principal and the director, as evidenced by the return receipt(s).

The principal may terminate this bond by sending written notice to the surety(ies) and the director, provided, however, that no such notice shall become effective until the surety(ies) receive(s) written authorization for termination of the bond by the director.

[The following paragraph is an optional rider that may be included but is not required.]

Principal and surety(ies) hereby agree to adjust the penal sum of the bond annually so that it guarantees a new final closure, post-closure care, scrap tire transporter final closure, or corrective measures amount, provided that the penal sum does not increase by more than twenty per cent in any one year, and no decrease in the penal sum takes place without the written permission of the director.

In witness whereof, the principal and surety(ies) have executed this financial guarantee bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the principal and surety(ies) and that the wording of this surety bond is identical to the wording specified in paragraph (B) of rule 3745-27-17 of the Administrative Code as such rule was constituted on the date this bond was executed.

Principal
(C) A surety bond guaranteeing performance of final closure, post-closure care, scrap tire transporter final closure, or corrective measures, as specified in paragraph (H) of rules 3745-27-15, 3745-27-16, or paragraph (I) of rule 3745-27-18 of the Administrative Code, must be worded as follows on forms prescribed by the director, except that instructions in brackets are to be replaced by the relevant information and the brackets deleted:

"Performance bond

Date bond executed: ________________

Effective date: ________________

Principal: [legal name and business address of owner or operator]

Type of organization: [insert "individual," "joint venture," "partnership," or "corporation"]

State of incorporation: ________________

Surety(ies): [name(s) and business address(es)]

Name, address, and final closure, post-closure care, scrap tire transporter final closure, or corrective measures amount for each facility or scrap tire transporter guaranteed by this bond [indicate final closure, post-closure care, scrap tire transporter final closure, and corrective measures amounts separately]: $ ________________

Total penal sum of bond: $ ________________

Surety's bond number: ________________
Know all persons by these presents, that we, the principal and surety(ies) hereto are firmly bound to the Ohio Environmental Protection Agency ("Ohio EPA"), in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the surety(ies) are corporations acting as co-sureties, we, the sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each surety binds itself, jointly and severally with the principal, for the payment of such sum only as is set forth opposite the name of such surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas, said principal is required to have an Ohio EPA permit(s) or registration in order to operate each solid waste facility or scrap tire transporter identified above, and

Whereas said principal is required to provide financial assurance for final closure, or final closure and post-closure care, or post-closure care, or corrective measures as a condition of the permit(s) or registration(s), and

Whereas said principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, therefore, for a solid waste facility, the conditions of this obligation are such that if the principal shall faithfully perform final closure whenever required to do so, of each facility for which this bond guarantees final closure, in accordance with the final closure/post-closure plan, and other requirements of the permit as such plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended.

And, for a solid waste facility, if the principal shall faithfully perform post-closure care of each facility for which this bond guarantees post-closure care, in accordance with the final closure/post-closure plan and other requirements of the permit, as such plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended.

And, for a solid waste facility, if the principal shall faithfully perform corrective measures at each facility for which this bond guarantees corrective measures in accordance with the corrective measures plan and other requirements of the permit, as such plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended.

Now, for a scrap tire transporter, if the principal shall faithfully perform the activities specified in paragraph (H)(4)(b) of rule 3745-27-15 of the Administrative Code for which this bond guarantees, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended.

Or, if the principal shall provide alternate financial assurance as specified in rules 3745-27-15, 3745-27-16, or 3745-27-18 of the Administrative Code and obtain the director's written approval of such alternate financial assurance not later than ninety days after the date notice of cancellation is received by both the principal and the director from surety(ies), then this obligation will be null and void, otherwise it is to remain in full force and effect.

The surety(ies) shall become liable on this bond obligation only when the principal has failed to fulfill the conditions described above.

[The following paragraph is only required for those solid waste facilities required to conduct final closure]
activities and should not be included in surety bonds for scrap tire transporters.]

Upon notification by the director that the principal has been found in violation of the final closure requirements of [Insert "rule 3745-27-11 of the Administrative Code," if the facility is a municipal solid waste landfill facility or scrap tire monofill facility, "rule 3745-29-11 of the Administrative Code," if the facility is an industrial solid waste landfill facility, "rule 3745-30-09 of the Administrative Code," if the facility is a residual solid waste landfill facility, "rule 3745-27-23 of the Administrative Code," if the facility is a solid waste transfer facility, "Chapter 3745-560 of the Administrative Code," if the facility is a composting facility, "rule 3745-27-53 of the Administrative Code," if the facility is a solid waste incinerator, "rule 3745-27-66 of the Administrative Code," if the facility is a scrap tire storage or recovery facility, or "rule 3745-27-73 of the Administrative Code," if the facility is a scrap tire monofill], for a facility for which this bond guarantees performance of final closure, the surety(ies) shall either perform final closure in accordance with the final closure/post-closure plan and other permit or registration requirements or place the final closure amount guaranteed for the facility into the standby trust fund as directed by the director.

[The following paragraph is only required for sanitary landfill facilities, because only they are required to conduct post-closure care activities.]

Upon notification by the director that the principal has been found in violation of the post-closure care requirements of rule 3745-27-14, 3745-29-14, 3745-30-10, or 3745-27-74 of the Administrative Code, whichever is applicable, for a facility for which this bond guarantees performance of post-closure care, the surety(ies) shall either perform post-closure care in accordance with the final closure/post-closure plan and other permit requirements or place the post-closure care amount guaranteed for the facility into the standby trust fund as directed by the director.

[The following paragraph is only required for municipal solid waste landfill facilities, because only they are required to conduct corrective measures activities.]

Upon notification by the director that the principal has been found in violation of the corrective measures requirements of rule 3745-27-10 of the Administrative Code, for a facility for which this bond guarantees performance of corrective measures, the surety(ies) shall either perform the corrective measures in accordance with the corrective measures plan and other permit requirements or place the corrective measures amount guaranteed for the facility into the standby trust fund as directed by the director.

[The following paragraph is only required for scrap tire transporters.]

Upon notification by the director that the principal has failed to remove accumulations of scrap tires, delivered by the scrap tire transporter to a location not authorized to receive scrap tires by paragraph (C)(1) of rule 3745-27-56 of the Administrative Code, or failed to remove and properly dispose of any scrap tires which have been open dumped by the scrap tire transporter, or has been found to be in violation of rule 3745-27-79 of the Administrative Code, the surety(ies) shall either perform the required activities in accordance with applicable rules or place the amount guaranteed for the scrap tire transporter into the standby trust fund as directed by the director.

Upon notification by the director that the principal has failed to provide alternate financial assurance as specified in rule 3745-27-15, 3745-27-16, or 3745-27-18 of the Administrative Code and obtain written approval of such alternate financial assurance from the director not later than ninety days after receipt by both the principal and the director of a notice of cancellation of the bond, the surety(ies) shall place funds in
the amount guaranteed for the facility or scrap tire transporter into the standby trust fund as directed by the director.

The surety(ies) hereby waive(s) notification of amendments to the final closure/post-closure plan, permits, applicable laws, statutes, rules, and regulations and agrees that no such amendment shall in any way alleviate its (their) obligation on this bond.

The liability of the surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the surety(ies) hereunder exceed the amount of said penal sum.

The surety(ies) may cancel the bond by sending notice of cancellation by certified mail or any other form of mail accompanied by a receipt to the owner or operator and to the director, provided, however, that cancellation cannot occur during the one hundred twenty day period beginning on the first day of receipt of the notice of cancellation by both the principal and the director, as evidenced by the return receipts.

The principal may terminate this bond by sending written notice to the surety(ies) and the director, provided, however, that no such notice shall become effective until the surety(ies) receive(s) written approval for termination of the bond by the director.

[The following paragraph is an optional rider that may be included but is not required.]

Principal and surety(ies) hereby agree to adjust the penal sum of the bond annually so that it guarantees a new final closure, post-closure care, scrap tire transporter final closure, or corrective measures amount, provided that the penal sum does not increase by more than twenty per cent in any one year, and no decrease in the penal sum occurs without the written approval of the director.

In witness whereof, the principal and surety(ies) have executed this performance bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the principal and surety(ies) and that the wording of this surety bond is identical to the wording specified in paragraph (C) of rule 3745-27-17 of the Administrative Code, as such rule was constituted on the date this bond was executed.

Principal
Signature(s):______________
Name(s) and title(s) [typed]:______________
Corporate seal:______________
Corporate surety(ies)
Name and address:______________
State of incorporation:______________
Liability limit: $______________
Signature(s):______________
Name(s) and title(s) [typed]: _______________

Corporate seal:

[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for surety above.]

Bond premium: $______________"

(D) A letter of credit as specified in paragraph (I) of rules 3745-27-15, 3745-27-16, or paragraph (J) of rule 3745-27-18 of the Administrative Code must be worded as follows on forms prescribed by the director, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted [note: A letter of credit may also contain provisions used by the issuing institution in its regular course of business, provided that such provisions do not alter the terms and conditions in this paragraph]:

"Irrevocable standby letter of credit

[Director]

Ohio Environmental Protection Agency

Dear sir or madam: We hereby establish our irrevocable standby letter of credit no.__________ in your favor, at the request and for the account of [owner's or operator's name and address] up to the aggregate amount of [in words] U.S. dollars ($__________), available upon presentation of

(1) Your sight draft, bearing reference to this letter of credit no.______________, and

(2) Your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to regulations issued under the authority of Chapter 3734. of the Revised Code as amended."

This letter of credit is effective as of [date] and will expire on [date of at least one year later], but such expiration date will be automatically extended for a period of [at least one year] on [date] and on each successive expiration date, unless, at least one hundred twenty days prior to the current expiration date, we notify both you and [owner's or operator's name] by certified mail or any other form of mail accompanied by a receipt that we have decided not to extend this letter of credit beyond the current expiration date. In the event that you are so notified, any unused portion of the credit will be available upon presentation of your sight draft for one hundred twenty days after the first day of receipt by both you and [owner's or operator's name] as evidenced by the return receipts.

Whenever this letter of credit is drawn under and in compliance with the terms of this credit, we will duly honor such draft upon presentation to us, and we will deposit the amount of the draft directly into the standby trust fund by [owner's or operator's name] in accordance with your instructions.

We certify that the wording of this letter of credit is identical to the wording specified in paragraph (D) of rule 3745-27-17 of the Administrative Code as such rule was constituted on the date shown immediately below.

[Signature(s) and title(s) of official(s) of issuing institution] [date]

This credit is subject to [insert "the most recent edition of the "Uniform Customs and Practice for Documentary Credits," published by the International Chamber of Commerce" or "The Uniform Commercial Code"]."
Comment: In the event that the owner or operator ceases to exist, any unused portion of the credit will be available for the one hundred twenty day period after the date of receipt by the director, as evidenced by the return receipt.

(E) A certificate of insurance, as specified in paragraph (J) of rules 3745-27-15, 3745-27-16, or paragraph (K) of rule 3745-27-18 of the Administrative Code, must be worded as follows on forms prescribed by the director, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

"Certificate of insurance for final closure, post-closure care, corrective measures, or scrap tire transporter final closure

Name and address of insurer
(Herein called the "insurer"): ______________

Name and address of insured
(Herein called the "insured"): ______________

Facilities or scrap tire transporters covered: [list for each facility or scrap tire transporter: name, address, county in which the solid waste facility or scrap tire transporter is located, and the amount of insurance for final closure, post-closure care, scrap tire transporter final closure or corrective measures provided under the insurance policy (the aggregate amount for all facilities or scrap tire transporters covered must total the face amount shown below).]

Face amount: $ ______________

Policy number: ______________

Effective date: ______________

The insurer hereby certifies that it has issued to the insured the policy of insurance identified above to provide financial assurance for [insert "final closure," "final closure and post-closure care," "post-closure care," "corrective measures," or "scrap tire transporter final closure"] for the facilities or scrap tire transporters identified above. The insurer further warrants that such insurance policy conforms in all respects with the requirements of paragraph (J) of rules 3745-27-15, 3745-27-16, or paragraph (K) of rule 3745-27-18 of the Administrative Code, as applicable as such rules were constituted on the date shown immediately below. It is agreed that any provision of the insurance policy inconsistent with such regulations is hereby amended to eliminate such inconsistency.

Whenever requested by the director of the Ohio Environmental Protection Agency, the insurer agrees to furnish to the director a duplicate original of the insurance policy listed above, including all endorsements thereon.

I hereby certify that the wording of this certificate is identical to the wording specified in paragraph (E) of rule 3745-27-17 of the Administrative Code as such rule was constituted on the date shown immediately below.

[Authorized signature for insurer]
(F) A letter from the chief financial officer, as specified in paragraph (K) of rules 3745-27-15, 3745-27-16, or paragraph (L) of rule 3745-27-18 of the Administrative Code must be worded as follows on forms prescribed by the director, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

"Letter from chief financial officer

[Address to director, Ohio Environmental Protection Agency.]

I am the chief financial officer of [name and address of firm]. This letter is in support of this firm's use of the financial test to demonstrate financial assurance, as specified in Chapter 3745-27 of the Administrative Code.

[Fill out the following three paragraphs regarding facilities or scrap tire transporters and associated cost estimates. If your firm has no facilities or scrap tire transporters that belong in a particular paragraph, write "none" in the space indicated. For each facility or scrap tire transporter, include its name, address, county, and current final closure, post-closure care, scrap tire transporter final closure, or corrective measures cost estimates and any other environmental obligations, if any. Identify each cost estimate as to whether it is for final closure, post-closure care, scrap tire transporter final closure, or corrective measures.]

(1) This firm is the owner or operator of the following facilities or scrap tire transporters for which financial assurance for final closure, post-closure care, corrective measures, or scrap tire transporter final closure is demonstrated through the financial test specified in Chapter 3745-27 of the Administrative Code or this firm is the owner or operator of the following facilities for which financial assurance for any other environmental obligations are assured by a financial test. The current final closure, post-closure care, scrap tire transporter final closure, or corrective measures cost estimates, and any other environmental obligations, provided for by a financial test are shown for each solid waste facility or scrap tire transporter: $______________.

(2) This firm guarantees, through the corporate guarantee specified in Chapter 3745-27 of the Administrative Code, the final closure, post-closure care, or corrective measures of the following facilities permitted by subsidiaries of this firm or final closure for scrap tire transporters or this firm guarantees, through the corporate guarantee, any other environmental obligations of the following facilities permitted by subsidiaries of this firm. The current cost estimates for the final closure, post-closure care, scrap tire transporter final closure, or corrective measures, and any other environmental obligations, so guaranteed are shown for each solid waste facility or scrap tire transporter final closure: $______________.

(3) This firm is the owner or operator of the following facilities or scrap tire transporters for which financial assurance requirements for final closure, scrap tire transporter final closure, post-closure care, or corrective measures or any other environmental obligations are satisfied through a financial test other
than that required by chapter 3745-27 of the Administrative Code. The current final closure, post-closure care, scrap tire transporter final closure, or corrective measures cost estimates, or any other environmental obligations covered by such financial assurance are shown for each facility or scrap tire transporter:

$__________________.

This firm [insert "is required" or "is not required"] to file a form 10k with the Securities and Exchange Commission (SEC) for the most recent fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the most recently completed fiscal year, ended [date].

[Fill in Alternative I if the criteria of paragraph (K)(1)(a) of rules 3745-27-15, 3745-27-16, or paragraph (L)(1)(a) of rule 3745-27-18 of the Administrative Code are used. Fill in Alternative II if the criteria of paragraph (K)(1)(b) of rules 3745-27-15, 3745-27-16, or of paragraph (L)(1)(b) of rule 3745-27-18 of the Administrative Code are used.]

**Alternative I**

<p>| | |</p>
<table>
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</table>
| 1. | Sum of current final closure, post-closure care, scrap tire transporter final closure, or corrective measures cost estimates, and any other environmental obligations assured by a financial test (total of all cost estimates shown in the three paragraphs above): $__________________.
| **2.** | Total liabilities [if any portion of the final closure, post-closure care, scrap tire transporter final closure, or corrective measures cost estimate is included in total liabilities, you may deduct the amount of that portion from this line and add that amount to lines 3 and 4]: $__________________.
| **3.** | Tangible net worth: $__________________.
| **4.** | Net worth: $__________________.
| **5.** | Current assets: $__________________.
| **6.** | Current liabilities: $__________________.
| **7.** | Net working capital [line 5 minus line 6]: $__________________.
| **8.** | The sum of net income plus depreciation, depletion, and amortization minus $10 million: $__________________.
| **9.** | Total assets in U.S. (required only if less than 90% of firm's assets are located in the U.S.): $__________________.

<table>
<thead>
<tr>
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<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>10.</td>
<td>Is line 3 at least $10 million?</td>
<td>. . .</td>
</tr>
<tr>
<td>11.</td>
<td>Is line 3 at least 6 times line 1?</td>
<td>. . .</td>
</tr>
<tr>
<td>12.</td>
<td>Is line 7 at least 6 times line 1?</td>
<td>. . .</td>
</tr>
<tr>
<td><strong>13.</strong></td>
<td>Are at least 90% of firm's assets located in the U.S.?</td>
<td>. . .</td>
</tr>
</tbody>
</table>
14. Is line 9 at least 6 times line 1? . . .
15. Is line 2 divided by line 4 less than 2.0? . . .
16. Is line 8 divided by line 2 greater than 0.1? . . .
17. Is line 5 divided by line 6 greater than 1.5? . . .

<table>
<thead>
<tr>
<th>Alternative II</th>
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<tbody>
<tr>
<td>1. <strong>Sum of current final closure, post-closure care, scrap tire transporter final closure, or corrective measures cost estimates, and any other environmental obligations assured by a financial test (total of all cost estimates shown in the three paragraphs above):</strong> $_______________</td>
</tr>
<tr>
<td>2. <strong>Current bond rating of most recent issuance of this firm and name of rating service:</strong> ________________</td>
</tr>
<tr>
<td>3. <strong>Date of issuance of bond:</strong> ________________</td>
</tr>
<tr>
<td>4. <strong>Date of maturity of bond:</strong> ________________</td>
</tr>
<tr>
<td>5. <strong>Tangible net worth [if any portion of the final closure, post-closure care, scrap tire transporter final closure, and corrective measures cost estimates is included in total liabilities on your firm's financial statements, you may add the amount of that portion to this line]:</strong> $______________</td>
</tr>
<tr>
<td>6. <strong>Total assets in U.S. (required only if less than 90% of firm's assets are located in the U.S.):</strong> $______________</td>
</tr>
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<tr>
<th></th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>7. Is line 5 at least $10 million? . . .</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Is line 5 at least 6 times line 1? . . .</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Are at least 90% of firm's assets located in the U.S.? . . . If not, complete line 10.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Is line 6 at least 6 times line 1? . . .</td>
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I hereby certify that the wording of this letter is identical to the wording specified in paragraph (F) of rule 3745-27-17 of the Administrative Code as such rule was constituted on the date shown immediately below.

[Signature]
[Name]
[Title]
[Date]

(G) A corporate guarantee, as specified in paragraph (K) of rules 3745-27-15, 3745-27-16, or paragraph (L) of rule 3745-27-18 of the Administrative Code, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

"Corporate guarantee for final closure, post-closure care, corrective measures, or scrap tire transporter final closure.

Guarantee made this [date] by [name of guaranteeing entity], a business corporation organized under the
laws of the state of [insert name of state], herein referred to as guarantor, to the Ohio Environmental Protection Agency ("Ohio EPA"), obligee on behalf of our subsidiary [owner or operator] of [business address].

Recitals

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in paragraph (K) of rules 3745-27-15, 3745-27-16, or paragraph (L) of rule 3745-27-18 of the Administrative Code.

2. [Owner or operator] responsible for the following facility(ies) or scrap tire transporter(s) covered by this guarantee: [List for each facility or scrap tire transporter: name and address. Indicate for each whether guarantee is for final closure, post-closure care, both, corrective measures, or for scrap tire transporter final closure].

3. Final closure/post-closure plans or corrective measures plans as used below refer to the plans maintained as required by Chapter 3745-27 of the Administrative Code for the final closure, post-closure care, and corrective measures of a facility, as identified above.

4. For value received from [owner or operator], guarantor guarantees to the Ohio EPA that in the event that [owner or operator] fails to perform [insert "final closure," "post-closure care," "final closure/post-closure care," or "corrective measures"] of the above facility in accordance with the final closure/post-closure plans or corrective measures plans and other permit requirements, as applicable, or, for a scrap tire transporter, in the event the owner or operator fails to remove and properly dispose of any accumulation of scrap tires delivered to a location not authorized to receive scrap tires by paragraph (C)(1) of rule 3745-27-56 of the Administrative Code, or fails to remove and properly dispose of any scrap tires which have been open dumped by the scrap tire transporter, or has been found to be in violation of rule 3745-27-79 of the Administrative Code, the guarantor shall remove and properly dispose of the scrap tires or establish a trust fund as specified in Chapter 3745-27 of the Administrative Code, as applicable, in the name of [owner or operator] in the amount of the current final closure, post-closure care, scrap tire transporter final closure, or corrective measures cost estimates as specified in Chapter 3745-27 of the Administrative Code.

5. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send notice to the director, Ohio EPA, and to [owner or operator], not later than ninety days after the end of such fiscal year, by certified mail or any other form of mail accompanied by a receipt, that the guarantor intends to provide alternate financial assurance as specified in Chapter 3745-27 of the Administrative Code, in the name of [owner or operator]. Not later than one hundred twenty days after the end of such fiscal year, the guarantor shall establish such alternate financial assurance unless [owner or operator] has done so.

6. The guarantor agrees to notify the director by certified mail or any other form of mail accompanied by a receipt, of a voluntary or involuntary proceeding under "Title 11 (bankruptcy)," U.S. Code, naming guarantor as debtor, not later than ten days after commencement of the proceeding.

7. Guarantor agrees that not later than thirty days after being notified by the director of a determination that guarantor no longer meets the financial test criteria or that the guarantor is disallowed from continuing as a guarantor of final closure, post-closure care, corrective measures, or scrap tire transporter final closure, the guarantor shall establish alternate financial assurance as specified in Chapter 3745-27 of the Administrative
Code, in the name of [owner or operator] unless [owner or operator] has done so.

8. Guarantor agrees to remain bound under this guarantee notwithstanding any or all of the following: amendment or modification of the final closure/post-closure plan or corrective measures plan, amendment or modification of the permit or registration, extension or reduction of the time of performance of final closure, post-closure care, or corrective measures, or any other modification or alteration of an obligation of the owner or operator pursuant to Chapter 3745-27 of the Administrative Code.

9. Guarantor agrees to remain bound under this guarantee for so long as [owner or operator] shall comply with the applicable financial assurance requirements of Chapter 3745-27 of the Administrative Code for the above listed facilities or scrap tire transporter, except that guarantor may cancel this guarantee by sending notice by certified mail or any other form of mail accompanied by a receipt to the director and [owner or operator], such cancellation to become effective not earlier than one hundred twenty days after receipt of such notice by both Ohio EPA and [owner or operator], as evidenced by the return receipts.

10. Guarantor agrees that if [owner or operator] fails to provide alternate financial assurance as specified in Chapter 3745-27 of the Administrative Code, and obtain written approval of such alternate financial assurance from the director not later than ninety days after a notice of cancellation by the guarantor is received by the director from guarantor, guarantor shall provide such alternate financial assurance in the name of [owner or operator].

11. Guarantor expressly waives notice of acceptance of this guarantee by the Ohio EPA or by [owner or operator]. Guarantor also expressly waives notice of amendments or modifications of the facility permit(s) or registration(s) or the scrap tire transporter registration.

I hereby certify that the wording of this guarantee is identical to the wording specified in paragraph (G) of rule 3745-27-17 of the Administrative Code as such rule was constituted on the date first above written.

Effective date: __________

[Name of guarantor]

[Authorized signature for guarantor]

[Name of person signing]

[Title of person signing]

Signature of witness or notary: __________

(H) A letter from the chief financial officer of a local government, as specified in paragraph (L) of rules 3745-27-15, 3745-27-16, or in paragraph (M) of rule 3745-27-18 of the Administrative Code must be worded as follows on forms prescribed by the director, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

[Comment: For the purposes of this rule, local government is defined as a subdivision of the state of Ohio including, but not limited to, a municipal corporation, a county, a township, a single or joint county solid waste management district, or a solid waste management authority.]

"Letter from chief financial officer of a local government

[Address to director, Ohio Environmental Protection Agency.]
I am the chief financial officer of [name and address of local government]. This letter is in support of this local government's use of the financial test to demonstrate financial assurance, as specified in chapter 3745-27 of the Administrative Code.

[Fill out the following paragraphs regarding facilities and scrap tire transporters and the associated cost estimates. If there are no facilities or scrap tire transporters that belong in a particular paragraph, write "none" in the space indicated. For each solid waste facility or scrap tire transporter, include its name, address, county, and current final closure, post-closure care, scrap tire transporter final closure, or corrective measures cost estimates, and any other environmental obligations. Identify each cost estimate as to whether it is for final closure, post-closure care, scrap tire transporter final closure, or corrective measures, and all other environmental obligations.]

(1) This local government is the owner or operator of the following facilities or scrap tire transporters for which financial assurance for final closure, post-closure care, scrap tire transporter final closure, or corrective measures is demonstrated through the financial test specified in chapter 3745-27 of the Administrative Code or this local government is the owner or operator of the following facilities for which financial assurance for any other environmental obligations are assured by a financial test. The current final closure, post-closure care, scrap tire transporter final closure, or corrective measures cost estimates, and any other environmental obligations provided for by a test are shown: $________________.

(2) This local government is the owner or operator of the following facilities or scrap tire transporter for which financial assurance requirements for final closure, post-closure care, scrap tire transporter final closure, corrective measures, or any other environmental obligations are satisfied through a financial test other than that required by chapter 3745-27 of the Administrative Code. The current final closure, post-closure care, scrap tire transporter final closure, or corrective measures cost estimates, or any other environmental obligations covered by such financial assurance are shown for each facility or scrap tire transporter: $______________.

The fiscal year of this local government ends on [month, day]. The figures for the following items marked with an asterisk are derived from this local government's independently audited, year-end financial statements for the most recently completed fiscal year, ended [date]. [Comment: The figures for the following items must be contained in the audited financial statements from the most recently completed fiscal year.]

[Fill in Alternative I if the criteria of paragraph (L)(3)(a) of rule 3745-27-15, 3745-27-16, or paragraph (M)(3)(a) of rule 3745-27-18 of the Administrative Code are used. Fill in Alternative II if the criteria of paragraph (L)(3)(b) of rule 3745-27-15, 3745-27-16, or of paragraph (M)(3)(b) of rule 3745-27-18 of the Administrative Code are used.]

<table>
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<tr>
<th>Alternative I</th>
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<tbody>
<tr>
<td>1.</td>
<td>Sum of current final closure, post-closure care, scrap tire transporter final closure, or corrective measures cost estimates, and any other environmental obligations assured by a financial test (total of all cost estimates shown in the paragraphs above): $______________</td>
</tr>
</tbody>
</table>
### Sum of Cash and Marketable Securities

*2. Sum of cash and marketable securities: $ ________________.

### Total Expenditures

*3. Total expenditures: $ ________________.

### Annual Debt Service

*4. Annual debt service: $ ________________.

### Long-Term Debt

*5. Long-term debt: $ ________________.

### Capital Expenditures

*6. Capital expenditures: $ ________________.

### Total Assured Environmental Costs

*7. Total assured environmental costs: $ ________________.

### Total Annual Revenue

*8. Total annual revenue: $ ________________.

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<th>No</th>
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9. Is line 2 divided by line 3 greater than or equal to 0.05? . . .

10. Is line 4 divided by line 3 less than or equal to 0.20? . . .

11. Is line 5 divided by line 6 less than or equal to 2.00? . . .

12. Is line 7 divided by line 8 less than or equal to 0.43? . . . If not, complete lines 13 and 14.

13. Multiply line 8 by 0.43 = $ ________________. This is the maximum amount allowed to assure environmental costs.

14. Line 13 subtracted from line 7 = $ ________________. This amount must be assured by another financial assurance mechanism listed in paragraphs (F), (G), (I), or (J), in rules 3745-27-15, 3745-27-16, and paragraphs (G), (H), (J), or (K) in rule 3745-27-18 of the Administrative Code.

### Alternative II

1. Sum of current final closure, post-closure care, scrap tire transporter final closure, corrective measures cost estimates, and any other environmental obligations assured by a financial test (total of all cost estimates shown in the paragraphs above): $ ________________.

2. Current bond rating of most recent issuance and name of rating service: ________________.

3. Date of issuance of bond: ________________.

4. Date of maturity of bond: ________________.

5. Total assured environmental costs: $ ________________.

6. Total annual revenue: $ ________________.

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7. Is line 5 divided by line 6 less than or equal to 0.43? ..... If not, complete lines 8 and 9.

8. Multiply line 6 by 0.43 = $ ________________. This is the maximum amount allowed to assure environmental costs.

9. Line 8 subtracted from line 5 = $ ________________. This amount must be assured by another financial assurance mechanism listed in paragraphs (F), (G), (I), or (J), in rules 3745-27-15, 3745-27-16, and paragraphs (G), (H), (J), or (K) in rule 3745-27-18 of the Administrative Code.
I hereby certify that the wording of this letter is identical to the wording specified in paragraph (H) of rule 3745-27-17 of the Administrative Code as such rule was constituted on the date shown immediately below. I further certify the following: (1) that the local government's financial statements are prepared in conformity with generally accepted accounting principles for governments; (2) that the local government has not operated at a deficit equal to five per cent or more of total annual revenue in either of the past two fiscal years; (3) that the local government is not in default on any outstanding general obligation bonds; and, (4) that the local government does not have outstanding general obligations rated less than BBB as issued by "Standard and Poor's" or Baa as issued by "Moody's."

[Signature]
[Name]
[Title]
[Date]

(I) An existing trust agreement with the wording set forth in paragraphs (A)(1) and (A)(2) of this rule may be utilized to satisfy the trust agreement wording requirements set forth in paragraphs (A)(1) and (A)(2) of rule 3745-503-20 of the Administrative Code.

(J) An existing surety bond guaranteeing payment into a trust fund with the wording set forth in paragraph (B) of this rule may be utilized to satisfy the surety bond guaranteeing payment into a trust fund wording requirements set forth in paragraph (B) of rule 3745-503-20 of the Administrative Code.

(K) An existing surety bond guaranteeing performance with the wording set forth in paragraph (C) of this rule may be utilized to satisfy the surety bond guaranteeing performance wording requirements set forth in paragraph (C) of rule 3745-503-20 of the Administrative Code.

(L) An existing letter of credit with the wording set forth in paragraph (D) of this rule may be utilized to satisfy the letter of credit wording requirements set forth in paragraph (D) of rule 3745-503-20 of the Administrative Code.

(M) An existing certificate of insurance with the wording set forth in paragraph (E) of this rule may be utilized to satisfy the certificate of insurance wording requirements set forth in paragraph (E) of rule 3745-503-20 of the Administrative Code.

(N) An existing letter from the chief financial officer with the wording set forth in paragraph (F) of this rule may be utilized to satisfy the letter from the chief financial officer wording requirements set forth in paragraph (F) of rule 3745-503-20 of the Administrative Code.

(O) An existing corporate guarantee with wording set forth in paragraph (G) of this rule may be utilized to satisfy the corporate guarantee wording requirements set forth in paragraph (G) of rule 3745-503-20 of the Administrative Code.

(P) An existing letter from the chief financial officer of a local government as set forth in paragraph (H) of this rule may be utilized to satisfy the letter from the chief financial officer of a local government wording requirements set forth in paragraph (H) of rule 3745-503-20 of the Administrative Code.
Effective: 4/22/2019

Five Year Review (FYR) Dates: 1/22/2019 and 04/22/2024

CERTIFIED ELECTRONICALLY

Certification

04/10/2019

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.12
Rule Amplifies: 3734.02, 3734.12, 3734.71, 3734.72, 3734.73, 3734.74
(Corrective measures financial assurance for a sanitary landfill facility.

(A) Applicability.

Except as provided in paragraph (B)(6) of this rule, an owner or operator of a sanitary landfill facility "required to undertake corrective measures" pursuant to rule 3745-27-10 of the Administrative Code shall comply with the requirements of this rule. For the purposes of this rule, "required to undertake corrective measures" means one of the following:

1. The director selects a corrective measure in accordance with paragraph (F)(10) of rule 3745-27-10 of the Administrative Code.

2. The director requires the owner or operator to undertake interim measures to protect human health or the environment in accordance with paragraph (F)(6) of rule 3745-27-10 of the Administrative Code.

3. The director requires corrective measures as a condition of a permit.

(B) Implementation

1. If the sanitary landfill facility is "required to undertake corrective measures" pursuant to a selection or designation of a plan in accordance with paragraph (A)(1) or (2) of this rule, the owner or operator shall do the following:

   a. Within ninety days, execute a corrective measures financial assurance instrument, deliver the originally signed corrective measures financial assurance instrument to the director by certified mail or any other form of mail accompanied by a receipt, and place a copy of the corrective measures financial assurance instrument into the operating record in accordance with rule 3745-27-09 of the Administrative Code.

   b. Within one hundred and twenty days, fund the corrective measures financial assurance instrument.

2. If the owner or operator of a sanitary landfill facility is "required to undertake corrective measures" pursuant to rule 3745-27-10 of the Administrative Code as a condition of permit issuance, the owner or operator shall do the following:

   a. Upon permit issuance, comply with this rule.
(b) No later than permit issuance, execute the corrective measures financial assurance instrument, and prior to receipt of solid wastes in the unit(s) authorized by the permit, fund the corrective measures financial assurance instrument.

(C) The requirements of this rule do not apply to the following:

(1) Residual solid waste landfill facilities subject to the requirements of Chapter 3745-30 of the Administrative Code.

(2) Industrial solid waste landfill facilities subject to the requirements of Chapter 3745-29 of the Administrative Code.

(3) Sanitary landfill facilities that ceased acceptance of solid waste prior to June 1, 1994 as evidenced by the notification required to be submitted by paragraph (E) of rule 3745-27-11 of the Administrative Code.

(D) Corrective measures financial assurance instrument.

The corrective measures financial assurance instrument shall contain an itemized written estimate, in current dollars, of the total cost of corrective measures activities as described in the corrective measures plan for the entire corrective measures period for all unit(s) of the sanitary landfill facility subject to the corrective measures pursuant to rule 3745-27-10 of the Administrative Code. The owner or operator shall prepare a separate estimate for each noncontiguous unit of a sanitary landfill facility undergoing corrective measures pursuant to rule 3745-27-10 of the Administrative Code. The estimate shall be based on a third party conducting the corrective measures activities.

(E) Review of corrective measures financial assurance instrument. The owner or operator of a sanitary landfill facility shall submit to the director, by certified mail or any other form of mail accompanied by a receipt, the most recently adjusted corrective measures cost estimate prepared in accordance with this paragraph. The owner or operator of a sanitary landfill facility shall:

(1) Annually review and analyze the corrective measures cost estimate and shall make any appropriate revisions to these estimates and to the financial assurance instrument whenever a change in the corrective measures activities increases the cost of corrective measures. Any revised corrective measures cost estimate must be adjusted for inflation as specified in paragraph (E)(2) of this rule.
(2) Annually adjust the corrective measures cost estimate for inflation. The adjustment shall be made as specified in this paragraph, using an inflation factor derived from the annual implicit price deflator for gross domestic product as published by the U.S. Department of Commerce in its February issue of "Survey of Current Business." The inflation factor is the result of dividing the latest published annual deflator by the deflator for the previous year.

(a) The first adjustment is made by multiplying the corrective measures cost estimate by the inflation factor. The result is the adjusted corrective measures cost estimate.

(b) Subsequent adjustments are made by multiplying the most recently adjusted corrective measures cost estimate by the most recent inflation factor.

(F) The owner or operator, who is required to undertake corrective measures shall select a corrective measures financial assurance mechanism from the list of mechanisms specified in paragraphs (G), (H), (I), (J), (K), (L), and (M) of this rule, provided the owner or operator satisfies the criteria for use of that mechanism.

(G) Corrective measures trust fund.

(1) The owner or operator may satisfy the requirements of this rule by establishing a corrective measures trust fund which conforms to the requirements of this paragraph, sending an originally signed duplicate of the trust agreement to the director by certified mail or any other form of mail accompanied by a receipt within the time period outlined in paragraph (B) of this rule, and submitting a copy of the trust agreement into the operating record of the facility in accordance with rule 3745-27-09 of the Administrative Code. The trustee shall be an entity that has the authority to act as a trustee and which trust operations are regulated and examined by a federal or state agency.

(2) The wording of the trust agreement shall be identical to the wording specified in paragraph (A)(1) of rule 3745-27-17 of the Administrative Code on forms prescribed by the director and the trust agreement shall be accompanied by a formal certification of acknowledgment. Schedule A of the trust agreement shall be updated not later than sixty days after a change in the amount of the current corrective measures cost estimate provided for in the agreement.

(3) A corrective measures trust fund shall be established to secure an amount at least equal to the current corrective measures cost estimate, except as
provided in paragraph (N) of this rule. Payments to the trust fund shall be made quarterly, except as permitted by paragraph (G)(4) of this rule, by the owner or operator over the term of the projected corrective measures period as outlined in the applicable authorizing document, including permit to install or plan approval, this period is hereafter referred to as the pay-in period. The first payment into the corrective measures trust fund shall be made in accordance with paragraph (B) of this rule. Subsequent payments to the corrective measures trust fund shall be made as follows:

(a) A receipt from the trustee for each payment shall be submitted by the owner or operator to the director. The first payment shall be at least equal to the current corrective measures cost estimate divided by the number of quarters in the pay-in period, except as provided in paragraph (N) of this rule. Subsequent payments shall be made not later than thirty days after each quarter following the first payment. The amount of each subsequent payment shall be determined by performing the following calculation:

Next payment = (CE - CV) / Q

Where CE is the current corrective measures cost estimate, CV is the current value of the trust fund, and Q is the number of quarters remaining in the pay-in period.

(b) If the owner or operator establishes a trust fund, as specified in this rule, and the value of the trust fund is less than any revised current corrective measures cost estimate made during the pay-in period, the amount of the current corrective measures cost estimate still to be paid into the trust fund shall be paid in over the pay-in period, as defined in paragraph (G)(3) of this rule. Payments shall continue to be made not later than thirty days after each quarter following the first payment pursuant to paragraph (G)(3)(a) of this rule. The amount of each payment shall be determined by performing the following calculation:

Next payment = (CE - CV) / Q

Where CE is the current corrective measures cost estimate, CV is the current value of the trust fund, and Q is the number of quarters remaining in the pay-in period.

(4) The owner or operator may accelerate payments into the trust fund or the owner or operator may deposit the full amount of the current corrective measures cost estimate at the time the fund is established. However, the owner or operator shall maintain the value of the fund at no less than the value the fund would have if quarterly payments were made as specified in paragraphs
(G)(3) of this rule.

(5) If the owner or operator establishes a corrective measures trust fund after having begun funding corrective measures under any mechanism(s) specified in this rule, the corrective measures trust fund shall be established by depositing the total value of all prior mechanisms into the newly established trust fund. The subsequent quarterly payments shall be made as specified in paragraph (G)(3) of this rule.

(6) After the pay-in period of a trust fund has ended and the current corrective measures cost estimate changes, the owner or operator shall compare the revised estimate to the trustee's most recent annual valuation of the trust fund. If the value of the trust fund is less than the amount of the revised estimate, the owner or operator shall, not later than sixty days after the change in the cost estimate, either deposit a sufficient amount into the trust fund so that its value after payment at least equals the amount of the current corrective measures cost estimate, or obtain alternate financial assurance as specified in this rule to compensate for the difference.

(7) The director shall instruct the trustee to release to the owner or operator such funds as the director specifies in writing, after receiving one of the following requests from the owner or operator for a release of funds:

(a) The owner or operator may submit a written request to the director for the release of the amount in excess of the current corrective measures cost estimate, if the value of the trust fund is greater than the total amount of the current corrective measures cost estimate.

(b) The owner or operator may submit a written request to the director for release of the amount in the trust fund that exceeds the amount required as a result of such substitution, if the owner or operator substitutes any of the alternate financial assurance mechanism(s) specified in this rule for all or part of the trust fund.

(8) Reimbursement for corrective measures.

After beginning corrective measures, the owner or operator, or any other person authorized by the owner, operator, or director to perform corrective measures, may request reimbursement for corrective measures expenditures by submitting itemized bills to the director. After receiving itemized bills for corrective measures activities, the director shall determine whether the corrective measures expenditures are in accordance with the applicable authorizing document, including permit to install or plan approval, or are
otherwise justified, and if so, will instruct the trustee to make reimbursement in such amounts as the director specifies in writing. If the director determines that the cost of corrective measures care will be greater than the value of the trust fund, he may withhold reimbursement of such amounts as he deems prudent until he determines, in accordance with paragraph (P) of this rule, that the owner or operator is no longer required to maintain financial assurance for corrective measures.

(9) The director will agree to termination of a trust when one of the following occurs:

(a) The owner or operator substitutes alternate financial assurance for corrective measures as specified in paragraph (G)(6) of this rule.

(b) The director notifies the owner or operator, in accordance with paragraph (P) of this rule, that the owner or operator is no longer required by this rule to maintain financial assurance for corrective measures.

(H) Surety bond guaranteeing payment into a corrective measures trust fund.

(1) The owner or operator may satisfy the requirements of this rule by obtaining a surety bond that conforms to the requirements of this paragraph and by delivering the originally signed bond to the director by certified mail or any other form of mail accompanied by a receipt within the time period outlined in paragraph (B) of this rule by submitting a copy of the bond into the operating record in accordance with rule 3745-27-09 of the Administrative Code. The surety company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on federal bonds in "Circular 570" of the U.S. department of the treasury.

[Comment: "Circular 570" is published in the "Federal Register" annually on the first day of July; interim changes in the circular are also published in the "Federal Register." ]

(2) The wording of the surety bond shall be identical to the wording specified in paragraph (B) of rule 3745-27-17 of the Administrative Code on forms prescribed by the director.

(3) The owner or operator who uses a surety bond to satisfy the requirements of this rule shall also establish a standby trust fund not later than when the bond is obtained. Under the terms of the surety bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in
accordance with instructions from the director. This standby trust fund shall meet the requirements specified in paragraph (G) of this rule, except that:

(a) An originally signed duplicate of the trust agreement shall be delivered to the director with the surety bond and placed in the operating record in accordance with rule 3745-27-09 of the Administrative Code.

(b) Until the standby trust fund is funded, pursuant to the requirements of this rule, the following are not required:

(i) Payments into the trust fund as specified in paragraph (G) of this rule.

(ii) Revisions of Schedule A of the trust agreement to show current corrective measures cost estimate.

(iii) Annual valuations as required by the trust agreement;

(iv) Notices of nonpayment as required by the trust agreement.

(4) The bond shall guarantee that the surety will become liable on the bond obligation unless the owner or operator does one of the following, as applicable:

(a) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of the corrective measures period.

(b) Fund the standby trust fund in an amount equal to the penal sum of the bond not later than fifteen days after corrective measures are required pursuant to rule 3745-27-10 of the Administrative Code.

(c) Provide alternate financial assurance as specified in this rule, and obtain the director's written approval of the alternative financial assurance provided, not later than ninety days after both the owner or operator and the director receive notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety shall become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond shall be in an amount at least equal to the current
corrective measures cost estimate except as provided in paragraph (N) of this rule.

(7) Whenever the current corrective measures cost estimate increases to an amount greater than the penal sum of the bond, the owner or operator shall, not later than sixty days after the increase in the estimate, either cause the penal sum of the bond to be increased to an amount at least equal to the current corrective measures cost estimate and submit evidence of such increase to the director, and into the operating record in accordance with rule 3745-27-09 of the Administrative Code, or obtain alternate financial assurance, as specified in this rule, to compensate for the increase. Whenever the current corrective measures cost estimate decreases, the penal sum may be reduced to the amount of the current corrective measures cost estimate following written approval by the director. Notice of an increase or a proposed decrease in the penal sum shall be sent to the director not later than sixty days after the change.

(8) Under the terms of the bond, the bond shall remain in force unless the surety sends written notice of cancellation by certified mail or any other form of mail accompanied by a receipt to the owner or operator and to the director. Cancellation cannot occur, however, during the one hundred twenty day period beginning on the first day that both the owner or operator and the director have received the notice of cancellation, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the director has given prior written consent. The director will provide such written consent to the surety bond company when one of the following occurs:

(a) The owner or operator substitutes alternate financial assurance for corrective measures as specified in this rule.

(b) The director notifies the owner or operator, in accordance with paragraph (P) of this rule that the owner or operator is no longer required to maintain financial assurance for corrective measures.

(I) Surety bond guaranteeing performance of corrective measures.

(1) The owner or operator may satisfy the requirements of this rule by obtaining a surety bond which conforms to the requirements of this paragraph and by delivering the originally signed bond to the director within the time period outlined in paragraph (B) of this rule by submitting a copy of the surety bond into the operating record of the facility in accordance with rule 3745-27-09 of
the Administrative Code. The surety company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on federal bonds in "Circular 570" of the U.S. department of the treasury.

[Comment: "Circular 570" is published in the "Federal Register" annually on the first day of July; interim changes in the circular are also published in the "Federal Register."]

(2) The wording of the surety bond shall be identical to the wording specified in paragraph (C) of rule 3745-27-17 of the Administrative Code on forms prescribed by the director.

(3) The owner or operator who uses a surety bond to satisfy the requirements of this rule shall also establish a standby trust fund. Under the terms of the surety bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the director. This standby trust fund shall meet the requirements specified in paragraph (G) of this rule except that:

(a) An originally signed duplicate of the trust agreement shall be delivered to the director with the surety bond and placed in the operating record in accordance with rule 3745-27-09 of the Administrative Code.

(b) Unless the standby trust fund is funded pursuant to the requirements of this rule, the following are not required:

(i) Payments into the trust fund as specified in paragraph (G) of this rule.

(ii) Revisions of Schedule A of the trust agreement to show current corrective measures cost estimate.

(iii) Annual valuations as required by the trust agreement.

(iv) Notices of nonpayment as required by the trust agreement.

(4) The bond shall guarantee that the surety will become liable on the bond obligation unless the owner or operator does one of the following, as applicable:

(a) Performs corrective measures in accordance with the applicable authorizing document, including permit to install or plan approval.
(b) Provides alternate financial assurance as specified in this rule, and obtain
the director's written approval of the alternate financial assurance
provided, not later than ninety days after both the owner or operator and
the director receive notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond
obligation when the owner or operator fails to perform as guaranteed by the
bond. Following a determination by the director that the owner or operator of
the sanitary landfill facility has failed to perform corrective measures
activities in accordance with the applicable authorizing document, including
permit to install or plan approval, the surety shall perform corrective
measures in accordance with the applicable authorizing document, including
permit to install or plan approval, or will deposit the amount of the penal sum
into the standby trust fund.

(6) The penal sum of the bond shall be in an amount at least equal to the current
corrective measures cost estimate.

(7) Whenever the current corrective measures cost estimate increases to an amount
greater than the penal sum of the bond, the owner or operator shall, not later
than sixty days after the increase in the estimate, either cause the penal sum
of the bond to be increased to an amount at least equal to the current
corrective measures cost estimate and submit evidence of such increase to the
director, and into the operating record in accordance with rule 3745-27-09 of
the Administrative Code, or obtain alternate financial assurance, as specified
in this rule, to compensate for the increase. Whenever the current corrective
measures cost estimate decreases, the penal sum may be reduced to the
amount of the current corrective measures cost estimate following written
approval by the director. Notice of an increase or a proposed decrease in the
penal sum shall be sent to the director by certified mail or any other form of
mail accompanied by a receipt not later than sixty days after the change.

(8) Under the terms of the bond, the bond shall remain in force unless the surety
sends written notice of cancellation by certified mail or any other form of
mail accompanied by a receipt to the owner or operator and to the director.
Cancellation cannot occur, however, during the one hundred twenty day
period beginning on the first day that both the owner or operator and the
director have received the notice of cancellation, as evidenced by the return
receipts.

(9) The owner or operator may cancel the bond if the director has given prior
written consent. The director will provide such written consent to the surety
bond company when one of the following occurs:
(a) The owner or operator substitutes alternate financial assurance for corrective measures as specified in this rule.

(b) The director notifies the owner or operator, in accordance with paragraph (P) of this rule that the owner or operator is no longer required by this rule to maintain financial assurance for corrective measures.

(10) The surety shall not be liable for deficiencies in the completion of corrective measures activities by the owner or operator after the owner or operator has been notified by the director, in accordance with this rule, that the owner or operator is no longer required to maintain financial assurance for corrective measures.

(J) Corrective measures letter of credit.

(1) The owner or operator may satisfy the requirements of this rule by obtaining an irrevocable standby letter of credit ("letter of credit") which conforms to the requirements of this paragraph and by having the originally signed letter of credit delivered to the director by certified mail or any other form of mail accompanied by a receipt within the time period outlined in paragraph (B) of this rule and by submitting a copy of the letter of credit into the operating record of the facility in accordance with rule 3745-27-09 of the Administrative Code. The issuing institution shall be an entity which has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a federal or state agency.

(2) The wording of the letter of credit shall be identical to the wording specified in paragraph (D) of rule 3745-27-17 of the Administrative Code on forms prescribed by the director.

(3) An owner or operator who uses a letter of credit to satisfy the requirements of this rule shall also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the director shall be deposited promptly and directly by the issuing institution into the standby trust fund in accordance with instructions from the director. The standby trust fund shall meet the requirements of the trust fund specified in paragraph (G) of this rule, except that:

(a) An originally signed duplicate of the trust agreement shall be delivered to the director with the letter of credit, and a copy of the letter placed in the operating record in accordance with rule 3745-27-09 of the Administrative Code.
(b) Unless the standby trust fund is funded pursuant to the requirements of this rule, the following are not required:

(i) Payments into the trust fund as specified in paragraph (G) of this rule.

(ii) Updating of Schedule A of the trust agreement to show current corrective measures cost estimate.

(iii) Annual valuations as required by the trust agreement.

(iv) Notices of nonpayment as required by the trust agreement.

(4) The letter of credit shall be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the names and addresses of the sanitary landfill facility and the owner and the operator and the amount of funds assured for corrective measures by the letter of credit.

(5) The letter of credit shall be irrevocable and issued for a period of at least one year. The letter of credit shall provide that the expiration date will be automatically extended for a period of at least one year unless, at least one hundred twenty days prior to the current expiration date, the issuing institution notifies both the owner and operator and the director by certified mail or any other form of mail accompanied by a receipt of a decision not to extend the expiration date. Under the terms of the letter of credit, the one hundred twenty day period shall begin on the day when both the owner or operator and the director have received the notice, as evidenced by the return receipts.

(6) The letter of credit shall be issued in an amount at least equal to the current corrective measures cost estimate, except as provided in paragraph (N) of this rule.

(7) Whenever the current corrective measures cost estimate increases to an amount greater than the amount of the credit, the owner or operator shall, not later than sixty days after this increase, either cause the amount of the credit to be increased to an amount at least equal to the current corrective measures cost estimate and submit evidence of such increase to the director, and into the operating record in accordance with rule 3745-27-09 of the Administrative Code, or obtain alternate financial assurance, as specified in this rule, to compensate for the increase. Whenever the current corrective measures cost
estimate decreases, the letter of credit may be reduced to the amount of the current corrective measures cost estimate following written approval by the director. Notice of an increase or a proposed decrease in the amount of the letter of credit shall be sent to the director by certified mail or any other form of mail accompanied by a receipt not later than sixty days after the change.

(8) Under the terms of the letter of credit, the director may draw on the letter of credit following a determination that the owner or operator has failed to:

(a) Perform corrective measures activities in accordance with the applicable authorizing document, including permit to install or plan approval.

(b) Provide alternate financial assurance as specified in this rule and obtain written approval of such alternate financial assurance from the director not later than ninety days after the owner and operator and the director have received notice from the issuing institution that it will not extend the letter of credit beyond the current expiration date, the director shall draw on the letter of credit. The director may delay the drawing if the issuing institution grants an extension of the term of the credit. During the final thirty days of any such extension the director shall draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this rule and has failed to obtain written approval of such alternate financial assurance from the director.

(9) The director shall return the original letter of credit to the issuing institution for termination when either of the following occurs:

(a) The owner or operator substitutes alternate financial assurance for corrective measures as specified in this rule.

(b) The director notifies the owner or operator, in accordance with paragraph (P) of this rule that the owner or operator is no longer required to maintain financial assurance for corrective measures.

(K) Corrective measures insurance.

(1) The owner or operator may satisfy the requirements of this rule by obtaining corrective measures insurance which conforms to the requirements of this paragraph and by submitting a originally signed certificate of such insurance to the director by certified mail or any other form of mail accompanied by a receipt within the time period outlined in paragraph (B) of this rule, and by submitting a copy of the certificate of insurance into the operating record of
the facility in accordance with rule 3745-27-09 of the Administrative Code. At a minimum, the insurer shall be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

(2) The wording of the certificate of insurance shall be identical to the wording specified in paragraph (E) of rule 3745-27-17 of the Administrative Code on forms described by the director.

(3) The corrective measures insurance policy shall be issued for a face amount at least equal to the current corrective measures cost estimate except as provided in paragraph (N) of this rule. Face amount means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) The corrective measures insurance policy shall guarantee that funds will be available to perform corrective measures whenever mandated. The policy shall also guarantee that once corrective measures begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the director, to such party or parties as the director specifies.

(5) Reimbursement for corrective measures.

After beginning corrective measures, the owner or operator, or any other person authorized by the owner, operator, or director to perform corrective measures, may request reimbursement for corrective measures expenditures by submitting itemized bills to the director. After receiving itemized bills for corrective measures activities, the director shall determine whether the corrective measures expenditures are in accordance with the applicable authorizing document, including permit to install or plan approval, and if so, shall instruct the insurer to make reimbursement in such amounts as the director specifies in writing. If the director has reason to believe that the cost of corrective measures will be greater than the face amount of the policy, he may withhold reimbursement of such amounts as he deems prudent until he determines, in accordance with paragraph (P) of this rule, that the owner or operator is no longer required to maintain financial assurance for corrective measures of the facility.

(6) The owner or operator shall maintain the policy in full force and effect until the director consents to termination of the policy by the owner or operator as specified in paragraph (K)(8) of this rule. Failure to pay the premium, without substitution of alternate financial assurance as specified in this rule, will
constitute a violation of these rules, warranting such remedy as the director deems necessary. Such violation shall be deemed to begin upon receipt by the director of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy shall contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(8) The policy shall provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy shall, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail or any other form of mail accompanied by a receipt to the owner or operator and to the director. Cancellation, termination, or failure to renew may not occur, and the policy will remain in full force and effect unless on or before the date of expiration:

(a) Corrective measures activities required in the applicable authorizing document, including permit to install or plan approval have occurred.

(b) The owner or operator is named as debtor in a voluntary or involuntary proceeding under title 11 (bankruptcy), U.S. Code.

(c) The premium due is paid.

(9) Whenever the current corrective measures cost estimate increases to an amount greater than the face amount of the policy, the owner or operator shall, not later than sixty days after the increase, either cause the face amount to be increased to an amount at least equal to the current corrective measures cost estimate and submit evidence of such increase to the director, and into the operating record in accordance with rule 3745-27-09 of the Administrative Code, or obtain alternate financial assurance as specified in this rule to compensate for the increase. Whenever the current corrective measures cost estimate decreases, the face amount may be reduced to the amount of the current corrective measures cost estimate following written approval by the director.

(10) The director will give written consent to the owner or operator that owner or operator may terminate the insurance policy when either of the following occurs:
(a) The owner or operator substitutes alternate financial assurance for corrective measures as specified in this rule;

(b) The director notifies the owner or operator, in accordance with paragraph (P) of this rule that owner or operator is no longer required to maintain financial assurance for corrective measures.

(L) Financial test and corporate guarantee for corrective measures.

(1) The owner or operator may satisfy the requirements of this rule by demonstrating that the owner or operator passes a financial test as specified in this paragraph. To pass this test the owner or operator shall demonstrate that less than fifty per cent of the parent corporation's gross revenues are derived from solid waste disposal, solid waste transfer facility operations, or scrap tire transporter operations, or if there is no parent corporation, the owner or operator shall demonstrate that less than fifty per cent of its gross revenues are derived from solid waste facility, solid waste transfer facility, or scrap tire transporter operations and either:

(a) The owner or operator shall have:

   (i) Satisfaction of at least two of the following ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization minus $10 million to total liabilities greater than 0.1; a ratio of current assets to current liabilities greater than 1.5;

   (ii) Net working capital and tangible net worth each at least six times the sum of the current final closure and current post-closure care cost estimates, scrap tire transporter final closure cost estimates, any corrective measures cost estimates, and any other obligations assured by a financial test;

   (iii) Tangible net worth of at least ten million dollars;

   (iv) Assets in the United States amounting to at least ninety per cent of total assets or at least six times the sum of the current final and current post-closure care cost estimates, scrap tire transporter final closure cost estimates, any current corrective measures cost estimates, and any other obligations assured by a financial test.
(b) The owner or operator shall have:

(i) Issued a corporate bond for which the owner or operator, as the issuing entity, has not received a current rating of less than BBB as issued by "Standard and Poor's" or Baa as issued by "Moody's". Owner and operators using bonds that are secured by collateral or a guarantee must meet the minimum rating without that security.

(ii) Tangible net worth at least six times the sum of the current final and current post-closure care cost estimates, scrap tire transporter final closure cost estimates, any corrective measures cost estimates, and any other obligations assured by a financial test;

(iii) Tangible net worth of at least ten million dollars;

(iv) Assets located in the United States amounting to at least ninety percent of total assets or at least six times the sum of the current final closure and current post-closure care cost estimates, scrap tire transporter final closure cost estimates, any current corrective measures cost estimates, and any other obligations assured by a financial test.

(2) Current final closure and current post-closure care cost estimates, scrap tire transporter final closure cost estimates, current corrective measures cost estimates, and any other obligations assured by a financial test as used in paragraph (L)(1) of this rule refers to the cost estimates required to be shown in the letter from the owner's or operator's chief financial officer.

(3) To demonstrate that requirements of this test are met, the owner or operator shall submit the following items to the director, and into the operating record in accordance with rule 3745-27-09 of the Administrative Code:

(a) A letter signed by the owner's or operator's chief financial officer and worded as specified in paragraph (F) of rule 3745-27-17 of the Administrative Code on forms prescribed by the director;

(b) A copy of a report by an independent certified public accountant examining the owner's or the operator's financial statements for the most recently completed fiscal year;
(c) A special report from the owner's or the operator's independent certified public accountant, in the form of an agreed-upon procedures report, to the owner or operator stating that:

(i) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited year-end financial statements for the most recent fiscal year with the amounts in such financial statements;

(ii) In connection with the agreed-upon procedures report, he states that he agrees the specified data is accurate.

(4) After the initial submission of the items specified in paragraph (L)(3) of this rule, the owner or operator shall send updated information to the director, and submit updated information into the operating record in accordance with rule 3745-27-09 of the Administrative Code, not later than ninety days after the close of each succeeding fiscal year. This information shall include all three items specified in paragraph (L)(3) of this rule.

(5) If the owner or operator no longer meets the requirements of paragraph (L)(1) of this rule, notice shall be sent to the director of the intent to establish alternate financial assurance as specified in this rule. The notice must be sent by certified mail or any other form of mail accompanied by a receipt not later than ninety days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. A copy of the notice shall also be placed in the operating record. The owner or operator shall provide alternate financial assurance not later than one hundred twenty days after the end of such fiscal year.

(6) The director may, based on a reasonable belief that the owner or operator no longer meets the requirements of paragraph (L)(1) of this rule, require reports of financial condition at any time from the owner or operator in addition to those specified in paragraph (L)(3) of this rule. If the director finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (L)(1) of this rule, the owner or operator shall provide alternate financial assurance as specified in this rule not later than thirty days after notification of such a finding.

(7) The director may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his/her report on examination of the owner's or operator's financial statements. An adverse opinion or disclaimer of opinion will be cause for disallowance. The
director shall evaluate other qualifications on an individual basis. The owner or operator shall provide alternate financial assurance as specified in this rule not later than thirty days after notification of the disallowance.

(8) During the period of corrective measures, the director may approve in writing a decrease in the current corrective measures cost estimate, if the owner or operator demonstrates, to the satisfaction of the director, that the amount of the corrective measures cost estimate exceeds the cost of the remaining corrective measures activities. Whenever the current corrective measures cost estimate decreases, the amount listed on the chief financial officer's letter may be reduced to the amount of the current corrective measures cost estimate following written approval by the director.

(9) The owner or operator is no longer required to submit the items specified in paragraph (L)(3) of this rule when either of the following occur:

(a) The owner or operator substitutes alternate financial assurance for corrective measures as specified in this rule.

(b) The director notifies the owner or operator, in accordance with paragraph (P) of this rule that the owner or operator is no longer required to maintain financial assurance for corrective measures.

(10) The owner or operator may meet the requirements of this rule by obtaining a written guarantee, hereafter referred to as a corporate guarantee. The guarantor shall be a parent corporation of the owner or operator. The guarantor shall meet the requirements for an owner or operator in paragraphs (L)(1) to (L)(7) of this rule and shall comply with the terms of the corporate guarantee. The wording of the corporate guarantee shall be identical to the wording specified in paragraph (G) of rule 3745-27-17 of the Administrative Code on forms prescribed by the director. The corporate guarantee shall accompany the items sent to the director as specified in paragraph (L)(3) of this rule. The terms of the corporate guarantee shall provide that:

(a) The owner or operator shall perform corrective measures of a facility provided for by the corporate guarantee in accordance with the applicable authorizing document, including permit to install or plan approval.

(b) The guarantor shall perform the activities in paragraph (L)(10)(a) of this rule or shall establish a trust fund in the name of the owner or operator as specified in paragraph (G) of this rule if the owner or operator fails to performs those activities.
(c) The corporate guarantee shall remain in force unless the guarantor sends notice of cancellation by certified mail or any other form of mail accompanied by a receipt to the owner or operator and to the director. Cancellation may not occur, however, during the one hundred twenty day period beginning on the first day that both the owner or operator and the director have received notice of cancellation, as evidenced by the return receipts.

(d) If the owner or operator fails to provide alternate financial assurance as specified in this rule, and fails to obtain the written approval of such alternate financial assurance from the director not later than ninety days after both the owner or operator and the director have received notice of cancellation of the corporate guarantee from the guarantor, the guarantor shall provide such alternate financial assurance in the name of the owner or operator.

(M) Local government financial test for corrective measures.

(1) For the purposes of this rule, local government means a subdivision of the state of Ohio including, but not limited to, a municipal corporation, a county, a township, a single or joint county solid waste management district, or a solid waste management authority.

(2) A local government may satisfy the requirements of this rule by demonstrating that the local government passes a financial test as specified in this paragraph. This test consists of a financial component, a public notice component, and a record-keeping and reporting component. In order to satisfy the financial component of the test, a local government must meet the following criteria:

(a) A local government's financial statements shall be prepared in accordance with "Generally Accepted Accounting Principles" for local governments.

(b) A local government must not have operated at a deficit equal to five per cent or more of total annual revenue in either of the past two fiscal years.

(c) A local government must not currently be in default on any outstanding general obligation bonds.

(d) A local government must not have any outstanding general obligation bonds rated lower than BBB as issued by "Standard and Poor's" or Baa
as issued by "Moody's." Local governments using bonds that are secured by collateral or a guarantee must meet the minimum rating without that security.

(3) In addition to satisfy the financial component of the test, a local government must meet either of the following criteria:

(a) The local government must have:

   (i) A ratio of cash plus marketable securities to total expenditures greater than or equal to 0.05;

   (ii) A ratio of annual debt service to total expenditures less than or equal to 0.20;

   (iii) A ratio of long term debt issued and outstanding to capital expenditures less than or equal to 2.00;

   (iv) A ratio of the current cost estimates for final closure, post-closure care, corrective measures, scrap tire transporter final closure, and any other obligations assured by a financial test, to total revenue less than or equal to 0.43.

(b) The local government shall have:

   (i) Outstanding general obligation bonds for which the local government, as the issuing entity, has not received a current rating of less than BBB as issued by "Standard and Poor's" or Baa as issued by "Moody's". Local governments using bonds that are secured by collateral or a guarantee must meet the minimum rating without that security.

   (ii) A ratio of the current cost estimates for final closure, post-closure care, corrective measures, scrap tire transporter final closure, and any other obligations assured by a financial test, to total revenue less than or equal to 0.43.

(4) In order to satisfy the public notice component of the test, a local government must in each year that the test is used, identify the current cost estimates in either its budget or its comprehensive annual financial report. The facility covered, the categories of expenditures, including final closure, post-closure care, corrective measures, scrap tire transporter final closure, the
corresponding cost estimate for each expenditure, and the anticipated year of
the required activity must be recorded. If the financial assurance obligation is
to be included in the budget, it should either be listed as an approved
budgeted line item, if the obligation will arise during the budget period, or in
an appropriate supplementary data section, if the obligation will not arise
during the budget period. If the information is to be included in the
comprehensive annual financial report, it is to be included in the financial
section as a footnote to the annual financial statements.

(5) To demonstrate that a local government meets the requirements of this test, the
following three items must be submitted to the director, and into the operating
record in accordance with rule 3745-27-09 of the Administrative Code:

(a) A letter signed by the local government's chief financial officer and
worded as specified in paragraph (H) of rule 3745-27-17 of the
Administrative Code on forms prescribed by the director that:

(i) Lists all the current cost estimates covered by a financial test.

(ii) Certifies that the local government meets the conditions of
paragraph (M)(1) of this rule.

(iii) Provides evidence and certifies that the local government meets the
conditions of either paragraph (M)(2)(a) or (M)(2)(b) of this rule.

(b) A copy of the local government's independently audited year-end financial
statements for the latest fiscal year, including the unqualified opinion of
the auditor. The auditor must be an independent, certified public
accountant or auditor of state;

(c) A special report from the independent certified public accountant or
auditor of state, in the form of an agreed-upon procedures report, to the
local government stating that:

(i) The certified public accountant or auditor of state has compared the
data which the letter from the chief financial officer specifies as
having been derived from the independently audited year-end
financial statements for the most recent fiscal year with the
amounts in such financial statements;

(ii) In connection with the agreed-upon procedures report, he states that
he agrees the specified data is accurate.
(6) After the initial submission of the items specified in this rule, a local government shall send updated information to the director on forms prescribed by the director, and submit updated information into the operating record in accordance with rule 3745-27-09 of the Administrative Code, not later than one hundred eighty days after the close of each succeeding fiscal year. This information shall include all items specified in this rule.

(7) If a local government no longer meets the requirements of this rule, notice shall be sent to the director of the intent to establish alternate financial assurance as specified in this rule. The notice must be sent by certified mail or any other form of mail accompanied by a receipt not later than one hundred fifty days after the end of the fiscal year for which the year-end financial data show that the local government no longer meets the requirements. A copy of the notice shall also be placed in the operating record. The local government shall provide alternate financial assurance not later than one hundred eighty days after the end of such fiscal year.

(8) The director may, based on a reasonable belief that the local government no longer meets the requirements of this rule, require reports of financial condition at any time from the local government in addition to those specified in this rule. If the director finds, on the basis of such reports or other information, that the local government no longer meets the requirements of this rule, the local government shall provide alternate financial assurance as specified in this rule not later than thirty days after notification of such a finding.

(9) The director may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant or auditor of state in his/her report on examination of the local government's financial statements. An adverse opinion or disclaimer of opinion will be cause for disallowance. The director shall evaluate other qualifications on an individual basis. The local government shall provide alternate financial assurance as specified in this rule not later than thirty days after notification of the disallowance.

(10) The local government is no longer required to submit the items specified in this rule when one of the following occur:

(a) The local government substitutes alternate financial assurance for corrective measures as specified in this rule.

(b) The director notifies the local government, in accordance with paragraph
(P) of this rule, that the local government is no longer required to
maintain financial assurance for corrective measures of the facility.

(N) Use of multiple financial assurance mechanisms.

The owner or operator may satisfy the requirements of this rule by establishing
more than one financial assurance mechanism for each facility. These mechanisms
are limited to a trust fund, surety bond guaranteeing payment into a corrective
measures trust fund, letter of credit, insurance, and the local government financial
test. The mechanisms shall be as specified in paragraphs (G), (H), (J), (K), and (M)
respectively of this rule, except that it is the combination of mechanisms, rather
than each single mechanism, which shall provide financial assurance for an amount
at least equal to the current corrective measures cost estimate. If an owner or
operator uses a trust fund in combination with a surety bond or a letter of credit, the
owner or operator may use the trust fund as the standby trust fund for the other
mechanisms. A single standby trust fund may be established for two or more
mechanisms. The director may invoke use of any or all of the mechanisms, in
accordance with paragraphs (G), (H), (J), (K), and (M) of this rule, to provide for
corrective measures.

(O) Use of a financial mechanism for multiple facilities.

The owner or operator may use a financial assurance mechanism specified in this
rule to meet the requirements of this rule for more than one facility. Evidence of
financial assurance submitted to the director shall include a list showing, for each
facility, the name, address, and the amount of funds for corrective measures assured
by the financial assurance mechanism. The amount of funds available through the
financial assurance mechanism shall be no less than the sum of the funds that
would be available if a separate financial assurance mechanism had been
established and maintained for each facility.

(P) Release of the owner or operator of a solid waste facility from the requirements of
this rule.

The director shall notify the owner or operator in writing that he is no longer
required, by this rule, to maintain financial assurance for corrective measures at a
particular facility, unless the director has reason to believe that corrective measures
have not been completed in accordance with the requirements of the applicable
authorizing document, including permit to install or plan approval.
R.C. 119.032 review dates: 11/01/2007 and 11/01/2012

CERTIFIED ELECTRONICALLY

Certification

11/01/2007

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02
Rule Amplifies: 3734.02, 3734.12, 3734.71, 3734.72, 3734.73, 3734.74
Operational criteria for a sanitary landfill facility.

(A) Applicability.

The owner or operator of a sanitary landfill facility shall comply with the requirements and operational criteria specified in this rule until all closure certifications required by paragraph (J) of rule 3745-27-11 of the Administrative Code are submitted and the post-closure care period begins.

(B) Compliance.

(1) The owner or operator shall conduct all operations at a sanitary landfill facility in strict compliance with the terms and conditions of the solid waste disposal license issued for the facility in accordance with Chapter 3745-37 of the Administrative Code.

(2) The owner or operator shall conduct all construction and operation at a sanitary landfill facility in strict compliance with the applicable authorizing document, including permit to install, an operational report, an approved closure plan, an alteration concurred with in writing by Ohio EPA, or any authorizing document listed in paragraph (I) of rule 3745-27-09 of the Administrative Code, except as follows:

(a) For a sanitary landfill facility with a permit to install approved after January 1, 1980, but before March 1, 1990, the owner or operator shall conduct all operations in strict compliance with the detail plans, specifications, terms and conditions of an approved permit to install, with the exception, that if the engineered bottom liner/leachate collection system approved in the permit to install is less protective of human health and the environment than the interim composite liner/leachate collection system specified in rule 3745-27-08 of the Administrative Code, the owner or operator shall conduct operations in accordance with the interim composite liner/leachate collection system design required to be installed in response to paragraph (A) of rule 3745-27-20 of the Administrative Code in lieu of the liner/leachate collection system plans, specifications, terms and conditions in an approved permit to install, until such time as an approved permit to install requires compliance with rule 3745-27-08 of the Administrative Code.

(b) For a sanitary landfill facility with a plan approval issued by the Ohio department of health, an operational report submitted in accordance with paragraph (J) or (K) of rule 3745-27-09 of the Administrative Code, as effective July 29, 1976, or a permit to install approved prior to January 1, 1980, the owner or operator shall conduct operations in strict compliance with the plan approval, operational report, or a permit to install, whichever document is applicable, unless either of the following apply:
(i) The owner or operator of a sanitary landfill facility has obtained a permit to install pursuant to the conditions and schedule outlined in division (A)(3) or (A)(4) of section 3734.05 of the Revised Code.

(ii) The composite liner system and the leachate collection and management system approved in the plan approval, operating report, or permit to install is less protective of human health and the environment than the interim composite liner/leachate collection system specified in rule 3745-27-08 of the Administrative Code, in which case, the owner or operator shall conduct operations in accordance with the interim composite liner/leachate collection system design required to be in accordance with paragraph (A) of rule 3745-27-20 of the Administrative Code in lieu of the liner/leachate collection system plans, specifications, terms and conditions in the plan approval, operational report, or permit to install, until such time as an approved permit to install requires compliance with rule 3745-27-08 of the Administrative Code.

(c) The owner or operator has obtained written concurrence from Ohio EPA for the alteration of the sanitary landfill facility or the owner or operator has obtained a permit to install prior to modifying the sanitary landfill facility.

[Comment: "Alteration" is defined in rule 3745-27-01 of the Administrative Code; "modification" is defined in rule 3745-27-02 of the Administrative Code.]

(3) The owner or operator shall operate the facility in such a manner that noise, dust, and odors are strictly controlled so as not to cause a nuisance or a health hazard.

(4) The owner or operator shall operate the facility in such a manner that the attraction, breeding, and emergence of insects, rodents, and other vectors are strictly controlled so as to not cause a nuisance or a health hazard. The owner or operator shall initiate effective supplemental vector control measures as deemed necessary by the health commissioner or the director.

(5) The owner or operator shall operate the facility in such a manner that operation does not create a nuisance or a health hazard, does not cause water pollution pursuant to Chapter 6111. of the Revised Code, and does not violate any regulation adopted by the director pursuant to Chapter 3704. of the Revised Code.

(6) The owner or operator shall comply with all of the following:

(a) The applicable design, construction and testing specifications in rule 3745-27-08 of the Administrative Code.

(b) The operating record, designation, and location restriction demonstration requirements of rule 3745-27-09 of the Administrative Code.
(c) The ground water monitoring, assessment, and corrective measures requirements of rule 3745-27-10 of the Administrative Code.

(d) The closure requirements of rule 3745-27-11 of the Administrative Code.

(e) The explosive gas monitoring and corrective measures requirements of rule 3745-27-12 of the Administrative Code.


(g) The requirements of rule 3745-27-20 of the Administrative Code.

(C) Construction certification, concurrence, and compliance.

(1) Construction certification and concurrence.

After the installation of any of the engineered components specified in rule 3745-27-08 of the Administrative Code, other than the cap system, in any phase of any unit of a sanitary landfill facility, the owner or operator shall not accept waste in the phase until all of the following occur:

(a) A construction certification report for that phase, prepared in accordance with rule 3745-27-08 of the Administrative Code, has been submitted to Ohio EPA and the approved health department.

(b) The owner or operator has received written concurrence from the appropriate Ohio EPA district office for the components specified in rule 3745-27-08 of the Administrative Code, except that written concurrence is not required for the interim composite liner/leachate collection system constructed in accordance with rules 3745-27-08 and 3745-27-20 of the Administrative Code.

(2) Construction compliance.

Upon discovery by the owner or operator, or upon notification by Ohio EPA that a failed test or an alteration has occurred in construction of any engineered component or portion of a sanitary landfill facility, the owner or operator shall comply with the procedures outlined in this paragraph.

(a) Failed test.

For the purposes of this rule, a "failed test" occurs when a test performed on a component of the sanitary landfill facility yields a result that does not meet the specifications outlined in the applicable authorizing document specified in paragraph (B) of this rule or other requirements of these rules. If, prior to
submission of the construction certification report for the component or portion of the sanitary landfill facility, the owner or operator determines that there is a "failed test," the owner or operator shall do the following:

(i) Assess the component or portion of the facility to determine if construction is in compliance with the applicable authorizing document or other requirements of these rules.

(ii) Implement measures to attain compliance with the applicable authorizing document or other requirements of these rules. An area with a verified failure must be reconstructed. Reconstructed areas must be retested at a frequency sufficient to demonstrate to the director that compliance has been achieved.

(b) Alteration.

If, prior to submission of the construction certification report for the component or portion of the sanitary landfill facility, the owner or operator determines that there is an alteration, the owner or operator shall do all of the following:

(i) Include the applicable testing results and an explanation of the alteration in the certification report "alterations" section required by rule 3745-27-08 of the Administrative Code.

(ii) Provide a demonstration in the certification report that the alteration is at least equivalent to the requirement in the applicable authorizing document or other requirements of these rules.

(iii) Submit the certification report to Ohio EPA and the approved health department.

(iv) Continue to comply with paragraph (C)(1) of this rule.

[Comment: Paragraph (C)(2)(b) of this rule applies only to a change that qualifies as an alteration as that term is defined in rule 3745-27-01 of the Administrative Code. Rule 3745-27-02 and paragraph (A) of rule 3745-27-06 of the Administrative Code require an owner or operator to obtain a permit to install prior to the establishment of a new, or modification of an existing, solid waste landfill facility. Obtaining concurrence for an alteration in accordance with the procedures outlined in paragraph (C)(2) of this rule does not relieve the owner or operator from liability for failure to obtain a permit to install to modify the facility if the change being addressed constitutes a modification.]

(c) Detection after submission of certification report.
If the owner or operator determines that the certification report is in error because a "failed test" or an alteration was detected after submission of the construction certification report to Ohio EPA, the owner or operator shall do the following:

(i) Notify, within twenty-four hours after discovery by phone and within seven days after discovery in writing, the appropriate Ohio EPA district office and the approved health department of the noncompliance.

(ii) Within fourteen days of submitting the written notification required by paragraph (C)(2)(c)(i) of this rule do either of the following:

(a) Implement compliance with the applicable steps outlined in paragraph (C)(2)(a) of this rule and amend and resubmit the construction certification report to explain the circumstances and how compliance was achieved.

(b) Submit the information required by paragraph (C)(2)(b) of this rule.

[Comment: Compliance with paragraph (C)(2)(c) of this rule does not relieve the owner or operator from liability for failure to construct or operate the sanitary landfill facility in strict compliance with the applicable authorizing document, other requirements of these rules, or failure to submit a certification report that is true, accurate, and complete as required by the construction certification requirements of rule 3745-27-08 of the Administrative Code.]

(D) Select waste layer.

(1) The owner or operator shall place select waste as the first layer of waste in all areas within the limits of waste placement adjacent to or in contact with the leachate collection system to protect the composite liner from the intrusion of objects during operation of the facility. The select waste layer shall:

(a) Be spread but not compacted.

(b) Not contain items over two feet in length that are capable of puncturing the liner.

(c) Not restrict the flow of liquid to the leachate collection and management system.

(d) Not contain fines or small particles which can clog the leachate collection system.

(e) Be placed as a single lift above the leachate collection layer required pursuant to rule 3745-27-08 of the Administrative Code so that a minimum distance of five feet is created between the liner and general waste placement.

[Comment: Granular drainage medium used in the leachate collection system provides some of the required protective material needed to create five feet of distance between the liner and general waste placement. Thus, if the leachate
collection system consists of one foot of sand, then at least four feet of select waste would be needed to satisfy the requirement in paragraph (D)(1) of this rule.]

(2) The owner or operator shall maintain documentation at the facility verifying the placement of the select waste layer. The owner or operator shall insert the documentation into the operating record required pursuant to rule 3745-27-09 of the Administrative Code. The documentation shall include the following information:

(a) The date on which the select waste layer was placed.

(b) The location of the cell or phase where the select waste layer was placed.

(c) The thickness of the select waste layer.

(d) The source and composition of the material used for the select waste layer.

(E) General operational criteria.

(1) Construction.

(a) The owner or operator shall clear naturally occurring vegetation to the extent necessary for proper operation of the facility.

(b) Any oil wells and gas wells within the proposed limits of solid waste placement shall be properly plugged and abandoned in accordance with Chapter 1509. of the Revised Code.

(c) The owner or operator shall maintain the integrity of the engineered components of the sanitary landfill facility and repair any damage to or failure of the components. "Engineered components" include the components described in rule 3745-27-08 of the Administrative Code and components of the monitoring system installed in accordance with rule 3745-27-10 of the Administrative Code. Failed or damaged engineered components shall be investigated and reconstructed in strict compliance with the existing applicable authorizing documents. If a redesign is necessary, prior approval of an alteration or a modification shall be obtained.

(d) The owner or operator shall perform chemical compatibility testing if the director determines that such testing is necessary to demonstrate that the solid waste to be received at the sanitary landfill facility will not compromise the integrity of any material used to construct the sanitary landfill facility.

(2) Access.

(a) The owner or operator shall construct and maintain all-weather access roads within the facility boundary in such a manner as to withstand the anticipated degree of use
and allow passage of the loaded refuse vehicles at all times, with a minimum of erosion and dust generation.

(b) The owner or operator shall limit access to the facility by non-employees except during operating hours when operating personnel are present. The owner or operator shall, at all times, limit access to the facility as necessary to prevent scavenging and salvaging operations not conducted in accordance with paragraph (E)(4) of this rule. This paragraph shall not apply to the health commissioner or the director who, upon proper identification, may enter the facility at any time to determine compliance with Chapter 3745-27 of the Administrative Code.

(c) The owner or operator shall post legible signs stating the yard waste restrictions applicable to the facility. A sign shall be posted in proximity to each public entrance of the facility.

(d) The owner or operator shall exclude live domestic and farm animals from the operating areas of the facility, except for animals used for security purposes.

(3) Equipment.

(a) The owner or operator shall have adequate equipment, material, and services available at or near the facility to control fire. The owner or operator shall act immediately to control or extinguish any fire.

(b) The owner or operator shall ensure that operable equipment of adequate size and quantity for the operations of the facility are available at all times, or that an appropriate contingency plan is prepared to properly handle and dispose of waste materials in the event of equipment failure.

(4) Scavenging and salvaging.

The owner or operator may only conduct salvaging in a manner approved by the director. Scavenging is prohibited.

(5) Personnel.

The owner or operator shall ensure that any individual meeting the definition of operator specified in rule 3745-27-01 of the Administrative Code shall be thoroughly familiar with the proper operational procedures, license, permits, and other authorizations pertaining to the facility.

(6) Inclement weather.

The owner or operator shall ensure preparations have been made such that, during inclement weather, the sanitary landfill facility is able to receive, compact, and cover incoming waste. The preparations shall include, but need not be limited to, designation
and preparation of areas where waste will be deposited, compacted, and covered during inclement weather, construction and maintenance of all-weather access roads leading from all points where loaded vehicles enter the site to the inclement weather areas, and stockpiling of cover material.

(7) Waste acceptance and placement.

(a) Prior to accepting waste at a unit of a new sanitary landfill facility, or in any unit of a lateral expansion area, or in a vertical expansion approved on or after March 1, 1990, the owner or operator shall comply with all applicable requirements for leachate treatment or disposal, discharges to surface waters, management of surface water runoff, and air emissions.

(b) The owner or operator shall not begin filling in a new phase, without completing the previous phase, except to the extent necessary for the proper operation of the sanitary landfill facility.

(c) The owner or operator shall confine unloading of waste materials to the smallest practical area. The owner or operator shall ensure that each unloading area is supervised by a person or persons knowledgeable regarding operations at the working face.

(d) The owner or operator shall not deposit waste that is burning or is at a temperature likely to cause fire at the working face. Prior to placing the waste at the working face, the owner or operator shall deposit such material in a separate location which is at a sufficient distance from the working face to prevent fires from spreading to the working face and shall immediately extinguish the fire or lower the temperature of the waste.

(e) Except as provided in paragraphs (D)(1) and (E)(7)(d) of this rule, the owner or operator shall ensure that all waste admitted to the sanitary landfill facility is deposited at the working face, spread in layers not more than two feet thick, and compacted to the smallest practical volume. An alternate method may be used if approved in writing by the director. During periods when inclement weather prevents compliance with this rule, the waste shall be deposited at the area prepared in accordance with paragraph (B)(2)(a) of this rule.

(f) The owner or operator shall employ all necessary means to ensure the following:

(i) Bulky materials can be compacted or otherwise managed in such a way as to ensure the proper placement of daily cover.

(ii) Dusty materials are handled, compacted, and covered in such a manner as to minimize the amount of dust that is generated by those materials.

(8) Disposal restrictions.
The owner or operator shall not accept for disposal or dispose of any of the following materials at a sanitary landfill facility:

(a) Asbestos or asbestos-containing waste material that is subject to the provisions of NESHAP, 40 CFR Part 61, subpart M (July 1, 2007) (http://www.gpoaccess.gov/cfr/index.html) without the necessary permits.

(b) Containerized bulk liquids or non-containerized liquids without authorization from the director. Bulk liquid containers do not include small containers of a size that normally would be found in solid waste from community operations. For the purposes of this rule, solid waste from "community operations" is wastes derived from households (including single and multiple residences, hotels, and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).

(c) Materials that are defined as hazardous wastes pursuant to rule 3745-51-03 of the Administrative Code.


(e) Materials that are designated as infectious wastes pursuant to rule 3745-27-01 of the Administrative Code, other than infectious waste subject to division (D) of section 3734.02 of the Revised Code and divisions (A)(1)(c) and (A)(1)(d) of section 3734.021 of the Revised Code and rules adopted thereunder, including rules 3745-27-30, 3745-27-32, and 3745-27-34 of the Administrative Code, unless the infectious waste has been treated to render it non-infectious in accordance with rule 3745-27-32 of the Administrative Code. For the purposes of this rule, the shipping paper certification required by rule 3745-27-33 of the Administrative Code by the owner or operator of a treatment facility where the infectious waste was treated creates a rebuttable presumption that the wastes have been so treated.

(f) Yard waste, source-separated yard waste, or commingled yard waste as defined in rule 3745-27-01 of the Administrative Code.

[Comment: Application of this rule should be read in conjunction with the yard waste management rules contained in paragraph (O) of this rule.]

(g) Whole scrap tires or shredded scrap tires with the exception of the following:

(i) Burned and partially burned scrap tires, pyrolytic oil, and contaminated soils provided that those materials meet the definition of solid waste in rule 3745-27-01 of the Administrative Code.
(ii) Scrap tire pieces from a scrap tire recovery facility that are the byproduct of the processing of scrap tires.

(iii) Authorized beneficial uses of scrap tires pursuant to rule 3745-27-78 of the Administrative Code.

(iv) Whole scrap tires which could not be processed by a scrap tire recovery facility. The owner or operator of the scrap tire recovery facility shall complete a scrap tire shipping paper and record on the shipping paper why the scrap tires are not processable at the scrap tire recovery facility. This includes but is not limited to aircraft tires and forklift tires that are not processable due to their construction or scrap tires contaminated with mud or other materials that render the tires unsuitable for processing.

(h) Low-level radioactive wastes as specified in section 3734.027 of the Revised Code.

(i) Semi-solid material containing free liquids, as determined by results obtained from conducting method 9095 (paint filter liquids test) in SW-846, third edition: "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," (June 14, 2005) (http://www.epa.gov/epaoswer/hazwaste/test/main.htm) on the semi-solid material, unless the owner or operator has obtained prior written authorization from Ohio EPA to dispose of that semi-solid material in the facility.

(9) Litter.

The owner or operator shall employ all reasonable measures to collect, properly contain, and dispose of scattered litter, including the use of portable wind screens where necessary and frequent policing of the area.

(10) Daily log of operations.

(a) The owner or operator shall keep a daily log of operations of the facility that contains all the information specified on forms prescribed by the director. All entries required by the log form shall be completed. The owner or operator of the facility may use alternate forms, either in paper or electronic formats, for the daily log of operations, provided that all of the information requested on the prescribed forms is present.

(b) A copy of the log shall be available for inspection by the health commissioner or the director during normal operating hours.

(c) When required by Ohio EPA, the owner or operator shall submit log forms or summaries of daily logs to the health commissioner or the director on either paper or electronic versions of forms prescribed by the director. The owner or operator may use alternate forms, either in paper or electronic formats, for the log forms or
summary of daily logs, provided that all of the information requested on the prescribed forms is present.

(d) The owner or operator shall make the completed daily logs available for inspection at the facility for a minimum of three years. The records retention period may be extended during the course of any unresolved litigation or when so requested by Ohio EPA. The three-year period for retention of records shall begin on the date the daily log form is completed.

(11) Inspection.

(a) The owner or operator shall inspect the sanitary landfill facility at least daily for ponding, erosion, and leachate outbreaks. Written results of the inspections, including a discussion of any corrective actions taken, the date, and weather conditions, shall be recorded on the daily log forms required pursuant to paragraph (E)(10) of this rule and shall be made available to the health commissioner or the director upon request.

(b) The owner or operator shall inspect sedimentation ponds and sedimentation pond discharge structures, including pipes, ditches, and culverts at least weekly for erosion, clogging, or failure and take prompt corrective action, if necessary. Written results of the inspections, including a discussion of any corrective actions taken, any water quality samples taken, the date, and weather conditions, shall be recorded on the daily log forms required pursuant to paragraph (E)(10) of this rule and shall be made available to the health commissioner or the director upon request.

(12) Approved permit to install, detail plans, and specifications.

The owner or operator shall ensure that a copy of the approved permit to install, detail plans, specifications and information is maintained at the sanitary landfill facility and is available and may be inspected by the health commissioner or the director upon request during normal operating hours.

(F) Daily cover.

Daily cover shall be applied to all exposed solid waste by the end of the working day to control fire hazards, blowing litter, odors, insects, vectors, and rodents. In no event shall solid waste be exposed for more than twenty-four hours after unloading. Daily cover material shall be nonputrescible, shall not contain large objects in such quantities as may interfere with its application and intended purpose, and shall not be solid waste, unless the owner or operator has received prior, written authorization in accordance with paragraph (F)(3)(a) of this rule.

(1) For units of a sanitary landfill facility having a leachate management system, a soil layer, a minimum of six inches thick, shall be applied and maintained. Daily cover applied in
an area served by a leachate collection system shall be removed or otherwise prepared as necessary prior to the placement of the next layer of waste in that area so as not to impede the flow of leachate to the leachate management system within the limits of waste placement.

(2) For units of a sanitary landfill facility without a leachate management system, a soil layer a minimum of six inches thick, consisting of well-compacted loam, clay loam, silty clay loam, silty clay, or some combination thereof, shall be used.

(3) Alternative daily cover.

(a) The director may approve solid waste to be used as alternative material for daily cover if the owner of operator can demonstrate to the satisfaction of the director that the solid waste material proposed for use can provide protection comparable to six inches of soil and is protective of human health and environment. The owner or operator must obtain written approval to use solid waste for alternative daily cover prior to utilizing the solid waste.

(b) The director may approve alternative materials, other than solid waste, or other thicknesses for daily cover if the owner or operator can demonstrate to the satisfaction of the director that the proposed alternative material or thickness provides protection that is comparable to six inches of soil and is protective of human health and the environment. The owner or operator must obtain written approval to use an alternative material or thickness for daily cover prior to utilizing the alternative material or thickness.

(4) The director may authorize the application of cover material less often than daily if the owner or operator can demonstrate to the satisfaction of the director that the alternate frequency provides comparable and adequate protection.

(G) Intermediate cover.

(1) To minimize infiltration, the owner or operator shall apply intermediate cover to all filled areas of a sanitary landfill facility where additional waste is not to be deposited for at least thirty days. The director may approve the use of some alternate time period, if the owner or operator can demonstrate to the satisfaction of the director that, by use of the alternate time period, infiltration will not be increased.

(2) Intermediate cover material shall be nonputrescible and have low permeability to water, good compactability, cohesiveness, and relatively uniform texture, and shall not contain large objects in such quantities as may interfere with its application and intended purpose. A soil layer, a minimum of twelve inches thick, consisting of well-compacted loam, silt loam, clay loam, silty clay loam, silty clay or some combination thereof, shall be used. The owner or operator may use other materials or thicknesses for intermediate cover if the owner or operator can demonstrate the satisfaction of the director that the
proposed intermediate cover material or thickness provides comparable and adequate protection.

(3) Prior to the placement of the next layer of waste in that area, intermediate cover in an area shall be removed or otherwise prepared as necessary so as not to impede the flow of leachate to the leachate management system within the limits of waste placement.

(4) The owner or operator shall perform measures to protect the intermediate cover from erosion.

(H) Final cover.

Within seven days of reaching the approved final elevations of waste placement in a phase, or an alternate schedule approved by the director, the owner or operator shall begin constructing the final cap system by doing either of the following:

(1) By constructing a cap system over the entire phase in accordance with rule 3745-27-08 of the Administrative Code as specified in rule 3745-27-11 of the Administrative Code.

(2) By doing all of the following:

   (a) Place transitional cover over the entire phase in accordance with rule 3745-27-08 of the Administrative Code.

   (b) When the unit in which the phase is located has reached approved final elevations of solid waste placement, construct a cap system over the entire unit in accordance with rule 3745-27-08 of the Administrative Code as specified in rule 3745-27-11 of the Administrative Code.

   (c) The owner of operator shall provide written notice to Ohio EPA and the approved health department clearly describing all phases and units, or portions thereof, where transitional cover will be installed in accordance with rule 3745-27-08 of the Administrative Code. The owner of operator shall submit the notification prior to the beginning construction of transitional cover for a particular phase, or portion thereof. A copy of notice shall be placed in the operating record.

   (d) After completing construction or transitional cover in a particular phase, the owner of operator shall submit a certification report to Ohio EPA and the approved health department in accordance with rule 3745-27-08 of the Administrative Code. The certification report shall be submitted no later than the date for the submittal of the next annual operational report required pursuant to paragraph (M) of this rule. A copy of the certification shall be placed in the operating record.

   (e) Notwithstanding any prior notification that transitional cover will be installed, the owner or operator may choose to comply with paragraph (H)(1) of this rule. The
owner or operator shall provide prior notice to Ohio EPA and the approved health department of any change from a previously submitted notification.

[Comment: Use of the transitional cover, formerly known as interim final cover, as specified in paragraph (H)(2) of this rule may increase the closure cost estimate since that final cap system may not be installed over large areas of a facility until near the end of the facility's life. Rule 3745-27-15 of the Administrative Code requires the owner or operator to prepare cost estimates which reflect the cost of closure activities at a point when closure of the sanitary landfill facility would be most expensive and which assumes closure is performed by a third party. Paragraph (M)(6) of this rule requires the owner or operator to at least annually update the closure cost estimate and submit the revised estimate with the annual operational report. Finally, rule 3745-27-15 of the Administrative Code mandates that when the current closure cost estimate increases the owner or operator must increase the dollar amount of the financial assurance mechanism. See rule 3745-27-15 of the Administrative Code.]

(I) Scales.

The owner or operator of a sanitary landfill facility, with an authorized maximum daily waste receipt greater than two hundred tons per day, shall use scales as the sole means of determining gate receipts. All scales shall be inspected, tested, and approved by the county auditor or city sealer having jurisdiction where the scale is located and shall meet the specifications, tolerances, and regulatory requirements of section 1327.49 of the Revised Code. This paragraph shall not apply to a sanitary landfill facility owned by the generator that exclusively disposes of waste generated at premises owned by the generator.

(J) Surface water management.

(1) The owner or operator shall ensure that surface water at a sanitary landfill facility is diverted from areas where solid waste is being, or has been, deposited. The owner or operator shall ensure that a sanitary landfill facility is designed, constructed, maintained, and provided with surface water control structures that control run-on and runoff of surface water. These surface water control structures shall ensure minimal erosion and infiltration of water through the cover material and cap system. These surface water control structures shall be designed in accordance with rule 3745-27-08 of the Administrative Code.

(2) The design of any surface water control structures shall be placed in the operating record in accordance with rule 3745-27-09 of the Administrative Code.

(3) If ponding or erosion occurs on areas of the sanitary landfill facility where waste is being, or has been, deposited, the owner or operator shall undertake actions as necessary to correct the conditions causing the ponding or erosion.
(4) If a substantial threat of surface water pollution exists, the director or health commissioner may require the owner or operator to monitor the surface water.

(K) Leachate management.

(1) If a leachate outbreak occurs at the sanitary landfill facility, the owner or operator shall repair all outbreaks and do the following:

(a) Contain and properly manage the leachate at the sanitary landfill facility.

(b) If necessary, collect and dispose of the leachate in accordance with paragraphs (K)(5) and (K)(6) of this rule.

(c) Take action to minimize, control, or eliminate the conditions which contribute to the production of leachate.

(2) The owner or operator shall maintain at least one lift station back-up pump at the sanitary landfill facility at all times.

(3) The owner or operator shall visually or physically inspect the collection pipe network of the leachate management system after placement of the initial lift of waste to ensure that crushing has not occurred and shall inspect the collection pipe network annually thereafter to ensure that clogging has not occurred.

(4) If authorized in writing by the director, the owner or operator may temporarily store leachate within the limits of waste placement until the leachate can be treated and disposed as outlined in the leachate contingency plan as required in paragraph (K)(6) of this rule.

(5) The owner or operator shall treat and dispose of collected leachate in accordance with Chapter 6111. of the Revised Code and with one of the following:

(a) Treat and dispose of collected leachate on site at the sanitary landfill facility.

(b) Pretreat collected leachate on-site and dispose of collected leachate off-site of the sanitary landfill facility.

(c) Treat and dispose of collected leachate off-site of the sanitary landfill facility.

(6) The owner or operator shall prepare a contingency plan for the storage and disposal of leachate and place a copy in the operating record. The plan shall describe the immediate and long term steps, including the setting aside of land for the construction and operation of an on-site treatment facility, to be taken for leachate management in the event that collected leachate cannot be managed in accordance with the management option selected in paragraph (K)(5) of this rule.
(7) If a substantial threat of water pollution exists from the leachate entering surface waters, the director or health commissioner may require the owner or operator to monitor the surface water.

(L) PCB and hazardous waste prevention and detection program.

By June 1, 1994, the owner or operator shall implement a written program at the sanitary landfill facility with procedures that are sufficient to detect and prevent the disposal of regulated hazardous wastes as defined in rule 3745-51-03 of the Administrative Code and polychlorinated biphenyls (PCB) wastes as defined in 40 CFR Part 761 (July 1, 2007) (http://www.gpoaccess.gov/cfr/index.html). The owner or operator shall place the "PCB and hazardous waste prevention and detection program," inspection records, generator certifications, waste screening information, and notifications required by this rule into the operating record in accordance with rule 3745-27-09 of the Administrative Code. The "PCB and hazardous waste prevention and detection program" shall, at a minimum, include the following elements:

(1) Detection program. The owner or operator shall implement a written detection program for the detection PCB or hazardous wastes prior to disposal. The detection program shall consist of at least one of the following:

(a) A "random inspection program." The owner or operator shall randomly inspect incoming loads at the sanitary landfill facility as follows:

   (i) Incoming loads shall be randomly selected by means of a random numbers table or other equivalent method prior to the start of the business day.

   (ii) The frequency of inspections shall be sufficient to ensure that incoming loads do not contain regulated PCB or hazardous wastes, but shall not be less than one inspection per fifty incoming loads.

   (iii) The owner or operator may exclude from random inspection loads sources exclusively dedicated to waste collection from community operations (i.e. waste derived from households including single and multiple residences, hotels, and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).

(b) Pre-acceptance waste screening program. A "pre-acceptance waste screening program" shall, at a minimum, include, the following:

   (i) A description of the type of wastes and type of waste characteristics that require evaluation by the owner or operator prior to acceptance at the sanitary landfill facility.

   (ii) A requirement, that based on type of waste, that the owner or operator obtain from the generator a written description of the waste, its source, physical and
chemical characteristics including analytic data, if available, and certification from the generator that the material does not contain PCB or hazardous wastes.

(iii) A requirement, that based on the type of waste, that the owner or operator obtain a representative sample of the waste from the generator and a certification from the generator that the sample is representative of the waste stream, and a description of the circumstances in which sample analysis is required prior to waste acceptance.

(iv) A description of the procedures and personnel (including professional qualifications) responsible for determining waste acceptance and for documenting a decision on waste acceptance.

(c) Other detection measures, acceptable to the director, sufficient to ensure that incoming loads do not contain regulated PCB or hazardous wastes.

(2) Procedure upon detection or suspected detection of PCB or hazardous wastes.

(3) Procedure for creating and maintaining records, including inspection records, generator certifications, waste screening documentation, and notifications in accordance with the requirements of rule 3745-27-09 of the Administrative Code.

(4) Procedures for training of sanitary landfill facility personnel for personal safety and to recognize regulated hazardous wastes and PCB wastes.

(5) Procedures for notifying the appropriate Ohio EPA district office and approved health department upon the actual discovery of a regulated hazardous waste or PCB waste at the sanitary landfill facility. The notification procedures shall at a minimum provide the following:

(a) For notifying Ohio EPA and the approved health department within twenty-four hours by phone, and within seven days in writing, of the discovery of regulated hazardous wastes or PCB wastes at the facility.

(b) The notification shall identify all generators, transporters, and brokers of the wastes.

(c) The notification shall indicate whether the waste was disposed of at the facility, and if so, where.

(6) Upon the suspected detection of PCB or hazardous wastes, prior to placement of the PCB or hazardous wastes at the working face, the owner or operator shall not place the wastes at the working face and shall manage waste in a manner protective of human health and the environment until confirming that wastes are not PCB or hazardous wastes.
(7) Upon the detection of PCB or hazardous wastes prior to placement of the wastes at the working face, the owner or operator shall not place the wastes at the working face, shall implement the notification procedures in the PCB and hazardous waste prevention and detection program, and shall manage the PCB or hazardous waste in accordance with applicable state and federal laws.

(8) Upon the detection of PCB or hazardous wastes after placement of the wastes at the working face, the owner or operator shall take such actions as are necessary to attain compliance with applicable state and federal laws.

(M) Annual operation report.

The owner or operator of a sanitary landfill facility shall submit an "annual operational report" to the appropriate Ohio EPA district office and approved health department not later than the first day of April of each year. The "Annual Operational Report" shall include, at a minimum, the following information summarizing the previous calendar year's operations:

(1) A topographic map of all units of the sanitary landfill facility, certified by a professional skilled in the appropriate disciplines, with updated contour lines on the plan drawing containing information specified in rule 3745-27-06 of the Administrative Code. The scale and contour interval shall be consistent with the approved plans. At a minimum, the owner or operator shall identify the following:

(a) The calendar year which the submittal represents.

(b) The areal extent of each phase of construction.

(c) The areal extent of closed areas of all units that have a final cap system or have transitional cover.

(d) Areas that have intermediate cover.

(e) The current working phase and unit.

(f) The projected phase and unit for filling in the coming year.

(g) Access roads and buildings.

(h) On-site borrow areas and cover material stockpiles.

(i) A comparison of the actual vertical and horizontal limits of emplaced waste to the vertical and horizontal limits of waste placement authorized in the applicable authorizing documents, including an approved permit to install, plan approval, or operational report. If emplaced waste exceeds the limits of vertical and horizontal waste placement authorized in the applicable authorizing documents, this comparison shall include a topographic map which delineates the areal extent of
emplaced waste that exceeds approved limits specified in such authorizing documents. In addition, the topographic map shall contain notes that indicate the following information for waste exceeding authorized limits of waste placement: the maximum estimated volume, the maximum depth, and the average depth.

[Comment: The submittal of this information does not relieve an owner or operator from complying with applicable authorizing documents or correcting violations.]

(2) A summary of the daily logs for the previous year on forms prescribed by the director or alternate forms used pursuant to paragraph (E)(10) of this rule.

(3) An estimate of the remaining sanitary landfill facility life, in years, and in terms of the remaining volume of the sanitary landfill facility to be filled, in cubic yards.

(4) A summary of the quantity of leachate collected for treatment and disposal on a monthly basis during the year, location of leachate treatment and disposal, and verification that the leachate management system is operating in accordance with this rule.

(5) Results of analytical testing of an annual grab sample of leachate for the parameters specified in appendix I of rule 3745-27-10 of the Administrative Code and for polychlorinated biphenyls (PCBs). The grab sample shall be obtained from the leachate management system.

[Comment: If PCBs are detected in leachate that will be discharged directly to or transported and discharged to a wastewater treatment plant, then the owner or operator of the sanitary landfill facility generating the leachate should contact Ohio EPA, division of surface water, prior to discharging the leachate. If the wastewater treatment plant is not affiliated with the landfill facility, then the owner or operator should also contact the receiving wastewater treatment plant prior to discharge. The owner or operator of the sanitary landfill facility should inform Ohio EPA, division of surface water (and the wastewater treatment plant, if applicable) of the presence and concentration of PCBs detected in the leachate. Depending upon the wastewater treatment plant's permitted discharge limit for PCBs, the owner or operator of the sanitary landfill facility may be required to conduct pretreatment of the leachate to remove PCBs prior to discharging to the wastewater treatment plant.]


(7) A summary of any maintenance performed on the leachate management system, ground water monitoring system, explosive gas monitoring system, and any other monitoring and control system installed at the sanitary landfill facility or performed in response to this rule.
(8) A notarized statement that, to the best of the knowledge of the owner or operator, the information contained in the annual report is true and accurate.

(9) If applicable, a summary of instances recorded in accordance with procedures required in paragraph (O)(2)(a)(v) of this rule in which the owner or operator of a sanitary landfill facility refused acceptance of a vehicle due to the presence of source-separated yard waste or commingled yard waste in the vehicle load.

(N) Ten year design demonstration.

Upon every tenth anniversary of the effective date of the initial permit to install issued to the owner or operator of the sanitary landfill facility pursuant to Chapter 3734. of the Revised Code and each tenth anniversary thereafter, the owner or operator shall submit to Ohio EPA an analysis demonstrating that the design of the unconstructed portions of the sanitary landfill facility continues to be consistent with the design standards established in the current version of rule 3745-27-08 of the Administrative Code. If the director determines that the design is no longer consistent with the standard established in the current version of rule 3745-27-08 of the Administrative Code, then the director may require the owner or operator to make the necessary changes to the sanitary landfill facility to bring the facility into compliance with the design standards in the current version of rule 3745-27-08 of the Administrative Code. Since these changes will represent deviations from what is contained in the current authorizing documents, the owner or operator shall obtain the appropriate authorization from Ohio EPA prior to making the changes. If a permit to install application is required, the director shall not apply the criteria outlined in paragraph (H) of rule 3745-27-07 of the Administrative Code, when considering the permit to install application.

[Comment: A deviation may be an alteration, a modification, or an other change depending upon the significance of the deviation. If the deviation represents an alteration, then the owner or operator is required to obtain written concurrence from Ohio EPA prior to making any change to the facility. If the deviation represents a modification, then the owner or operator is required to obtain an permit to install for the modification from Ohio EPA prior to making any change to the facility.]

[Comment: To determine when Ohio EPA does and does not apply siting criteria to the review of an application for a permit to install to modify the facility, see rule 3745-27-07 of the Administrative Code.]

(O) Yard waste management.

[Comment: Application of this rule should be read in conjunction with paragraphs (E)(2)(c) and (E)(8)(f) of this rule. The definitions for "yard waste," "source-separated yard waste," and "commingled yard waste" are located in rule 3745-27-01 of the Administrative Code.]

(1) The owner or operator may accept for disposal and dispose of source-separated yard waste at the sanitary landfill facility if any of the following are applicable:
(a) The owner or operator may for a temporary period of time accept for disposal and
dispose of yard waste resulting from storm damage or other natural catastrophe
upon the written acknowledgment of the solid waste management district of the
need for the temporary disposal of yard waste.

[Comment: The solid waste management district is the local entity responsible for
tracking the availability of waste disposal and processing capacity. The solid waste
management district is therefore the appropriate entity to make the determination
that locally available yard waste management capacity is not sufficient to handle
yard waste resulting from storm damage or other natural catastrophe.]

(b) The owner or operator may dispose of yard waste resulting from the incidental
acceptance of yard waste where the yard waste has been placed at the working face
of the landfill, provided the owner or operator complies with paragraph (O)(2) of
this rule.

For the purposes of this rule "incidental acceptance" of yard waste means a source-
separated or commingled yard waste is place the working face of the landfill.

(c) The owner of operator may accept a vehicle load of source-separated yard waste if
that vehicle load has been refused acceptance by a composting facility registered or
licensed in accordance with rule 3745-27-40 to 3745-27-46 of the Administrative
Code. The owner or operator shall obtain documentation of this refused acceptance
by a composting facility upon acceptance of the vehicle at the sanitary landfill.
Such documentation shall identify the vehicle, the vehicles' load, the compost
facility which refused acceptance of the vehicle load, and the date of refusal on a
form prepared by the director. The owner or operator shall attach any forms
received to the appropriate daily log of operations required in paragraph (E)(10) of
the is rule.

(d) The owner or operator may accept for disposal and dispose of tree trunks and
stumps.

(2) Yard waste restriction program.

[Comment: The yard waste restriction program outlined in paragraph (O)(2)(a) of this
rule consists of procedures to inform persons transporting waste of the yard waste
restrictions, alternative yard waste management options, and identification of readily
observable dedicated yard waste collection vehicles or loads of source-separated yard
waste in order to encourage alternative management of yard waste, direct persons to
available yard waste composting facilities, and deter the landfilling of readily
observable source-separated yard waste loads. This approach is due to Ohio EPA's
position that a sanitary landfill facility's required design, operation, and environmental
monitoring provides more than adequate environmental protection.]
In order for the owner or operator to dispose of yard waste resulting from the incidental acceptance of yard waste in accordance with paragraph (O)(1)(b) of this rule, the owner or operator shall do the following:

(a) Implement a written program to ensure that yard waste is not accepted for disposal or disposed of at the sanitary landfill facility. The program shall, at a minimum, consist of the following:

(i) Procedures for notifying person transporting waste to the landfill of the yard waste restrictions at the sanitary landfill facility.

(ii) Procedures for distributing information regarding alternative yard waste management methods, such as composting, to persons transporting waste to the landfill facility. At a minimum, information shall include the name, address, and phone number of the solid waste management district in which the sanitary landfill facility is located and a listing of informational pamphlets, brochures, etc., regarding yard waste composting published by Ohio EPA and the solid waste management district in which the sanitary landfill is located.

(iii) Except for sanitary landfill facility with an on-site licensed or registered compost facility, procedures for distributing information regarding the facility names and locations of Ohio EPA licensed or Ohio EPA registered composting facilities in the county in which the sanitary landfill facility is located to persons transporting waste to the sanitary landfill facility.

(iv) Procedures for identifying vehicles dedicated to yard waste collection or vehicles transporting portable containers and compartments of portable containers dedicated to yard waste collection, or vehicles with loads observed to consist of source-separated yard waste, and for refusal of the load due to the presence of source-separated yard waste.

(v) Procedures for the recording of instances in which the sanitary landfill facility refused acceptance of a vehicle load due to the presence of a source-separated yard waste or commingled yard waste in the vehicle load.

(b) Place the yard waste restriction program document in the sanitary landfill facility's operating record in accordance with rule 3745-27-09 of the Administrative Code.

(c) Yard waste restriction program compliance. The owner or operator of a sanitary landfill facility shall review the yard waste restriction program and implement such revisions as the owner or operator deems necessary to ensure control of the acceptance of yard waste at the sanitary landfill facility when either of the following occur:

(i) Upon discovery by the owner or operator that source-separated yard waste has been accepted for disposal at the sanitary landfill facility.
(ii) Upon notification by Ohio EPA or the approved health department that source-separated yard waste has been accepted for disposal at the sanitary landfill facility.

Paragraph (O)(1)(b) of this rule shall not apply unless the owner or operator complies with paragraph (O)(2) of this rule.

[Comment: Chapter 3734. of the Revised Code does not expressly provide Ohio EPA with the statutory authority to regulate transporters of solid waste which included yard waste. Chapter 3734. of the Revised Code does not expressly provide Ohio EPA with the statutory authority to require generators of solid wastes, which includes yard waste, to source-separate solid waste for delivery to a particular type of solid waste facility or recycling facility. Chapter 3734. of the Revised Code does provide Ohio EPA with authority to establish rules regarding the operation of regulated solid waste facilities. Given these circumstances, it is Ohio EPA's position that the requirement that an owner or operator review and revise the facility's yard waste restriction program upon discovery of the acceptance of yard waste is appropriate to assure improvement in the program's effectiveness.]
Effective: 11/01/2007
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CERTIFIED ELECTRONICALLY

Certification

10/18/2007

Date

Promulgated Under: 119.03
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(A) Prohibitions.

(1) After June 1, 1994, no owner or operator shall place municipal solid waste in any unfilled areas of an existing unit of a sanitary landfill facility unless the unfilled areas are, at a minimum, provided with an interim composite liner/leachate collection system in accordance with paragraph (B) of rule 3745-27-08 of the Administrative Code. The owner or operator shall place a copy of the design for the interim composite liner leachate collection system into the operating record in accordance with rule 3745-27-09 of the Administrative Code.

[Comment: Paragraph (C) of rule 3745-27-19 of the Administrative Code, requires strict compliance with the applicable authorizing document(s) and specifies the circumstances in which the "interim composite liner/leachate collection system" may be used in lieu of the system approved in the applicable authorizing document(s).]

(2) After June 1, 1994, no owner or operator shall place municipal solid waste in any new unit of sanitary landfill that is not, at a minimum, provided with an interim composite liner/leachate collection system in accordance with paragraph (B) of rule 3745-27-08 of the Administrative Code. The owner or operator shall place a copy of the design for the interim composite liner leachate collection system into the operating record in accordance with rule 3745-27-09 of the Administrative Code.

[Comment: Paragraph (C) of rule 3745-27-19 of the Administrative Code, requires strict compliance with the applicable authorizing document(s) and specifies the circumstances in which the "interim composite liner/leachate collection system" may be used in lieu of the system approved in the applicable authorizing document(s).]

(3) After June 1, 1994, no owner or operator shall place municipal solid waste in any new unit(s) unless the owner or operator has demonstrated compliance with all of the following location restrictions and placed a copy of the demonstration into the operating record of the sanitary landfill facility in accordance with rule 3745-27-09 of the Administrative Code:

(a) Paragraph (C)(1) of this rule (airports).

(b) Paragraph (C)(2) of this rule (floodplains).

(c) Paragraph (C)(3) of this rule (fault areas).

(d) Paragraph (C)(4) of this rule (seismic impact zone).
(e) Paragraph (C)(5) of this rule (unstable areas).

(4) After June 1, 1994, no owner or operator shall construct or operate new unit(s) or unfilled areas of an existing unit of a sanitary landfill facility such that the construction or operation occurs in a wetland, unless the owner or operator has obtained any necessary permits and approvals required pursuant to sections 401 and/or 404 of the Clean Water Act (July 1, 2005) (33 United States Code section 1341 and 1344).

(B) Existing unit closure for failure to demonstrate compliance with location restrictions.

(1) The owner or operator of an existing unit of sanitary landfill facility must complete closure activities pursuant to rule 3745-27-11 of the Administrative Code by October 9, 1996, if the owner or operator cannot demonstrate compliance with all of the following location restrictions:

(a) Paragraph (C)(1) of this rule (airports).

(b) Paragraph (C)(2) of this rule (floodplains).

(c) Paragraph (C)(5) of this rule (unstable areas).

The owner or operator shall place a copy of the demonstrations into the operating record in accordance with rule 3745-27-09 of the Administrative Code.

(2) The director may extend the deadline for closure for up to two years if the owner or operator of the existing unit demonstrates both of the following:

(a) There is no available regional disposal capacity and closure of the sanitary landfill would cause a local disposal capacity crisis.

(b) There is no immediate threat to human health and the environment. In determining whether there is a threat to human health and the environment from the continued operation of the existing unit the director may consider, but is not limited to, the following:

(i) The impact of the existing unit on ground water including the results and status of detection monitoring, assessment monitoring, or corrective measures programs.

(ii) Operations at the existing unit including compliance with daily, intermediate, and final cover requirements and leachate management.

(C) Location restriction demonstrations.
(1) The limits of solid waste placement of the sanitary landfill facility are not located within ten thousand feet (three thousand forty-eight meters) of any airport runway end used by turbojet aircraft or within five thousand feet (one thousand five hundred twenty-four meters) of any airport runway end used by only piston-type aircraft, unless the owner or operator can demonstrate that the sanitary landfill facility will be so designed and operated that the sanitary landfill facility will not pose a "bird hazard" to aircraft as that term is defined in rule 3745-27-01 of the Administrative Code.

[Comment: "Airport" is defined in rule 3745-27-01 of the Administrative Code.]

(2) The limits of solid waste placement of the sanitary landfill facility are not located in a "regulatory floodplain" as that term is defined in rule 3745-27-01 of the Administrative Code, unless the owner or operator can demonstrate that the unit(s) of the sanitary landfill facility will not restrict the flow of the one hundred year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health and the environment.

(3) The sanitary landfill facility is not located within two hundred feet of a fault that has had displacement in Holocene time unless the owner or operator can demonstrate that a distance less than two hundred feet will prevent damage to the structural integrity of the sanitary landfill facility and will be protective of human health and the environment. For the purposes of this rule, "fault," "displacement," and "Holocene" have the following meanings:

(a) "Fault" means a fracture along which strata on one side of the fracture have been displaced with respect to strata on the other side of the fracture.

(b) "Displacement" means the relative movement of any two sides of a fault measured in any direction.

(c) "Holocene" means the most recent epoch of the Quaternary period extending from the end of the Pleistocene to the present.

(4) The sanitary landfill facility is not located in a "seismic impact zone" as that term is defined in rule 3745-27-01 of the Administrative Code, unless the owner or operator demonstrates that all containment structures, including liners, leachate collections systems, sedimentation ponds, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site.

(5) The sanitary landfill facility is not located in an "unstable area" as that term is defined in rule 3745-27-01 of the Administrative Code, unless the owner or operator demonstrates that engineering measures have been incorporated into
the design of the sanitary landfill facility to ensure that the integrity of the structural components will not be disrupted; except, that for an area of potential subsidence resulting from underground mining, the demonstration must show that the voids are filled or removed if the sanitary landfill facility is located above an underground mine or within the angle of draw of an underground mine. All of the following factors shall be considered when determining whether an area is unstable:

(a) On-site or local soil type and hydraulic conditions.

(b) On site or local geologic or geomorphologic features.

(c) On site or local human-made features (both surface and subsurface).

(d) On site or local events (both surface and subsurface).
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Standards for the operation of infectious waste treatment facilities.

(A) The owner or operator of an infectious waste treatment facility shall treat all infectious wastes in accordance with an approved infectious waste treatment method. Infectious waste treatment facilities are licensed infectious waste treatment facilities and all large generators who treat infectious wastes on-site. Treatment shall occur in accordance with all paragraphs in this rule applicable to that particular treatment technology and paragraph (I) of this rule. The following is a list of infectious waste treatment methods approved in the state of Ohio:

1. Incineration, as specified in paragraphs (C) and (I) of this rule;

2. Autoclaving, as specified in paragraphs (D) and (I) of this rule;

3. Chemical treatment utilizing a sodium hypochlorite solution for cultures, as specified in paragraphs (E) and (I) of this rule;

4. Applied heat encapsulation for sharps, as specified in paragraphs (F) and (I) of this rule;

5. Chemical treatment utilizing peracetic acid and grinding, as specified in paragraphs (G) and (I) of this rule; and

6. Alternative treatment technologies approved by the director. The owner or operator of any infectious waste treatment facility utilizing either a statewide or a site-specific alternative infectious waste treatment technology approved by the director in accordance with rule 3745-27-38 of the Administrative Code shall comply with the director's approval letter for that treatment technology and paragraph (I) of this rule.

(B) All small generators who choose to treat infectious wastes on the premises where they are generated shall comply with the following applicable paragraphs in this rule. Treatment shall occur using an approved infectious waste treatment method and in accordance with paragraph (C)(1), (D)(1), (E)(1), (F)(1) or (G)(1) of this rule or in accordance with a director's approval letter issued in accordance with rule 3745-27-38 of the Administrative Code.

(C) Incineration. The owner or operator of any infectious waste treatment facility utilizing incineration as a treatment technology shall comply with the following:

1. Methodology. The owner or operator shall use methods, techniques, and practices for the treatment of infectious wastes in accordance with the following:

   a. All incineration shall occur in a multi-chamber incinerator which provides complete combustion of the wastes, excluding metallic, glass, and ceramic items;

   b. A minimum temperature of one thousand two hundred degrees Fahrenheit in the primary chamber and a minimum of one thousand six hundred degrees Fahrenheit with a minimum one second residence time in the secondary chamber shall be maintained;

      [Comment: Additional temperature, residence time, and compliance testing requirements may be necessary to achieve appropriate air emission standards in accordance with Chapter 3704. of the Revised Code.]

   c. Each incinerator shall be equipped with a mechanical process(es) to prevent the charging of infectious
wastes into the incinerator until the minimum temperatures required in paragraph (C)(1)(b) of this rule are achieved;

(d) Incinerators shall have automatic auxiliary burners that are capable, excluding the heat content of the wastes, of independently maintaining the secondary chamber temperature at the minimum of one thousand six hundred degrees Fahrenheit;

(e) Incinerators shall not be charged beyond either:

(i) The maximum hourly waste capacity. For the purposes of this rule, the maximum hourly waste capacity is the same as the hourly capacity as stated in the permit to operate issued by Ohio EPA, division of air pollution control; or

(ii) The design capacity as determined by the manufacturer, if no permit to operate is issued by Ohio EPA, division of air pollution control.

(f) Wastes not combusted to ash, except for metallic, glass, and ceramic items, shall be handled and treated as infectious wastes and may be reincinerated.

(2) Specific operational criteria. The owner or operator shall design, construct, and operate the equipment for the treatment of infectious wastes in accordance with the following:

(a) Store all ash from the incinerator in a leakproof, closed container. The ash shall be free of liquids before disposal;

(b) Any ash spilled outside of the treatment unit shall be managed as treated infectious wastes unless the owner or operator has reason to manage such wastes as hazardous waste;

(c) The owner or operator shall:

(i) Characterize the ash resulting from the treatment of infectious wastes as either a solid waste or a hazardous waste by:

(a) Separately testing fly ash and bottom ash for metals, and;

(b) Obtaining representative samples of bottom and fly ash utilizing the "simple random sampling method" described in the "U.S. EPA Test Methods for Evaluating Solid Waste, third edition (SW846)," chapter nine. The samples shall be collected and tested quarterly, or more frequently as required by Ohio EPA, for the toxicity characteristic leaching procedure (TCLP) for metals utilizing an independent analytical laboratory using the methodology specified in the "hazardous waste rules" as defined in paragraph (A) of 3745-50-10 of the Administrative Code.

(ii) Manage the ash in accordance with the applicable solid waste or hazardous waste requirements in Chapter 3734. of the Revised Code and the rules adopted thereunder.

[Comment: Pursuant to paragraph (I) of this rule, the owner or operator of an incinerator must maintain for a three year period the dated permanent recordings of primary and secondary chamber temperatures, documentation of calibration or replacement of the temperature
measuring or recording devices, results of Bacillus species spore testing, if so required, and the results of fly and bottom ash testing.]

(3) Quality assurance. The owner or operator of the infectious waste treatment technology shall use the following quality assurance testing requirements to demonstrate that the treatment unit is capable of attaining the performance standard as specified in this rule for the treatment of infectious wastes:

(a) Produce and maintain a permanent record of primary and secondary chamber temperatures utilizing continuous temperature recorders. Chamber temperatures shall also be displayed for visual monitoring. In the event of a temperature recorder failure the owner or operator shall:

(i) Manually record the chamber temperature(s). The chamber temperature(s) shall be manually recorded immediately after each charge of infectious waste and, at a maximum, once every ten minutes thereafter until the burn down cycle is initiated. Manual recording of the temperature(s) shall continue until repair of the recording device. The operator shall demonstrate proof that repair parts have been ordered if requested by Ohio EPA or approved health department; and

[Comment: Temperature recordings taken after a charge of infectious waste that occurred sooner than ten minutes from the previous charge of infectious waste fulfills the maximum ten minute temperature recording requirement.]

(ii) Discontinue use of the incinerator, until repaired, for the treatment of infectious wastes if failure has occurred in the temperature measuring device, such as a thermocouple or thermocouple wiring.

(b) Utilize an independent company to calibrate, repair or replace primary and secondary chamber temperature recording devices or temperature measuring devices in accordance with the following:

(i) The manufacturer's maintenance schedule, specifications, or recommendations; or

(ii) A calibration schedule as determined by the facility, with, at a minimum, annual calibrations, if the manufacturer's specifications are not available.

(c) Sample, upon written notification by Ohio EPA, stack gas and the resulting bottom ash after the addition of Bacillus species spores to a load of infectious waste. Sampling shall be accomplished in accordance with the protocol provided by Ohio EPA.

(4) Comply with paragraph (I) of this rule.

(D) Autoclaving. The owner or operator of any infectious waste treatment facility utilizing autoclaving as a treatment technology shall comply with the following:

(1) Methodology. The owner or operator shall use methods, techniques, and practices for the treatment of infectious wastes in accordance with the following:

(a) All autoclaves shall operate at a minimum temperature of one hundred twenty-one degrees Centigrade or two hundred fifty degrees Fahrenheit at a minimum of fifteen pounds per square inch gauge pressure for a minimum of sixty minutes during a treatment cycle; or
(b) The owner or operator of an autoclave who uses combinations during the treatment cycle, other than the minimum time, temperature, and pressure requirements, as specified in paragraph (D)(1)(a) of this rule, to treat infectious wastes may do so provided that achievement of the performance standard is demonstrated by validation testing, as outlined in paragraph (D)(4) of this rule, prior to use for the treatment of infectious wastes; and

[Comment: Although autoclaving has been approved for statewide use pursuant to section 3734.021 of the Revised Code, the capability of autoclave units to treat infectious wastes is variable. The variability is due to a number of factors such as: type of wastes treated; the size and density of the waste load; the packaging of the waste; gravity versus vacuum displacement of the air in the chamber; and steam quality. Hence, this rule provides for a process by which autoclaves that are capable of treating infectious wastes at operating parameters below the specified minimum parameters may be approved for use at the lower operating parameters.]

(c) For the purposes of this rule, the treatment cycle is that combination of time, temperature, and pressure needed to achieve the performance standard of a four log (base ten) reduction in Bacillus stearothermophilus spores. The treatment cycle does not include the time needed to bring the chamber up to the operating temperature or pressure nor the time it takes for the autoclave to exhaust and allow opening of the chamber; and

(d) The total treatable volume of infectious wastes used in either the validation or quality assurance testing shall be the total volume of wastes that can be treated per treatment cycle. The total treatable volume of infectious wastes may be calculated by using any one of the following:

(i) The manufacturer's specification for the total volume of the autoclave; or

(ii) A lesser estimate based upon the manufacturer's specification of the total volume of the autoclave; or

(iii) An actual calculation of the total treatable volume at each validation or quality assurance test. The total treatable volume shall be calculated by listing the number of bags, boxes, or sharps containers of infectious wastes used during the testing, and adding the volumes of those containers.

[Comment: an example to actually calculate the total treatable volume. The autoclave test load consisted of three bags, four boxes, and six sharps containers. The volume of each container is: bag = 3 cubic feet, box = 2.5 cubic feet, sharps container = 0.21 cubic feet. Therefore, the total treatable volume of wastes in the quality assurance test load and hence, the maximum amount of wastes that can be treated at any one time is \[[((3)(3))+((4)(2.5))+((6)(0.21))]=20.26 \text{ cubic feet}.\]]

(e) Autoclaves shall not be loaded beyond the total treatable volume of infectious wastes, as defined in paragraph (D)(1)(d) of this rule; and

(f) Autoclaves shall not treat pathological wastes, including without limitation, human and animal tissues, organs, and body parts, that are contaminated with or are likely to be contaminated with infectious agents, removed or obtained during surgery or autopsy or for diagnostic evaluation and gross anatomical wastes such as human or animal limbs and sections containing bone, and animal carcasses, except small sections of tissue that are only several cells wide used for microscopic evaluation, utilizing autoclaving unless the owner or operator:
(i) Submits a protocol to Ohio EPA for approval prior to validation testing to demonstrate that the autoclave unit can effectively achieve the performance standard of a minimum four log (base ten) reduction of a challenge population of Bacillus stearothermophilus spores;

(ii) Demonstrates, through the use of a protocol acceptable to Ohio EPA, that the autoclave unit can effectively achieve the performance standard of a minimum four log (base ten) reduction of a challenge population of Bacillus stearothermophilus spores within such wastes; and

(iii) Receives approval from Ohio EPA to operate the unit to treat pathological wastes.

(2) Specific operational criteria. The owner or operator shall design, construct, and operate the equipment for the treatment of infectious wastes in accordance with the following:

(a) Produce and maintain a permanent record of the chamber temperature utilizing a temperature recording device permanently connected to the unit. The device shall permanently record a data point at a maximum of every two minutes. The temperature shall be displayed for visual monitoring. In the event of a temperature recording device failure, the owner or operator shall:

(i) Manually record the chamber temperature, at a maximum, once every ten minutes until the exhaust cycle is initiated. The temperature shall be manually recorded for no longer than the time necessary to repair the mechanical failure. The operator shall demonstrate proof that repair parts have been ordered if requested by Ohio EPA or approved health department; and

(ii) Discontinue use of the autoclave for the treatment of infectious wastes until repaired if failure or malfunction occurs in the temperature measuring device, such as a thermocouple or thermocouple wiring.

(b) Demonstrate the achievement of the performance standard by the treatment unit for the treatment of infectious wastes. The owner or operator shall perform this by checking the daily operation of the pressure and temperature monitoring devices in the following manner:

(i) Record into the daily log, as required in paragraph (I) of this rule, the actual gauge readings of temperature and pressure and not the manual settings of the treatment unit, during the treatment cycle of a load of infectious wastes; and

(ii) Use the gauge pressure versus temperature of saturated steam table in the appendix to this rule to confirm that the temperature or pressure readings obtained from the gauges are within either +2 degrees or +2 pounds per square inch (psi) from either the temperature or pressure readings in the referenced table. If the temperature or pressure monitoring devices are not within +2 degrees or +2 pounds per square inch (psi) in accordance with the gauge pressure versus temperature of saturated steam table located in the appendix to this rule, then the owner or operator shall select one of the following options. The owner or operator may continue use of the autoclave until such time that the autoclave is repaired or calibrated in accordance with paragraph (D)(2)(c) of this rule:

(a) Discontinue use of the autoclave for the treatment of infectious wastes; or
(b) Perform weekly (every seventh day that the autoclave is used for treatment) quality assurance
testing in accordance with paragraph (D)(3) of this rule. If the weekly quality assurance
testing fails, discontinue use of the autoclave for the treatment of infectious wastes until the
autoclave is able to operate in accordance with the gauge pressure versus temperature of
saturated steam table located in the appendix to this rule. Infectious wastes placed within
the unit during and after the failed spore testing shall not be considered treated and shall be
handled as infectious wastes.

[Comment: Any autoclave that does not operate within the gauge pressure versus
temperature of saturated steam table parameters located in the appendix to this rule and fails
the weekly quality assurance testing is to be calibrated. See paragraph (D)(2)(b) of this
rule.]

(c) Utilize an independent company to calibrate or repair the autoclave chamber pressure gauge,
temperature recording device, or temperature measuring device in accordance with the following:

(i) The manufacturer's maintenance schedule, specifications, or recommendations; or

(ii) A calibration schedule as determined by the facility, with, at a minimum, annually, if the
manufacturer's specifications are not available.

[Comment: A direct relationship exists between the pressure and temperature of saturated
steam. If either the temperature recording or pressure device begins to give false readings, then
the autoclave owner or operator will be able to note this since the published known values will
no longer match the observed values. However, the owner or operator will not know if the
pressure or temperature value is incorrect and may have to have both instruments evaluated by
an independent company.]

(3) Quality assurance. The owner or operator shall perform quality assurance testing to demonstrate the
capability of the autoclave to achieve the performance standard of a minimum four log (base ten)
reduction of Bacillus stearothermophilus spores. The quality assurance testing for autoclaves shall be
performed monthly, in accordance with the following provisions:

(a) Perform monthly quality assurance testing every calendar month in which the autoclave is used for the
treatment of infectious wastes to ensure the capability of the autoclave to achieve the performance
standard of a minimum four log (base ten) reduction of Bacillus stearothermophilus spores;

(b) Use a challenge population of spores as either spore strips with a population of at least $1.0 \times 10^4$
Bacillus stearothermophilus spores, ampules containing at least $1.0 \times 10^4$ Bacillus
stearothermophilus spores per milliliter or a commercially available steam pack which contains a
population of at least $1.0 \times 10^4$ Bacillus stearothermophilus spores. The owner or operator shall
ensure that the Bacillus stearothermophilus spore testing methodology does not result in the
denaturation of the proteins within the inoculating media;

[Comment: For quality assurance testing, Ohio EPA has set the performance standard for the
treatment of infectious wastes by autoclaving to be a four log (base ten) reduction of Bacillus stearothermophilus spores. The quality assurance is designed to be a qualitative (growth or no growth) system. If the owner or operator uses strips or ampules with a greater spore population, then the treatment unit must still achieve a complete kill of all spores.]

(c) Compose the waste load of containers of both infectious wastes and non-infectious wastes. The majority of the waste load may consist of infectious wastes. However, at least three test containers shall consist of material such as newspaper, plastic backed absorbent pads, or general refuse placed into either boxes, bags, or sharps containers representative of normal or anticipated use for that autoclave unit. A spore strip or ampule shall be placed in the center of each test container. In the event that the autoclave will not hold three containers of wastes, then each test container shall contain a spore strip or ampule. Alternatively, commercially available steam packs may be placed into the three representative containers instead of the newspaper, plastic backed absorbent pads, or general refuse;

(d) Treat the waste load containing the challenge population of spores in the same manner as the daily operation of the autoclave for the treatment of infectious wastes. This would include the same temperature, pressure, time, and total treatable volume. The quality assurance testing shall be performed at the same combinations of temperature, pressure, and time, as the validation testing;

(e) Record the following information during the monthly quality assurance testing:

(i) The date;

(ii) The time the treatment cycle started, as specified in paragraph (D)(1) of this rule;

(iii) The time the treatment cycle ended, as specified in paragraph (D)(1) of this rule;

(iv) The chart or graph of the chamber temperature produced by the permanently connected temperature recording device;

(v) The name of the person who loaded the autoclave and the name of the person performing laboratory analysis of the challenge population of spores;

(vi) A diagram depicting the pattern of infectious waste loading and location of the challenge population of spores during the testing except those units which have rotating treatment chambers are not required to diagram the pattern of waste loading;

(vii) The total treatable volume of infectious wastes used during the quality assurance testing as defined in paragraph (D)(1) of this rule;

(viii) The autoclave chamber pressure, as displayed by the permanently connected gauge, during the treatment cycle as specified in paragraph (D)(1) of this rule;

(ix) The incubation temperature and time (in days) of the challenge population of spores, in accordance with the manufacturer's recommendation for optimal growth; and

(x) The results of spore growth during incubation for a period of seven days or for the maximum period of time as specified by the manufacturer of the spore test. The results of spore growth shall be recorded as indicated by the development of turbidity in the growth media. The
development of turbidity in the growth media is indicative of growth of the challenge population of spores present unless other morphological or metabolic testing indicates that the growth is due to a contaminating microorganism.

(f) Remove and incubate the challenge population of spores used in the quality assurance testing for either seven days or for the maximum period of time as specified by the manufacturer of the spore test. If any of the challenge population of spores used to perform the testing are positive for growth at any time during the incubation period, the unit has failed to achieve the performance standard required for treatment. Infectious wastes placed within the unit during and after the spore testing shall not be considered treated and shall be handled as infectious wastes. The autoclave unit shall not be used for further treatment of infectious wastes until the problem has been determined and rectified and another successful quality assurance test performed. The rectification may require the operator to increase the minimum temperature or pressure requirements or cycle time; and

(g) Perform the quality assurance testing, upon request by, and in the presence of, Ohio EPA or approved health department to verify that the written operating procedures as located in the facility management plan are sufficient to meet the performance standard of a four log (base ten) reduction in Bacillus stearothermophilus spores. If so directed, the owner or operator shall use twice as many spore tests in the same location in the autoclave and permit Ohio EPA or approved health department to remove and separately incubate one-half of the spore tests.

[Comment: autoclave owners or operators treating infectious wastes in accordance with the specifications in this rule must maintain, for a three year period, the dated permanent recordings of autoclave chamber temperatures, documentation of the calibrations of the temperature measuring devices performed by an independent company, documentation of the monthly checks on the measuring device, and the results of the monthly quality assurance testing using a challenge population of spores.]

(4) Validation testing. The owner or operator shall perform validation testing to demonstrate the capability of the autoclave to achieve the performance standard of a minimum four log (base ten) reduction of Bacillus stearothermophilus spores. The validation testing for autoclaves shall be performed in accordance with the following provisions:

[Comment: Validation testing is performed prior to use for treatment by an operator who wishes to use an alternative combination to the time, temperature, and pressure requirements specified in paragraph (D)(1)(a) of this rule. Validation testing is a check to ensure that the alternate combination will result in the achievement of the performance standard for treatment. Quality assurance testing is an on-going monitor, performed monthly, of the autoclave's continuing ability to attain the performance standard for treatment.]

(a) Perform validation testing to ensure that the autoclave, using combinations of temperature, pressure, and time other than the minimums specified in paragraph (D)(1)(a) of this rule, is capable of achieving the performance standard of a minimum four log (base ten) reduction of Bacillus stearothermophilus spores;

(b) Use a challenge population of spores as either spore strips with a population of at least $1.0 \times 10^4$
Bacillus stearothermophilus spores, ampules containing at least $1.0 \times 10^4$ Bacillus stearothermophilus spores per milliliter or a commercially available steam pack which contains a population of at least $1.0 \times 10^4$ Bacillus stearothermophilus spores. The owner or operator shall ensure that the Bacillus stearothermophilus spore testing methodology does not result in the denaturation of the proteins within the inoculating media;

[Comment: For validation testing, Ohio EPA has set the performance standard for the treatment of infectious wastes by autoclaving to be a four log (base ten) reduction of Bacillus stearothermophilus spores. The validation testing is designed to be a qualitative (growth or no growth) system. If the owner or operator uses strips or ampules with a greater spore population, then the treatment unit must still achieve a complete kill of all spores.]

c) Compose the validation testing waste load of containers of non-infectious wastes. The waste load for testing shall consist of materials other than infectious wastes, such as newspaper, plastic backed absorbent pads, or general refuse placed into boxes, bags, or sharps containers which are representative of the normal or anticipated use for that autoclave unit. A challenge population of spores shall be placed in the center of each test container;

d) Treat the waste load containing the challenge population of spores in the same manner as the autoclave will be used during daily operations for the treatment of infectious wastes. This would include the same temperature, pressure, time, and total treatable volume;

e) Record the following information during the validation testing:

(i) A written statement indicating the autoclave pressure, temperature, and treatment cycle time that the facility owner or operator is attempting to validate for the treatment of infectious wastes;

(ii) The date;

(iii) The time the treatment cycle started, as specified in paragraph (D)(1) of this rule;

(iv) The time the treatment cycle ended, as specified in paragraph (D)(1) of this rule;

(v) The chart or graph of the chamber temperature produced by the permanently connected temperature recording device;

(vi) The name of the person who loaded the autoclave and the name of the person performing laboratory analysis of the challenge population of spores;

(vii) A diagram depicting the pattern of infectious waste loading and location of the challenge population of spores during the validation testing. Those units which have rotating treatment chambers are not required to diagram the pattern of waste loading;

(viii) The total treatable volume of infectious wastes used during the validation testing as defined in paragraph (D)(1) of this rule. Once a total treatable volume of infectious wastes that an autoclave has been validated to treat has been established, infectious waste loads of lesser than the established total treatable volume may be treated without further validation;

(ix) The autoclave chamber pressure, as recorded by the permanently connected gauge, during the
treatment cycle as specified in paragraph (D)(1) of this rule;

(x) The challenge population of spores shall be incubated in accordance with the manufacturer's recommendation for optimal growth; and

(xi) The results of spore growth during incubation shall be recorded daily, for a period of seven days or for the maximum period of time as specified by the manufacturer of the spore test. The results of spore growth shall be recorded as indicated by the development of turbidity in the growth media. The development of turbidity in the growth media is indicative of growth of the challenge population of spores unless other morphological or metabolic testing indicates that the growth is due to a contaminating microorganism.

(f) Remove and incubate the challenge population of spores used in the validation testing for either seven days or for the maximum period of time as specified by the manufacturer of the spore test. If any of the challenge population of spores used to perform the testing are positive for growth at any time during the incubation period, the unit has failed to achieve the performance standard required for treatment of infectious wastes. In order to utilize the autoclave for the treatment of infectious wastes using combinations of temperature, pressure and time other than the minimums specified in paragraph (D)(1) of this rule, the operator shall either:

(i) Change the treatment cycle temperature, pressure, or time requirements and again perform the validation testing until the performance standard is achieved. Rectification may require the operator to increase the minimum treatment cycle temperature, pressure or time requirements; or

(ii) Operate the autoclave at the minimum operation parameters of one hundred twenty-one degrees Centigrade or two hundred fifty degrees Fahrenheit, fifteen pounds per square inch gauge pressure for sixty minutes.

(g) Perform validation testing, upon request by, and in the presence of, Ohio EPA or approved health department to verify that the written operating procedures as located in the facility management plan are sufficient to meet the performance standard of a four log (base ten) reduction in Bacillus stearothermophilus spores. If so directed, the owner or operator shall use twice as many spore tests in the same location in the autoclave and permit Ohio EPA or approved health department to remove and separately incubate one-half of the spore tests.

[Comment: Autoclave owners or operators treating infectious wastes in accordance with the specifications in this rule must maintain, for a three year period, the dated permanent recordings of autoclave chamber temperatures, documentation of the calibrations of the temperature measuring devices performed by an independent company, documentation of the monthly checks on the measuring device, and the results of the validation testing using a challenge population of spores.]

(5) Comply with paragraph (I) of this rule.

(E) Chemical treatment with sodium hypochlorite solution for cultures. The owner or operator of any infectious waste treatment facility utilizing chemical treatment with sodium hypochlorite solution for cultures shall comply with the following:

[Comment: The use of chemical treatment with sodium hypochlorite solution for cultures is intended for
those cultures either with surface colonies or in suspension as the chemical must come in direct contact with
the cultures to effectively treat the microorganisms.]

(1) Methodology. The owner or operator shall use methods, techniques, and practices for the treatment of
infectious wastes in accordance with the following:

(a) The approved chemical treatment solution shall contain, volume per volume, fifteen per cent sodium
hypochlorite (household grade bleach);

[Comment: The specific solutions stated in the rule are percent solutions of household bleach not
per cent solutions of the active ingredient, sodium hypochlorite. The hypochlorite concentration of
household bleaches ranges from 3.00 to 5.25 per cent. The resulting hypochlorite concentration of
the treatment solution ranges from 0.45 to 0.79 per cent (or four thousand five hundred to seven
thousand eight hundred seventy-five parts per million). To make one gallon of treatment solution,
mix 2.4 cups of household bleach and 3.4 quarts (13.6 cups) of water.]

(b) All cultures shall be submerged for a minimum of twenty minutes, in the chemical treatment solution
specified in this rule;

(c) Cultures of infectious agents that are recommended by the centers for disease control to be handled in
accordance with biosafety level 3 or 4 practices shall not be treated by a non-mechanical chemical
treatment method;

(d) Mix the treatment solution immediately prior to use and discard after use; and

(e) Decant or absorb excess treatment solution from the cultures before disposal.

(2) Comply with paragraph (I) of this rule.

(F) Applied heat encapsulation for sharps. The owner or operator of any infectious waste treatment facility
utilizing applied heat encapsulation for sharps shall comply with the following:

(1) Methodology. The owner or operator shall use methods, techniques, and practices for the treatment of
infectious wastes in accordance with the following:

(a) Process only waste loads of sharps that consist of at least seventy per cent by weight of plastic
material;

(b) Process only waste loads of sharps in a heating chamber within the treatment unit for a minimum
treatment time of thirty minutes at a minimum temperature of three hundred thirty degrees
Fahrenheit;

(c) Process sharps that are not totally encapsulated within a solid plastic mass as sharp infectious wastes;

(d) Treat only sharps as defined in rule 3745-27-01 of the Administrative Code and as specified in
division (A)(1)(a) of section 3734.021 of the Revised Code. No other infectious wastes shall be
treated using this treatment technology; and

(e) Treat only sharps that contain no more than "residual liquid". "Residual liquid", for the purposes of
this rule, is defined as that liquid which remains in the waste item after being emptied or in the case
of a syringe after the plunger has been fully depressed.

(2) Specific operational criteria. The owner or operator shall design, construct, and operate the equipment for the treatment of infectious wastes in accordance with the following:

(a) Maintain the following documentation for a period of three years for each treatment unit:

(i) A quality assurance log as specified in this rule;

(ii) A daily operating log which permanently maintains a record of the following:

(a) The date of each treatment cycle;

(b) The time of day each treatment cycle was started and ended; and

(c) The name of the person operating the treatment unit for each treatment cycle.

(b) If the treatment of sharps is interrupted as a result of a malfunction of the treatment unit due to such occurrences as jamming, overloading, electrical, or mechanical reasons, all sharps contained within the unit shall be managed as infectious wastes. Infectious wastes may be maintained within the unit until the problem is corrected unless the wastes become putrescent or become a food source or breeding place for insects or rodents; and

(c) Treat only sharps that are not contaminated with chemicals that volatilize or are contaminated with antineoplastic agents.

(3) Quality assurance. The owner or operator shall perform quality assurance testing to demonstrate the capability of the applied heat encapsulation system to achieve the performance standard of a minimum four log (base ten) reduction of Bacillus subtilis spores. The owner or operator of the applied heat encapsulation system shall perform quality assurance testing in accordance with the following provisions:

(a) Perform quality assurance testing semi-annually or after every fifty cycles whichever comes first to ensure that the applied heat encapsulation system is capable of achieving the performance standard of a minimum four log (base ten) reduction of Bacillus subtilis spores;

(b) Prepare a challenge population of spores using a spore strip, still within the glassine envelope, containing at least a minimum population of $1.0 \times 10^4$ Bacillus subtilis spores by:

(i) Wrapping the spore strip in aluminum foil and placing it at the bottom of the heating chamber, prior to adding sharps and initiation of the treatment cycle, so that the folded seams are placed on the outside of the resulting solid mass; or

(ii) Placing the aluminum foil wrapped spore strip directly into the heating chamber without the addition of any waste, for technologies that utilize a system where the foil wrapped strip would become part of the encapsulated material.

[Comment: For quality assurance testing, Ohio EPA has set the performance standard for the treatment of infectious wastes to be a four log (base ten) reduction of Bacillus subtilis spores.]
The quality assurance is designed to be a qualitative (growth or no growth) system. If the treatment unit owner or operator uses strips with a greater spore population, then the treatment unit must still achieve a complete kill of all spores.]

(c) Compose the waste load of sharp infectious wastes;

(d) Treat the sharp waste load containing the challenge population of spores in the same manner as the daily operation of the applied heat encapsulation system for the treatment of sharps as specified in paragraph (F) of this rule;

(e) Aseptically remove the spore strip from the wrapped foil and glassine envelope, upon completion of the treatment cycle;

(f) Incubate the challenge population of spores used in the quality assurance testing for either seven days or for the maximum period of time as specified by the manufacturer of the spore strip. If any of the challenge population of spores used to perform the testing are positive for growth at any time during the incubation period, the unit has failed to achieve the performance standard required for treatment. Infectious wastes placed within the unit during and after the spore testing shall not be considered treated and shall be handled as infectious wastes. The applied heat encapsulation system shall not be used for further treatment of infectious wastes until the problem has been determined and rectified and another successful quality assurance test performed;

(g) Maintain a quality assurance log that provides a written record of the results of the quality assurance testing performed. Record the following information during the quality assurance testing:

(i) The date;

(ii) The time the treatment cycle started, as specified in paragraph (F) of this rule;

(iii) The time the treatment cycle ended, as specified in paragraph (F) of this rule;

(iv) The heating chamber temperature;

(v) The name of the person who loaded the heating chamber and the name of the person performing laboratory analysis of the challenge population of spores;

(vi) The challenge population of spores shall be incubated in accordance with the manufacturer's recommendation for optimal growth; and

(vii) The results of spore growth during incubation for a period of seven days or for the maximum period of time as specified by the manufacturer of the spore test. The results of spore growth shall be recorded as indicated by the development of turbidity in the growth media. The development of turbidity in the growth media is indicative of growth of the challenge population of spores present unless other morphological or metabolic testing indicates that the growth is due to a contaminating microorganism.

(h) Perform the quality assurance testing, upon request by, and in the presence of, Ohio EPA or approved health department to verify that the written operating procedures as located in the facility management plan are sufficient to meet the performance standard of a four log (base ten) reduction in Bacillus subtilis spores. If so directed, the owner or operator shall use twice as many spore strips
in the same location in the heating chamber and permit Ohio EPA or approved health department to remove and separately incubate one-half of the spore strips.

(4) Comply with paragraph (I) of this rule.

(G) Chemical treatment with peracetic acid and grinding. The owner or operator of any infectious waste treatment facility utilizing chemical treatment with peracetic acid and grinding shall comply with the following:

(1) Methodology. The owner or operator shall use methods, techniques, and practices for the treatment of infectious wastes in accordance with the following:

(a) Process each waste load using the appropriate concentration of peracetic acid, as specified in paragraph (G)(1)(f) of this rule;

(b) Operate all treatment units at a minimum of ten minutes per treatment cycle using the following parameters: the grinding cycle shall operate for a minimum of three minutes at the beginning of the treatment cycle. The chemical soak portion of the treatment cycle shall operate for a minimum of seven minutes;

(c) Mark the canister to indicate the volume of blood present. The person(s) filling the canister with infectious wastes shall mark the canister to indicate that the canister contains less than one hundred milliliters of blood or that the canister contains at least one hundred milliliters but less than one thousand milliliters of blood. The generator shall also separately indicate the approximate volume of blood contained within the canister on the daily operating log as prescribed by Ohio EPA;

(d) Not process waste loads containing volumes of blood greater than one thousand milliliters or one liter;

(e) Not process wastes contaminated with non-incidental quantities of chemicals, body parts containing bone, organs, whole carcasses, quantities of gauze or rubber or latex that may become entangled around the rotors or blades, or heavy metal items;

(f) Use a minimum of 17.1 milliliters of thirty-five per cent peracetic acid when the infectious waste load contains less than or equal to one hundred milliliters of blood. Use a minimum of 79.8 milliliters of thirty-five per cent peracetic acid when the infectious waste load contains greater than one hundred milliliters but less than or equal to one thousand milliliters (one liter) of blood;

(g) Examine the specifically designed indicator disk upon completion of the treatment cycle and before the waste is dewatered and bagged. The entire indicator on the disk shall have a visible color change as an indication that peracetic acid was used during the process; and

(h) If there is not a complete color change, then the wastes are not considered treated and shall be treated again with either a new charge of the appropriate concentration of peracetic acid and a new indicator disk or using another approved treatment method in accordance with this rule.

(2) Specific operational criteria. The owner or operator shall design, construct, and operate the equipment for the treatment of infectious wastes in accordance with the following:

(a) Use rotating blades contained within the specialized canister to grind the infectious wastes;
(b) Operate all treatment units using a specially designed canister that sets down inside the machine cabinetry and contains internal grinding blades;

(c) Record the peracetic acid dosage used for each treatment cycle in a daily operating log. The unit operator shall complete the operating log as prescribed by Ohio EPA;

(d) Keep the cap on the canister when the canister is in use as an infectious waste receptacle. The cap shall not be removed prior to arrival at the treatment area. The collection cap is to be removed before treatment;

(e) Disinfect the canister cap after each use using any one of the following disinfectants:

(i) An U.S. EPA registered hospital disinfectant that is also tuberculocidal, for a contact time as specified by the manufacturer; or

(ii) A unexpired dated stabilized bleach product that is an U.S. EPA registered hospital disinfectant that is also tuberculocidal, for a contact time as specified by the manufacturer; or

(iii) A minimum ten per cent sodium hypochlorite solution prepared immediately prior to use with a minimum of thirty minutes of contact time.

(f) If treatment occurs outside the parameters as outlined in this rule, as a result of a malfunction of the unit due to such occurrences as jamming, overloading, electrical, or mechanical reasons, all wastes contained within the unit shall be managed as infectious wastes. Infectious wastes may be temporarily maintained within the unit unless the wastes becomes putrescent or becomes a food source or breeding ground for insects or rodents.

(3) Quality assurance. The owner or operator shall perform quality assurance testing to demonstrate the capability of the chemical treatment with peracetic acid and grinding unit to achieve the performance standard of a minimum four log\(_{10}\) reduction of Bacillus subtilis spores. The quality assurance testing for the chemical treatment with peracetic acid and grinding unit for the treatment of infectious wastes is specified as follows:

(a) Produce and maintain for a period of three years a permanent record of the daily operational and maintenance activities for the infectious waste treatment technology in the facility management plan as follows:

(i) Utilize a daily operating log form, as prescribed by Ohio EPA for each unit for each day that infectious wastes are treated in the unit. All daily operating logs for a treatment unit shall be grouped together and arranged by date within the grouping; and

(ii) Conduct preventative maintenance checks and services as stated in the operating manual.

(b) Repair the treatment unit in the event of a malfunction of the chemical treatment using peracetic acid and grinding. The unit shall not be used for the treatment of infectious wastes until repaired; and

(c) Perform quality assurance testing, upon request of Ohio EPA, for each unit. This testing shall demonstrate the unit's capability to achieve a minimum four log (base ten) reduction of Bacillus subtilis spores.
(4) Comply with paragraph (I) of this rule; and

(5) Comply with requirements as specified in the director's approval letter issued in accordance with rule 3745-27-38 of the Administrative Code.

(H) Mobile treatment methods (reserved).

(I) General facility requirements. All owners and operators of a infectious waste treatment facility shall comply with the following:

(1) Retain all records for three years. Retention periods are extended during the course of any unresolved litigation, or when requested by Ohio EPA. The three-year period for records retention shall start from the date of recording, sample, or measurement and is applicable to all records included in the facility management plan;

(2) Develop and maintain in one area on the premises of the infectious waste treatment unit a facility management plan, excluding generators who utilize chemical treatment of cultures or applied heat encapsulation for sharps, in accordance with this rule:

[Comment: The facility management plan may be composed of several volumes, binders, or computer disks.]

(a) The facility management plan shall contain copies of the following information and documentation:

(i) Applicable environmental regulations regarding infectious wastes, solid wastes, surface water, and air pollution control;

(ii) Applicable infectious wastes, solid wastes, surface water, and air authorizing documents (such as licenses, registrations, or permits) for the treatment facility;

(iii) Manufacturer's equipment specifications, owner's manual for the treatment unit, and maintenance schedule;

(iv) Monitor and recording device calibration or replacement schedule;

(v) Maintenance and repair log for each treatment unit;

(vi) Infectious wastes spill containment and clean-up procedures;

(vii) Facility contingency plan;

(viii) Results of quality assurance and applicable validation testing requirements;

(ix) Procedures for treatment unit start-up, loading, operating, shut down, and equipment malfunction;

(x) Emergency telephone numbers including, at a minimum: the facility emergency coordinator, the fire department, any existing local emergency management office, the local health department, the police department, and Ohio EPA district office;

(xi) The permanently recorded daily logs as specified in paragraph (I)(3) of this rule. A daily log
shall be maintained for each treatment unit for a period of three years;

(xii) All strip charts, graphs, or manually produced temperature records. Each chart, graph, or record shall be dated and maintained for a period of three years;

(xiii) Disposal shipping papers for the infectious wastes treated; and

(xiv) A training certification statement, as required in paragraph (I)(3) of this rule, shall be maintained for each employee who operates the infectious waste treatment unit or loads infectious wastes into the infectious wastes treatment unit. Each training certification statement shall be maintained for the duration of such employment.

[Comment: The training certificate statement is not required to be maintained for an employee who no longer works for the organization or whose job responsibilities no longer include and will not include operating or loading the infectious waste treatment unit.]

(b) All of the current calendar year's information is to be located in this same area such as an office or work area. The two previous calendar year's information may be maintained in other accessible areas or multiple rooms depending on the amount of available space at the facility. A notation shall be made in the current year's facility management plan regarding the location of any past calendar year's information; and

(c) Documents and information contained in paragraph (I)(2)(a) of this rule of the facility management plan shall be accessible to employees during working hours.

[Comment: Nothing in this rule prohibits the facility management plan or parts thereof from being copied and located in other areas of the facility for the purpose of easy access for employees. However, there shall be only one official facility management plan that shall be located in one general area and accessible during working hours.]

(3) Provide training on the contents of the facility management plan for each employee who will operate the infectious waste treatment unit or load the infectious waste treatment unit before the employee is responsible for operating or loading the infectious waste treatment unit. A written certification statement attesting that the employee received the specified training shall be signed and dated by each employee and the owner or operator of the facility;

(4) Use a daily log of operation to record charging of the infectious waste treatment unit. A printout produced by the treatment unit may substitute for the daily log provided all the information required is present on the printout. Unless already required to keep a charging log in accordance with rule 3745-75-04 of the Administrative Code, permanently record in a daily log of operation the following, as applicable:

(a) The date;

(b) The time the first load or batch of infectious wastes was charged into each treatment unit;

(c) The time the last load or batch of infectious wastes were charged into each treatment unit for the day;

(d) Name(s) of the person(s) operating each infectious waste treatment unit and the time of day the operator started the unit;
(e) The time the treatment unit was unloaded;

(f) Whether the load was for validation, quality assurance or usual treatment; and

(g) The actual daily autoclave pressure and temperature reading.

[Comment: A printout containing partial information may be used when attached to a daily log containing the remaining required information.]

(5) Provide, in the immediate area of the infectious waste treatment unit and readily available to the personnel operating the treatment unit, the operating and loading procedures for the treatment unit;

(6) If the treatment of infectious wastes occurs outside the treatment parameters established in each methodology paragraph of this rule specific to the type of treatment technology in use and as a result of a malfunction of the unit due to such occurrences as jamming, overloading, electrical, or mechanical reasons, then all wastes contained within the unit shall be managed as infectious wastes. The infectious wastes may be maintained within the treatment unit until the problem is corrected unless the wastes become putrescent or become a food source or breeding place for insects or rodents;

(7) Conduct all construction and operations at the facility in strict compliance with the applicable authorizing document(s), including permit(s) to install issued under Chapter 3745-27 of the Administrative Code, plan approval(s), and alteration(s) concurred with in writing by Ohio EPA; the license issued under Chapter 3745-37 of the Administrative Code; court orders; and findings and orders issued by the director;

(8) Construct and maintain all-weather access roads in such a manner as will withstand the anticipated degree of use and allow passage of vehicles with minimum erosion and dust generation;

(9) Construct and maintain non-absorbent floors in all infectious waste handling areas. Such areas shall not be overlaid with an absorbent covering;

[Comment: Nothing in this paragraph prohibits the overlaying of the concrete or asphalt floors with a cleanable non-absorbent covering.]

(10) Conduct loading operations into any treatment unit in such a manner as not to compact or puncture the containers of infectious wastes;

(11) Do not charge infectious wastes into the treatment unit during periods of precipitation unless the wastes to be loaded and the waste loading operations are protected from the elements of weather;

(12) Discharge into a disposal system in accordance with Chapter 6111. of the Revised Code or absorb and handle as infectious wastes, any wastewater resulting from a spill of infectious wastes or the cleanup of a spill of infectious wastes from all infectious waste handling areas. Such wastewater shall not be disposed into a storm sewer;

(13) Construct and maintain proper slopes and drainage to prevent the ponding of liquids in infectious waste handling areas;

[Comment: Methods of drainage are not limited to systems consisting of underground pipes.]

(14) Restrict infectious waste handling areas to authorized personnel, utilizing signs or a locking mechanism;
(15) Shall not treat wastes for which such treatment or disposal is prohibited by the Ohio department of health or the U.S. nuclear regulatory commission;

(16) Shall not accept wastes for which such storage, treatment or disposal is prohibited in the "hazardous wastes rules" as defined in paragraph (A) of rule 3745-50-10 of the Administrative Code;

[Comment: The "hazardous wastes rules" as defined in paragraph (A) of rule 3745-50-10 of the Administrative Code contain the regulations for the proper handling of hazardous wastes. For technical information regarding the designation, handling, treatment, and disposal of hazardous waste, please contact the division of hazardous waste management at the appropriate Ohio EPA district office.]

(17) The owner or operator of a licensed infectious waste treatment facility shall submit an annual report to Ohio EPA central office and the approved health district no later than February first of each year. The annual report shall consist, at a minimum, of the following:

(a) The name, address, telephone number, and contact person for the facility;

(b) Hours of operation for the facility;

(c) Monthly total of infectious wastes treated at the facility for each state or country of origin; and

(d) Any quality assurance results that do not demonstrate achievement of the performance standard.

(18) Infectious wastes that have been treated in accordance with the provisions of this rule shall be handled in the same manner as solid wastes. Such treated infectious wastes shall be disposed in a licensed solid waste disposal facility, or a facility in another state operating in compliance with state and federal regulations. Shipments of treated infectious wastes shall be accompanied by disposal papers as required by rule 3745-27-33 of the Administrative Code;

[Comment: Small generators of infectious wastes who treat the infectious wastes that they generate are not required to comply with the disposal shipping paper requirements of rule 3745-27-33 of the Administrative Code.]

(19) All "sharps" shall be managed in a manner to eliminate the potential of those wastes to cause lacerations or puncture wounds during handling and disposal;

(20) Perform quality assurance testing to demonstrate the ability of the treatment unit to achieve the performance standard if the unit has not been used for the treatment of infectious wastes for more than one year;

(21) Any large generator who treats infectious wastes on-site and any infectious waste treatment facility licensed to treat infectious wastes, who intends to discontinue treating infectious wastes at any facility or premise, shall comply with rules 3745-27-36 and 3745-27-39 of the Administrative Code;

(22) Apply for and obtain an operating license from the board of health of the health district where the facility will be located, or from the director if the director has assumed the licensing function, unless the facility currently holds an operating license; and

(23) The following infectious waste treatment facilities are exempt from the permitting and licensing requirements stated in division (C) of section 3734.02 and division (B) of section 3734.05 of the Revised
Code:

(a) An infectious waste treatment facility that is owned or operated by the generator of the wastes and exclusively treats wastes that are produced by that generator at any premises owned or operated by that generator, by methods established under this rule; and

(b) Hospitals as defined in section 3727.01 of the Revised Code, that accept for treatment infectious wastes generated by any of the following:

   (i) Generators who produce fewer than fifty pounds of infectious wastes during any one month and who are not listed on a registration certificate as a generator of infectious wastes and who have staff privileges at that hospital; or

   (ii) An emergency medical service organization, as defined in section 4765.01 of the Revised Code, regardless of whether the wastes were generated in providing care to the patient at the scene of an emergency or during the transportation of the patient to the hospital; or

   (iii) An individual for purposes of his own care or treatment.
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Certification

02/15/2013

Date

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3745-27

339
Appendix
GAUGE PRESSURE VS. TEMPERATURE OF SATURATED STEAM

Gauge
Pressure
(psi)

Temp
(F)

Temp
(C)

Gauge
Pressure
(psi)

Temp
(F)

Temp
(C)

0
1
2
3
4
5
6
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Gauge
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(psi)

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(F)

Temp
(C)

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3745-27-33 Disposal paper system.

(A) The disposal paper shall accompany treated infectious wastes from the treatment facility to the disposal facility. The disposal paper shall:

(1) Be produced from a form prescribed by or approved by Ohio EPA;

(2) Be legible and complete;

(3) Be kept on file for a minimum of three years;

(4) Be prepared by:
   (a) The infectious waste treatment facility responsible for treating the wastes when a shipment of treated wastes is transported to a solid waste disposal facility; and
   (b) The generator if the infectious waste treatment facility is owned or operated by the generator.

(5) Be signed, dated, and given to the transporter by the infectious waste treatment facility before the wastes are removed from the premises;

(6) Contain the following information:
   (a) The name of the owner or operator of the facility where the wastes were treated and the address of the treatment facility;
   (b) A certification by the owner or operator of the treatment facility where the wastes were treated indicating that the wastes have been treated by the methods, techniques, and practices prescribed by paragraph (A) of rule 3745-27-32 of the Administrative Code.

(7) Not apply to generators who do not hold a registration certificate as a generator of fifty pounds or more of infectious waste in any one month;

(8) Not be kept by a transfer facility but shall continue to accompany the treated infectious wastes to the solid waste disposal facility.

(B) Records retention periods shall be extended during the course of any unresolved litigation, or when so requested by Ohio EPA. The three-year period for retention of records shall start from the date of sample, measurement, or report.
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Standards for handling infectious wastes.

(A) For the purposes of this rule, a storage area means an area used to collect containers that are sealed, or bags that are sealed or otherwise closed, and tied, or closed sharps containers prior to treatment. Generators and treatment facilities, as defined under Chapter 3734. of the Revised Code, shall adhere to the following handling requirements for all in-use and stored containers of infectious waste:

(1) Handle infectious waste containers in a manner and location that maintains the integrity of the container;

(2) Lock outside storage areas containing infectious wastes containers to prevent unauthorized access;

(3) Designate infectious waste storage areas. Those storage areas that are not locked, shall be visibly labeled with a sign stating "warning: infectious waste" or displaying the international biohazard symbol at all points of access.

(B) Generators and treatment facilities, as defined under Chapter 3734. of the Revised Code, shall adhere to the following regulations for the management of the infectious wastes within containers:

(1) Maintain infectious wastes in a nonputrescent state, using refrigeration or freezing when necessary; and

(2) If infectious waste becomes putrescent, then the waste must be immediately refrigerated or frozen and shall be treated and disposed of as soon as possible regardless of any storage time frame;

(3) Maintain infectious wastes in a manner that affords protection from animals and does not provide a breeding place or a food source for insects or rodents.

(C) Infectious waste treatment facilities shall adhere to the following storage regulations:

(1) No infectious waste may be stored more than fourteen days at any facility;

(2) No more than seven times the treatment facility's total maximum daily throughput capacity of all incinerators and/or autoclaves shall be stored for treatment;

(3) All facilities shall formulate a contingency plan. At a minimum the plan shall:

   (a) Address compliance with the requirements set forth in paragraphs (A) and (B) of this rule, and shall provide for the removal of infectious wastes to an alternate treatment facility;

   (b) Be maintained at the treatment facility as a part of the facility management plan in accordance with rule 3745-27-32 of the Administrative Code;

   (c) Designate an emergency coordinator and an alternate emergency coordinator; and

   (d) Contain all of the following:

      (i) Table of contents, and

      (ii) Facility identification, and

      (iii) Purpose statement, and

      (iv) Emergency response equipment, and
(v) A designation of alternative treatment facilities, and
(vi) Responsibilities of emergency coordinator, and
(vii) Storage procedures, and
(viii) Handling procedures, and
(ix) Refrigeration and freezing requirements in accordance with rule 3745-27-35 of the Administrative Code, and
(x) Implementation of response, and
(xi) Internal notification, and
(xii) Provide a posting of emergency procedures.

(4) If the treatment facility exceeds or reasonably anticipates exceeding storage capacity, then the treatment facility shall implement its contingency plan and notify on the same or next business day the appropriate health department and Ohio EPA district office of the implementation of the contingency plan;

(5) A generator who also treats infectious wastes generated on premises owned or operated by the generator shall be subject to the requirements of paragraph (C) of this rule when the untreated infectious wastes are in a centralized storage area directly prior to treatment; and

(6) Other storage methods approved by the director.

(D) For the purposes of this rule, a treatment facility may utilize a trailer as a storage area only if the trailer is equipped in such a manner as to prevent the spillage of infectious wastes or liquids outside of the trailer.

(E) Generators that collect and store infectious wastes, produced by multiple infectious waste generators in a centralized location, shall store and handle the infectious wastes in accordance with this rule.
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R.C. 119.032 review dates: 11/29/2012 and 03/01/2018

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02/15/2013

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3745-27-36  Registration requirements for generators of infectious waste.

(A) Generator registration requirements.

(1) All persons who generate fifty pounds or more of infectious waste in any one month at any one location shall register with Ohio EPA as follows:

(a) Not later than thirty days after the last day of the month in which fifty pounds or more of infectious waste were generated, the generator must submit to Ohio EPA an application for a registration certificate accompanied by an application fee of one hundred forty dollars. The application fee is non-refundable and the check for the application fee shall be made payable to the "Treasurer-State of Ohio." A certificate is valid for three years.

(b) A registration certificate shall include all premises operated by the generator which generates fifty pounds or more of infectious waste in any one month or treats infectious waste.

(c) A registration certificate is not transferable to another generator.

(2) Amendments. Any generator who holds a valid registration certificate under this rule shall ensure that all information that is contained on the registration certificate is correct and up to date by submitting an amended registration application form and obtaining an amended registration certificate that reflects any changes to current registrant information, premises information, or treatment method. No additional fee shall be charged to amend a registration certificate. An amended registration shall not alter the expiration date of the original registration certificate.

(3) Renewals. All generators who hold a valid registration certificate under this rule shall, at least thirty days prior to the expiration of the valid registration certificate, do one of the following:

(a) Submit an application to renew the registration.

(b) Submit to Ohio EPA a reversion to small generator application which states that fifty pounds or more of infectious waste in any one month is no longer generated by the generator at any premises operated by the generator.

The generator shall provide verification that no more than fifty pounds of infectious waste were generated in any one month during the six months prior to expiration, at a minimum. In addition, if untreated liquid infectious waste is disposed of on the premises, the generator shall include a monthly log of the amount produced.

(4) Upon written notification that an application is incomplete the applicant shall, within fifteen days of receipt of the notification, correct noted deficiencies and resubmit the form or application. A registration cycle shall not be considered to be extended in the event of a deficiency notification or late submittal of an application.

(5) The applicant, owner, or operator signing a document in accordance with this rule shall be one of the following:

(a) A person as defined in sections 3734.01 and 1.59 of the Revised Code.
(b) In the case of a corporation, a principal executive officer of at least the level of vice-president or a duly authorized representative, who is responsible for the overall operation of a facility where infectious waste is generated.

(c) In the case of a partnership, a general partner.

(d) In the case of sole proprietorship, the owner.

(e) In the case of a municipal, state, federal, or other governmental facility, the principal executive officer, the ranking elected official, or other duly authorized employee.

(f) In the case of a limited liability company, a manager, member, or other duly authorized representative of the limited liability company, if such representative is responsible for the overall operation of the facility.

(6) Persons, who as part of their business activities engage in the designation and segregation of infectious wastes at places including but not limited to crime or accident scenes, and who generate fifty pounds or more of infectious wastes per month are subject to the requirements of this rule.
Effective: 03/01/2013

R.C. 119.032 review dates: 11/29/2012 and 03/01/2018

CERTIFIED ELECTRONICALLY

Certification

02/15/2013

Date

Promulgated Under: 119.03
Statutory Authority: 3734.021
Rule Amplifies: 3734.021
Prior Effective Dates: 04/06/90, 05/08/92, 12/01/97, 03/01/01, 07/05/07
3745-27-37 Infectious waste treatment facility permit to install application.

(A) A permit to install application as required by section 3734.05 of the Revised Code shall be submitted and approved by the director before the establishment of a new or modification of an existing infectious waste treatment facility is begun. Compliance with this rule shall not exempt any person from compliance with any other permit, license, or other obligation for authorization.

(1) Permit to install applications shall contain all the information required by paragraphs (B) and (C) of this rule. The detail of information shall be sufficient to allow clear understanding and technical review of the permit application, provide assurance that the facility is designed and will be operated in accordance with Chapter 3745-27 of the Administrative Code, and be readily understandable by operating personnel at the facility. An application shall be acted upon if sufficient information is in the detailed engineering plans, specifications, and narrative for the director to determine whether the criteria set forth in this rule is satisfied.

(2) If Ohio EPA determines that information in addition to that which is required by this rule is necessary to determine whether the criteria set forth in paragraph (D) of this rule are satisfied, Ohio EPA may require that the applicant supply such information as a precondition to further consideration of the permit to install application.

(3) The applicant shall submit four copies of the initial application and any revisions or alterations to the initial application to the appropriate Ohio EPA district office and shall submit one copy to the board of health of the health district where the facility is or will be located. Any revisions or alterations to the permit application shall be pertinent to the Ohio EPA's review of the initial application.

(4) Concurrent to submitting the permit application, the applicant shall also do the following:

   (a) Submit a disclosure statement to the attorney general's office, as required in rules 109:6-1-01 to 109:6-1-04 of the Administrative Code, if the facility is an off-site facility as defined in section 3734.41 of the Revised Code.

   (b) Send, via certified mail or any other form of mail accompanied by a receipt, letters of intent to establish or modify an infectious waste treatment facility. Copies of the mail receipts shall be included with the application. Letters of intent shall be sent to the following entities:

      (i) The governments of the general purpose political subdivisions where the infectious waste treatment facility is located, i.e., county commissioner, legislative authority of a municipal corporation, or the board of township trustees.

      (ii) The single county or joint county solid waste management district.

      (iii) The owner or lessee of any easement or right of way bordering or within the proposed facility boundaries that may be affected by the infectious waste treatment facility.

      (iv) The local zoning authority, if any, having jurisdiction.

(5) Applications to modify a facility with plans approved after the effective date of this rule shall contain new plan sheets to replace those affected by the proposed change, as well as any revised narrative sections. New information added to the revised narrative shall appear in capital letters, and information to be deleted shall be lined out.

(B) Engineering plan sheets. The following detailed engineering plans, specifications, and information for infectious waste treatment facilities shall be shown by means of drawings on twenty-four inch by thirty-six
inch paper, and by narrative descriptions as determined appropriate by Ohio EPA:

(1) The detailed engineering plan cover sheet shall be numbered sheet 1, and shall contain the following information:

(a) The name of the infectious waste treatment facility.

(b) The precise geographical location and boundaries of the infectious waste treatment facility, the infectious waste treatment facility property line, and the one-thousand-foot radius around the property line, all to be shown on a 7-1/2 minute USGS topographical map.

(c) The name and address of the applicant and the infectious waste treatment facility operator.

(d) The name and address of the owner(s) of the infectious waste treatment facility.

(e) The name and address of the person who prepared the plans.

(2) Plan drawings showing the following items within one thousand feet of the limits of the infectious waste treatment facility. All items specified in an individual subheading shall be shown on the same plan sheet. A scale of one inch equals no greater than two hundred feet shall be used:

(a) The property lines of all land owned or leased for the infectious waste treatment facility as determined by a property survey conducted by a registered surveyor.

(b) All public roads, railroads, and domiciles.

(c) All existing land uses or zoning classifications, property owners, political subdivisions, and communities.

(d) The north arrow.

(e) Surface waters of the state.

(3) Plan drawings showing the following items located within the infectious waste treatment facility. A scale of one inch equals no greater than fifty feet shall be used:

(a) The location of all existing or proposed treatment buildings, storage facilities, and occupied structures.

(b) The location of all fencing, gates, natural screening and other screening on the site.

(c) The location of infectious waste handling areas.

(d) The location of the drainage structures.

(e) The location of spill containment and clean-up kits.

(f) The location of fire extinguishers and other fire response equipment.

(4) Detailed engineering plan drawings showing plan view, front view, and profile view, with sufficient detail to provide full understanding of the design and operation of each treatment unit.

(5) For a permit to install application subject to paragraph (D)(5) of this rule, plan drawings which clearly delineate all infectious waste handling areas as that term is defined in rule 3745-27-01 of the Administrative Code showing both of the following:
(a) The distance between the infectious waste handling areas and the property line of the premises on which the infectious waste treatment facility will be located.

(b) All domiciles, schools, jails, and prisons located within one thousand feet of the infectious waste handling areas.

(C) The following information shall be presented in narrative form to be contained in a report divided into the following sections:

1) Summary of how the infectious waste treatment facility will meet the standards and operational requirements for permit approval by the director specified in rules 3745-27-32 and 3745-27-37 of the Administrative Code.

2) Discussion of the following operational information:

(a) The method of treatment.

(b) The identification and utilization of all existing or proposed treatment buildings, storage facilities, and occupied structures.

(c) The utilization of all fencing, gates, natural screening, and other screening on the site.

(d) The utilization of infectious waste handling areas.

(e) The utilization and drainage of the decontamination area.

(f) The operating hours.

(g) The functions, qualifications, training, and certification of staff.

(h) The format and use of the daily operating log, which shall include all operational and maintenance procedures and sources of service and parts.

(i) The design and function of the water cooling and collection system for ash.

(j) The handling and disposal of particulates captured by the air pollution control system.

(k) The method used to distinguish hazardous waste as specified in the "hazardous wastes rules" as defined in paragraph (A) of rule 3745-50-10 of the Administrative Code.

(l) The method used to distinguish infectious wastes that are also radioactive waste regulated by the Ohio department of health, or the U. S. nuclear regulatory commission.

(m) The quality control measures specified in paragraph (C) of rule 3745-27-32 of the Administrative Code.

(n) The names and addresses of any third party contracted for quality control activities.

(o) The accident or spill containment procedures.

(p) The contingency plans specified in paragraph (C)(3) of rule 3745-27-35 of the Administrative Code.

(q) The coordination with local officials such as: the fire department, local emergency management officials, and the police department.
(D) The director shall not approve any permit to install application for an infectious waste treatment facility unless the director determines the following:

(1) Establishment or modification and operation of the infectious waste treatment facility will not violate Chapter 3704., 3714., 3734. or 6111. of the Revised Code.

(2) Location of the infectious waste treatment facility is not within any of the following:

   (a) The boundaries of a regulatory floodplain as defined in rule 3745-27-01 of the Administrative Code.


(3) The applicant or person listed as operator, who has previously or is currently responsible for the management or operation of one or more infectious waste treatment facilities, has managed or operated such facility in substantial compliance with applicable provisions of Chapters 3704., 3714., 3734., and 6111. of the Revised Code, and any rules adopted and permits issued thereunder, and has maintained substantial compliance with all applicable orders issued by the director, the environmental review appeals commission (ERAC), or courts having jurisdiction in accordance with applicable law. The director may take into consideration whether substantial compliance has been maintained with any applicable order from a board of health maintaining a program on the approved list and any other courts having jurisdiction.

(4) The applicant meets the requirements of sections 3734.40 to 3734.43 of the Revised Code and rules adopted thereunder.

(5) A permit to install application for the installation of a new incineration facility specifies the locations of the infectious waste handling areas on the premises of the proposed facility. The infectious waste handling areas shall be:

   (a) At least three hundred feet from the property line of the tract of land on which the new incineration facility is proposed to be located; and

   (b) At least one thousand feet from any domicile, school, prison, or jail that is in existence on the date on which the application for the permit to install the new incineration facility is submitted under section 3734.05 of the Revised Code.

For the purposes of this paragraph, "an application which proposes to install a new incineration facility" means the initial permit to install application to construct an infectious waste treatment facility which will treat infectious waste by means of incineration or a permit to install application to modify an infectious waste treatment facility to construct an incinerator unit where the facility's currently effective permit to install does not authorize incineration as a treatment method.

(E) The director may consider, when determining whether or not to approve a permit to install application for an infectious waste treatment facility, the impact the proposed infectious waste treatment facility may have on
corrective actions that have been taken, are presently being taken, or are proposed to be taken in the immediate area.

(F) The permittee shall submit to Ohio EPA, upon every tenth anniversary of the effective date of a permit to install that approved initial construction of the facility, an analysis demonstrating that the design, construction, and operation of the infectious waste treatment facility continues to meet applicable regulatory requirements under this chapter. If Ohio EPA determines that the design is no longer consistent with applicable regulatory requirements under this chapter, as those requirements are being applied to infectious waste treatment in the state of Ohio, the permittee may be required to submit a permit to install application to modify the infectious waste treatment facility. If a permit to install application is required, Ohio EPA shall not apply the siting criteria outlined in paragraph (D) of this rule when considering the permit to install application.
Five Year Review (FYR) Dates: 07/08/2014 and 07/08/2019

CERTIFIED ELECTRONICALLY

Certification

07/08/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.021
Rule Amplifies: 3734.021, 3734.05
3745-27-38 Alternative infectious waste treatment technology approval process.

(A) This rule sets forth the procedures and criteria for approval of an alternative infectious waste treatment technology. An alternative infectious waste treatment technology is any combination of methods, techniques, practices, designs, constructions, operations, process, or equipment, intended to treat infectious waste that is not specified in rule 3745-27-32 of the Administrative Code. Nothing in this rule relieves the owner or operator seeking such approval from the requirement to obtain any applicable permits or licenses including those pursuant to sections 3734.02 and 3734.05 of the Revised Code.

(B) The applicant may request either a statewide approval or a site-specific approval in accordance with paragraphs (C), (D), and (E) of this rule. An alternative treatment technology with statewide approval may be used at any facility throughout the state of Ohio without the operator first performing initial validation testing. An alternative treatment technology with site-specific approval shall have initial validation testing performed by the operator prior to use. The following demonstrations shall accompany any such approval request:

[Comment: Validation testing is performed prior to use to ensure that the alternative treatment technology will be able to achieve the performance standard for treatment. Quality assurance testing is an on-going monitor of the treatment technology's ability to attain the performance standard for treatment.]

1) Statewide approval performance standard. The achievement of a minimum four log$_{10}$ reduction of bacterial spores and a minimum five log$_{10}$ reduction of mycobacteria as specified in table 1 of paragraph (E)(1) of this rule immediately upon exit of the wastes from the treatment unit.

2) Site-specific approval performance standard. The achievement of a minimum four log$_{10}$ reduction of bacterial spores specified in table 2 of paragraph (E)(1) of this rule immediately upon exit of the wastes from the treatment unit.

(C) The applicant shall ensure that sound and accepted scientific microbial techniques were used to develop all data submitted during the approval process including but not limited to the following:

1) Enumeration of all stock suspensions or a representative sampling of carriers.

2) Placement of all samples and controls into buffered diluent.

3) Performance of three test runs for each microorganism and control.

4) Collection of all samples and controls upon exiting the treatment unit.

5) Neutralization of the collected samples and applicable controls immediately upon exiting the treatment unit, if the technology utilizes chemical treatment.

6) Homogenation of each dilution immediately prior to withdrawing an aliquot for plating or continued dilution.

7) Inoculation of the growth media immediately with the dilutions of processed waste samples and applicable controls. If immediate inoculation is not possible, then the samples shall be placed in ice for a period of time not to exceed sixty minutes, unless an alternative timeframe for holding the samples has been approved by the director.

If there is documentation to support the use of longer time periods for holding the samples prior to plating, or prior to placing inoculant into growth media, or further handling for dilution of a particular
technology that does not comply with this rule, Ohio EPA may accept the use of longer time periods prior to plating, or to placing into growth media, or further handling for dilution that demonstrates achievement of the performance standard for the treatment technology. The applicant shall demonstrate to Ohio EPA’s satisfaction through the use of sound scientific microbial technique and peer-reviewed journal reference, or equivalent documentation, that an alternate time period is appropriate. The applicant shall submit the documentation for approval by Ohio EPA prior to use in testing.

(8) Plating of dilutions in triplicate.

(9) Utilization of those microbial plates that contain between thirty and three-hundred colonies.

(10) Utilization of only those plate counts that demonstrate a margin of error no greater than five per cent difference between the replicate plates and no greater than a ten per cent difference in individual test runs. If one of the three replicate plates has a quantitative difference of greater than five per cent, then that replicate plate shall not be utilized and the calculation shall be formulated utilizing two replicate plates.

(11) Performance of subsequent test runs. If all three of the plate counts have a quantitative difference of greater than five per cent between them, the test run is considered invalid and another test load for that particular microorganism or spore shall be prepared and processed through the unit.

(12) Performance of subsequent test loads. If any one of the three test run plate dilution series has a quantitative difference of greater than ten per cent between them, the test run shall be considered invalid and another test load for that particular series shall be prepared and processed through the unit.

[Comment: "Samples" as used in this paragraph refers to either portions of previously inoculated wastes or inoculated carriers.

(D) The applicant shall submit to Ohio EPA the following items:

(1) A written request for approval of the infectious waste treatment technology. The request shall specify whether the applicant is seeking a statewide or site specific approval.

(2) A completed "Evaluation Of An Infectious Waste Treatment Technology Information Request Form" as prescribed by Ohio EPA.

[Comment: Upon receipt of the written request and evaluation form, Ohio EPA will public notice the receipt of the application in the weekly review.]

(3) An operating manual or other treatment unit program logic which describes in detail the operations of the unit and the critical factors influencing the treatment capability of the equipment. This description shall include, but is not limited to, the waste feed rate, maximum hourly capacity, residence time, pH, temperature reading, treatment chemical concentration, and sequence of treatment events.

(4) The microbial testing protocol designed and used to evaluate the capability of the alternative infectious waste treatment unit to achieve the performance standard as specified in paragraph (B) of this rule.

(5) A microbial testing report containing the microbial testing results using an appropriate protocol. The microbial testing results shall comply with paragraphs (C) and (E) of this rule and demonstrate the achievement of the performance standard upon exiting the treatment unit, as follows:

(a) For statewide approval, the request shall demonstrate the achievement of a minimum four log\(_{10}\) reduction of bacterial spores and a minimum five log\(_{10}\) reduction of mycobacteria as specified in
(b) For site-specific approval, the request shall demonstrate the achievement of a minimum four $\log_{10}$ reduction of bacterial spores specified in table 2 in this rule.

(E) The applicant shall ensure that the microbial testing and protocol are designed to evaluate the capability of the treatment unit to achieve the performance standard and comply with the following requirements. For the purposes of this rule, "samples" means either a representative portion of previously inoculated waste or an inoculated carrier:

[Comment: It is strongly recommended that the applicant submit the proposed microbial testing protocol to Ohio EPA prior to testing. Upon request, Ohio EPA will review and provide written comment on the protocol. This service is offered to provide guidance intended to help the applicant's efforts in documenting effective treatment of infectious wastes.]

(1) Selection of challenge microorganisms. The applicant shall use the appropriate microorganisms to test the effectiveness of a particular treatment technology in accordance with the following:

(a) Those applicants who request statewide approval shall select microorganisms from table 1 as follows:

(i) Use a mycobacteria species which is the most resistant to any aspect of the treatment technology.

(ii) Use a bacterial spore species which is the most resistant to any aspect of the treatment technology.

[Comment: Particular mycobacteria and bacterial spores are more resistant to various treatment conditions that each technology presents; therefore, the selection of the appropriate species is a valuable test for challenging that alternative treatment technology. The applicant should consider the "D" value when selecting the appropriate species.]

Table 1

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<th>Mycobacteria</th>
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<tr>
<td>• Mycobacterium terrae</td>
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<td>• Mycobacterium phlei</td>
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<td>• Mycobacterium bovis</td>
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<th>Bacterial spores</th>
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<tr>
<td>• Geobacillus stearothermophilus</td>
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<td>• Bacillus subtilis</td>
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(b) Those applicants who request site-specific approval shall select one microorganism from the bacterial spore species which is the most resistant to all aspects of the treatment technology, listed in table 2.

[Comment: Particular bacterial spores are more resistant to various treatment conditions that each technology presents; therefore, the selection of the appropriate bacterial spores is a valuable test for challenging that alternative treatment technology. The applicant should consider the "D" value when selecting the appropriate species.]

Table 2
Bacterial spores

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<tr>
<td></td>
<td>Geobacillus stearothermophilus</td>
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<tr>
<td></td>
<td>Bacillus subtilis</td>
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(c) Applicants for either type of approval may select and use other microorganism not listed in either table 1 or table 2, provided the applicant demonstrates to the satisfaction of the director that the alternative microorganism is of equal resistance as the listed indicator microorganism of that particular category.

(d) Applicants for either type of approval shall select the most resistant microorganisms to their treatment technology for use in the testing process.

[Comment: All microorganisms used during testing for either type of request shall be reduced in number to the levels stated in paragraph (D)(5) of this rule.]

(2) Sufficient number of challenge microorganisms. The applicant shall use and be able to retrieve a sufficient number of challenge microorganisms to quantify the results for each test waste load, and for each type of inoculation. Prior to log_{10} reduction efficacy testing of the treatment unit, the applicant shall determine the number of recoverable microorganisms. The recoverable number of microorganisms will determine the number of challenge microorganisms sufficient to start with for all subsequent testing for log_{10} reductions. The applicant shall perform one of the following:

[Comment: The percent number of recoverable microorganisms (%R) is in the appendix to this rule.]

(a) Applicants may directly inoculate the waste load using the appropriate microbial suspension, to implement the following:

(i) Inoculation with enough liquid suspension of the appropriate mycobacteria to give an adjusted theoretical challenge, as defined in the appendix to this rule, of at least 1.0 \times 10^6 microorganisms per gram of waste, or per milliliter of waste if the technology is designed to treat liquid infectious wastes, for the mycobacteria specified in table 1 of paragraph (E)(1) of this rule.

(ii) Inoculation with enough liquid suspension to give an adjusted theoretical challenge, as defined in the appendix to this rule, of at least 1.0 \times 10^5 bacterial spores per gram of waste, or per milliliter of waste if the technology is designed to treat liquid infectious waste.

(b) Applicants may choose to use a carrier system. Each individual carrier shall maintain a sufficient recoverable inoculum to allow the applicant to inoculate, retrieve, and calculate the adjusted theoretical challenge population. The applicant shall implement the following:

(i) Inoculation with enough recoverable carriers of the appropriate mycobacteria to give an adjusted theoretical challenge, as defined in the appendix to this rule, of at least 1.0 \times 10^6 microorganisms.

(ii) Inoculation with enough recoverable carriers, such as bacterial spore strips, of the appropriate bacterial spores to give an adjusted theoretical challenge, as defined in the appendix to this rule,
of at least $1.0 \times 10^5$ bacterial spores.

(3) Selection of test waste loads. The applicant shall use test waste loads that are representative of the waste stream that the treatment technology is designed to treat. The amount of waste used to comprise an individual test run shall be sufficient to simulate operation of the unit at full capacity. The applicant shall utilize test waste loads that pose the greatest challenge to the treatment technology being tested in accordance with the following:

(a) Determine which categories of infectious wastes, as defined in rule 3745-27-01 of the Administrative Code, the treatment technology will and will not be capable of treating.

(b) Use full-scale production units for all testing.

(c) Select infectious waste test loads using one of the following criteria:

(i) For those treatment technologies that are designed to treat any and all categories of infectious wastes, as defined in rule 3745-27-01 of the Administrative Code, the applicant shall use test waste loads comprised, at a minimum, of the following:

(a) Thirty per cent organic materials such as blood or other products derived from blood, and culture media.

(b) Forty per cent absorbent material.

(c) Thirty per cent non-absorbent material.

[Comment: Waste loads used for testing should contain at least thirty per cent organic material to simulate the possibility of processing laboratory waste. Absorbent material means those waste items such as surgical drapes and sponges and patient gowns that will readily absorb liquids. Non-absorbent material means waste items such as exam gloves, tubing, and plastic containers that do not readily absorb liquids.]

(ii) For those treatment technologies that are designed to treat a specific category of infectious waste, as defined in rule 3745-27-01 of the Administrative Code, the applicant shall use test waste loads composed of one hundred per cent of the specific infectious waste category that the treatment technology is designed to treat.

(iii) For those treatment technologies that are designed to treat any category of infectious wastes as defined in rule 3745-27-01 of the Administrative Code, but are sensitive to particular combinations or individual items contained in a waste stream, the applicant shall use test waste loads composed of one hundred per cent of the combination or individual item of that specific infectious waste category, as defined in rule 3745-27-01 of the Administrative Code, which poses the greatest challenge to that treatment technology.

[Comment: An example of a treatment technology that would have to use a test waste load as outlined in paragraph (E)(3)(c)(iii) of this rule would be a chemical treatment technology whose active ingredient is a chemical that is "bound" or "consumed" by large quantities of organics that may be present in a waste load. Therefore, the treatment technology would be required to use test waste loads composed of one hundred per cent of organics. This testing would challenge the treatment technology in a "worse case" scenario.]

(iv) For those treatment technologies that are designed to treat any category of infectious wastes, as defined in rule 3745-27-01 of the Administrative Code, but the applicant intends to request
approval for treating only specific waste loads at specific volumes, the applicant may use test waste loads comprised of combinations other than those listed in paragraph (E)(3) of this rule. The director's approval letter will reflect these specific conditions.

[Comment: An example of a treatment technology that may elect to use a test waste load as outlined in paragraph (E)(3)(c)(iv) of this rule would be a chemical treatment technology whose active ingredient is a chemical that is "bound" or "consumed" by large quantities of organics that may be present in a waste load. Therefore, the applicant may use test waste loads composed of combinations or volumes other than those listed above. The director's approval letter will reflect the applicants selection of test waste load for use during actual infectious waste treatment activities.]

(v) For those treatment technologies that are designed to treat any and all categories of infectious wastes as defined in rule 3745-27-01 of the Administrative Code, the applicant may use alternative test waste loads comprised of materials or volumes other than those outlined in paragraph (E)(3)(c)(i) of this rule, provided that the applicant demonstrates to Ohio EPA's satisfaction that an alternative test waste load provides a greater challenge to the technology.

(4) Preparation of the test waste loads. The applicant shall prepare and inoculate test waste loads selected in accordance with paragraph (E)(3) of this rule in the following manner:

(a) Prepare the test waste load by doing any of the following:

   (i) Autoclaving infectious wastes to achieve sterility and then cooling the treated infectious wastes prior to inoculation with the challenge microbial suspensions or carrier.

   (ii) Preparing test waste loads using new/unused representative materials.

   [Comment: An applicant who chooses to use test waste loads of noninfectious materials may do so either by using infectious wastes that have been autoclaved or materials that contain clean, unused, new, and/or previously packaged materials. It is the applicant's responsibility to ensure that the test waste load materials are representative of the waste stream.]

(b) Inoculate the test waste loads ensuring that all preparations are accomplished in a manner that will distribute the inoculum evenly throughout the waste load. The ratio of the volume of inoculum to the amount of waste shall not be less than one to twenty (not less than five per cent). Inoculation shall be accomplished by doing any of the following:

   (i) Using a microbial suspension, seed the test waste load with a sufficient number of challenge microorganisms as specified in paragraph (E)(2) of this rule.

   (ii) Using a carrier system, introduce one carrier with the appropriate inoculum for each ten pounds of waste in the test load. If the test load consists of less than ten pounds of waste, then a minimum of three carriers shall be used in each test load. The carriers shall be evenly distributed throughout the waste load.

(5) Enumeration of the original inoculum. The applicant shall perform the enumeration of either the initial inoculum in the stock suspension or a representative sampling of carriers as follows:

(a) For a stock suspension, do the following:

   (i) Enumerate all initial stock suspensions of microorganisms and control immediately prior to introduction into the test waste load used.
(ii) Inoculate the test waste load immediately prior to introduction into the treatment unit.

(iii) Use the stock suspension number obtained above to determine the theoretical challenge (TC) and subsequently the adjusted theoretical challenge (ATC) for each test run as described in the appendix to this rule.

(b) For a carrier system, do the following:

(i) Verify through prior enumeration the inoculum contained on a representative sampling of carriers.

(ii) Determine the theoretical challenge (TC) for each microorganism and subsequently the adjusted theoretical challenge (ATC) for each test run as described in the appendix to this rule.

(6) Performing the treatment test runs. The applicant shall evaluate the treatment unit utilizing microorganisms or carriers in accordance with the following:

(a) Use full-scale production units for all testing.

(b) Conduct a recovery test run, using sound and accepted scientific microbial techniques, as specified in paragraph (C) of this rule, for each microorganism to determine the percentage of microorganisms that can be recovered from the waste loads used for testing, as specified in the appendix of this rule. The applicant shall perform at least one recovery test run absent of the aspect of the treatment technology that is responsible for the microbial kill.

[Comment: One recovery test run must be performed for each Mycobacterium spp., Geobacillus stearothermophilus or Bacillus subtilis spore. The recovery test run is necessary to determine the amount of loss of microorganisms or spores that is due to the physical aspects of the treatment unit and therefore to determine the ability to retrieve the microorganisms or spores from the waste or carrier.]

(c) Utilize a minimum of three treatment test runs per microorganism or spore.

(d) Demonstrate the attainment of the applicable performance standard as specified in paragraph (B) of this rule at the completion of all three test runs.

(7) Recording data during testing. The applicant shall produce a permanent record of the following observations or recordings:

(a) The date of testing.

(b) The time of day that each test load is placed into the treatment unit.

(c) The time of day that each sample is retrieved from the treatment unit.

(d) The applicable observed or recorded operational parameters at which the treatment unit was operated.

[Comment: The applicant is expected to record the operational parameters for the treatment unit which any operator would use to ensure that the treatment unit was operating properly. Such operational parameters would include any preset or permanent settings or parameters that would affect the function of the unit.]

(8) Determining the sample number. The applicant shall ensure that a sufficient number of samples are collected in order to demonstrate compliance with the applicable performance standard as specified in paragraph (B) of this rule by evaluating the following factors:
(a) The total treatment capacity.

(b) The throughput process, such as a batch or continuous treatment process.

(c) The physical state of the processed waste, such as loose or conglomerated.

(d) The categories of infectious waste as defined in rule 3745-27-01 of the Administrative Code that the technology is designed to treat.

[Comment: More processed waste samples should be collected from larger test loads to ensure that samples are representative. As a general guideline, Ohio EPA would recommend that at least nine samples be collected. The nine collected samples may be used to make three composite samples.]

(9) Collection of test samples. The applicant shall use a sufficient number of samples collected from each test run as the waste exits the treatment unit or shall collect all carriers as they exit the treatment unit to determine the number of surviving microorganisms or spores in accordance with the following:

(a) Neutralize, if applicable, all controls and samples immediately upon exiting the treatment unit using a documented or prior tested neutralizer that will not affect the viable number of microorganisms being tested.

(b) Cool all samples and controls to room/ambient temperature upon exiting the treatment unit and prior to preparation of the dilutions.

[Comment: The use of a buffered diluent to place all samples and controls into will satisfy the requirement of cooling and preparation of the dilutions. This requirement need not be a two step process.]

(c) Prepare dilutions from each collected sample or composite sample.

(10) Plating of test samples and calculation of test results. The applicant shall ensure that samples are plated and the results shall be calculated as follows:

(a) The dilutions that are chosen for plating must be plated in triplicate.

(b) Utilize only those microbial plates that contain between thirty and three hundred colonies or plaques for the demonstration of the attainment of the performance standard as specified in paragraph (B) of this rule.

(c) Do not use any plate count if one of the three replicate plates has a quantitative difference of greater than five per cent. That replicate plate shall not be used and the calculation shall be formulated utilizing two replicate plates. If all three of the plate counts have a quantitative difference of greater than five per cent between them, the test run is considered invalid and another test load for that particular microorganism or spore shall be prepared and processed through the unit.

(d) Do not use any dilution series from a test run if any one of the three test run plate dilution series has a quantitative difference of greater than ten per cent with either of the other two. The test run shall be considered invalid and another test load for that particular series shall be prepared and processed through the unit.

(11) Preparing the microbial testing report. The microbial testing report shall be prepared by the test manager responsible for conducting the microbial testing and shall present the raw data and results gathered in accordance with the protocol, as specified in paragraph (E) of this rule. The report shall contain, at a
minimum, the following information:

(a) Testing parameters and results based upon a protocol which follows the standards specified in paragraph (E) of this rule.

(b) Enough detailed information so that the reported results and procedures could be reproduced by an independent laboratory.

(c) An introduction describing the intent of the testing. The introduction shall also contain the name, address, and telephone number of the laboratory and the name of the test manager.

(d) A separate section describing all materials and methods used to perform the testing and subsequent incubation of dilution of samples.

(e) A results section which contains, but is not limited to, the following:

   (i) All raw data including all individual microbial counts.

   (ii) Log reduction levels achieved for each test microorganism or spore obtained from the microbial testing of the three test loads that achieved the performance standard.

   (iii) At least one example of each calculation used to determine the $\log_{10}$ reduction levels through the utilization of the formulas found in the appendix to this rule.

(f) A conclusion section documenting the ability of the treatment technology to achieve the applicable performance standard as specified in paragraph (B) of this rule.

(12) When, in the judgement of Ohio EPA, the protocol or testing method of a particular technology can not be designed in accordance with this rule, the director may accept an alternate protocol or testing method that does demonstrate achievement of the performance standard for the treatment technology. The applicant shall demonstrate to the director's satisfaction through the use of sound scientific microbial technique and peer-reviewed journal reference or equivalent documentation that an alternate is of equal or greater challenge.

[Comment: Ohio EPA anticipates requests for approval of technologies that will not have enough residual material available for microbial testing.]

(F) Approval criteria. The director shall not approve an application for an alternative infectious waste treatment technology unless the director determines all of the following:

(1) The use of the technology will be protective of human health and the environment.

(2) The application conforms with the applicable requirements of paragraphs (B), (C), (D) and (E) of this rule.

(3) The treatment technology is, at a minimum, capable of attaining the performance standards in accordance with paragraph (B) of this rule.

(4) The testing performed as a part of the application was performed on full-scale production units.

(5) For a site-specific approval, the applicant shall produce published, scientific, peer reviewed literature which indicates that results included in the application are repeatable and will be able to attain the performance standard as specified in paragraph (B) of this rule.
(6) In determining whether an alternative technology will be capable of attaining the applicable performance standard, the director may consider the actual performance history of a technology that has been used or approved for use outside of Ohio.

(G) Contents of the director's authorization. Those alternative infectious waste treatment technologies that are approved by the director shall receive an authorization which at a minimum, shall contain the following:

(1) A description of the technology.

(2) The parameters at which the technology shall be operated during the treatment of infectious wastes.

(3) A condition that the applicant include a copy of the approval letter in the front of each operating manual distributed with the treatment units.

(4) The operational procedures to be followed during the use of the alternative technology including any prohibitions of specific categories of infectious wastes.

(5) A quality assurance testing program to ensure that the treatment technology is achieving a minimum four log_{10} reduction in bacterial spores. When determining the frequency of biological quality assurance testing, the director may consider the use of reliable parametric monitoring that is available with that technology at the time of approval.

(6) Quality assurance record keeping requirements.

(7) The measures the operator shall take to manage infectious wastes in the event that the treatment technology fails to achieve the applicable performance standard.

(8) For those technologies that receive a site specific approval, a condition that infectious wastes may not be treated using that treatment technology until the owner or operator demonstrates through validation testing as specified in the director's approval letter that the treatment unit is capable of achieving the performance standard specified in paragraph (B) of this rule.

(9) Any other conditions or requirements that the director deems appropriate in order to ensure that the approved alternative technology will be capable of achieving the performance standard specified in paragraph (B) of this rule and that the technology will be capable of being operated in a manner that is protective of human health and the environment.

(10) The director's authorization for the treatment technology shall reflect the types and volumes of waste streams that the treatment technology has been tested against.

(H) The director may deny an application for an alternative infectious waste treatment technology if, within one hundred and eighty days of receipt of notification, the application is incomplete or, the applicant has not corrected noted deficiencies and resubmitted the application, or has not notified Ohio EPA that the application is being withdrawn.

(I) Changes to an authorized alternative treatment technology. Changes to an authorized alternative treatment technology shall be submitted in writing to Ohio EPA for the director's authorization and shall include the information required by this rule.

(J) Revocation. The director may revoke any approval of an alternative infectious waste treatment technology when any of the following has occurred:

(1) Any applicable laws have been or are likely to be violated.
(2) The application contained false or incorrect information such that the application would not have been approved if the correct information had been submitted.

(3) Under actual operation, the technology consistently fails to attain the applicable performance standard as specified in paragraph (B) of this rule.

(4) The use of the technology causes or threatens to cause harm to human health or the environment.
Five Year Review (FYR) Dates: 07/08/2014 and 07/08/2019

CERTIFIED ELECTRONICALLY

Certification

07/08/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.021
Rule Amplifies: 3734.021
CALCULATING LOG REDUCTIONS FOR INFECTIOUS WASTE TREATMENT TECHNOLOGIES

Infectious Waste Treatment Efficacy is evaluated by determining a specific “Log_{10} Reduction”. “Log_{10} Reduction” is defined as the difference between the logarithm of the (A)djusted (T)heoretical (C)hallenge (ATC) of test microorganisms or spores in a treatment test load and the number of (V)iable test microorganisms of spores recovered from that treatment test load (A)fter (T)reatment (VAT).

An applicant for an alternative infectious waste treatment technology approval process should select the appropriate example depending on the method the applicant chooses to inoculate the waste, either:

A - Direct inoculation technique
B - Carrier system technique

DIRECT INOCULATION TECHNIQUE

RECOVERY TEST RUN:

The purpose of a recovery test run is to determine the percent of microorganisms or spores that can be recovered from an inoculated test load. During the recovery test run, the factor that causes microbial destruction is omitted. A recovery test run shall be performed for the spore and each microorganism. In addition, the recovery test loads shall consist of the same waste types in the same combination as the treatment test loads that will be used in the efficacy test runs.

Calculation: \[ \frac{\text{cfu/g R}}{\text{cfu/g TC}} \times 100 = \%R \]
Theoretical challenge cfu/g (TC) is the known number of microorganisms or spores per gram of waste in the recovery test load. This number shall be determined by enumerating the stock solution of each microorganism or spore at the time each test load is inoculated. The enumeration shall be performed by serial dilution and triplicate plating of the appropriate dilutions on culture medium. The average number of colony forming units per milliliter of suspension shall be used to calculate the number of microorganisms or spores per gram of waste in the test load.

Recovered cfu/g (R) is the number of viable test microorganisms, on a per gram basis, recovered from the processed solid portion of the recovery test run, or the liquid portion if the technology is designed to treat only infectious liquids. Note that this number must be at least $1.0 \times 10^6$ for mycobacteria and at least $1.0 \times 10^5$ for spores. When calculating the amount of inoculum to use to seed a test load it is important to consider the different factors, such as inherent treatment unit dilution and potential adherence of the microorganism or spore to the items in the test load.

Percent Recovery (%R) is calculated by dividing the number of microorganisms or spores recovered from the processed recovery test load by the theoretical microbial or spore challenge of the recovery test load and then multiplying the result by one hundred. This percentage is used to determine the adjusted theoretical challenge of microorganisms or spores in the subsequent treatment test loads.

**TREATMENT TEST RUNS:**

An adjusted theoretical challenge (ATC) must be calculated for each treatment test load. Upon inoculation of a test load with the microbial or spore suspension, the stock suspension of microorganism or spore must be enumerated to determine the theoretical challenge, on a per gram basis, of the treatment test load. The adjusted theoretical challenge (ATC) for that treatment test load is then calculated using the theoretical challenge for the run and %R determined from the recovery test run.

Calculation: $\text{cfu/g TC} \times \%R = \text{cfu/g ATC}$

The samples of a treatment test load shall be obtained and processed per the requirements set forth in this rule to determine the (V)iable microorganisms or spores remaining in the test load (A)fter (T)reatment (VAT). Upon determination of the VAT for the treatment test load, the Log$_{10}$ reduction in viable microorganisms or spores, for that specific treatment test load, is calculated as follows:

Calculation: $\log_{10}(\text{cfu/g ATC}) - \log_{10}(\text{cfu/g VAT}) = \log_{10}\text{ Reduction}$

Note: “cfu/g” is an expression for colony forming units per gram of waste solids.
Example Calculations of Infectious Waste Treatment Efficacy

This example is typical of treatment technologies that grind or shred infectious waste as a part of the treatment process. Please note that this example is not intended to employ all of the requirements found in Rule 3745-27-38 of the Ohio Administrative Code.

Test Organism – *Bacillus subtilis* spores in suspension

Weight of Test Load = 50.0 pounds, or 22,700 grams. The size of the test load is representative of the actual full load capacity of the treatment unit per the time it takes for the waste to be processed through the machine.

Amount and Concentration of Inoculum – A liquid spore suspension containing approximately $1.0 \times 10^8$ spores/ml was obtained. The minimum theoretical challenge (TC) for a 50 pound test load was calculated to be $2.27 \times 10^{9}$ spores (22,700 grams $\times 1.0 \times 10^5$ spores/gram). Therefore, 22.7 mls of inoculum would be needed to obtain the necessary theoretical challenge in a 50 pound test load. Since the percentage of recovery has not yet been calculated, the amount of inoculum was doubled to 45.4 mls ($4.54 \times 10^9$ spores) to assure the attainment of the required adjusted theoretical challenge (ATC).

In order to increase the chance that the entire waste load would be equally inoculated, the 45.4 mls of stock spore suspension was added to 954.6 mls of an appropriate buffer solution. Subsequently, the one liter of spore suspension, containing a total of approximately $4.54 \times 10^9$ spores, was evenly divided into 20 screw cap plastic test tubes (50 mls each) and distributed throughout the recovery test load. To verify the number of spores present in the stock suspension, three samples of the stock suspension were serially diluted and the $10^{-5}$, $10^{-6}$, $10^{-7}$, and $10^{-8}$ dilutions were plated in triplicate.

Upon processing the recovery test run, nine (9) separate 10.0 gram samples of processed solids were collected at equal time intervals as the waste exited the treatment unit. Upon collection of every third 10.0 gram sample, the three samples were combined to make a 30 gram composite sample. Two hundred and seventy milliliters of appropriate neutralizing buffer were added to the composite sample. (NOTE: These steps were performed immediately upon retrieval of every third sample.) Using a waring blender, the composite sample was blended to produce a homogenous $10^{-1}$ dilution of the composite sample. The remaining samples of processed waste were prepared in the same manner. Serial dilutions of the three composite samples were made and plated in triplicate with the following counts observed after incubation:

3745-27-38
Table 1: Enumeration of the stock spore suspension:

<table>
<thead>
<tr>
<th>Dilution</th>
<th>Sample #1 Rep 1</th>
<th>Sample #1 Rep 2</th>
<th>Sample #1 Rep 3</th>
<th>Sample #2 Rep 1</th>
<th>Sample #2 Rep 2</th>
<th>Sample #2 Rep 3</th>
<th>Sample #3 Rep 1</th>
<th>Sample #3 Rep 2</th>
<th>Sample #3 Rep 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>$10^{-5}$</td>
<td>TNTC</td>
<td>TNTC</td>
<td>TNTC</td>
<td>TNTC</td>
<td>TNTC</td>
<td>TNTC</td>
<td>TNTC</td>
<td>TNTC</td>
<td>TNTC</td>
</tr>
<tr>
<td>$10^{-6}$</td>
<td>135</td>
<td>129</td>
<td>130</td>
<td>132</td>
<td>134</td>
<td>135</td>
<td>131</td>
<td>132</td>
<td>131</td>
</tr>
<tr>
<td>$10^{-7}$</td>
<td>14</td>
<td>12</td>
<td>15</td>
<td>13</td>
<td>13</td>
<td>12</td>
<td>11</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>$10^{-8}$</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

By properly using the $10^{-6}$ dilution plates, which contain between 30 and 300 colony forming units, the stock spore suspension was enumerated:

$$\frac{(135+129+130)+(132+134+135)+(131+132+131)}{9} \times 10^6 = 132111111 \text{ spores/ml}$$

Number of spores in = $1.32 \times 10^8$ spores/ml stock suspension

Note: the spore stock suspension contained more than estimated amount of $1 \times 10^8$ spores/ml.

Theoretical Challenge (TC) of the recovery test load was calculated as follows:

$$(1.32 \times 10^8 \text{ spores/ml})(45.4 \text{ ml suspension}) = 5.99 \times 10^9 \text{ spores added to recovery test load}.$$

$$\frac{5.99 \times 10^9 \text{ spores}}{22,700 \text{ grams of test load waste}} = 2.64 \times 10^5 \text{ spores/g}$$

TC = $2.64 \times 10^5$ spores/g of waste recovery run

Table 2: Recovery Test Run Results:

<table>
<thead>
<tr>
<th>Dilution</th>
<th>Composite #1 Rep 1</th>
<th>Composite #1 Rep 2</th>
<th>Composite #1 Rep 3</th>
<th>Composite #2 Rep 1</th>
<th>Composite #2 Rep 2</th>
<th>Composite #2 Rep 3</th>
<th>Composite #3 Rep 1</th>
<th>Composite #3 Rep 2</th>
<th>Composite #3 Rep 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>$10^{-2}$</td>
<td>TNTC</td>
<td>TNTC</td>
<td>TNTC</td>
<td>TNTC</td>
<td>TNTC</td>
<td>TNTC</td>
<td>TNTC</td>
<td>TNTC</td>
<td>TNTC</td>
</tr>
<tr>
<td>$10^{-3}$</td>
<td>138</td>
<td>140</td>
<td>143</td>
<td>150</td>
<td>153</td>
<td>148</td>
<td>145</td>
<td>140</td>
<td>140</td>
</tr>
<tr>
<td>$10^{-4}$</td>
<td>12</td>
<td>15</td>
<td>13</td>
<td>17</td>
<td>17</td>
<td>16</td>
<td>15</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>$10^{-5}$</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

By properly using the $10^{-3}$ dilution plates, which contain between 30 and 300 colony forming units, the mean number of viable spores recovered (R) from the recovery test run was calculated:
3745-27-38

\[
\frac{(138+140+143)+(150+153+148)+(145+140+140)}{9} \times 10^3 = 144000 \text{ cfu/gram}
\]

R = 1.44 X \(10^5\) spores/gram

Percent recoverability (\%R) of spores from the recovery test load was:

\[
\frac{1.44 \times 10^5 \text{ cfu/gram} \times 100}{2.64 \times 10^5 \text{ cfu/gram TC}} = 54.5\%
\]

\%R = 54.5%

Treatment Run Results:

Enumeration of the stock spore suspension used in this treatment run was performed and calculated as described above. The stock spore suspension contained \(1.09 \times 10^8\) spores/ml.

The treatment test load was inoculated with 45.4 ml of stock spore suspension. The TC per gram of waste in the test load was \(2.18 \times 10^5\) spores. However, it was discovered in the recovery test run that only 54.5% of the number of spores processed through the unit can be recovered from the waste. Therefore, the ATC is \(1.19 \times 10^5\) spores/gram of waste.

Note: The treatment test load for the subsequent treatment test run was prepared and processed in the same manner as the recovery test load, except that the factor that causes microbial destruction was included.

Table 3: Treatment Test Run Results:

<table>
<thead>
<tr>
<th>Dilution</th>
<th>Composite #1</th>
<th>Composite #2</th>
<th>Composite #3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rep 1</td>
<td>Rep 2</td>
<td>Rep 3</td>
</tr>
<tr>
<td>(10^{-1})</td>
<td>84</td>
<td>80</td>
<td>81</td>
</tr>
<tr>
<td>(10^{-2})</td>
<td>11</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>(10^{-3})</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
By properly selecting the dilution with plate counts between 30 and 300, the mean recovery of spores from the treatment test load was:

\[
(84+80+81)+(68+66+65)+(72+75) \times 10^2 = 740 \text{ cfu/gram}
\]

\[R = 7.40 \times 10^2 \text{ cfu/gram}\]

*Note that the replicate plate containing 91 colonies was not used in the calculations as dictated by Paragraph (E)(10) of this Rule.*

\[
\text{Log}_{10} \text{Reduction}:
\]

\[
\text{Log}_{10}(1.19 \times 10^5 \text{ cfu/g}) - \text{Log}_{10}(7.40 \times 10^2 \text{ cfu/g}) = \text{Log}_{10} \text{Reduction}\
5.076 - 2.869 = 2.207
\]

A \text{Log}_{10} \text{Reduction} = 2.207 is insufficient to meet the 4 log reduction requirement for spores. Therefore, the technology would have to be altered in order to meet the reduction standard.

**CARRIER SYSTEM TECHNIQUE**

**RECOVERY TEST RUN:**

The purpose of a recovery test run is to determine the percent of microorganisms or spores that can be recovered from utilizing a carrier system. During the recovery test run the factor that causes microbial destruction is omitted. A recovery test run shall be performed for the spore and each microorganism. In addition, the recovery test loads shall consist of the same waste types in the same combination as the treatment test loads that will be used in the efficacy test runs.

**Calculation:**

\[
\frac{\text{cfu/g } R}{\text{cfu/g } TC} \times 100 = \%R
\]

Theoretical challenge cfu/g (TC) is the known number of microorganisms or spores present on each carrier in the recovery test load. The number shall be determined by enumerating the carrier directly at the time each test load is inoculated. The enumeration of a representative sampling of carriers shall be performed by serial dilution and triplicate plating of the appropriate dilutions on culture medium. The lowest average number of
colony forming units shall be used to calculate the number of microorganisms or spores in the test load.

**Recovered cfu/g (R)** is the number of viable test microorganisms recovered from the processed solid portion of the recovery test run, or the liquid portion if the technology is designed to treat only infectious liquids. Note that this number must be at least $1.0 \times 10^6$ for mycobacteria and at least $1.0 \times 10^5$ for spores. When calculating the amount of inoculum to apply to a carrier system it is important to consider the different factors, such as inherent treatment unit dilution and potential adherence of the microorganism or spore to the items in the test load.

**Percent Recovery (%R)** is calculated by dividing the number of microorganisms or spores recovered from the processed recovery test load by the theoretical microbial or spore challenge of the recovery test load and then multiplying the result by one hundred. This percentage is used to determine the adjusted theoretical challenge of microorganisms or spores in the subsequent treatment test loads.

TREATMENT TEST RUNS:

An **adjusted theoretical challenge (ATC)** must be calculated for each treatment test load. Upon inoculation of a test load with the microbial or spore carrier, a representative sampling of carriers must be enumerated to determine the theoretical challenge of the treatment test load. The number of microorganism or spores shall be determined by enumerating the carrier directly. This number shall be determined by enumerating a representative sampling of carriers to be used of each microorganism or spore at the time each test load is inoculated. The enumeration shall be performed by serial dilution and triplicate plating of the appropriate dilutions on culture medium. The lowest average number of colony forming units shall be used to calculate the adjusted theoretical challenge (ATC). The adjusted theoretical challenge (ATC) for that treatment test load is then calculated using the theoretical challenge for the run and %R determined from the recovery test run.

**Calculation:**  
$$\text{cfu TC} \times \%R = \text{cfu ATC}$$

The samples of a treatment test load shall be obtained and processed per the requirements set forth in this Rule to **determine the (V)iable microorganisms or spores remaining in the test load (A)fter (T)reatment (VAT)**. Upon determination of the VAT for the treatment test load, the $\log_{10}$ reduction in viable microorganisms or spores, for that specific treatment test load, is calculated as follows:

**Calculation:**  
$$\log_{10}(\text{cfu ATC}) - \log_{10}(\text{cfu VAT}) = \log_{10} \text{Reduction}$$

Note: “cfu” is an expression for colony forming units.
Example Calculations of Infectious Waste Treatment Efficacy

This is a typical example of any treatment technology that would utilize a carrier system. Please note that this example is not intended to employ all of the requirements found in Rule 3745-27-38 of the Ohio Administrative Code.

Test Organism - *Bacillus subtilis* spores in suspension

Weight of Test Load = 90.0 pounds. The size of the test load is representative of the actual full load capacity of the treatment unit per the time it takes for the waste to be processed through the machine.

Amount and Concentration of Carriers - A liquid spore suspension containing approximately $1.0 \times 10^8$ spores/ml was obtained. The minimum carrier number is one carrier per ten pounds of test waste load. A 90 pound test load should contain a minimum of nine (9) carriers. Each carrier would need to contain $1.0 \times 10^5$. Since the percentage of recovery has not yet been calculated, the amount of carrier inoculum was doubled to $2 \times 10^5$ spores to assure the attainment of the required adjusted theoretical challenge (ATC).

To verify the number of spores present on each carrier, three carriers containing the initial stock suspension were serially diluted and the $10^{-2}$, $10^{-3}$, $10^{-4}$, and $10^{-5}$ dilutions were plated in triplicate.

Upon processing the recovery test run, the nine (9) carriers were collected as the waste exited the treatment unit. Upon collection of every third carrier, the three carriers were combined to make a three (3) carrier composite sample. One hundred milliliters of an appropriate neutralizing buffer were added to the composite sample to wash the spores from the carrier. (NOTE: These steps were performed immediately upon retrieval of every third carrier.) The composite sample was washed to produce a homogenous $10^{-1}$ dilution of the composite sample. The remaining carrier samples were prepared in the same manner. Serial dilutions of the three composite samples were made and plated in triplicate with the following counts observed after incubation:

Table 1: Enumeration of the stock spore suspension:

<table>
<thead>
<tr>
<th>Dilution</th>
<th>Sample #1</th>
<th>Sample #2</th>
<th>Sample #3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rep 1</td>
<td>Rep 2</td>
<td>Rep 3</td>
</tr>
<tr>
<td>$10^{-2}$</td>
<td>TNTC</td>
<td>TNTC</td>
<td>TNTC</td>
</tr>
<tr>
<td>$10^{-3}$</td>
<td>135</td>
<td>129</td>
<td>130</td>
</tr>
<tr>
<td>$10^{-4}$</td>
<td>14</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>$10^{-5}$</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

By properly using the $10^{-3}$ dilution plates, which contain between 30 and 300 colony forming units, the stock spore suspension was enumerated:
Number of spores = $1.32 \times 10^5$ spores per carrier

Note: the individual spore carriers contained more than estimated amount of $1 \times 10^5$ spores/ml.

**Theoretical Challenge (TC) of the recovery test load** was calculated as follows:

$TC = 1.32 \times 10^5$ spores per carrier used in the recovery run

**Table 2: Recovery Test Run Results:**

<table>
<thead>
<tr>
<th>Dilution</th>
<th>Composite #1</th>
<th>Composite #2</th>
<th>Composite #3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rep 1</td>
<td>Rep 2</td>
<td>Rep 3</td>
</tr>
<tr>
<td>$10^{-2}$</td>
<td>TNTC</td>
<td>TNTC</td>
<td>TNTC</td>
</tr>
<tr>
<td>$10^{-3}$</td>
<td>98</td>
<td>100</td>
<td>103</td>
</tr>
<tr>
<td>$10^{-4}$</td>
<td>12</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>$10^{-5}$</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

By properly using the $10^{-3}$ dilution plates, which contain between 30 and 300 colony forming units, the mean number of viable spores recovered ($R$) from the recovery test run was calculated:

$R = \frac{(98+100+103)+(110+113+108)+(105+100+100)}{9} \times 10^3 = 104111 \text{ cfu}$

Percent recoverability ($%R$) of spores from the recovery test load was:

$\frac{1.04 \times 10^5 \text{ cfu/gram} \times 100}{1.32 \times 10^5 \text{ cfu/gram} \text{ TC}} = 78.7\%$

$%R = 78.7\%$
Treatment Run Results:

Enumeration of the stock spore suspension used in this treatment run was performed and calculated as described above. The stock spore suspension contained $1 \times 10^8$ spores/ml.

The treatment test load was inoculated with 9 carriers each with $1.32 \times 10^5$. However, it was discovered in the recovery test run that 78.7% of the number of spores processed through the unit can be recovered from the waste.

**Calculation:**

$$TC(\text{cfu}) \times \%R = ATC(\text{cfu})$$

$$1.32 \times 10^5 \text{ cfu/gram} \times TC \times 78.7\% = 1.03 \times 10^5 ATC(\text{cfu})$$

Therefore, the ATC is $1.03 \times 10^5$.

Note: The treatment test load for the subsequent treatment test run was prepared and processed in the same manner as the recovery test load, except that the factor that causes microbial destruction was included.

Table 3: Treatment Test Run Results:

<table>
<thead>
<tr>
<th>Dilution</th>
<th>Composite #1</th>
<th>Composite #2</th>
<th>Composite #3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rep 1</td>
<td>Rep 2</td>
<td>Rep 3</td>
</tr>
<tr>
<td>$10^{-1}$</td>
<td>84</td>
<td>80</td>
<td>81</td>
</tr>
<tr>
<td>$10^{-2}$</td>
<td>11</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>$10^{-3}$</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

By properly selecting the dilution with plate counts between 30 and 300, the mean recovery of spores from the treatment test load was:

$$\frac{(84+80+81)+(68+66+65)+(72+75)}{8} \times 10^2 = 740 \text{ cfu/gram}$$

$$R = 7.40 \times 10^2 \text{ cfu/gram}$$

* Note that the replicate plate containing 91 colonies was not used in the calculation as dictated by Paragraph (E)(10) of this Rule.
Log\(_{10}\) Reduction:

\[
\log_{10}(1.03 \times 10^5 \text{ cfu/g}) - \log_{10}(7.40 \times 10^2 \text{ cfu/g}) = \log_{10} \text{ Reduction}
\]

\[
5.012 - 2.869 = 2.143
\]

A log\(_{10}\) Reduction = 2.143 is insufficient to meet the 4 log reduction requirement for spores. Therefore, the technology would have to be altered in order to meet the reduction standard.
3745-27-39  Final closure of infectious waste treatment facilities.

(A) Applicability.

(1) The owner or operator of an infectious waste treatment facility that is exempt from the permit and licensing requirements as detailed in sections 3734.02 and 3734.05 of the Revised Code shall comply with paragraphs (B) and (E) of this rule.

(2) The owner or operator of an infectious waste treatment facility that is required to obtain an annual operating license in accordance with section 3734.05 of the Revised Code shall comply with paragraphs (C), (D) and (E) of this rule.

(3) The owner or operator of an infectious waste treatment facility that maintains a solid waste license with an infectious waste notation in accordance with section 3734.05 of the Revised Code, shall comply with paragraphs (C), (D) and (E) of this rule. Closure requirements shall pertain only to infectious waste operations.

[Comment: The owner or operator of an infectious waste treatment facility that has a solid waste license with an infectious waste notation and no longer wishes to treat infectious wastes will be required to perform closure. The facility will be able to continue to manage solid wastes and the infectious waste notation will be removed from the license on the next renewal date.]

(4) The owner or operator of an infectious waste treatment facility that has multiple infectious waste treatment units and ceases treating infectious wastes by any treatment unit and still maintains infectious waste treatment by the remaining infectious waste treatment units shall not be subject to this rule.

(B) The owner or operator of any infectious waste treatment facility described in paragraph (A)(1) of this rule that permanently ceases treating infectious wastes or physically removes the infectious waste treatment unit shall comply with the following:

(1) Within seven calendar days of the date that the facility ceased to treat infectious wastes, a notification shall be sent to Ohio EPA by submitting an "Amended Infectious Waste Generator Registration Certificate Application Form" pursuant to rule 3745-27-36 of the Administrative Code.

(2) Not later than thirty days after the facility has ceased to treat infectious waste, thoroughly clean all waste handling facilities, equipment, and areas on the premises where infectious waste was handled, managed or stored. Thorough cleaning of an infectious waste treatment facility shall include, at a minimum, the following actions:

(a) All areas of the facility including, but not limited to, all containers, equipment, machines, floors and facility surfaces that were in contact with untreated infectious wastes at any time during the operation of the facility shall be washed or otherwise subjected to procedures that substantially reduce or eliminate any remaining constituents or contaminants derived from contact with infectious wastes using one of the following approved disinfectants:

(i) A U.S. EPA registered hospital disinfectant that is also tuberculocidal, for a contact time as specified by the manufacturer.

(ii) An unexpired dated stabilized bleach product that is a U.S. EPA registered hospital disinfectant that is also tuberculocidal, for a contact time as specified by the manufacturer.

(iii) A minimum ten per cent sodium/potassium hypochlorite solution prepared immediately prior to use with a minimum of thirty minutes of contact time.
(b) Remove and properly dispose of any quench pit or water tank residue and liquids remaining at the facility.

(c) Maintain the facility management plan as required by paragraph (I) of rule 3745-27-32 of the Administrative Code at the closed treatment facility for three years. An alternative location may be approved by Ohio EPA.

(C) Closure is mandatory for all infectious waste treatment facilities described in paragraphs (A)(2) and (A)(3) of this rule when:

1. The facility owner or operator notifies Ohio EPA in writing that the facility will permanently cease treating infectious waste.

2. The infectious waste treatment facility ceases to treat infectious wastes. However, closure is not mandatory for a period of one year after ceasing to treat infectious wastes if there is a reasonable likelihood that normal operations will resume at the infectious waste treatment facility during the year.

3. The infectious waste treatment facility license has expired, and the owner or operator has not applied for a renewal license in the manner prescribed in Chapter 3745-37 of the Administrative Code.

4. The infectious waste treatment facility license has expired and a renewal license has been applied for and denied as a final action.

5. The infectious waste treatment facility license has been revoked as a final action.

(D) The owner or operator of an infectious waste treatment facility described in paragraph (A)(2) or (A)(3) of this rule shall perform the following actions:

1. If the facility is closing for reasons outlined in paragraph (C)(1) or (C)(2) of this rule:
   
   a. Provide written notice, by certified mail or any other form of mail accompanied by a receipt, thirty days prior to the date that the facility will cease treating waste, to the approved local health district and the appropriate Ohio EPA district office.
   
   b. Concurrently, send written notice by certified mail or any other form of mail accompanied by a receipt, thirty days prior to the date that the facility will cease treating waste, to all registered infectious waste transporters who have utilized the facility in the past six months.

2. If the facility is closing for reasons outlined in paragraphs (C)(3), (C)(4), and (C)(5) of this rule, not later than seven days after the final action, the owner or operator shall send written notice by certified mail, or any other form of mail accompanied by a receipt, to all registered infectious waste transporters who have utilized the facility in the past six months.

3. Not later than fourteen days after the facility has ceased to accept infectious waste, all untreated infectious wastes shall be removed from the facility and transported to an authorized treatment facility.

4. Not later than thirty days after the facility has ceased to accept infectious waste for treatment, thoroughly clean all waste handling facilities, equipment, and areas on the premises where infectious waste was handled, managed, or stored. For purposes of this rule, thorough cleaning of an infectious waste treatment facility, at a minimum, shall include the following actions:

   a. All areas of the facility including, but not limited to, all containers, equipment, machines, floors, and facility surfaces that were in contact with untreated infectious wastes at any time during the
operation of the facility shall be washed or otherwise subjected to procedures that substantially reduce or eliminate any remaining constituents or contaminants derived from contact with infectious wastes using one of the following approved disinfectants:

(i) A U.S. EPA registered hospital disinfectant that is also tuberculocidal, for a contact time as specified by the manufacturer.

(ii) An unexpired dated stabilized bleach product that is a U.S. EPA registered hospital disinfectant that is also tuberculocidal, for a contact time as specified by the manufacturer.

(iii) A minimum ten per cent sodium/potassium hypochlorite solution prepared immediately prior to use with a minimum of thirty minutes of contact time.

(b) Remove and properly dispose of any quench pit or water tank residue and liquids remaining at the facility;

(c) Maintain the facility management plan, as required by paragraph (I) of rule 3745-27-32 of the Administrative Code at the closed treatment facility for three years. An alternative site may be approved by Ohio EPA.

(d) Post signs so they are easily visible at all points of access leading into the facility, stating that the facility is closed for all infectious waste treatment activities. The signs shall be maintained in legible condition for not less than six months after closing the facility. The text of the signs, in letters not less than three inches high, required by this paragraph shall state as follows:

"This facility is closed for infectious waste treatment."

The following text shall be included on the signs, in letters not less than one inch high, as required by this paragraph:

"The unauthorized disposal of infectious wastes at this facility constitutes open dumping which is a violation of Chapter 3734. of the Revised Code. Whoever recklessly violates Chapter 3734. of the Revised Code may be guilty of a felony, punishable by a fine of at least ten thousand dollars but not more than twenty-five thousand dollars or imprisoned for at least two years but not more than four years, or both."

(E) Closure certification. Not later than thirty days after completing the requirements as specified in this rule or before the closed facility may be converted to other uses, whichever occurs first, the owner or operator shall submit to the appropriate Ohio EPA district office and to the board of the approved local health district, written certification that the facility has been closed in accordance with this rule. The final closure certification shall be signed and notarized by the owner or operator. The signature on the document shall constitute personal affirmation that all statements and all assertions of fact made in the document are true, accurate, include all required information, and comply fully with applicable rules.
Five Year Review (FYR) Dates: 07/08/2014 and 07/08/2019

CERTIFIED ELECTRONICALLY

Certification

07/08/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.021
Rule Amplifies: 3734.021, 3734.05
Solid waste incinerator or solid waste energy recovery facility permit to install application.

(A)

(1) A permit to install application, as required by section 3734.05 of the Revised Code, shall be submitted to, and approved by the director, before the establishment or modification of a solid waste incinerator or solid waste energy recovery facility is begun. The permit to install application shall contain the following:

(a) All the information required in paragraphs (B) to (C) of this rule such that the director can determine if the criteria set forth in rules 3745-27-02 and 3745-27-51 of the Administrative Code are satisfied.

(b) Detail engineering plans, specifications, and information that shall be presented in a manner acceptable to the director. Detail shall be sufficient to allow clear understanding for technical review of the permit application, to provide assurance that the facility is designed and will be operated in accordance with Chapters 3745-27 and 3745-37 of the Administrative Code, and to be readily understandable by operating personnel at the facility.

Applications to modify a facility with plans approved after May 31, 1991, shall contain new plan sheets to replace those affected by the proposed change, as well as any revised report sections. New narrative added to the revised report shall appear in capital letters, and narrative to be deleted shall be lined out.

An application, notwithstanding any deficiency, may be considered and acted upon if sufficient information is contained in the detail engineering plans, specifications, and report for the director to determine whether the criteria set forth in rules 3745-27-02 and 3745-27-51 of the Administrative Code are satisfied.

If the director determines that information in addition to that required by paragraphs (B) to (C) of this rule is necessary to determine whether the criteria set forth in rules 3745-27-02 and 3745-27-51 of the Administrative Code are satisfied, the director shall require that the applicant supply such information as a precondition to further consideration of the permit to install application.

(2) Concurrent to submitting the permit to install application, the applicant shall also do the following:

(a) Submit a disclosure statement to the director and to the attorney general's office as required in rules 109:6-1-01 to 109:6-1-04 of the Administrative Code.

(b) Submit, to the division of air pollution control and the division of water pollution control of the Ohio EPA, written notification of intent to site a solid waste incinerator or solid waste energy recovery facility and a written request for information pertaining to any regulatory requirements under Chapter 3704. or 6111. of the Revised Code.

The application, and any revisions or alterations to the application, shall be submitted in quadruplicate to the director and a copy sent to the board of health of the health district where the facility is or will be located. Any revisions or alterations to the permit application must be pertinent to the director's review of the initial application.

(3) The permit to install shall remain in effect until the director has received, and approved in writing, certification that all required final closure activities have been completed, unless the permit has been revoked or terminated in accordance with rule 3745-27-02 of the Administrative Code. The director
shall send one copy of the permit to install and approved permit application to the board of health where the facility is or will be located, shall return one copy to the applicant, and shall retain two copies in Ohio EPA's files.

(B) The following detail engineering plans, specifications, and information for solid waste incinerator or solid waste energy recovery facilities shall be shown by means of drawings and narrative descriptions where appropriate. Minimum dimensions of the plan drawings shall be twenty-four inches by thirty-six inches.

(1) The detail engineering plan cover sheet to be numbered sheet 1, shall contain the following information:

(a) The name of the facility and identification of the facility as either a solid waste incinerator facility or a solid waste energy recovery facility.

(b) The precise geographic location and boundary of the facility, to be shown on a 7-1/2 minute USGS topographic map.

(c) The name, address, and telephone number of both the applicant and the facility operator.

(d) The name and address of the owner(s) of the land used for the facility.

(e) The name and address of the person who prepared the plans.

(2) Plan drawings, showing the following items located within the facility boundary and within five hundred feet of the facility boundary, shall contain all information in paragraphs (B)(2)(a) to (B)(2)(f) of this rule. Those items specified in paragraphs (B)(2)(b) to (B)(2)(f) of this rule shall be illustrated on a series of plan drawings which shall be numbered consecutively: 2A, 2B, 2C, etc. All information specified in an individual subheading must be shown on the same plan sheet. An individual plan drawing may contain information specified in more than one individual subheading. A scale of one inch equals no greater than one hundred feet shall be used unless otherwise specified.

(a) All plan drawings required by paragraph (B)(2) of this rule shall include those items specified in paragraph (B)(2)(a) of this rule.

(i) The property lines of all land owned or leased for the facility as determined by a property survey conducted by a professional skilled in the appropriate discipline(s).

(ii) All public roads, railroads, and occupied structures.

(iii) Existing topography showing vegetation and surface waters of the state, as defined in rule 3745-1-02 of the Administrative Code, with a contour interval no greater than five feet.

(iv) The north arrow.

(b) All existing land uses, zoning classifications, property owners, political subdivisions, and communities.

(c) All existing domiciles.

(d) The limits of the regulatory floodplain.

(e) National park or recreation areas, candidate areas for potential inclusion into the national park system, and any state park or established state park purchase areas.
(f) State nature preserves, state wildlife areas, national and state scenic rivers, any national wildlife
refuge, special interest areas, research natural areas in the Wayne national forest, and state resource
waters, coldwater habitats, and exceptional warmwater habitats as classified according to Chapter
3745-1 of the Administrative Code.

(3) Plan drawings, showing the following items located within the facility and within two hundred fifty feet
of the facility boundary shall contain all information in paragraphs (B)(3)(a) to (B)(3)(d) of this rule. Those
items specified in paragraphs (B)(3)(a) to (B)(3)(d) of this rule shall be illustrated on a series of
plan drawings which shall be numbered consecutively: 3A, 3B, 3C, etc. All items specified in an
individual subheading must be shown on the same plan drawing, unless otherwise specified. An
individual plan drawing may contain information specified in more than one individual subheading. A
scale of one inch equals no greater than fifty feet shall be used.

All plan drawings required by paragraph (B)(3) of this rule shall include those items specified in
paragraph (B)(2)(a) of this rule.

(a) The location of all existing or proposed waste handling areas, areas designated for recycling activities,
maintenance buildings, weighing facilities, storage buildings, and other occupied structures.

(b) The location of existing or proposed utilities, including water, sewerage and sewage treatment,
electricity, gas, and telephone or other means of communication, and any utility company easements
on or bordering the site.

(c) The location of all existing and proposed fencing, gates, and natural or other screening on the site.
Contour intervals need not be delineated if such locations are shown on an aerial photograph.

(d) Existing and proposed constructed topography of the site. Contour lines shall have an interval no
greater than five feet.

(4) Surface water drainage information within the facility boundary and within five hundred feet of the
facility boundary shall be on plan drawings numbered consecutively 4A, 4B, 4C, etc., shall plainly
indicate the vertical and horizontal scales used and shall show:

(a) The existing direction of flow and points of concentration of all surface waters.

(b) Drainage plans, which show:
   (i) Grades.
   (ii) Natural swales and streams and existing or proposed diversion trenches.
   (iii) Any special drainage devices to be used for control of surface erosion.

(5) Detail construction and operational plans showing all facility operations shall be on plan drawings
numbered consecutively 5A, 5B, 5C, etc. and shall show the following:

(a) Location of incinerators and any energy recovery equipment, and waste feed, ash removal, and air
pollution control systems.

(b) Location of on-site solid waste handling areas, including areas designated for recycling activities and
ash handling areas.

(c) Direction of prevailing winds during each season.
(d) Traffic patterns, including on-site and access roads.

(e) Cross sections, with an interval of not less than fifty feet, of all surfaces and facilities on or in which solid wastes will be placed prior to or during handling. Describe the methods and show the materials proposed to be utilized for construction of each surface and facility on each cross section.

(6) In a permit to install application subject to paragraph (O) of rule 3745-27-51 of the Administrative Code, plan drawings which clearly delineate all "waste handling areas" as that term is defined in paragraph (D) of rule 3745-27-37 of the Administrative Code and show both of the following:

(a) The distance between the "waste handling areas" and the property line of the premises on which the facility will be located.

(b) All domiciles, schools, jails and prisons located within one thousand feet of the "waste handling areas."

(C) The following information shall be presented in narrative form in a report divided according to paragraphs (C)(1) to (C)(5) of this rule:

(1) A summary of the site environs and explanation of how the facility will meet the criteria for permit approval by the director specified in rules 3745-27-02 and 3745-27-51 of the Administrative Code.

(2) For informational purposes only, a discussion of the following:

(a) The equipment to be used in the operation and maintenance of the facility, necessary to evaluate the requested maximum daily waste receipt. Such information shall include, at a minimum:

(i) Types of vehicles that will be used to deliver, handle, and remove solid wastes, including ash.

(ii) Performance capabilities, waste processing rate (if applicable), and principal specifications of each piece of powered equipment to be used for loading, unloading, handling, or processing of solid wastes, including charging and ash removal.

(iii) Capacity and type of each container to be used to store solid wastes, including ash and recycled materials, on site.

(b) Proposed hours of operation.

(3) A discussion of the following operational information:

(a) Authorized maximum daily waste receipt, as defined in rule 3745-27-01 of the Administrative Code, requested for the facility.

(b) Description of all activities to be performed on the site, including, but not limited to, unloading, loading, sorting, handling, storage, compacting, baling, shredding, crushing, processing rates and order of operations, charging and operation, ash removal procedures, operational methods used to handle bulky and/or dusty materials, and any other processing operations.

(c) Detailed description of the following:

(i) Methods of unloading waste material from transportation vehicles on the site.

(ii) Methods of on-site solid waste handling, including charging and handling of the ash. All putrescible solid wastes received at the facility shall be incinerated within twenty-four hours,
unless an alternate incineration schedule has been approved by the director. All nonputrescible solid waste shall be incinerated within the timeframe specified by the permit.

(iii) Traffic patterns on the site.

(iv) Methods of loading all solid waste being shipped out, including ash.

(v) Inspection procedures to prevent accepting wastes that may present operational problems or wastes that may not be legally accepted.

(vi) Methods of on-site storage of solid wastes, including ash.

(d) Detailed discussion of control measures taken including the following:

(i) The collection, containment, removal, and disposal of leachate, and methods to prevent leachate from entering surface or ground waters.

(ii) Methods to prevent precipitation, surface waters, birds, rodents, and other vectors from reaching solid wastes on site.

(iii) Measures to control fire, explosion, dust, odor, scavenging, erosion, and blowing debris.

(e) General recycling procedures to be conducted on site, if any.

(4) The following plans:

(a) A contingency plan detailing emergency equipment, procedures, notification, and remediation for the following:

(i) Discovery of unauthorized wastes.

(ii) Fire, explosion, and spills.

(iii) Equipment failure.

(iv) Handling, removal, and disposal of solid wastes if all or part of the facility should become unavailable for any reason.

(b) A contingency plan that provides for written notification to the single or joint county solid waste management district in which the facility is located, and general notification to service area and customers if all or part of the facility should become unavailable for any reason which would affect the facility's ability to accept solid waste.

(c) Ash management plans that shall comply with applicable state and federal requirements regarding the testing, analysis, and management of ash.

(d) A "final closure plan" that meets the minimum requirements for facility final closure as detailed in rule 3745-27-53 of the Administrative Code. The "final closure plan" shall contain, at a minimum, the following information:

(i) Schedule and description of the steps necessary to close the facility as detailed in rule 3745-27-53 of the Administrative Code.

(ii) Name, address, and telephone number of the person or office to contact regarding the facility during the final closure period.

(5) All applications shall include the following:

(a) Copies of letters of intent with copies of certified mail receipts. These letters of intent shall describe the intended establishment or modification of a solid waste incinerator or solid waste energy recovery facility, including a description of property and facility boundaries, and shall be sent via certified mail to the following entities:

(i) The governments of the general purpose political subdivisions where the facility is situated, i.e., county commissioners, legislative authority of a municipal corporation, or the board of township trustees.

(ii) The single or joint county solid waste management district in which the facility is located.

(iii) The owner or lessee of any easement or right of way bordering or within the proposed facility boundaries which may be affected by the proposed solid waste facility.

(iv) The local zoning authority having jurisdiction, if any.

(v) The local air pollution planning authority having jurisdiction, if any.

(vi) Park system administrator, if any part of the facility is located within or shares the park boundary.

(vii) The conservancy district, if any part of the facility is located within or shares the conservancy district boundary.

(viii) The fire department having responsibility for providing fire control services where the facility is located.

(b) Proof of property ownership or lease agreement to use the property.

(c) A notarized statement that, to the best of the knowledge of the applicant, the detail engineering plans, specifications, and information in the permit application are true and accurate.
Five Year Review (FYR) Dates: 07/08/2014 and 07/08/2019

CERTIFIED ELECTRONICALLY

Certification

07/08/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.021, 3734.73
Rule Amplifies: 3734.02, 3734.021, 3734.73
Additional criteria for approval of solid waste incinerator or solid waste energy recovery facility permit to install applications.

The director shall not approve any permit to install application for a solid waste incinerator or solid waste energy recovery facility unless he determines that:

(A) The solid waste incinerator or solid waste energy recovery facility will be capable of operating in compliance with Chapters 3704. and 6111. of the Revised Code; and

(B) The solid waste incinerator or solid waste energy recovery facility will be capable of being constructed, operated, and closed in accordance with Chapter 3745-27 of the Administrative Code, and with the terms and conditions of the permit; and

(C) The solid waste incinerator or solid waste energy recovery facility is not located in a floodway; and

(D) The solid waste incinerator or solid waste energy recovery facility is not located within two hundred feet of any surface waters of the state, as defined in rule 3745-1-02 of the Administrative Code.

(E) The applicant and/or person listed as operator who has previously or is currently responsible for the management or operation of one or more solid waste facilities, has managed or operated such facility in substantial compliance with applicable provisions of Chapters 3704., 3734., and 6111. of the Revised Code, and any rules and permits issued thereunder, and has maintained substantial compliance with all applicable orders issued by the director, the environmental board of review, or courts having jurisdiction in accordance with Chapter 3746-13 of the Administrative Code, in the course of such previous or current management or operations. The director may take into consideration whether substantial compliance has been maintained with any applicable order from a board of health maintaining a program on the approved list; and

(F) The person or persons listed as operator of the facility meet the requirements of division (L) of section 3734.02 of the Revised Code and rules adopted thereunder; and

(G) The applicant meets the requirements of sections 3734.40 to 3734.47 of the Revised Code and rules adopted thereunder; and

(H) The applicant has executed an instrument that meets the criteria established in rule 3745-27-15 of the Administrative Code, for providing financial responsibility for the final closure of the solid waste incinerator or solid waste energy recovery facility in accordance with rule 3745-27-53 of the Administrative Code; and

(I) The solid waste incinerator or solid waste energy recovery facility is not located in any of the following areas, in existence on the date of receipt of the permit to install application by Ohio EPA:

1. National park or recreation area; or

2. Candidate area for potential inclusion in the national park system; or

3. State park or established state park purchase area; or

4. Any property that lies within the boundaries of a national park or recreation area but that has not been acquired or is not administered by the secretary of the United States department of the interior.

If the solid waste incinerator or solid waste energy recovery facility is located within a park or recreation area identified in this paragraph and exclusively manages wastes generated within the park or recreation area, this paragraph shall not apply; and

(J) The solid waste incinerator or solid waste energy recovery facility is not located within two hundred fifty feet
of the following, which are in existence on the date of receipt of the permit to install application by the Ohio EPA:

(1) Areas designated by the Ohio department of natural resources as either a state nature preserve, a state wildlife area, or a state scenic river; or

(2) Areas designated, owned, and managed by the Ohio historical society as a nature preserve; or

(3) Areas designated by the United States department of the interior as either a national wildlife refuge or a national scenic river; or

(4) Areas designated by the United States forest service as either a special interest area or a research natural area in the Wayne national forest; or

(5) Surface waters of the state designated by Ohio EPA as either a state resource water, a coldwater habitat, or an exceptional warmwater habitat, as classified in accordance with Chapter 3745-1 of the Administrative Code.

(K) All waste handling areas of a solid waste incinerator or solid waste energy recovery facility are not located within two hundred fifty feet of a domicile in existence on the date the permit to install application was received by the Ohio EPA; and

(L) All waste handling at the solid waste incinerator or solid waste energy recovery facility will take place inside buildings, structures, or other methods of cover deemed acceptable to the director;

(M) The waste handling floor(s) of the solid waste incinerator or solid waste energy recovery facility:

1. Shall prevent the infiltration of leachate, and is constructed to prevent any unauthorized discharge of leachate from the facility;

2. Readily allows wet or dry cleanup operations;

3. Is sloped so as to direct leachate to collection points and the leachate management system, and will not allow ponding of liquids;

4. Is designed to be capable of withstanding the forces and weights encountered during normal facility operations;

5. Is accessible to annual visual inspection for cracks and breaks; and

6. Is constructed with materials and methods which enable repairs to be made; and

(N) Adequate collection, management, and treatment and/or disposal facilities are provided for leachate. If leachate conveyance and storage structures are utilized, they shall:

1. Be monitored, as required by the director; and

2. For storage tanks, be provided with spill containment; and

3. For leachate lines, be double cased; and

4. For storage structures, have a capacity sufficient to ensure proper operation of the facility.

(O) In the case of a permit to install application for:
(1) A new solid waste incinerator or solid waste energy recovery facility to also treat infectious waste for which a notation authorizing infectious waste treatment is proposed to be included in the solid waste incinerator or solid waste energy recovery facility's license pursuant to division (B)(3) of section 3734.05 of the Revised Code; or

(2) To modify an existing solid waste incinerator or solid waste energy recovery facility, which does not have authorization to treat infectious waste, to treat infectious waste for which a notation authorizing infectious waste treatment is proposed to be included in the solid waste incinerator or solid waste energy recovery facility's license pursuant to division (B)(3) of section 3734.05 of the Revised Code,

The application satisfies the criteria specified in paragraph (D)(5) of rule 3745-27-37 of the Administrative Code.
Five Year Review (FYR) Dates: 07/08/2014 and 07/08/2019

CERTIFIED ELECTRONICALLY

Certification

07/08/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.021, 3734.73
Rule Amplifies: 3734.02, 3734.021, 3734.73
3745-27-52  Operation of solid waste incinerator and solid waste energy recovery facilities.

All solid waste incinerator and solid waste energy recovery facilities shall be operated in accordance with paragraphs (A) to (V) and paragraph (BB) of this rule. In addition, all solid waste incinerator and solid waste energy recovery facilities with an approved permit to install shall be operated in accordance with paragraphs (W) to (AA) of this rule.

(A) All operations at solid waste incinerator and solid waste energy recovery facilities shall be conducted in compliance with approved detail plans, specifications, and information, the terms and conditions of the permit to install issued in accordance with rule 3745-27-02 of the Administrative Code, and the solid waste facility license issued in accordance with Chapter 3745-37 of the Administrative Code.

Existing solid waste energy recovery facilities constructed and operated prior to March 1, 1996 shall:

(1) Not be required to obtain an approved solid waste energy recovery facility permit to install in order to continue existing operations at the facility unless otherwise required under division (A)(5) of section 3734.05 of the Revised Code.

(2) Not be subject to divisions (A)(3) and (A)(4) of section 3734.05 of the Revised Code.

(3) Be subject to requirements to obtain an approved permit to install prior to modifying the facility as that term is defined in rule 3745-27-02 of the Administrative Code.

(4) Submit an application for an annual solid waste license in accordance with division (A)(1) of section 3734.05 of the Revised Code, for the year following the year that this rule becomes effective.

(B) In accordance with the requirements of division (L) in section 3734.02 of the Revised Code:

(1) The technical operation and maintenance of the solid waste facility shall be under the responsible charge of an operator certified by the director as having completed the solid waste facility operator training as required by Chapter 3734. of the Revised Code and rules adopted thereunder.

(2) A certified operator shall be required on-site and in responsible charge of the operation and maintenance of the solid waste facility at all times during the normal operating hours of the facility.

(C) All permits and authorizations that may be required by Chapters 3704. and 6111. of the Revised Code shall be obtained, and compliance with any applicable requirements of those chapters shall be maintained.

(D) A copy of the approved detail plans, specifications, and information shall be available at the facility and may be inspected by the health commissioner or the director.

(E) Access roads shall be maintained at the facility in such a manner that allows passage of loaded vehicles during inclement weather conditions with minimum erosion and dust generation.

(F) Access to the facility shall be limited to authorized personnel except during operating hours and when operating personnel are present.

(G) Clear instructions for using the facility shall be posted and maintained in legible condition and shall include a listing of prohibited types of wastes as defined in paragraph (T) of this rule and telephone numbers of emergency personnel, including, but not limited to, local fire departments, boards of health, and the appropriate district office of Ohio EPA. This information is to be posted at the entrance to the facility and at waste handling areas.

(H) All necessary measures shall be taken to prevent scavenging and other activities which would interfere with
proper operating procedures.

(I) Live domestic and live farm animals shall be excluded from all areas of the facility, except for animals utilized for security purposes and/or vector control.

(J) Solid waste handling shall be confined to the smallest practical area. Such handling shall be supervised by competent operating personnel who shall be thoroughly familiar with proper operational procedures, and with the approved detail plans, specifications, and information.

(K) All reasonable measures shall be employed to collect, properly contain, and dispose of scattered litter, including frequent policing of the area and the use of wind screens where necessary.

(L) The facility shall be managed in such a manner that noise, dust, and odors do not constitute a nuisance or a health hazard.

(M) The facility shall be managed in such a manner that the attraction, breeding, and emergence of birds, insects, rodents, and other vectors do not constitute a nuisance or a health hazard. Supplemental effective control measures shall be initiated as deemed necessary by the health commissioner or the director.

(N) Adequate fire control equipment, material, and services shall be available at or near the facility, and shall be engaged immediately to control or extinguish any fire at the facility.

(O) Facility operations shall be recorded in a daily log. Logs shall be kept on forms prescribed by the director. All entries required by the log form shall be made daily. The log shall be available for inspection by the health commissioner or the director during normal operating hours. When required by the director, copies of daily logs or summaries of daily logs shall be submitted to the health commissioner and/or the director on forms prescribed by the director.

(P) Adequate operable equipment for facility operation shall be available at all times.

(Q) A contingency plan detailing emergency procedures, notification, equipment, and remediation shall be established, maintained, and implemented as necessary for the following:

1. Discovery of unauthorized wastes.
2. Fire, explosion, and spills.
3. Equipment failure.
4. Handling, removal, and disposal of solid wastes if all or part of the transfer facility should become unavailable for any reason.

(R) A contingency plan shall be established and implemented as necessary that provides for written notification to the single or joint county solid waste management district in which the facility is located, and general notification to service area and customers, if all or part of the facility should become unavailable for any reason which would affect the facility's ability to accept solid waste.

(S) All solid wastes arriving at the facility shall be incinerated as soon as practicable. All solid wastes which are not incinerated within twenty-four hours of receipt shall be placed in closed containers or in totally enclosed buildings, structures, or other methods of cover deemed acceptable to the director, that prevent water, insects, rodents, birds, and other vectors from reaching the wastes.

(T) Solid waste incinerator or solid waste energy recovery facilities shall not accept the following:
(1) Hazardous wastes.

(2) Asbestos or asbestos-containing waste material that is subject to the provisions of NESHAP, 40 CFR Part 61, Subpart M, July 1, 2003.

(3) Infectious wastes, other than those subject to division (B)(1)(a)(ii) of section 3734.021 of the Revised Code or identified in division (D) of section 3734.02 of the Revised Code, that have not been treated to render them noninfectious, unless the facility is an infectious waste treatment facility operated in accordance with rule 3745-27-32 of the Administrative Code, or holds a solid waste disposal license with a notation that the facility treats infectious wastes.

(4) Explosive materials.

(5) Lead-acid batteries.

(6) After December 31, 1994, yard wastes, source-separated yard waste, or commingled yard waste as defined in rule 3745-27-01 of the Administrative Code.

[Comment: Application of this rule should be read in conjunction with the yard waste management and yard waste restriction program rules as found in paragraphs (DD) and (EE) of this rule.]

(7) Scrap tires, provided:

(a) Scrap tires accepted at the facility are handled in accordance with the facility's permit to install and this rule are transferred to a registered scrap tire transporter.

(b) Any whole or shredded scrap tires temporarily stored at the facility shall be stored in accordance with rule 3745-27-65 of the Administrative Code. The total area upon which scrap tires are stored shall not exceed ten thousand square feet unless the facility obtains a class I scrap tire storage facility permit to install in accordance with rule 3745-27-63 of the Administrative Code and a scrap tire storage facility license in accordance with Chapter 3745-37 of the Administrative Code.

If any such materials are detected in incoming solid wastes, the load containing those materials shall be refused. Any such occurrences shall be noted in the daily log as required in paragraph (O) of this rule.

(U) If the director or health commissioner determine that a substantial threat of surface water pollution and/or ground water pollution exists, then monitoring may be required.

(V) Leachate shall be managed and disposed in accordance with applicable regulations.

(W) Waste materials shall not be admitted to any area of the facility until all site preparations for that area have been completed, all necessary equipment has been brought to the facility, the facility has been adequately prepared for operation, and the prepared facility has been inspected by a representative of the Board of health of the health district in which the facility is located, or by the director, when that district is not on the approved list under section 3734.08 of the Revised Code.

(X) All solid waste storage and handling, including ash storage and handling, and all recycling operations shall be conducted on floors that readily allow wet or dry cleanup operations. All floors shall be sloped and curbed so as to direct leachate to collection points and not allow ponding or off-site migration of leachate.

(Y) The leachate collection system shall be maintained to prevent blockage or clogging that may impede proper
collection of leachate.

(Z) All solid waste storage and handling, including ash storage and handling, and all recycling operations at the facilities shall be conducted within buildings, structures, or other methods of cover deemed acceptable to the director.

(AA) The facilities shall have financial assurance for facility final closure established in accordance with rule 3745-27-15 of the Administrative Code, shall otherwise comply with the provisions of rule 3745-27-15 of the Administrative Code, and shall be subject to the following requirements:

1. Prior to accepting solid waste at a new facility, and not later than thirty days after issuance of a final permit to install, the financial assurance instrument shall be funded in accordance with rule 3745-27-15 of the Administrative Code.

2. The final closure cost estimate, as prepared in accordance with rule 3745-27-15 of the Administrative Code, shall be annually reviewed and analyzed. The estimate and financial assurance instrument shall be revised as appropriate whenever a change in the final closure activities increases the cost of final closure, prior to adjusting for inflation as specified in paragraph (AA)(3) of this rule.

3. The final closure cost estimate shall be adjusted annually for inflation. The adjustment shall be made as specified in this paragraph, using an inflation factor derived from the annual "implicit price deflator for gross national product" as published by the U.S. department of commerce in its "Survey of Current Business", (February, 2004). The inflation factor is the result of dividing the latest published annual "deflator" by the "deflator" for the previous year.

   a. The first adjustment is made by multiplying the final closure cost estimate by the inflation factor. The result the adjusted final closure cost estimate.

   b. Subsequent adjustments are made by multiplying the most recently adjusted final closure cost estimate by the most recent inflation factor.

4. After revising and updating the final closure cost estimate in accordance with paragraphs (AA)(2) to (AA)(3) of this rule, the new estimates and any relevant calculations shall be submitted in the report specified in paragraph (BB) of this rule. In addition, the financial assurance instrument shall be revised and resubmitted in accordance with rule 3745-27-15 of the Administrative Code.

(BB) An annual report shall be submitted to the appropriate Ohio EPA district office and approved health department not later than the first day of April of each year. The annual report shall include, at a minimum, a summary of the following operational information for the preceding calendar year:

1. Indication as to the calendar period which the submittal represents.

2. A summary of the facility's operations including:

   a. Quantity, in tons or cubic yards, of the following:

      i. Wastes received.

      ii. Materials recycled by material type, if any.

   b. County and state of origin of the wastes proceeded.

   c. Quantity and disposal locations of ash.
(d) Ash testing results.

(e) If applicable, a summary of instances recorded in accordance with procedures required in paragraph (EE)(1)(e) of this rule in which the owner or operator of the facility refused acceptance of a vehicle due to the presence of source-separated yard waste or commingled yard waste in the vehicle load.

(3) For facilities with an approved permit to install:

(a) A summary of any maintenance performed on the leachate control system or any other monitoring and control system installed at the facility.

(b) The most recent final closure cost estimate, as specified in paragraph (AA)(4) of this rule.

(c) Any changes to the information that identifies the facility's final closure contact person required by paragraph (C)(4)(d)(ii) of rule 3745-27-50 of the Administrative Code.

(d) A statement certifying compliance with paragraph (Y) of this rule.

(4) A notarized statement that the information contained in the annual report is true and accurate.

(CC) The owner or operator of a facility shall post legible sign(s) stating the yard waste restrictions applicable to the facility. A sign shall be posted in proximity to each public entrance of the facility.

(DD) Exemptions from yard waste restrictions.

[Comment: Application of this rule should be read in conjunction with paragraph (T)(6) of this rule. Definitions for "yard waste," "source-separated yard waste," and "commingled yard waste" are located in rule 3745-27-01 of the Administrative Code.]

(1) The owner or operator of a facility may accept for incineration source-separated yard waste if any of the following are applicable:

(a) If a publicly available composting facility registered or licensed in accordance with Chapter 3745-560 of the Administrative Code is not accepting yard waste in the county in which the facility is located on February 1, 1995, the owner or operator may continue to accept for incineration source-separated yard waste until a registered or licensed composting facility begins operating in the county in which the facility is located or until one hundred and eighty days after February 1, 1995, whichever is earlier.

(b) The owner or operator of a facility may for a temporary period of time accept for incineration yard waste resulting from storm damage or other natural catastrophe upon the written acknowledgement of the solid waste management district of the need for the temporary incineration of yard waste.

[Comment: The solid waste management district is the local entity responsible for tracking the availability of solid waste disposal and processing capacity. The solid waste management district is therefore the appropriate entity to make the determination that locally available yard waste management capacity is not sufficient to handle yard waste resulting from storm damage or other natural catastrophe.]

(c) The owner or operator of a facility may incinerate yard waste resulting from the incidental acceptance of source-separated yard waste where the source-separated yard waste has been commingled with other solid wastes at the facility, provided the owner or operator complies with paragraph (EE) of
this rule.

For the purposes of this rule, "incidental acceptance" of source-separated yard waste means source separated yard waste is commingled with other solid waste at the facility despite the owner or operator's implementation of a yard waste restriction management plan as specified in paragraph (EE)(1) of this rule.

(2) The owner or operator of a facility may accept a vehicle load of source-separated yard waste for incineration if that vehicle load has been refused acceptance by a composting facility registered or licensed in accordance with Chapter 3745-560 of the Administrative Code. The owner or operator shall obtain documentation of this refused acceptance by a composting facility upon acceptance of the vehicle at the incineration facility. Such documentation shall identify the vehicle, the vehicle's load, the compost facility which refused acceptance of the vehicle load, and the date of refusal on a form prepared by the director. The owner or operator shall attach any form(s) received to the appropriate daily log of operations required in paragraph (O) of this rule.

(3) The owner or operator of a facility may accept for incineration tree trunks and stumps.

(EE) Yard waste exemption criteria.

[Comment: The yard waste restriction program outlined in paragraph (EE) of this rule consists of procedures to inform persons transporting solid waste of the yard waste restrictions, alternative yard waste management options, and identification of readily observable dedicated yard waste collection vehicles or loads of source-separated yard waste in order to encourage alternative management of yard waste, direct persons to available yard waste composting facilities, and deter the incineration of readily observable source-separated yard waste loads. This approach is due to Ohio EPA's position that a incineration or solid waste energy recovery facility's required design, operation, and environmental monitoring provides more than adequate environmental protection.]

In order to qualify for the exemption under paragraph (DD)(1)(c) of this rule, the owner or operator of a facility shall do the following:

(1) Implement a written program to ensure that yard waste is not accepted for incineration. The program shall, at a minimum consist of the following:

(a) Procedures for notifying persons transporting solid waste to the facility of the yard waste restrictions at the facility.

(b) Procedures for distributing information regarding alternative yard waste management methods, such as composting, to persons transporting solid waste to the facility. At a minimum, information shall include the name, address, and phone number of the solid waste management district in which the facility is located and a listing of any informational pamphlets, brochures, etc., regarding yard waste composting published by Ohio EPA and the solid waste management district in which the facility is located.

(c) Except for incineration or solid waste energy recovery facility with an on-site licensed or registered compost facility, procedures for distributing information regarding the facility names and locations of Ohio EPA licensed or Ohio EPA registered composting facilities in the county in which the incineration or solid waste energy recovery facility is located to persons transporting solid waste to the incineration or solid waste energy recovery facility.
(d) Procedures for identifying vehicles dedicated to yard waste collection or vehicles transporting portable containers and compartments of portable containers dedicated to yard waste collection, or vehicles with loads observed to consist of source-separated yard waste, and for refusal of the load due to the presence of source-separated yard waste.

(e) Procedures for the recording of instances in which the facility refused acceptance of a vehicle load due to the presence of source-separated yard waste or commingled yard waste in the vehicle load.

(2) Maintain the yard waste restriction program document at the facility. A copy of the yard waste restriction program document shall be available for inspection by the health commissioner and the director during normal operating hours. When required by the health commissioner or the director, the owner or operator shall provide a copy of the yard waste restriction program document.

(3) Yard waste restriction program compliance. The owner or operator of an incineration or solid waste energy recovery facility shall review the yard waste restriction program and implement such revision(s) as the owner or operator deems necessary to ensure control of the acceptance of yard waste at the incineration or solid waste energy recovery facility when either of the following occur:

(a) Upon discovery by the owner or operator that yard waste has been accepted for disposal at the facility.

(b) Upon notification by Ohio EPA or the approved health department that yard waste had been accepted for disposal at the facility.

The exemption specified in paragraph (DD)(1)(c) of this rule shall not apply unless the owner or operator complies with paragraph (EE)(3) of this rule.

[Comment: Chapter 3734. of the Revised Code does not expressly provide Ohio EPA the statutory authority to regulate transporters of solid waste which includes yard waste. Chapter 3734. of the Revised Code does not expressly provide Ohio EPA the statutory authority to require generators of solid wastes, which includes yard waste, to source-separated solid waste for delivery to a particular type of solid waste facility or recycling facility. Chapter 3734. of the Revised Code does provide Ohio EPA with authority to establish rules regarding the operation of regulated solid waste facilities. Given these circumstances, it is Ohio EPA's position that the requirement that an owner or operator review and revise the facility's yard waste restriction program upon discovery of the acceptance of yard waste is appropriate to assure improvement in the program's effectiveness.]
Effective: 12/01/2014

Five Year Review (FYR) Dates: 09/12/2014 and 12/01/2019

CERTIFIED ELECTRONICALLY

Certification

11/21/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.73
Rule Amplifies: 3734.02, 3734.73
3745-27-53  Final closure of solid waste incinerator or solid waste energy recovery facilities.

(A) Final closure is mandatory for solid waste incinerator or solid waste energy recovery facilities when:

(1) The facility owner or his authorized representative declares the facility will cease accepting waste. Final closure will be completed in accordance with paragraphs (B) to (E) of this rule; or

(2) A solid waste facility license held by the solid waste facility owner expires, and no further license has been applied for in the manner prescribed in Chapter 3745-37 of the Administrative Code. Final closure will be completed in accordance with paragraphs (B) to (E) of this rule; or

(3) A solid waste facility license held by the solid waste facility owner has expired, a further license has been applied for and denied, and all remedies for such denial have either been exhausted, or waived by failure to pursue such remedies in a timely manner. Final closure will be completed in accordance with paragraphs (C) to (E) of this rule; or

(4) A solid waste facility license held by the facility has been suspended or revoked, and all remedies for such revocation or suspension have either been exhausted or waived by failure to pursue such remedies in a timely manner. Final closure will be completed in accordance with paragraphs (C) to (E) of this rule; or

(5) Detail plans, specifications, and information submitted as required by division (A)(5) of section 3734.05 of the Revised Code are disapproved, and all remedies for such disapproval have either been exhausted or waived by failure to pursue such remedies in a timely manner. Final closure shall be completed in accordance with paragraphs (C) to (E) of this rule.

(B) The facility owner or his authorized representative shall provide notice by certified mail of the anticipated date on which the facility will cease to accept waste to the board of health having jurisdiction, to the single or joint county solid waste planning district in which the facility is located, and to the director. Such notice shall be provided not less than ninety days prior to that anticipated date. Concurrently, prominent notice of the anticipated date on which the facility will cease to accept waste shall be published at three-week intervals. Such notice shall be published in the county in which the facility is located and in any other county which has been the source of twenty-five percent or more of the solid wastes processed at the facility over the previous twelve months. The facility owner or his authorized representative shall provide written notice by certified mail to the director and to the board of health having jurisdiction that affirms the notice has been published in accordance with this paragraph. Not less than thirty days prior to the anticipated date on which the facility will cease to accept solid waste, written notice will be provided by certified mail to the director of any changes to the information that identifies the facility's final closure contact person required by paragraph (C)(4)(d)(ii) of rule 3745-27-50 of the Administrative Code.

(C) Not later than sixty days after the facility has ceased to accept solid waste, the facility owner or his authorized representative shall:

(1) Thoroughly clean all waste handling facilities, equipment, and areas on the premises. For purposes of this rule, final cleaning of a solid waste incinerator, or solid waste energy recovery facility, at a minimum, must include the following actions:

(a) All solid wastes shall be removed from the facility, and

(b) All areas of the facility and any appurtenances, including, but not limited to all, containers, equipment, machines, floors and facility surfaces that were in contact with solid wastes at any time during the operation of the facility and that are not to be removed during the final cleaning, shall be
washed or otherwise subjected to procedures that substantially reduce or eliminate any remaining constituents or contaminants derived from contact with solid wastes, and

(c) All leachate remaining on the site shall be removed and disposed properly; the leachate collection system shall be thoroughly flushed of all materials derived from or that has contacted solid wastes; and

(2) Post signs in such a manner as to be easily visible at all access gates leading into the facility, stating that the facility is closed for all solid waste facility activities. These signs shall be maintained in legible condition for not less than six months after closing the facility. The text of the signs, in letters not less than three inches high, required by this paragraph shall be:

"This facility is closed for solid waste activities."

The following text shall be included on the signs required by this paragraph:

"Depositing solid wastes at this facility constitutes open dumping which is a violation of Chapter 3734. of the Ohio Revised Code. Whoever recklessly violates Chapter 3734. of the Revised Code is guilty of a felony, punishable by a fine of at least $10,000 but not more than $25,000 or imprisoned for at least two years but not more than four years, or both."

(D) Not later than sixty days after the facility has ceased to accept solid waste, the facility owner or his authorized representative shall complete the following actions:

(1) The leachate collection system must be modified, removed or sealed, as necessary, to prevent filling or overflow of leachate conveyance and storage structures or to prevent discharges from the system to waters of the state unless such discharges are otherwise regulated in accordance with Chapter 6111. of the Revised Code; and

(2) The closed facility shall be baited for rodents, and treated for other vectors, as necessary; and

(E) Within thirty days of completing the requirements as outlined in paragraphs (C) and (D) of this rule or before the closed facility may be converted to other uses, whichever occurs first, the facility owner or his authorized representative must demonstrate to the licensing board of health, or, if the director has assumed the licensing function pursuant to section 3734.08 of the Revised Code, to the director, that the facility has been thoroughly cleaned and closed pursuant to paragraphs (C) and (D) of this rule.

(F) The health commissioner or the director or their authorized representatives, upon presenting proper identification, may enter any closed solid waste incinerator or solid waste energy recovery facility at any reasonable time for the purpose of determining compliance with this rule.
Five Year Review (FYR) Dates: 07/08/2014 and 07/08/2019

CERTIFIED ELECTRONICALLY

Certification

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Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.73
Rule Amplifies: 3734.02, 3734.73
**3745-27-54  Registration requirements for scrap tire transporters - annual registration certificate.**

(A) Applicability.

(1) Any person transporting scrap tires in Ohio shall comply with the registration requirements of this rule, with the standards for transportation of scrap tires in rule 3745-27-56 of the Administrative Code, and with the use of shipping papers in rule 3745-27-57 of the Administrative Code. Specific exclusions in paragraph (A)(2) of this rule apply only to the requirement to register as a scrap tire transporter and do not exclude anyone from the requirement to comply with the standards for transportation of scrap tires and the use of shipping papers.

(a) An application for an annual registration certificate for a new scrap tire transporter shall be submitted to the director at least ninety days prior to the date on which the scrap tire transporter proposes to begin transporting scrap tires.

(b) Anyone who is currently authorized by the director to transport scrap tires shall by January thirty-first of each year do either of the following:

(i) Submit an application for an annual registration certificate in accordance with this rule, if the transporter will continue operations beyond the last day of April, and submit an annual report pursuant to paragraph (G) of rule 3745-27-56 of the Administrative Code.

(ii) Submit a letter to the director stating that the transporter is no longer transporting scrap tires or will cease operations by the last day of April when the registration certificates expire. The transporter shall complete all closure activities pursuant to paragraph (H)(2) of rule 3745-27-56 of the Administrative Code.

(2) The requirement to register as a scrap tire transporter does not apply to the following, if all conditions listed within a single paragraph below are fulfilled:

(a) Any person who transports ten or fewer scrap tires in a single load.

(b) Any person who transports any number of scrap tires for their own use in agriculture or in producing or processing aggregates.

(c) Any government agency, any political subdivision, or any person licensed or franchised by a political subdivision, engaged in the collection of solid waste other than scrap tires, when ten or fewer scrap tires are transported with any single load of other types of solid wastes.

(d) Any person who is engaged primarily in the retail sale of tires for farm machinery, construction equipment, commercial cars, commercial tractors, motor buses, or semitrailers, and who transports twenty-five or fewer scrap tires in a single load and not more than two hundred fifty scrap tires in a calendar year, all of which scrap tires either are or were used primarily as tires for farm machinery, construction equipment, commercial cars, commercial tractors, motor buses, or semitrailers.

(e) Any government agency or any political subdivision which conducts a roadside or public property litter clean up operation or a community tire collection event. These activities shall only utilize government owned or leased vehicles or designated privately owned vehicles, whose use is donated and not purchased.

(f) Any retreader or tire dealer who tracks scrap tires in an inventory or shipping paper system so that the tires can be returned to the original owner of the scrap tires. The scrap tires so tracked do not count
toward the scrap tire limit in paragraph (A)(2)(a) or (A)(2)(d) of this rule.

(g) Any common carrier who transports scrap tires, which are still owned by the scrap tire generator, on a commercial bill of lading to a dealer or manufacturer for the purposes of a warranty adjustment, repair, or retreading, regardless of the condition of the tires.

(h) Any common carrier who transports scrap tires which are still owned by the scrap tire generator on a commercial bill of lading to another business location owned or operated by the scrap tire generator, regardless of the condition of the scrap tires.

(i) Any scrap tire generator who transports scrap tires on a vehicle owned by the scrap tire generator to another business location owned or operated by the scrap tire generator of the scrap tires, to a tire retreading business, or to a manufacturer for the purposes of a warranty adjustment or repair.

(j) Any transporter who transports segregated loads of retreadable casings to a tire retreading facility for truck tires or off-the-road tires. Any transporter who transports segregated loads of scrap bias ply tires or retreadable truck tire casings, if the transporter can show that the transporter has purchased the tires or is hauling them for someone who has purchased them. A commercial bill of lading or a detailed receipt describing the scrap bias ply tires or retreadable truck tire casings and listing the price paid, the source of the tires, and the destination shall be in the transporter's possession. Except for off-the-road tires, this exclusion does not apply if any other scrap tires are present in the transportation vehicle or if the transporter was paid to remove the scrap tires from a premises. This exclusion does not apply to scrap tires to be sold as used tires without retreading. This exclusion also does not apply to scrap tires that are all bias ply tires to be sold as used tires without retreading.

(k) Any common carriers who are barge, ship, or rail companies and transport scrap tires are not regulated by this rule, if the common carrier is acting as an agent or subcontractor to a registered scrap tire transporter and has been furnished a copy of the transporter's registration certificate by the registered transporter. The certificate shall accompany the shipment of scrap tires to the end destination and shall then be returned to the registered transporter. A barge, ship, or rail company acts as an agent for the registered scrap tire transporter and the registered scrap tire transporter remains responsible for the shipment of scrap tires until the scrap tires reach the final destination. The scrap tire transporter also remains responsible for the scrap tires that are staged at a dock or rail yard prior to shipment.

(l) Any transporter who transports exclusively tire derived fuel (TDF) or tire derived chips (TDC) as are defined in rule 3745-27-01 of the Administrative Code.

(m) Any person who is directed to remove scrap tires from a property to abate a public nuisance or open dump, if the director or health commissioner specifically authorizes the person to transport their scrap tires in writing. These activities shall only utilize vehicles owned or leased by the person or vehicles whose use is donated to the person and shall not use commercial vehicles hired by the person and operated by an unregistered transporter.

[Comment: The authorization granted by this rule should specifically identify the name and address of the person transporting the scrap tires, identify the address of the point of origin of the scrap tires, identify the name and address of the destination of the scrap tires, and include a specific time period for such transportation. The authorization shall include a description of any cutting, shredding or baling of the scrap tires that the person may do without hiring a registered scrap tire transporter or mobile scrap tire recovery facility.]

(3) Prior to storage of scrap tires for over thirty days in trailers or vehicles, the transporter shall obtain a
scrap tire collection or storage facility registration or permit and license in accordance with rule 3745-27-61 of the Administrative Code.

(4) Prior to storing scrap tires outside of trailers or vehicles beyond the end of the daily work shift, the transporter shall obtain a scrap tire collection or storage facility registration or permit and license unless the transporter's business location qualifies for an exclusion from registering as specified in rule 3745-27-61 of the Administrative Code. If the normal operation is twenty-four hours per day, then the scrap tires shall not remain outside of a covered trailer or vehicle for more than twenty-four hours unless the site is a licensed scrap tire facility or qualifies for an exclusion from registering as specified in rule 3745-27-61 of the Administrative Code.

(B) An application for an annual registration certificate as required by section 3734.83 of the Revised Code, shall be submitted to and approved by the director, before the transportation of scrap tires is begun. The application shall contain the following:

(1) All the information required in paragraphs (B) and (C) of this rule such that the director can determine if the criteria set forth in rule 3745-27-55 of the Administrative Code are satisfied.

(2) If required by paragraph (C)(2) of this rule, detailed drawings and information that shall be presented in a manner acceptable to the director. Detail shall be sufficient to allow clear understanding for technical review of the application, to provide assurance that the business will be operated in accordance with rule 3745-27-56 and Chapter 3745-27 of the Administrative Code, and to be readily understandable by operating personnel at the facility.

An application, notwithstanding any deficiency, may be considered and acted upon by the director if sufficient information is contained in the detailed drawings and information for the director to determine whether the criteria set forth in rule 3745-27-55 of the Administrative Code are satisfied.

If the director determines that information in addition to that required by this rule is necessary to determine whether the criteria set forth in rule 3745-27-55 of the Administrative Code are satisfied, the director shall require that the applicant supply such information as a precondition to further consideration of the application.

(C) The application for an annual registration certificate shall consist of the following:

(1) The following basic identification information:

(a) Business name, address, location, and phone number.

If the applicant has more than one business location, list the primary business location and attach a listing of all other locations where vehicles are routinely located in Ohio. This listing need not include the location of pre-positioned trailers owned or operated by the scrap tire transporter which are pre-positioned in accordance with paragraph (C)(8) of rule 3745-27-56 of the Administrative Code. If the applicant is a political subdivision or government entity, list the name, title, and location of the official responsible and attach a listing of all other locations where vehicles are routinely located in Ohio.

(b) Business owner or operator name, address, and phone number.

(c) The name, address, and phone number of the emergency contact person for the business, who is authorized to commit resources necessary for emergency response equipment, material, and services for the business.
(d) The name, address, and phone number of the owner of the property on which the applicant's vehicles are routinely located. This does not include trailers pre-positioned in accordance with paragraph (C)(8) of rule 3745-27-56 of the Administrative Code.

(e) The name, address, and phone number of the person who prepared the application.

(f) The number of scrap tire transporter registration certificates needed during the subject registration year. This number should equal the number of motor vehicles to be used to transport scrap tires, plus the number of business locations identified in response to paragraph (C)(1)(a) of this rule, plus a reasonable estimate of additional vehicles and locations that might be used during the registration year.

(2) The following additional information shall be included in the initial scrap tire transporter registration certificate application, if applicable. Annual renewal applications shall document any changes to this additional information or include a statement that no changes have occurred in this information since the initial application. This paragraph is applicable if any scrap tires are to be removed from the scrap tire transportation vehicles while they are on property owned or leased by the applicant for the purposes of grading or sorting the scrap tires in accordance with paragraph (C)(3) of rule 3745-27-56 of the Administrative Code, or if scrap tires will remain in covered trailers or vehicles on the property for over seven days but less than thirty days. Provide all of the following information in an initial application. For a renewal application, provide only the information that needs to be updated.

(a) A description of how the scrap tires are to be handled and why this activity does not require additional registration or permitting as a scrap tire collection or storage facility in accordance with rule 3745-27-61 or rule 3745-27-63 of the Administrative Code.

(b) Detailed drawings for the area to be used for parking motor vehicles or trailers and for sorting tires. A scale of one inch equals a maximum of one hundred feet shall be used. The drawings shall show the following items within five hundred feet of any sorting areas for scrap tires:

   (i) The location of the property line.

   (ii) The location of any potential ignition sources such as welding operations or open flames.

   (iii) The location and limits of all buildings and structures.

(c) The following narrative descriptions if the transporter will be using portable equipment for the purpose of consolidating loads of scrap tires for shipment:

   (i) A description of the type of portable equipment to be used (i.e., baling, shredding, cutting, other).

   (ii) A description of how the scrap tires are to be handled at sites where portable equipment is to be used.

   [Comment: The storage and handling of scrap tires at locations where portable equipment is used to consolidate loads of scrap tires for shipment is subject to the restrictions and conditions described in paragraph (C) of rule 3745-27-56 of the Administrative Code.]

(3) A notarized statement certifying the following:

   (a) That the information presented in the application is true and accurate.

   (b) That on the date the application is submitted to Ohio EPA, none of the sorting areas for scrap tires
described in the transporter's application are located in any of the following areas:

(i) A national park or national recreation area.

(ii) A state park or an established state park purchase area.

(iii) A candidate area for potential inclusion in the national park system.

(iv) Any property that lies within the boundaries of a national park or national recreation area but that has not been acquired or is not administered by the secretary of the United States department of the interior.

This paragraph does not apply to transporters hauling scrap tires generated within any of these areas.

(c) That on the date the application is received by Ohio EPA, the sorting areas for scrap tires described in the transporter's application are at least one thousand feet from the boundaries of the following natural areas:

(i) Areas designated by the Ohio department of natural resources as either a state nature preserve, a state wildlife area, or a state wild, scenic or recreational river area, including areas designated by section 1517.05 or 1547.81 of the Revised Code.

(ii) Areas designated, owned, and managed by the Ohio historical society as a nature preserve.

(iii) Areas designated by the United States department of interior as either a national wildlife refuge or a national wild, scenic, or recreational river.

(iv) Areas designated by the United States forest service as either a special interest area or a research natural area in the Wayne national forest.

(v) Stream segments designated by Ohio EPA as either a state resource water, a coldwater habitat, or an exceptional warmwater habitat; and may include wetlands.

This paragraph does not apply to transporters hauling scrap tires generated within any of these natural areas.

(4) An executed financial assurance instrument in accordance with rule 3745-27-15 of the Administrative Code, only with an initial application..

(a) Annual renewal applications do not need to have a financial assurance instrument attached; however, financial assurance shall be maintained by the owner or operator.

(b) Financial assurance instruments, such as any bond or letter of credit, require the establishment of an unfunded standby trust fund in accordance with paragraph (G)(3), (H)(3), or (I)(3) of rule 3745-27-15 of the Administrative Code in addition to the primary financial assurance instrument.

(5) A non-refundable application fee of three hundred dollars, unless one of the following applies:

(a) A scrap tire transporter, who is also a motor vehicle salvage dealer licensed under Chapter 4738. of the Revised Code is excluded from the annual registration application fee of three hundred dollars if both of the following conditions apply:

(i) Only scrap tires obtained as a direct consequence of receiving motor vehicles for salvage are transported.
(ii) Scrap tires are transported only on motor vehicles owned or leased by the motor vehicle salvage dealer and which prominently display the name of the motor vehicle salvage dealer's business.

(b) A scrap tire transporter, who is also a tire retail dealer or retreader shall pay an annual registration application fee of fifty dollars, if only scrap tires obtained as a direct consequence of the transporter's tire retail or retreading business are transported.

(D) The applicant, owner, or operator signing a document in accordance with this rule shall be one of the following:

1. In the case of a corporation, a principal executive officer of at least the level of vice president or a duly authorized representative, if such representative is responsible for the overall operation of the facility.

2. In the case of a partnership, a general partner.

3. In the case of a limited liability company, a manager, member, of other duly authorized representative of the limited liability company, if such representative is responsible for the overall operation of the facility.

4. In the case of sole proprietorship, the owner.

5. In the case of a municipal, state, federal, or other government facility, the principal executive officer, the ranking elected official, or other duly authorized employee.

(E) The signature on the document shall constitute personal affirmation that all statements and all assertions of fact made in the document are true, accurate, include all required information, and comply fully with applicable rules.

(F) Unless a certification statement is otherwise required, a document signed in accordance with this rule shall include the following certification statement:

"By signing this document I hereby certify that all statements and all assertions of fact made in the document are true, accurate, include all required information, and comply fully with applicable rules."

(G) Upon written notification that the application is incomplete, the applicant shall, within thirty days of receipt of the notification do one of the following:

1. Notify the director, in writing, that the application is being withdrawn.

2. Correct noted deficiencies and resubmit the application.

3. Submit a written request to and obtain authorization from the director for an additional thirty-day extension.

[Comment: Paragraph (B) of rule 3745-27-55 of the Administrative Code states that an incomplete application may be a basis for denial of a registration certificate application.]
Effective: 02/20/2015

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CERTIFIED ELECTRONICALLY

Certification

02/09/2015

Date

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Statutory Authority: 3734.02, 3734.74
Rule Amplifies: 3734.74, 3734.83
Criteria for approval, denial, suspension, or revocation of an annual registration certificate for a scrap tire transporter.

(A) The director shall not approve any application for a registration certificate for a scrap tire transporter unless the director determines all of the following:

1. The application for a scrap tire transporter registration certificate, including an executed and funded financial assurance instrument, is complete in accordance with rule 3745-27-54 of the Administrative Code.

2. The applicant will be capable of operating in accordance with rule 3745-27-56 and Chapter 3745-27 of the Administrative Code.

3. The applicant or person listed as owner or operator of a scrap tire transportation business, who has previously or is currently responsible for the management or operation of one or more scrap tire transportation businesses, construction and demolition debris facilities, or solid waste facilities, has managed or operated such businesses or facilities in substantial compliance with applicable provisions of Chapters 3714., 3734., 6111., and 3704. of the Revised Code, and any rules adopted and permits, registration certificates, and licenses issued thereunder, and has maintained substantial compliance, at all facilities and businesses regulated under Chapters 3734. and 3714. of the Revised Code, with applicable provisions of Chapters 3704., 3714., 3734., and 6111. of the Revised Code and with all applicable orders issued by the director or the environmental review appeals commission, or courts having jurisdiction in accordance with applicable law, in the course of such previous or current management or operations. The director may take into consideration whether substantial compliance has been maintained with applicable provisions of Chapters 3714., 3734., 6111., and 3704. of the Revised Code and with any applicable order of a board of health maintaining a program on the approved list in Ohio and any other courts having jurisdiction.

4. On the date the application for an annual registration certificate is received, any sorting area for scrap tires described in the application meets all of the following:

   a. Is being operated or can be operated in accordance with rule 3745-27-56 of the Administrative Code or an additional registration or permit as a scrap tire facility has been obtained.

   b. Is at least fifty feet from any building or structure not owned or leased by the applicant.

   c. Except for facilities which exclusively haul scrap tires which are generated within state or national parks or national recreation areas, the sorting area for scrap tires are not within any of the areas listed in paragraph (C)(3)(b) of rule 3745-27-54 of the Administrative Code.

   d. Is at least one thousand feet from the areas and stream segments listed in paragraph (C)(3)(c) of rule 3745-27-54 of the Administrative Code.

(B) The director may deny any application for an annual registration certificate for a scrap tire transporter if within thirty days of receipt of notification that the application is incomplete, the applicant has not done one of the following:

1. Notified the director, in writing, that the application is being withdrawn.

2. Corrected noted deficiencies and resubmitted the application.

3. Submitted a written request for and obtained approval of a thirty-day extension.
(C) Revocation, denial, or suspension of the annual registration certificate.

(1) The director may revoke an annual registration certificate if he concludes at anytime that any applicable laws have been or are likely to be violated.

(2) The director may deny, suspend, or revoke the transporter registration certificate for failure to submit a full, accurate and timely annual report. A transporter shall respond to a letter of deficiency in the annual report within fifteen days or the registration certificate may be suspended for thirty days. The director may revoke or deny the transporter registration certificate for failure to respond by the end of this thirty-day suspension.

(3) The director may deny, suspend, or revoke the transporter registration certificate for failure to comply with director's orders to remove and properly dispose of scrap tires, which were either:

   (a) Delivered by the transporter to a location not authorized to receive scrap tires by Chapter 3745-27 of the Administrative Code.

   (b) Open dumped by the transporter.

(4) The director may deny, suspend, or revoke the transporter registration certificate for failure to comply with rule 3745-27-79 of the Administrative Code where either of the following occurred:

   (a) A fire occurred involving the transporter's vehicle and the scrap tires the vehicle was hauling.

   (b) Open burning of scrap tires occurred at either of the locations described in paragraph (C)(3)(a) or (C)(3)(b) of this rule.

(D) Upon final denial of the registration certificate, the transporter shall complete closure in accordance with paragraph (H) of rule 3745-27-56 of the Administrative Code.
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07/08/2014

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Rule Amplifies: 3734.74, 3734.83
3745-27-56 Standards for transporters of scrap tires.

(A) Applicability.

Any person transporting scrap tires in Ohio shall comply with the standards for transportation of scrap tires in this rule and the use of shipping papers in rule 3745-27-57 of the Administrative Code.

(B) Non-registered transporters.

Any person transporting scrap tires in Ohio, including but not limited to, anyone who qualifies for one of the exclusions from registration listed in paragraph (A)(2) of rule 3745-27-54 of the Administrative Code shall transport, store, and handle scrap tires so as not to create a nuisance, a hazard to public health or safety, or a fire hazard and shall do the following:

1) Deliver the scrap tires only to destinations listed in paragraph (C)(1) of this rule.

2) Do one of the following:

   a) Remove water from the scrap tires before transportation.

   b) Arrange for all scrap tires to be shredded or cut before transportation.

   c) Treat the scrap tires with a larvicide approved by the Ohio department of agriculture before transporting the scrap tires.

   [Comment: Application of the larvicide may require a license from the Ohio department of agriculture.]

3) Comply with the scrap tire shipping paper system as described by rule 3745-27-57 of the Administrative Code.

4) Operate portable equipment (for baling, cutting, or shredding scrap tires) to consolidate loads of scrap tires for shipment only if specifically authorized by the local health department or the director. Operation of such equipment for load consolidation requires registration as a scrap tire transporter in accordance with rule 3745-27-54 of the Administrative Code. Operation of such equipment for producing useable products or materials requires registration as a scrap tire recovery facility in accordance with rule 3745-27-61 or rule 3745-27-67 of the Administrative Code or permitting in accordance with rule 3745-27-63 of the Administrative Code.

5) Park trailers or vehicles containing scrap tires for no longer than fourteen days at locations other than a scrap tire transporter's registered business location, a licensed scrap tire facility, or an unregistered scrap tire facility operating in accordance with rule 3745-27-61 of the Administrative Code (such as pre-positioned trailers in accordance with paragraph (C)(8) of this rule). The scrap tires in trailers or vehicles shall be considered open dumped unless written prior notification is given to the local health department and Ohio EPA that the vehicle or trailer requires mechanical repairs which will take longer than fourteen days to complete and such repairs are being completed in a timely manner.

(C) Registered scrap tire transporters.

A registered scrap tire transporter shall do all of the following:

1) Deliver scrap tires only to the following:
(a) A scrap tire scrap tire collection, scrap tire storage, scrap tire monoseal, scrap tire monofill, or scrap
tire recovery facility licensed under section 3734.81 of the Revised Code.

(b) A solid waste incinerator or energy recovery facility subject to regulation under Chapter 3734. of the
Revised Code.

(c) A premises authorized to beneficially use scrap tires pursuant to rule 3745-27-78 of the
Administrative Code.

(d) Another transporter holding a valid annual registration certificate under rule 3745-27-54 of the
Administrative Code.

(e) A facility in another state in compliance with the laws of that state.

(f) A premises operating as an unregistered scrap tire facility in accordance with rule 3745-27-61 of the
Administrative Code, such as a tire retail dealer, tire retreader, etc.

(2) Store scrap tires only in a covered trailer or vehicle for not longer than thirty days prior to transporting the
scrap tires to one of the destinations listed in paragraph (C)(1) of this rule. These trailers or vehicles
must be parked at one of the transporter's business locations specified in the application for an annual
registration certificate. Scrap tires may be transferred directly from one vehicle or trailer to another to
create a full load in a vehicle or trailer at the scrap tire business location as long as the scrap tires are not
left on the ground after the transfer is complete. The transfer of scrap tires between vehicles or trailers is
load consolidation only and not sorting. Sorting or grading shall be done in accordance with paragraph
(C)(3) of this rule.

(3) Sort or grade scrap tires only if the required information on sorting was supplied with the scrap tire
transporter application. Sorting includes segregating tires by type and size, separating scrap tires for
potential sale as used tires, and separating retreadable casings from scrap tires to be recycled or
disposed. Scrap tires may be transferred between trailers or vehicles to sort scrap tires only if the
following conditions are met:

(a) Scrap tires will not remain outside of a covered trailer or vehicle beyond the end of the current work
shift.

(b) Scrap tires will not remain at the transporter's business location in covered trailers or vehicles for
more than thirty days. A scrap tire transporter shall not store scrap tires for more than thirty days
unless the transporter has applied for and obtained a registration or permit and a license as a scrap
tire collection, storage, or recovery facility in accordance with rule 3745-27-61 or 3745-27-63, and
3745-37-01 of the Administrative Code. If the scrap tire transporter is also a facility not required to
obtain a registration or permit and a license as a scrap tire facility in accordance with rule
3745-27-61 of the Administrative Code, scrap tires may be stored at the facility if the storage meets
all of the exclusion criteria in rule 3745-27-61 of the Administrative Code.

(4) Maintain an original of the annual registration certificate at all of the following locations:

(a) In all vehicles while scrap tires are being transported.

(b) At each business location.

(c) At any location where portable equipment is used to consolidate loads of scrap tires for shipment.
(5) Establish and implement a procedure to control the transporter registration certificates such that the transporter can prevent unauthorized use and can, if requested, recover all of the originals issued.

(6) Store and handle the scrap tires so as not to create a nuisance, a hazard to public health or safety, or a fire hazard. Scrap tires or vehicles containing scrap tires shall not be stored or parked under bridges, elevated trestles, elevated roadways, elevated railroads, or electrical power lines having a voltage in excess of seven hundred fifty volts or that supply power to fire emergency systems.

[Comment: State and local fire codes and zoning ordinances may be more restrictive and must be complied with by the scrap tire transporter.]

(a) Trailers or vehicles containing scrap tires shall be parked at least fifty feet from buildings not owned or leased by the scrap tire transporter or fifteen feet from buildings owned or leased by the scrap tire transporter, unless the trailer or vehicle is parked at a loading dock and is being actively loaded or unloaded.

(b) Scrap tires being sorted or graded in the scrap tire handling area shall be at least fifty feet from buildings not owned or leased by the scrap tire transporter or fifteen feet from buildings owned or leased by the scrap tire transporter.

(c) Trailers or vehicles containing scrap tires shall not be parked at locations other than the scrap tire transporter’s registered business location, a licensed scrap tire facility, or an unregistered scrap tire facility operating in accordance with rule 3745-27-61 of the Administrative Code (such as pre-positioned trailers in accordance with paragraph (C)(8) of this rule) for longer than fourteen days. The scrap tires in trailers or vehicles shall be considered open dumped unless written prior notification is given to the local health department and Ohio EPA that the vehicle or trailer requires mechanical repairs which will take longer than fourteen days to complete and such repairs are being completed in a timely manner.

(7) Take appropriate actions to prevent the spread of mosquitoes, as follows:

(a) If the scrap tires are being removed from an actively managed location with records of proper mosquito control, the transporter shall do one of the following:

(i) Accept scrap tires that contain water only if the scrap tire generator certifies that the scrap tires have been properly treated for mosquito control within the past month.

(ii) Remove water from the scrap tires before transporting them.

[Comment: Covering the scrap tires during transport to prevent the accumulation of water in the scrap tires, while not mandatory, may increase the acceptability of the scrap tires by the end user.]

(iii) Shred or cut all scrap tires before transportation or deliver within twenty-four hours to a facility which will process the scrap tires such that no water remains in the tire pieces within twenty-four hours of delivery of the scrap tires to the facility. Total elapsed time from initial removal to processing shall not exceed forty-eight hours if the tires contain water and are not treated with a larvicide.

(b) If the scrap tires are being removed from an inactive location or there is no record of proper mosquito control, the transporter shall do one or more of the following:
(i) Remove all water from the scrap tires before transportation.

(ii) Shred or cut all scrap tires before transportation or deliver within twenty-four hours to a facility which will process the scrap tires such that no water remains in the tire pieces within twenty-four hours of delivery of the scrap tires to the facility. Total elapsed time from initial removal to processing shall not exceed forty-eight hours if the tires contain water and are not treated with a larvicide.

(iii) Treat the scrap tires with a larvicide approved by the Ohio department of agriculture before transporting the scrap tires.

[Comment: Application of the larvicide may require a license from the Ohio department of agriculture.]

[Comment: The Ohio department of health has documented the spread of disease-carrying mosquitoes by the transportation of mosquito eggs and larvae in scrap tires.]

(8) May, if the transporter chooses, pre-position trailers at other business locations not owned or operated by the transporter, such as scrap tire facilities, retailers, or retreaders, for use by these businesses as a scrap tire storage area. The pre-positioned trailer is part of the scrap tire collection or storage area for the respective business and will be included in calculating the total size of the scrap tire storage area for that business and the applicable exclusions listed in rules 3745-27-61 and 3745-27-63 of the Administrative Code. The owner of the business where the trailer is pre-positioned, and not the scrap tire transporter, is responsible for compliance with rule 3745-27-60 of the Administrative Code for the scrap tires stored in the trailer. If the business is also a scrap tire facility, then compliance with rule 3745-27-65 rather than rule 3745-27-60 of the Administrative Code is required.

(9) Pick up the pre-positioned trailer on a regular basis as follows:

(a) If the trailer is fully enclosed and only dry scrap tires are placed in the trailer, the pickup can be on an as needed basis or any other time frame agreeable to both the transporter and the business owner.

(b) If the trailer is open and not covered at all times with a waterproof tarp or if scrap tires containing water are placed in the trailer, pickup shall occur once every seven days to prevent the breeding of mosquitoes. The transporter shall maintain records showing when the trailer was dropped off and picked up and shall furnish a copy of these records to the owner of the tire business where the trailer is pre-positioned.

(10) Retain responsibility for any scrap tires staged for shipment at a barge, ship, or rail terminal. The registered scrap tire transporter remains responsible for ensuring the scrap tires are delivered to a destination listed in paragraph (C)(1) of this rule.

(11) Operate any portable equipment used for the purpose of consolidating loads of scrap tires for shipment, in accordance with the following:

(a) Not later than ten days in advance of operations, the transporter shall notify in writing the following entities of the intent to operate portable equipment at a site:

(i) The fire department having responsibility for providing fire control services where the operations are to be located.
(ii) The approved local health department where the operations are to be located.
(iii) The appropriate Ohio EPA district office for the county in which the operations are to be located.

(b) The transporter shall include in the notification, at a minimum, all of the following information:

(i) The name, business address, and registration number of the scrap tire transporter.

(ii) A contact name and telephone number for the transporter.

(iii) The location or address at which the portable equipment will be operated.

(iv) The start date and the estimated duration of the operations.

(c) The portable equipment shall not be operated outside of a building within the areas specified in paragraph (C)(3)(b) of rule 3745-27-54 of the Administrative Code.

(d) The portable equipment shall not be operated outside of a building within one thousand feet of the areas specified in paragraph (C)(3)(c) of rules 3745-27-54 of the Administrative Code. The one-thousand-foot setback may be waived by a prior written agreement between the scrap tire transporter and both the owner and the designated authority of the above areas.

(e) The portable equipment shall not be operated outside of a building within the following:

(i) One hundred feet of any property line.

(ii) One hundred feet of buildings or structures not owned or leased by the property owner or the transporter.

(iii) Two hundred feet of a stream, lake, or wetland.

(f) The portable equipment shall not be located or operated at any one site for longer than sixty days unless one or more the following applies:

(i) The transporter submits a written request for additional time, and receives written approval from Ohio EPA allowing a single extension of no more than sixty days.

(ii) The transporter is also the owner or operator of a class I or class II scrap tire recovery facility and is operating at that licensed facility.

(iii) The transporter applies for, and receives a class I permit or class II registration and a solid waste facility license to operate a scrap tire recovery facility at the site.

(g) Portable equipment used to produce a useable material, including but not limited to material to be beneficially used in a civil engineering application, shall be owned or operated by a licensed scrap tire class I, class II, or mobile recovery facility.

(h) Within fourteen days after ceasing operations at a site, the transporter shall do the following:

(i) Send written notification to the entities listed in paragraph (C)(11)(a) of this rule.
(ii) Include in this notification the information in paragraph (C)(11)(b) of this rule, the date operations ceased, and a brief description of the completed operations including the following: number of scrap tires processed, any remedial actions performed (e.g., solid or hazardous waste disposal, fire residual removal, grading or seeding, etc.), and an estimate of the number of scrap tires (if any) remaining at the site.

(12) Maintain communications equipment and portable fire extinguishers at all sites while portable equipment is being operated.

(D) Whenever there is a fire at a site where the registered scrap tire transporter is operating, the registered scrap tire transporter shall immediately do all of the following:

(1) Notify local police and fire agencies.

(2) Notify the Ohio EPA emergency response team using the twenty-four hour toll free number, [800-282-9378], and provide the following information:

(a) Name and telephone number of the contact person reporting the fire.

(b) Name and address of the site or facility.

(c) Time of the fire.

(d) Quantity of tires involved, to the extent known.

(e) The extent of injuries, if any.

(f) The possible hazards to human health or the environment.

(3) Take all reasonable actions necessary to suppress the fire and to protect human health and the environment and to minimize hazards.

(4) Take all reasonable measures necessary to contain any residuals, including but not limited to, pyrolytic oil and water that results from suppressing a fire at the site. Measures shall include establishing temporary berms, dikes or other containment devices where necessary.

(5) Take all reasonable measures necessary to ensure that fires do not occur, recur, or spread to other areas of the site. These measures shall include removing or isolating tires and portable containers.

(6) Implement and complete remediation activities in accordance with rule 3745-27-79 of the Administrative Code after the occurrence of a scrap tire fire.

(E) A registered scrap tire transporter may accept scrap tires from the general public or other entities and operate portable equipment in accordance with one or combination of the following:

(1) A contract with a government agency or a political subdivision at the site designated in the contract.

(2) One of the exclusions from registering in rule 3745-27-61 of the Administrative Code.

(3) Registrations or permits and licenses to operate a scrap tire facility.

(F) A registered scrap tire transporter shall submit to the divisions of Ohio EPA regulating air pollution control and water pollution control, written notification of intent to operate portable equipment at the specific
location and a written request for information pertaining to any regulatory requirements under Chapter 3704.
or 6111. of the Revised Code and obtain all applicable permits, licenses, certificates, or approval prior to
operating portable equipment at that location.

(G) Annual report.

The transporter shall prepare an annual report, based on the transporter's shipping papers, for all shipments
of scrap tires transported by the transporter during the preceding calendar year. The transporter shall submit
the report to the director, in a format approved by the director, as part of the transporter's annual registration
certificate renewal. The transporter shall, at the same time, submit copies of the annual report to the local
approved health department, the appropriate Ohio EPA district office, and the local solid waste management
district. The annual report and the annual registration renewal shall be submitted not later than January
thirty-first of each year. The report shall include at least the following information:

(1) The total quantity by number, weight (tons) or volume (cubic feet) of scrap tires transported by the
registered transporter (clearly define the unit of measure).

(2) The total quantity by number, weight (tons) or volume (cubic feet) (clearly define the unit of measure) of
scrap tires transported from each scrap tire source and to each collection, storage, monocell, monofill, or
recovery facility, beneficial use site or other premises, or deposited with another transporter. The report
shall include deliveries of Ohio scrap tires to out-of-state as well as Ohio facilities. The report shall also
include deliveries of all out-of-state scrap tires to Ohio facilities.

(3) An estimate of the percentage of scrap tires in each of the following three categories: (a) passenger car
tires, (b) heavy and medium truck tires, and (c) all other tires.

(H) Closure.

(1) Closure activities shall be mandatory for a scrap tire transporter if any of the following occurs:

(a) The transporter registration expires and the transporter does not apply for a renewal of the scrap tire
transporter registration.

(b) The transporter notifies the director in writing that the transporter will no longer transport scrap tires.

(c) A transporter's registration has been denied or revoked and all remedies for the denial or revocation
have either been exhausted or waived by failure to pursue such remedies in a timely manner.

(2) Within thirty days of any occurrence listed in paragraph (H)(1) of this rule, the transporter shall do all of
the following:

(a) Notify each of the transporter's customers of that fact via certified mail or any other form of mail
accompanied by a receipt.

(b) Deliver all accumulated scrap tires to destinations listed in paragraph (C)(1) of this rule.

(c) Return all of the scrap tire transporter annual registration certificates to the director.

(d) At the time of closure, prepare and submit a final annual report that includes the information required
by paragraphs (G)(1) to (G)(3) of this rule for all scrap tires transported since the last annual report
was submitted.
(e) Certify closure has been completed in accordance with this rule.

(f) Request, in writing to the director, the release of the financial assurance held by the director.
Five Year Review (FYR) Dates: 07/08/2014 and 07/08/2019

CERTIFIED ELECTRONICALLY

Certification

07/08/2014

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Shipping paper system for scrap tires.

(A) Applicability.

(1) The shipping papers shall be used by the following:

(a) All registered scrap tire transporters.

(b) All licensed owners or operators of scrap tire facilities.

(2) Transporters, who are not required to register as a scrap tire transporter, shall assist the scrap tire generator or owner or operator of a scrap tire facility in completing the shipping papers, when requested.

(3) Individuals or businesses, who generate scrap tires but are not required to register as a scrap tire transporter or scrap tire facility, shall provide the registered transporter or licensed facility owner or operator the information needed to complete the shipping papers.

(4) All registered scrap tire transporters and all licensed owners or operators of scrap tire facilities shall provide a completed copy of the shipping paper to the scrap tire generator or scrap tire transporter, who was involved in the scrap tire transaction and requests a copy.

(5) All scrap tire shipments, including used tire shipments, of more than ten tires shall be documented on shipping papers by the generator, the transporter, and the recipient of the scrap tires.

(B) Description.

Shipping papers shall be used to document the transportation of scrap tires to or from destinations in the state of Ohio. The shipping paper shall be filled out at the time of each transaction and copies shall be retained in accordance with paragraph (E) of this rule by all parties involved in the transaction. If a shipping paper other than the "Ohio EPA Shipping/Receiving Form" is used, it shall include the statement that: "This form is equivalent to the Ohio EPA Shipping/Receiving Form" and shall include the scrap tire transporter's or facility's name and address as preprinted information.

(1) A shipping paper or "Ohio EPA Scrap Tire Shipping/Receiving Form," a two-part or three-part carbonless paper form, shall be used as a receipt in either of the following two situations:

(a) As a shipping receipt, for a transaction between the transporter and the individual or business asking the transporter to remove the scrap tires.

(b) As a receiving receipt, for a transaction between the transporter and the individual or business accepting delivery of the scrap tires.

Either the two-part or three-part shipping paper may be used for any scrap tire transfer. The section of the three-part form not used in a transaction shall be marked as not applicable.

(2) The two-part shipping paper is designed for scrap tire transporters who sort the scrap tires they pick up from a scrap tire generator and deliver the sorted scrap tires to more than one destination. These destinations may include multiple used tire dealers or multiple licensed scrap tire facilities. A separate two-part shipping paper shall be used:

(a) To document the transaction between the scrap tire generator and the scrap tire transporter.

(b) To document the transaction between the transporter and the recipient of the scrap tires.
The three-part shipping paper is designed for transporters who take all of the scrap tires they collect to a single end destination. A single three-part form may document the entire movement of scrap tires by the transporter from a generator to a recipient of the scrap tires. As an alternative to the three-part form, two-part forms may be used as described above.

These shipping papers create a record of the scrap tires being transported. The forms are prescribed by the director, and equivalent forms may be used as long as the forms include all of the information listed in paragraph (D) of this rule.

When to complete.

Shipping papers shall be completed when one of the following occurs:

1. A registered scrap tire transporter picks up scrap tires from any source. A copy of the shipping papers shall accompany each shipment of scrap tires described on the shipping papers.
2. A licensed scrap tire facility receives scrap tires from any source or ships scrap tires to another location. The facility owner or operator shall complete all applicable sections of a shipping paper and offer a copy of it to the individual or business, who delivered scrap tires to the licensed facility or removed scrap tires from the facility.
3. A scrap tire facility, not required to be registered or permitted in accordance with rule 3745-27-61 or 3745-27-63 of the Administrative Code, ships or receives any scrap tires.

How to comply with the shipping paper system.

The persons listed in paragraph (A) of this rule shall take the following actions:

1. When picking up scrap tires, the shipping paper shall be completed with entries equivalent to the entries described below:
   a. The transporter and the generator of the scrap tires shall complete all applicable sections of the shipping paper. The scrap tire generator shall verify that the scrap tire transporter has a current, original Ohio scrap tire transporter registration certificate in possession if the scrap tire transporter is picking up more than ten scrap tires from the scrap tire generator.
   b. The scrap tire transporter and scrap tire generator shall agree to the estimate of total quantity and percentage of scrap tires being transferred and enter this information on the form.
   c. The scrap tire transporter and scrap tire generator shall sign the form and keep a copy on file for a minimum of three years.
   d. All entries on the form shall be legible and complete.
   e. A completed copy of the form shall accompany all shipments of scrap tires.

2. When delivering scrap tires, the shipping paper shall be completed with entries equivalent to the entries described below:
   a. The transporter and the receiver shall complete all applicable sections of the shipping paper. The receiver can be another registered transporter or any of the facilities listed in paragraph (C)(1) of rule 3745-27-56 of the Administrative Code.
   b. The transporter and receiver shall agree to the estimate of total quantity and percentage of scrap tires
being transferred and enter this information on the form.

(c) The transporter and receiver shall sign the form and keep a copy on file for a minimum of three years.

(d) All entries on the form shall be legible and complete.

(3) When using a two-part form, one form shall be completed when scrap tires are picked up and a second form when scrap tires are delivered. One copy of the form shall be retained by the transporter for the transporter's records and the other copy shall be retained by the person who either shipped scrap tires with the transporter or received scrap tires from the transporter. If the scrap tires are sorted or graded and delivered to multiple destinations, a separate two-part form shall be completed for each recipient.

(4) When using a three-part form, the applicable sections shall be completed at each step of the transaction. The generator of the scrap tires shall retain a copy at the time of the shipment of the scrap tires with only the generator and transporter sections of the form completed. The scrap tire transporter and the scrap tire receiver shall retain copies with all entries complete. There is no requirement to return an additional copy to the scrap tire generator with the scrap tire receiver information section completed.

(5) The "Ohio EPA Scrap Tire Shipping/Receiving Form" or an equivalent form shall be completed as follows:

(a) Be legible and complete.

(b) Be signed and dated by both parties to the transaction before the scrap tires are removed from the premises where generated or before the transporter leaves the delivery point.

(c) Contain, at a minimum, the following information:

(i) The quantity in number, weight (tons), or volume (cubic feet) of the scrap tires being transported (clearly define the unit of measure).

(ii) An estimate of the percentage of scrap tires in each of the following three categories: (a) passenger car tires, (b) truck tires, and (c) all other tires.

(iii) A certification that the scrap tires were free of water when collected or had been properly treated for mosquito control within the previous two weeks or that the scrap tires had been removed from a wheel within the past seven days.

(iv) The name and dated signature of the individual transporting the shipment, the transporter's company address and telephone number, the transporter's scrap tire registration certificate number, and the transporter's vehicle license plate number and trailer license plate number (if applicable).

(v) The name and dated signature of the scrap tire source or recipient, the address including county name and telephone number of the premises where the scrap tires were generated or delivered to, and, if applicable, the scrap tire facility registration number or permit number, or beneficial use number or the applicable paragraph number from rule 3745-27-78 of the Administrative Code.

(E) Records retention.

All scrap tire generators, scrap tire facilities, scrap tire transporters, and any other facilities that generate or accept scrap tires shall retain a copy of all completed shipping papers for a minimum of three years. All
shipping papers shall be retained at the principal place of business and shall be available for inspection
during normal business hours by Ohio EPA or the local health department. The three-year period for
retention shall start from the date the shipping paper was completed. Record retention periods shall be
extended during the course of any unresolved litigation, or when a specific written request is made by Ohio
EPA or the local health department, or as required by a court or administrative order.
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General storage and handling of scrap tires.

(A) Applicability. Scrap tires, specifically including but not limited to used tires and retreadable casings, shall be stored and handled as specified in this rule at all sites containing more than one hundred scrap tires unless one of the following applies:

1. If that premises is a licensed solid waste facility, then rule 3745-27-65 of the Administrative Code applies rather than this rule.

2. If the premises is solely operated as the business location of a scrap tire transporter, then rule 3745-27-56 of the Administrative Code applies rather than this rule. If the scrap tire transporter operates a tire retail or retreading business at the same location, rule 3745-27-60 of the Administrative Code would only apply if the scrap tire transporter did not include that portion of the property in their scrap tire transporter registration.

3. If the premises has one hundred or fewer scrap tires, this rule shall only apply if the tires are stored in such a manner that, in the judgment of the director or the board of health of the health district in which the scrap tires are stored, the storage causes a nuisance, a hazard to public health or safety, or a fire hazard.

[Comment: The scrap tire rules provide Ohio EPA's minimum standards to prevent and reduce fire hazards associated with scrap tire storage and handling. State and local fire codes may be more restrictive and impose additional requirements that need to be followed.]

(B) The storage of scrap tires in any amount outside or inside a trailer, vehicle, or building is deemed a nuisance, a hazard to public health or safety, or fire hazard unless the scrap tires are stored in accordance with the following standards:

1. Sufficient drainage shall be maintained such that water does not collect in the area where scrap tires are stored.

2. Scrap tire storage piles shall be separated from possible ignition sources including but not limited to open flame, welding equipment, cutting equipment, and heating devices by at least fifty feet.

3. Where a single portable container, truck, or semi-trailer is used to store scrap tires, the portable scrap tire container, truck, or semi-trailer shall be located as determined by the business owner and the local fire official.

4. Where multiple portable containers, trucks, or semi-trailers are used to store scrap tires, the portable scrap tire containers, trucks, or semi-trailers shall be separated from the following:

   a. Buildings and structures that are owned or leased by the person storing the scrap tires by at least fifteen feet.

   b. Other buildings or structures not owned or leased by the person storing the scrap tires by at least:

      i. Fifty-six feet of separation if semi-trailers or other portable containers that have a volume of more than fifty-one cubic yards are used for scrap tire storage. Semi-trailers shall have enclosed sides, top, and doors such that the semi-trailer is capable of keeping the contents dry. Up to a maximum of ten semi-trailers or portable containers may be located adjacent to each other and the fifty-six feet of separation shall apply to all sides of the group of semi-trailers or portable containers. All semi-trailers and portable containers shall be positioned such that any semi-trailer or portable container can be moved without moving any other semi-trailer, or container.
(ii) Twenty-five feet of separation if roll-off containers or box vans are used as portable containers for scrap tire storage. The roll-off containers and box vans shall each contain five hundred or less scrap tires or shall have a volume of fifty-one cubic yards or less and shall be capable of keeping the contents dry. Up to a maximum of ten portable containers may be located adjacent to each other and the twenty-five feet of separation shall apply to all sides of the group of containers. All containers shall be positioned such that any container can be moved without moving any other container.

No scrap tires shall be left on the ground outside of semi-trailers, trucks, or portable containers beyond the end of the current work shift.

(5) Scrap tires shall not be stored by submergence.

(6) Scrap tires shall not be covered with soil except at a scrap tire beneficial use site and only as approved in accordance with rule 3745-27-78 of the Administrative Code.

(7) The following requirements apply to storage of scrap tires outside of portable containers, trucks, semi-trailers, a building or covered structure:

(a) Individual scrap tire storage piles shall be no greater than two thousand five hundred square feet in basal area and the total number of scrap tires shall not exceed the amount specified in paragraph (A) of rule 3745-27-61 of the Administrative Code. Scrap tire storage piles shall include any area where scrap tires are stored in racks. The two thousand five hundred square feet basal area shall apply to multiple racks and small scrap tire piles not separated from other racks, piles, or structures by a fire break at least fifty-six feet wide. The basal area of the scrap tire storage pile shall include the area of the tire piles, racks, and the area of any walkway or other open areas that do not meet the definition of a fire break as defined in rule 3745-27-01 of the Administrative Code.

(b) Scrap tire storage piles shall not exceed eight feet in height.

(c) Scrap tire storage piles of five hundred scrap tires or less shall be at least twenty-five feet away from all buildings and other scrap tire storage piles.

(d) Scrap tire storage piles of more than five hundred scrap tires including single or multiple racks containing a total of more than five hundred scrap tires shall be separated from other scrap tire storage piles and from buildings and structures by a fire break with a width equal to or greater than fifty-six feet in accordance with the fire break chart in appendix I to rule 3745-27-65 of the Administrative Code.

(e) Sufficient fire breaks shall be maintained to allow access of emergency vehicles at all times to, around, and between the scrap tire storage piles and areas.

(8) The following requirements apply to the storage of scrap tires in a building or covered structure:

(a) Individual scrap tire storage piles shall not exceed two thousand five hundred feet in basal area and the total number of scrap tires shall not exceed the amount specified in paragraph (A) of rule 3745-27-61 of the Administrative Code. Scrap tire storage piles shall include any area where scrap tires are stored in racks, stacks, or piles. The two thousand five hundred square feet basal area shall apply to multiple racks not separated from other racks, piles, or structures by at least eight feet.

(b) The width of aisles between scrap tire storage piles shall be at least eight feet.

(c) The clearance from the top of scrap tire storage piles to sprinkler deflectors shall be at least three feet.
(d) Clearances in all directions from the top of scrap tire storage piles to roof structures shall be at least three feet.

(e) Clearances from the top of scrap tire storage piles to unit heaters, radiant space heaters, duct furnaces, and flues shall be at least three feet in all directions, and shall be in accordance with the clearance distances recommended by the equipment manufacturer.

(9) Scrap tires shall not be stored under bridges, elevated trestles, elevated roadways, elevated railroads, or electrical power lines having a voltage in excess of seven hundred fifty volts or that supply power to fire emergency systems.

(10) A trailer pre-positioned at any site by a scrap tire transporter shall be empty at the time it is delivered and shall be considered part of the site until the transporter removes the trailer. The site owner or operator shall designate the location of the trailer, shall assure that the empty trailer is properly positioned before the transporter leaves the site, and shall be responsible for any violations of Chapter 3734. of the Revised Code concerning the pre-positioned trailer. If the transporter is notified that the storage of scrap tires in the trailer has become a public nuisance or public health or safety hazard, the transporter shall remove the trailer if the site owner fails to correct the violations.

(11) Fire breaks shall be maintained free of all combustible material including but not limited to weeds, leaves, and debris. Fire breaks may include well mowed grass if the fire break also include a gravel or paved fire lane at least twenty feet wide.

[Comment: State fire codes, local fire codes, local ordinances, or zoning may be more restrictive and impose additional requirements that need to be followed.]

(C) Anyone storing scrap tires shall maintain mosquito control as follows:

(1) One or more of the following shall be done to control mosquitoes:

(a) Remove liquids from scrap tires within twenty-four hours of accepting the scrap tires.

(b) Store scrap tires such that water does not accumulate in scrap tires or containers. Tires shall be kept free of water at all times.

(c) Within twenty-four hours of accepting scrap tires containing liquid, arrange for the application of a pesticide or larvicide, which is registered for use as mosquito control by the Ohio department of agriculture.

(2) Maintain mosquito control by keeping all tires dry or by continuing applications of a pesticide or larvicide to all scrap tires stored outdoors at no greater than thirty-day intervals or as recommended by the manufacturer or formulator.

(3) Maintain mosquito control records at the premises indicating the name, type, amount used per tire, and EPA registration number of the pesticide or larvicide, the date and time of the application, and the name of the person who applied the pesticide or larvicide. The property owner or the owner or operator of the premises shall make the mosquito control records available for inspection by the director or the health commissioner during normal operating hours. The owner or operator shall retain copies of mosquito control records for a minimum period of three years.

(D) If upon inspection and written notification, Ohio EPA or the approved health district discover the existence of either one or both of the following:
(1) Mosquitoes at the premises, the owner or operator shall apply within twenty-four hours or the next business day an adulticide which is registered for use for mosquito control by the Ohio department of agriculture. The application shall be according to the manufacturer's or formulator's recommendations. Records shall be kept at the premises indicating the trade name of the adulticide, the date and time of the application, and the name of the person who applied the adulticide.

(2) Mosquito larvae at the premises, the owner or operator shall apply within twenty-four hours or the next business day a larvicide which is registered for use for mosquito control by the Ohio department of agriculture. The application shall be according to the manufacturer's or formulator's recommendations. Records shall be kept at the premises indicating the trade name of the larvicide, the date and time of the application, and the name of the person who applied the larvicide.

(E) The disposal of off-the-road construction and mining equipment tires, that have a bead width of at least fourteen inches and a rim or wheel diameter of a least twenty-four inches, is authorized by section 3734.86 of the Revised Code, at an off-road construction or mining site. The owner of the off-the-road scrap tires shall meet the following:

(1) Own or lease the off-road construction or mining site where the off-the-road scrap tires are to be or were disposed.

(2) Totally bury the off-the-road scrap tires in that portion of the off-road construction or mining site least likely to be disturbed by future construction or mining.

(3) Not accept or bury other scrap tires on the site. The only scrap tires, which may be buried on the site, are off-the-road scrap tires generated on the site by equipment owned or leased by the person who owns or leases the off-road construction or mining site. Acceptance or burial of other scrap tires constitutes open dumping.

[Comment: Recycling options, especially retreading of these valuable tires, can be more cost effective and should be explored before these tires are buried.]
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Registration requirements for scrap tire collection, class II scrap tire storage, and class II scrap tire recovery facilities.

(A) Applicability. A scrap tire storage facility with a total aggregate storage area of ten thousand square feet in basal area or less is a class II scrap tire storage facility and shall register in accordance with this rule. A scrap tire recovery facility with a daily design input capacity of less than two hundred tons per day is a class II scrap tire recovery facility and shall register in accordance with this rule. Larger scrap tire storage or recovery facilities are class I facilities and require a permit to install in accordance with rule 3745-27-63 of the Administrative Code.

(1) Except as specified in paragraphs (A)(2) to (A)(5) of this rule, this rule is applicable to scrap tire collection, class II scrap tire storage, and class II scrap tire recovery facilities, as defined in rule 3745-27-01 of the Administrative Code, as follows:

(a) An application for a registration certificate for a new facility along with a non-refundable application fee of fifteen dollars shall be submitted to the director through the appropriate district office, based on where the facility is to be located, at least ninety days prior to the date on which the applicant proposes to accept scrap tires at the facility.

(b) Prior to modifying a facility, an application for a registration certificate to modify the facility along with a non-refundable application fee of fifteen dollars shall be submitted to the director through the appropriate district office at least ninety days prior to the date on which the owner or operator proposes to modify the facility. "Modification" of a class II scrap tire storage facility or a class II scrap tire recovery facility is defined the same as "modification" is defined for a class I scrap tire storage facility or class I scrap tire recovery facility in paragraph (C)(6) or rule 3745-27-02 of the Administrative Code.

(2) Scrap tire collection facility. The requirement to obtain a scrap tire collection facility registration certificate does not apply to the owner or operator of any of the following:

(a) A premises where tires are sold at retail that meets either of the following:

(i) No more than one thousand scrap tires are present any time in an unsecured, uncovered, outdoor location.

(ii) Any number of scrap tires are secured in a building or a covered, enclosed container, trailer, or installation.

(b) The premises of a tire retreading business, tire manufacturing finishing center, or tire adjustment center on which is located a single, covered scrap tire storage area at which no more than four thousand scrap tires are stored.

[Comment: The definitions of "premises," "tire retreading business," "tire manufacturing finishing center," and "tire adjustment center" are found in rule 3745-27-01 of the Administrative Code.]

(c) The premises of a business that removes tires from motor vehicles in the ordinary course of business on which is located a single scrap tire storage area that occupies not more than twenty-five hundred square feet.

(d) A premises where scrap tires are beneficially used for which the notice required, if any, by rule 3745-27-78 of the Administrative Code has been given.

(e) A registered scrap tire transporter that collects and holds scrap tires in a covered trailer or vehicle for
not longer than thirty days prior to transporting them to their final destination.

(f) Any political subdivision or any state agency, which conducts a roadside or public property litter cleanup operation or a community sponsored tire collection event and stores the scrap tires for less than thirty days prior to delivery of the scrap tires to a registered scrap tire transporter or licensed scrap tire facility. Temporary storage exceeding thirty days but less than one year shall be limited to fewer than one thousand scrap tires which are stored inside a building, enclosed trailer, or covered roll-off container and the tires are dry or treated with a mosquito larvicide if tires brought to the event contain liquid. A community sponsored tire collection event is a not-for-profit event. The drop-off of the tires shall be either free or for a minimal fee to cover costs of collection, transportation, and disposal or recycling. This exclusion from the registration requirement of this rule does not apply to drop off locations operated continuously but only to a discrete event or events. Continuous or permanent drop off points for tires shall be registered and licensed as a scrap tire collection or storage facility.

(g) A solid waste transfer facility, licensed under Chapter 3734. of the Revised Code, where all scrap tires, which have been pulled from mixed loads of solid waste or delivered in a load of ten or less scrap tires, are stored in portable enclosed containers prior to their transfer to any of the proper locations listed in paragraph (C)(1) of rule 3745-27-56 of the Administrative Code.

(h) A construction and demolition debris landfill licensed under Chapter 3714. of the Revised Code where scrap tires pulled from mixed loads of construction and demolition debris waste are stored in portable enclosed containers prior to their transfer to any of the proper locations listed in paragraph (C)(1) of rule 3745-27-56 of the Administrative Code.

(3) Scrap tire storage facility. The requirement to obtain a scrap tire storage facility registration certificate does not apply to the following:

(a) Any of the premises listed in paragraph (A)(2) of this rule.

(b) A solid waste disposal facility, solid waste incinerator, or solid waste energy recovery facility licensed under section 3734.05 of the Revised Code that stores scrap tires which have been pulled from mixed loads of solid waste or delivered in a load of ten or less scrap tires, if the total basal area on which scrap tires are actually stored is ten thousand square feet in basal area or less.

(c) A scrap tire monofill, monocell, or recovery facility licensed under section 3734.81 of the Revised Code if the storage area does not exceed a basal area of ten thousand square feet. Scrap tire storage areas in excess of the limit for a scrap tire monocell, monofill, or recovery facility are not part of the scrap tire monofill, monocell, or recovery facility and are not excluded from the requirements for registration or permitting and licensing as a separate scrap tire storage facility.

(4) The following facilities are not included in the definition of scrap tire recovery facility and; therefore, these facilities are excluded from the requirement to register as a scrap tire recovery facility:

(a) Any solid waste incineration or energy recovery facility that is designed, constructed, and used for the primary purpose of incinerating mixed municipal solid waste and that burns scrap tires in conjunction with mixed municipal solid wastes.

(b) A tire retreading business, tire manufacturing finishing center, or tire adjustment center having on the premises of the business a single, covered, scrap tire storage area at which not more than four thousand scrap tires are stored.
(5) Facilities permitted and operating under an air permit such as an industrial boiler, kiln, or utility that burns whole scrap tires, tire pieces, or tire derived fuel (TDF) in conjunction with the facility's primary fuel shall:

(a) Obtain a registration or permit as a scrap tire recovery facility if the facility burns whole scrap tires or tire pieces that do not meet the definition of TDF in rule 3745-27-01 of the Administrative Code.

(b) Not be required to be registered or permitted as a scrap tire recovery facility, if the facility solely utilizes TDF as defined in rule 3745-27-01 of the Administrative Code. The TDF is defined as a product and not a scrap tire; however, the facility owner or operator shall maintain records to show that the TDF storage shows a turn over rate equivalent to the turn over rate of other fuels stored for use.

(6) The exclusions from registration specified in paragraphs (A)(2) to (A)(5) of this rule are not cumulative, but shall be considered individually. In the event that more than one exclusion could apply to any particular facility, the facility's owner or operator shall be eligible for the exclusion that would cover the largest number of scrap tires, and shall not be eligible for any other exclusions in paragraphs (A)(2) to (A)(5) of this rule.

(7) A new facility or existing scrap tire recovery facility that requests to burn solid waste with the scrap tires shall, in addition to registering as a scrap tire recovery facility, do the following:

(a) Apply for a solid waste incinerator facility permit to install application in accordance with rule 3745-27-50 of the Administrative Code.

(b) Apply for a solid waste incinerator license in accordance with Chapter 3745-37 of the Administrative Code.

(8) A new facility or existing scrap tire recovery facility that requests to burn infectious waste with the scrap tires shall, in addition to registering as a scrap tire recovery facility, do the following:

(a) Apply for an infectious waste treatment facility permit to install application in accordance with rule 3745-27-37 of the Administrative Code.

(b) Apply for an infectious waste treatment license in accordance with Chapter 3745-37 of the Administrative Code.

(B) An application for a registration certificate as required by section 3734.75, 3734.76, or 3734.78 of the Revised Code, shall be submitted to and approved by the director, before the establishment or modification of the scrap tire collection, class II scrap tire storage, or class II scrap tire recovery facility is begun. The application for a registration certificate shall include the following:

(1) Contain all the information required in paragraphs (B) and (C) of this rule such that the director can determine whether the criteria set forth in rule 3745-27-62 of the Administrative Code are satisfied.

(2) Contain detailed engineering plans, specifications, and information that shall be presented in a manner acceptable to the director. Detail shall be sufficient to allow clear understanding for technical review of the registration certificate application, to assure compliance with Chapters 3745-27 and 3745-37 of the Administrative Code, and to be readily understandable by operating personnel at the facility.

For regulatory review purposes, the initial application and any subsequent revisions to the application, shall be submitted in duplicate to the director with a third copy sent to the board of health of the health district where the facility is or shall be located. Any revisions to the application shall be accompanied by
an index listing the change and the page where the change occurred. Upon written request from Ohio EPA, the applicant shall submit two additional and identically complete copies of the revised application to the director and a notarized statement that, to the best of the knowledge of the applicant, the detail engineering plans, specifications, and information in the registration application are true and accurate.

An application, notwithstanding its deficiency, shall be considered and acted upon if sufficient information is in the detailed engineering plans, specifications, and report for the director to determine whether the criteria set forth in rule 3745-27-62 of the Administrative Code are satisfied.

If the director determines that information in addition to that required by paragraphs (B) and (C) of this rule is necessary to determine whether the criteria set forth in rule 3745-27-62 of the Administrative Code are satisfied, the director shall require that the applicant supply such information as a precondition to further consideration of the application.

The registration shall remain in effect until the director has received, and approved in writing, certification that all required closure activities have been completed, unless the registration has been revoked in accordance with paragraph (I) of rule 3745-27-62 of the Administrative Code.

(C) The application for a registration certificate shall consist of the following:

(1) Facility information.

(a) Facility name, address, location, and phone number.

(b) Owner and operator name, address, and phone number, including the information for all facility owners and operators.

(c) The name, address, and phone number of all emergency contact people for the facility. These people shall be authorized to commit resources necessary for emergency response equipment, material, and services for the facility.

(d) Name, address, and phone number of the authorized person or office to contact regarding the facility during the closure period.

(e) The name, address, and phone number of the owner of the property on which the facility is located, including all property owners.

(f) The name, address, and phone number of the person who prepared the application.

(2) Calculations of the amount of financial assurance required for a third party to complete closure of the facility as specified in rule 3745-27-66 of the Administrative Code. The financial assurance amount shall be in accordance with rule 3745-27-15 of the Administrative Code and shall be based on the maximum number of scrap tires and the maximum amount of scrap tire material to be stored at the facility. For the purposes of determining the amount of financial assurance required at each facility, use the maximum number of scrap tires, expressed in passenger tire equivalents, to be located at the facility. For scrap tire recovery facilities, include the maximum number of scrap tires to be located at the facility including both whole scrap tires and processed scrap tires, expressed in passenger tire equivalents. The owner or operator shall use the conversion factors in appendix I to this rule when calculating the number of passenger tire equivalents. The amount of financial assurance shall equal the sum of the following:

(a) One dollar per passenger tire equivalent for all whole scrap tires, including baled tires and rough tire shreds, stored or planned to be stored at the facility in compliance with rule 3745-27-65 of the Administrative Code.
(b) For processed scrap tires, except for baled tires and rough tire shreds, that meet the definition of scrap tire in rule 3745-27-01 of the Administrative Code, the cost for transportation to a scrap tire monocell or monofill facility and disposal of the maximum amount of processed tires to be stored at the facility.

(c) For all other processed scrap tires, manufacturing by-products, and manufacturing residuals from scrap tires, the cost of removal from the facility to a recycling or disposal facility prior to closure of the scrap tire facility. This includes all component parts, partially assembled, and fully assembled products made from scrap tires.

(3) A description, in narrative form, of the security used at the facility which meets the requirements of paragraphs (C)(6) and (C)(7) of rule 3745-27-65 of the Administrative Code.

[Comment: Be aware that the means of limiting access may need to meet the standards of the local fire official, the state fire code in particular rule 1301:7-7-25 of the Administrative Code, local fire codes or zoning ordinances.

(4) A description, in narrative form, of the method used to control mosquitoes at the facility which meets the requirements of rule 3745-27-65 of the Administrative Code.

(5) A class II scrap tire recovery facility application shall include the calculations and narrative describing the "daily design input capacity" (DDIC) requested for the facility. The initial DDIC shall be calculated as an estimated average of the total daily processing amount for all operating days in each month. This amount shall be expressed in weight. The calculations shall be updated for each new licensing year to determine the need for a facility modification in accordance with paragraph (A)(1)(b) of this rule. The updated calculations shall be based on the amounts recorded in the facility's operating log, expressed either by weight (for facilities utilizing scales), number count, or volume per day. The conversion factors to use between weight and volume or number count are found in appendix I to this rule.

(6) For an application for a class II scrap tire recovery facility only, the maximum land surface area, in square feet, to be utilized for the scrap tire storage area for the facility.

(7) A class II scrap tire storage or a class II scrap tire recovery facility application shall include a narrative description of the facility's method of operation and how the facility operation shall meet the criteria for approval in rule 3745-27-62 of the Administrative Code. The description shall include all of the following:

(a) A description of the equipment and methods to be used in the operation and maintenance of the facility including performance capabilities, scrap tire processing rate, and specifications of each piece of powered equipment to be used for loading, unloading, handling, or processing of scrap tires.

(b) The proposed hours of operation.

(c) The inspection procedures to prevent any material other than scrap tires from being accepted at the facility. A description of how tires mounted on wheel rims and the associated lead weights shall be segregated and stored; and managed for recycling or proper disposal.

(d) A description of all activities to be performed on the site, including, but not limited to receiving, unloading, loading, handling, storage, compacting, baling, shredding, processing rates and order of operations, operational methods used to handle bulky and dusty materials and any other processing operations.
(e) Measures to control dust and erosion at the facility.

(8) For an application for a scrap tire collection facility only, a narrative description of any portable containers in which scrap tires shall be stored including the number and type of containers and capacity of each container.

(9) A copy of the fire contingency plan required by paragraph (G) of rule 3745-27-65 of the Administrative Code.

(10) A class II scrap tire storage facility application and a class II scrap tire recovery facility application shall include the following plan view drawings and detailed engineering plans with minimum dimensions of twenty-four inches by thirty-six inches. Plan view drawings and engineering plans with a scale of one inch equals a maximum of two hundred feet and a north arrow shall be used. The drawings shall include the following items within the facility boundary and within five hundred feet of the proposed facility boundary:

(a) The location of the property lines where the facility is to be located.

(b) The location and limits of proposed portable scrap tire containers including maximum height of all scrap tire storage piles (use a scale insert if necessary).

(c) The location and width of all fire breaks.

(d) The locations and dimensions of all buildings, fencing, gates, or structures. Including the location and dimensions of all domiciles included in the facility's boundaries and within five hundred feet of the facility's boundaries.

(e) The location of all access roads.

(f) The existing direction of flow and points of concentration of all surface waters.

(g) Any berms or other structures that are required in accordance with paragraph (C)(2) or (C)(3) of rule 3745-27-62 of the Administrative Code or to control run-off from the facility in accordance with paragraph (I)(2)(d) of rule 3745-27-65 of the Administrative Code.

(h) The location of bridges, elevated trestles, elevated roadways, elevated railroads, or electrical power lines having a voltage in excess of seven hundred fifty volts or that supply power to fire emergency systems.

(i) The limits of the regulatory floodplain.

(11) Copies of the return receipts and letters of intent to establish or modify a scrap tire collection, scrap tire recovery, or scrap tire storage facility. The letters shall be sent by certified mail or any other form of mail accompanied by a receipt to the following entities:

(a) The governments of the general purpose political subdivisions where the facility is situated, e.g., county commissioners, legislative authority of a municipal corporation, or the board of township trustees.

(b) The single or joint county solid waste management district or regional solid waste management authority or authorities where the facility is located.

(c) The owner or lessee of any easement or right-of-way bordering or within the proposed facility boundaries which may be affected by the proposed scrap tire facility.
(d) The local zoning authority having jurisdiction, if any.

(e) The national or state park system administrator, if any part of the facility is located within or shares any portion of the national or state park boundary.

(f) The conservancy district, if any part of the facility is located or shares any portion of the conservancy district boundary.

(g) The fire department having responsibility for providing fire control services where the facility is located. The letter of intent shall include the fire contingency plan as an attachment. The fire contingency plan shall be submitted by the owner or operator to the local fire chief and shall comply with local and state fire codes.

(h) The approved health department.

(12) A notarized statement certifying that the information presented in the application is true and accurate and that the facility meets the siting criteria of paragraphs (B) and (C) of rule 3745-27-62 of the Administrative Code.

(13) A certified copy of the title to the property on which the facility is located.

(14) For an application for a registration certificate for a class II scrap tire storage or class II scrap tire recovery facility, an unexecuted draft of the financial assurance instrument in accordance with rule 3745-27-15 of the Administrative Code.

(15) A non-refundable application fee of fifteen dollars shall be included with the application, except that for a scrap tire collection or storage facility that is owned or operated by a motor vehicle salvage dealer licensed under Chapter 4738. of the Revised Code, the application fee shall be zero dollars.

(16) Closure plan as specified in rule 3745-27-66 of the Administrative Code. The "closure plan" shall contain, at a minimum, the following information:

(a) Schedule and description of the steps necessary to close the facility as detailed in rule 3745-27-66 of the Administrative Code.

(b) Name, address, and telephone number of the authorized person or office to contact regarding the facility during the closure period.

(D) The applicant, owner, or operator signing a document in accordance with this rule shall be one of the following:

(1) In the case of a corporation, a principal executive officer of at least the level of vice president or a duly authorized representative, if such representative is responsible for the overall operation of the facility.

(2) In the case of a partnership, a general partner.

(3) In the case of a limited liability company, a manager, member, or other duly authorized representative of the limited liability company, if such representative is responsible for the overall operation of the facility.

(4) In the case of sole proprietorship, the owner.
(5) In the case of a municipal, state, federal, or other governmental facility, the principal executive officer, the ranking elected official, or other duly authorized employee.

(E) The signature on the document shall constitute personal affirmation that all statements and all assertions of fact made in the document are true, accurate, include all required information, and comply fully with applicable rules.

(F) Unless a certification statement is otherwise required, a document signed in accordance with this rule shall include the following certification statement:

"By signing this document I hereby certify that all statements and all assertions of fact made in the document are true, accurate, include all required information, and comply fully with applicable rules."

(G) Upon written notification that the application is incomplete, the applicant shall within thirty days of receipt of the notification do one of the following:

1. Notify the director, in writing, that the application is being withdrawn.
2. Correct noted deficiencies and resubmit the application.
3. Submit a written request to and obtain authorization from the director for an extension for a specific period of time.

[Comment: Paragraph (G) of rule 3745-27-62 of the Administrative Code states that an incomplete application may be a basis for denial of a registration certificate.]

(H) Submit to the divisions of Ohio EPA regulating air pollution control and water pollution control, written notification of intent to site a scrap tire facility and a written request for information pertaining to any regulatory requirements under Chapter 3704. or 6111. of the Revised Code.

(I) An application for a solid waste license shall be submitted in accordance with Chapter 3745-37 of the Administrative Code and Chapter 3734. of the Revised Code with a nonrefundable license application fee of one hundred dollars. All license applications are to be submitted to the appropriate licensing authority.
Five Year Review (FYR) Dates: 07/08/2014 and 07/08/2019

CERTIFIED ELECTRONICALLY

Certification

07/08/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.70, 3734.71, 3734.73
Rule Amplifies: 3734.70, 3734.71, 3734.73, 3734.75, 3734.76,
  3734.78, 3734.79, 3745.11
Appendix I

Scrap Tire Conversion Factors

<table>
<thead>
<tr>
<th>Whole Scrap Tires</th>
<th>Weight</th>
<th>Tires/ton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passenger</td>
<td>20 Lbs. Each</td>
<td>100 Tires/ton</td>
</tr>
<tr>
<td>Truck</td>
<td>100 Lbs. Each</td>
<td>20 Tires/ton</td>
</tr>
</tbody>
</table>

10 passenger tires or 3 truck tires per cubic yard

20 lbs. of whole or processed scrap tire material = 1 passenger tire equivalent (PTE)

The above conversion factor (20 lbs. = 1 PTE) shall be used to convert all whole truck and larger tires to an equivalent amount of PTEs.

The above conversion factor (20 lbs. = 1 PTE) shall be used to convert all cut, shredded, or processed tire material to an equivalent amount of PTEs.

Baled Tires  (Cubic Yard Size)  100 Passenger Tires  Per Bale = One Ton

Shredded Tires

700 pounds = 1 cubic yard (yd\(^3\))

One ton of tire chips = 2.14 yd\(^3\) to 2.85 yd\(^3\)

One yd\(^3\) of tire chips = 0.35 tons to 0.47 tons

One yd\(^3\) of tire pieces measuring between 0.5 inch and 2.0 inches are defined as chips by the American society for testing and materials (ASTM D6270-98) and can be expected to hold approximately 45 passenger tire equivalents.

One yd\(^3\) of tire pieces measuring between 2.0 inches and 12.0 inches are defined as shreds by ASTM D6270-98 and can be expected to hold approximately 33 passenger tire equivalents.

[Comment: The definition of chips and shreds used by ASTM D6270-98 differs from the definition of these terms in the Ohio Administrative Code and should not be confused with the use of these terms or tire derived chip (TDC) or tire derived fuel (TDF) in the Ohio Administrative Code.]

These conversion factors are to be used as standard approximations in all scrap tire facility applications and scrap tire facility annual reports.
Criteria for approval of an application for a registration certificate or for a permit to install for a scrap tire facility.

(A) General criteria.

The director shall not approve an application for a registration certificate or for a permit to install for a scrap tire facility unless the director determines all of the following:

1. The establishment or modification and operation of the scrap tire facility will not violate Chapter 3704., 3734., or 6111. of the Revised Code.

2. The scrap tire facility will be capable of being constructed, operated, and closed in accordance with Chapters 3745-27 and 3745-37 of the Administrative Code.

3. The applicant and the person listed as owner or operator of a scrap tire facility, or other facilities regulated under Chapters 3714. and 3734. of the Revised Code, is in substantial compliance with applicable provisions of Chapters 3704., 3714., 3734., and 6111. of the Revised Code, and any rules adopted and permits, registration certificates, and licenses issued thereunder, and has maintained substantial compliance, at all facilities regulated under Chapters 3714. and 3734. of the Revised Code, with applicable provisions of Chapters 3704., 3714., 3734., and 6111. of the Revised Code and with all applicable orders issued by the director, the environmental review appeals commission, or courts having jurisdiction in accordance with applicable law, in the course of such previous or current management or operations. The director may take into consideration whether substantial compliance has been maintained with any applicable order of a board of health maintaining a program on the approved list in Ohio and any other courts having jurisdiction.

4. The person listed as operator of the facility meets the requirements of division (L) of section 3734.02 of the Revised Code and rules adopted thereunder.

5. The scrap tire storage areas shall be constructed and managed to prevent any unauthorized discharge of runoff from a fire at the facility.

6. The applicant, except for scrap tire collection facilities, has submitted a financial assurance instrument in accordance with rule 3745-27-15 of the Administrative Code.

(B) Siting criteria for all facilities except scrap tire collection facilities.

The director shall not approve an application for a registration certificate or for a permit to install for a scrap tire facility unless the director determines the scrap tire handling area shown in the application is:

1. Not located within one thousand feet of the areas specified below in existence on the date of receipt of the application by Ohio EPA:

   a. A national park or national recreation area.
   b. A state park or an established state park purchase area.
   c. A candidate area for potential inclusion in the national park system.
   d. Any property that lies within the boundaries of a national park or national recreation area but that has not been acquired or is not administered by the Secretary of the United States department of the interior.
The one thousand foot setback does not apply if the applicant obtains a written agreement from the owner or the designated authority of the above areas to locate the scrap tire handling area within one thousand feet of the above areas. The agreement shall be effective not later than the issuance date of the registration certificate or permit.

(2) Not located within one thousand feet from the boundaries of the following natural areas in existence on the date of receipt of the application by Ohio EPA:

(a) Areas designated by the Ohio department of natural resources as either a state nature preserve, a state wildlife area, or a state wild, scenic or recreational river area, including areas designated by section 1517.05 or 1547.81 of the Revised Code.

(b) Areas designated, owned, and managed by the Ohio historical society as a nature preserve.

(c) Areas designated by the United States department of the interior as either a national wildlife refuge or a national wild, scenic, or recreational river.

(d) Areas designated by the United States forest service as either a special interest area or a research natural area in the Wayne national forest.

(e) Stream segments designated by Ohio EPA as either a state resource water, a coldwater habitat, or an exceptional warmwater habitat and may include wetlands.

(3) The facility shall not be located in a regulatory floodplain as defined in rule 3745-27-01 of the Administrative Code.

(4) No scrap tire storage areas, located outside of an enclosed building, shall be located under bridges, elevated trestles, elevated roadways, elevated railroads, or electrical power lines having a voltage in excess of seven hundred fifty volts or that supply power to fire emergency systems.

(C) General setbacks for all facilities except scrap tire collection facilities.

The director shall not approve an application for a registration certificate or for a permit to install for a scrap tire facility unless the director determines the scrap tire storage areas located outside an enclosed building as shown in the application are:

(1) Not located within one hundred feet of the facility property line or from buildings or structures not owned or leased by the owner or operator of the facility.

(2) Not located within five hundred feet of a domicile not owned or leased by the facility owner or operator or within two hundred feet of a domicile owned or leased by the facility owner or operator, unless all scrap tire storage areas located outside an enclosed building are separated from any such buildings or structures by an earthen berm, or by a building or structure owned or leased by the facility owner or operator, at least one and one half times the maximum height of the scrap tire storage pile.

(3) At least two hundred feet from surface waters of the state, including but not limited to a stream, lake, or wetland, or that all scrap tire storage areas located outside an enclosed building are separated from a stream, lake, or wetland by an earthen berm of sufficient height to control runoff from a fire at the facility.

(D) Additional criteria for a scrap tire collection facility.
The director shall not approve an application for a registration certificate for a scrap tire collection facility unless the director determines all of the following:

1. All scrap tires will be stored in portable containers only.

2. Only whole scrap tires will be collected or stored at the facility.

3. The total volume of scrap tires collected will not exceed five thousand cubic feet.

(E) Additional criteria for a class II scrap tire storage or recovery facility registration.

The director shall not approve an application for a registration certificate for a class II scrap tire storage or class II scrap tire recovery facility unless the director determines all of the following:

1. In the case of a scrap tire storage facility, only whole scrap tires will be collected or stored at the facility.

2. In the case of a scrap tire recovery facility, only scrap tires will be accepted for processing at the facility, unless other material is authorized by the director.

3. In the case of a class II scrap tire storage facility, the scrap tire storage area is ten thousand square feet or less in basal area.

4. In the case of a class II scrap tire recovery facility, the scrap tire storage area shall be limited based on the type of material stored as follows:

   (a) Ten thousand square feet in basal area for whole, cut, baled, or rough shredded scrap tires. This is a combined maximum basal area for all of the materials listed in the preceding sentence.

   (b) Ten thousand square feet in basal area for processed scrap tires which meet the definition of tire derived fuel (TDF) or tire derived chip (TDC) in rule 3745-27-01 of the Administrative Code. This is a combined maximum basal area for TDF and TDC combined.

   (c) Ten thousand square feet in basal area for processed scrap tire products and by products not included above. This is a combined maximum basal area for all of the materials listed in the preceding sentence. For purposes of scrap tire storage at a scrap tire recovery facility, processed scrap tires include all by-products and all products manufactured from scrap tires, including but not limited to; crumb rubber, TDF, TDC, and assembled products while these products are stored at the scrap tire recovery facility.

   (d) The above storage areas are additive, but the storage areas for the materials listed in paragraph (E)(4)(b) or (E)(4)(c) of this rule shall not be used to store whole, cut, baled, or rough shredded scrap tires.

(F) Additional criteria for a class I scrap tire storage or recovery facility permit.

The director shall not approve an application for a permit to install for a class I scrap tire facility unless the director determines all of the following:

1. The applicant meets the requirements of sections 3734.40 to 3734.47 of the Revised Code and rules adopted thereunder.

2. In the case of a scrap tire storage facility, only whole scrap tires will be collected or stored at the facility.
(3) In the case of a scrap tire recovery facility, only scrap tires will be accepted for processing at the facility, unless other material is authorized by the director.

(4) The owner or operator of a class I scrap tire storage facility which proposes to store scrap tires on an area which exceeds ten thousand square feet, but shall not exceed three acres, shall also own or operate either of the following to which the scrap tires stored at the storage facility will be transported:

(a) A scrap tire monocell, monofill, or recovery facility licensed under section 3734.81 of the Revised Code.

(b) A scrap tire monocell, monofill, or recovery facility, or any other solid waste disposal facility authorized to receive scrap tires, that is located in another state and is operating in compliance with the laws of that state.

(5) For a class I scrap tire recovery facility, the scrap tire storage area shall be limited based on the type of material stored as follows:

(a) Twenty thousand square feet in basal area of whole, cut, baled, or rough shredded scrap tires. This is a combined maximum basal area for all of the materials listed in the preceding sentence.

(b) Twenty thousand square feet in basal area of processed scrap tires which meet the definition of tire derived fuel (TDF) or tire derived chip (TDC) in rule 3745-27-01 of the Administrative Code. This is a combined maximum basal area for TDF and TDC combined.

(c) Twenty thousand square feet in basal area for processed scrap tire products and by products not included above. This is a combined maximum basal area for all of the materials listed in the preceding sentence. For purposes of scrap tire storage at a scrap tire recovery facility, processed scrap tires include all by-products and all products manufactured from scrap tires, including but not limited to; crumb rubber, TDF, TDC, and assembled products while these products are stored at the scrap tire recovery facility.

(d) The above storage areas are additive, but the storage areas for the materials listed in paragraph (F)(5)(b) or (F)(5)(c) of this rule shall not be used to store whole, cut, baled, or rough shredded scrap tires.

(G) Additional registration denial criteria. The director may deny an application for a registration certificate for a scrap tire facility if within thirty days of receipt of notification that the application is incomplete, the owner or operator has not done one of the following:

1. Notified the director, in writing that the application is being withdrawn.

2. Corrected noted deficiencies and resubmitted the application.

3. Submitted a written request for and obtained approval of a thirty-day extension.

(H) Additional permit denial criteria. The director may deny any application for a permit to install for a scrap tire facility if within one hundred eighty days of the receipt of notification that the application is incomplete, the owner or operator has not done one of the following:

1. Notified the director, in writing, that the application is being withdrawn.

2. Corrected noted deficiencies and resubmitted the application.
(3) Submitted a written request for and obtained approval of an extension for a specified time period.

(I) The director may revoke a registration certificate or permit to install if the director concludes at anytime that any applicable laws have been or are likely to be violated.
Effective: 02/20/2015

Five Year Review (FYR) Dates: 11/17/2014 and 02/20/2020

CERTIFIED ELECTRONICALLY

Certification

02/09/2015

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.70, 3734.71, 3734.73
Rule Amplifies: 3734.70, 3734.71, 3734.73, 3734.75, 3734.76, 3734.78
3745-27-63   Class I scrap tire storage facility or class I scrap tire recovery facility permit to install application.

(A) Applicability.

(1) Except as specified in paragraph (A)(2) of this rule, this rule applies to a class I scrap tire storage facility or class I scrap tire recovery facility, as defined in rule 3745-27-01 of the Administrative Code, as follows:

(a) An application for a permit to install for a facility along with a nonrefundable four hundred dollar application fee shall be submitted to the director through the appropriate district office, based on where the facility is to be located, at least one hundred eighty days prior to the date on which the applicant of the facility proposes to accept scrap tires.

(b) Prior to modifying a facility, an application for a permit to install to modify the facility along with a nonrefundable four hundred dollar application fee shall be submitted to the director at least one hundred eighty days prior to the date on which the applicant proposes to modify the facility. "Modification" is defined for purposes of this rule in paragraph (C)(6) of rule 3745-27-02 of the Administrative Code.

(2) Scrap tire storage facility exclusions. The requirement to obtain a permit to install does not apply to any of the premises listed in paragraphs (A)(2) to (A)(5) of rule 3745-27-61 of the Administrative Code.

(3) A new or existing scrap tire recovery facility that requests to burn solid waste other than scrap tires shall, in addition to registering as a scrap tire recovery facility, do both of the following:

(a) Apply for a permit to install a solid waste incinerator facility in accordance with rule 3745-27-50 of the Administrative Code.

(b) Apply for a solid waste incinerator operating license in accordance with Chapter 3745-37 of the Administrative Code.

(4) A new or existing scrap tire recovery facility that requests to burn infectious waste with the scrap tires shall, in addition to registering as a scrap tire recovery facility, do both of the following:

(a) Apply for an infectious waste treatment facility permit to install application in accordance with rule 3745-27-37 of the Administrative Code.

(b) Apply for an infectious waste treatment license in accordance with Chapter 3745-37 of the Administrative Code.

(5) The exclusions from permitting specified in paragraph (A)(2) of this rule are not cumulative, but shall be considered individually. If more than one business arrangement listed above in paragraph (A)(2) of this rule is occurring at a particular site, then only the largest single exemption will be the overall limitation for all temporary scrap tire storage at the site.

(B) A permit to install application, as required by section 3734.76 or 3734.78 of the Revised Code, shall be submitted to and approved by the director, before the establishment or modification of a class I scrap tire storage or scrap tire recovery facility is begun. The permit to install application shall:

(1) Contain all the information required in paragraphs (B) and (C) of this rule such that the director can determine if the criteria set forth in rules 3745-27-02 and 3745-27-62 of the Administrative Code are satisfied.
(2) Contain detail engineering plans, specifications, and information that shall be presented in a manner acceptable to the director. Detail shall be sufficient to allow clear understanding for technical review of the permit application, to provide assurance that the facility is designed and will be operated in accordance with Chapters 3745-27 and 3745-37 of the Administrative Code, and to be readily understandable by operating personnel at the facility.

(3) Be accompanied by a copy of the disclosure statement to the attorney general's office as required in rules 109:6-1-01 to 109:6-1-04 of the Administrative Code.

For regulatory review purposes, the initial application and any subsequent revisions to the application, shall be submitted in duplicate to the director with a third copy sent to the board of health of the health district where the facility is or shall be located. Any revisions to the application shall be accompanied by an index listing the change and the pages where the change occurred. Upon written request from the Ohio EPA, the applicant shall submit two additional and identically complete copies of the revised application to the director and a notarized statement that, to the best of the knowledge of the applicant, the detail engineering plans, specifications, and information in the permit application are true and accurate.

An application, notwithstanding its deficiency, may be considered and acted upon if sufficient information is in the detail engineering plans, specifications, and report for the director to determine whether the criteria set forth in rules 3745-27-02 and 3745-27-62 of the Administrative Code are satisfied.

If the director determines that information in addition to that required by this rule is necessary to determine whether the criteria set forth in rules 3745-27-02 and 3745-27-62 of the Administrative Code are satisfied, the director shall require that the applicant supply such information as a precondition to further consideration of the permit to install application.

The permit to install shall remain in effect until the director has received, and approved in writing, certification that all required closure activities have been completed, unless the permit has been revoked or terminated in accordance with rule 3745-27-02 of the Administrative Code.

(C) The following detail engineering plans, specifications, and information for a class I scrap tire storage or class I scrap tire recovery facility shall be shown by means of drawings and narrative descriptions where appropriate. Minimum dimensions of the plan drawings shall be twenty-four inches by thirty-six inches.

(1) The detail engineering plan cover sheet to be numbered sheet 1, shall contain all of the following information:

(a) The name, address, and phone number of the scrap tire storage or recovery facility.

(b) The precise geographic location and boundary of the scrap tire storage or recovery facility, to be shown on a 7-1/2 minute USGS topographic map.

(c) The name, address and telephone number of the applicant, the owner, and the operator of the scrap tire storage or recovery facility.

(d) The name and address of the all owners of the land to be used for the scrap tire storage or recovery facility.

(e) The name and address of the person who prepared the plans.

(f) The name, address, and phone number of the emergency contact people for the facility. These people shall be authorized to commit resources necessary for emergency response equipment, material, and services for the facility.
(g) The name, address, and phone number of the person who prepared the application.

(2) Calculations of the amount of financial assurance required for a third party to complete closure of the facility as specified in rule 3745-27-66 of the Administrative Code. The financial assurance amount shall be in accordance with rule 3745-27-15 of the Administrative Code, shall be based on the maximum number of scrap tires and the maximum amount of scrap tire material to be stored at the facility, and shall be calculated as described in paragraph (C)(2) of rule 3745-27-61 of the Administrative Code.

(3) A class I scrap tire recovery facility application shall include the calculations and narrative describing the "daily design input capacity" (DDIC) requested for the facility. The initial DDIC shall be calculated as an estimated average of the total daily processing amount for all operating days in each month. This amount shall be expressed in weight. Subsequent DDIC calculations shall be based on the amounts recorded in the facility's operating log, expressed either by weight (for facilities utilizing scales), number count, or volume per day. The conversion factors to use between weight and volume or number count are found in appendix I to rule 3745-27-61 of the Administrative Code.

(4) Plan drawings showing the following items located within the facility boundary and within one thousand feet of the facility boundary shall contain all information in paragraphs (C)(4)(a) to (C)(4)(h) of this rule. Those items specified in paragraphs (C)(4)(a) to (C)(4)(h) of this rule shall be illustrated on a series of plan drawings which shall be numbered consecutively: 4A, 4B, 4C, etc. All information specified in an individual subheading shall be shown on the same plan sheet. An individual drawing may contain information specified in more than one individual subheading. A scale of one inch equals no greater than two hundred feet shall be used unless otherwise specified. All plan drawings required by paragraph (C)(4) of this rule shall include a north arrow and the proposed facility boundary.

(a) The property lines of all land owned or leased for the scrap tire recovery facility or scrap tire storage facility as determined by a property survey conducted by a professional skilled in the appropriate discipline.

(b) All public roads, railroads, and occupied structures.

(c) Existing topography showing surface waters of the state, as defined in rule 3745-1-02 of the Administrative Code, with a contour interval no greater than five feet.

(d) All existing land uses, zoning classifications, property owners, political subdivisions, and communities.

(e) All existing domiciles within the facility or within five hundred feet of the facility's boundaries. Include the location and dimensions of all buildings, fencing, gates, and other structures.

(f) The limits of the regulatory floodplain.

(g) The boundaries of all the areas listed in paragraph (B)(1) of rule 3745-27-62 of the Administrative Code, if applicable. If not applicable a statement to that effect shall be included in the application.

(h) The boundaries of all the areas and stream segments listed in paragraph (B)(2) of rule 3745-27-62 of the Administrative Code, if applicable. If not applicable a statement, these areas and stream segments are not within one-thousand feet of the facility boundary, shall be included in the application.

(5) Plan drawings, showing the following items located within the facility boundary and within two hundred fifty feet of the facility boundary shall contain all information in paragraphs (C)(5)(a) to (C)(5)(d) of this
rule. Those items specified in paragraphs (C)(5)(a) to (C)(5)(d) of this rule shall be illustrated on a series of plan drawings which shall be numbered: 5A, 5B, 5C, etc. All items specified in an individual subheading shall be included on the same plan drawing, unless otherwise specified. An individual plan drawing may contain information specified in more than one individual subheading. A scale of one inch equals no greater than one hundred feet shall be used. All plan drawings required by paragraph (C)(5) of this rule shall include those items specified in paragraph (C)(4) of this rule and all of the following:

(a) The location of all proposed scrap tire handling areas, areas designated for recycling activities, maintenance buildings, weighing facilities, storage buildings, temporary scrap tire storage areas, and other occupied structures.

(b) The location of existing or proposed bridges, elevated trestles, elevated roadways, elevated railroads, or electrical power lines having a voltage in excess of seven hundred fifty volts or that supply power to fire emergency systems.

(c) The location of all existing and proposed fencing, gates, and natural or other screening on the site. Contour intervals need not be delineated if such locations are shown on an aerial photograph.

(d) Existing and proposed constructed topography of the site. Contour lines shall have an interval no greater than five feet.

(6) Surface water drainage information shall be on plan drawings numbered consecutively 6A, 6B, etc., and shall indicate the existing direction of flow and points of concentration of all surface waters.

(7) Detail construction and operational plans showing all facility operations shall be on plan drawings numbered consecutively 7A, 7B, etc., and shall include the following:

(a) Location of on-site scrap tire handling and temporary scrap tire storage areas, including the maximum dimensions of all scrap tire piles, fire break widths, and location of all facility access roads.

(b) Any berms required in accordance with paragraph (C)(2) or (C)(3) of rule 3745-27-62 of the Administrative Code or to control runoff from the facility in accordance with paragraph (I)(2)(d) of rule 3745-27-65 of the Administrative Code.

(D) The following information shall be presented in narrative form in a report divided as follows:

(1) A summary of the site environs and explanation of how the scrap tire recovery facility or scrap tire storage facility shall meet the criteria for permit approval by the director specified in rules 3745-27-02 and 3745-27-62 of the Administrative Code.

(2) Discussion of the following:

(a) For a scrap tire recovery facility only, the information specified in paragraph (C)(3) of this rule.

(b) The equipment and methods to be used in the operation and maintenance of the facility. Such information shall include, at a minimum, the following:

(i) Performance capabilities, scrap tire processing rate, and principal specifications of each piece of powered equipment to be used for loading, unloading, handling, or processing of scrap tires.

(ii) Proposed hours of operation.

(iii) A description of all activities to be performed on the site, including, but not limited to receiving, unloading, loading, handling, storage, compacting, baling, shredding, processing rates and order
of operations, operational methods used to handle bulky and/or dusty materials and any other processing operations.

(iv) Methods of controlling mosquitoes.

(v) Methods of loading all materials being shipped out.

(vi) Inspection procedures to prevent any material other than scrap tires from being accepted at the facility.

(vii) Measures to control dust or erosion at the facility.

(c) A description, in narrative form, of the security used at the facility which meets the requirements of paragraphs (C)(6) and (C)(7) of rule 3745-27-65 of the Administrative Code.

(3) The following plans:

(a) A copy of the fire contingency plan required by paragraph (G) of rule 3745-27-65 of the Administrative Code and the fire safety plan required by the local or state fire code.

(b) A "closure plan" that meets the minimum requirements for facility closure in accordance with rule 3745-27-66 of the Administrative Code. The "closure plan" shall contain, at a minimum, the following information:

(i) Schedule and description of the steps necessary to close the facility as detailed in rule 3745-27-66 of the Administrative Code.

(ii) Name, address, and telephone number of the authorized person or office to contact regarding the facility during the closure period.

(4) All applications shall include the following:

(a) An unexecuted draft of the financial assurance instrument in accordance with rule 3745-27-15 of the Administrative Code.

(b) Proof of property ownership or lease agreement to use the property as a scrap tire facility.

(c) A notarized statement that, to the best of the knowledge of the applicant, the detail engineering plans, specifications, and information in the permit application are true and accurate.

(d) A nonrefundable permit application fee of four hundred dollars with the application. The application, and any revisions or alterations to the application, shall be submitted to the director and a copy shall be sent to the board of health of the health district and the solid waste management district where the facility is or will be located. Any revisions or alterations to the permit application shall be pertinent to the director's review of the initial application.

(E) Concurrent to submitting the permit to install application, the owner or operator shall do the following and include a copy of each of the letters required in paragraphs (E)(1) and (E)(3) of this rule and a copy of the return receipt for each letter with the permit application:

(1) Send letters of intent to establish or modify a scrap tire storage facility or scrap tire recovery facility via certified mail or any other form of mail accompanied by a receipt to the entities specified in paragraph (C)(11) of rule 3745-27-61 of the Administrative Code.
(2) Submit an application for a license in accordance with Chapter 3734. of the Revised Code with a nonrefundable license application fee of one hundred dollars, except for a scrap tire storage facility that is owned or operated by a motor vehicle salvage dealer licensed under Chapter 4738. of the Revised Code, the license fee shall be zero. All license applications are to be submitted to the appropriate licensing authority.

(3) Submit to the divisions of Ohio EPA regulating air pollution control and water pollution control, written notification of intent to site a scrap tire facility and a written request for information pertaining to any regulatory requirements under Chapter 3704. or 6111. of the Revised Code. Facilities shall not begin operation until all required permits, registrations, and licenses are obtained.

(F) Applications shall be signed in accordance with the following:

(1) In the case of a corporation, a principal executive officer of at least the level of vice president or a duly authorized representative, if such representative is responsible for the overall operation of the facility.

(2) In the case of a partnership, a general partner.

(3) In the case of a limited liability company, a manager, member, or other duly authorized representative of the limited liability company, if such representative is responsible for the overall operation of the facility.

(4) In the case of sole proprietorship, the owner.

(5) In the case of a municipal, state, federal, or other governmental facility, the principal executive officer, the ranking elected official, or other duly authorized employee.

(G) The signature on the document shall constitute personal affirmation that all statements and all assertions of fact made in the document are true, accurate, include all required information, and comply fully with applicable rules.

(H) Unless a certification statement is otherwise required, a document signed in accordance with this rule shall include the following certification statement:

"By signing this document I hereby certify that all statements and all assertions of fact made in the document are true, accurate, include all required information, and comply fully with applicable rules."

(I) Upon written notification that the application is incomplete, the applicant shall, within one hundred eighty days of receipt of the notification, do one of the following:

(1) Notify the director, in writing, that the application is being withdrawn.

(2) Correct noted deficiencies and resubmit the application.

(3) Submit a written request to and obtain authorization from the director for an additional thirty-day extension.

[Comment: Paragraph (H) of rule 3745-27-62 of the Administrative Code states that an incomplete application may be a basis for denial of a permit.]
Five Year Review (FYR) Dates: 07/08/2014 and 07/08/2019

CERTIFIED ELECTRONICALLY

Certification

07/08/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.71, 3734.73
Rule Amplifies: 3734.71, 3734.73, 3734.76, 3734.78
3745-27-65 Operation of scrap tire collection, storage, and recovery facilities.

(A) Applicability.

The owner or operator of a licensed, and registered or permitted, scrap tire collection, storage, or recovery facility shall comply with the requirements and operational criteria specified in this rule until the owner or operator has certified that the facility has been closed in accordance with rule 3745-27-66 of the Administrative Code.

(1) The owner or operator of a scrap tire collection facility shall comply with paragraphs (A), (B), (C), (D), (E)(1), (H), (I), (J), and (M) of this rule.

(2) The owner or operator of a scrap tire storage or recovery facility shall comply with all paragraphs of this rule.

(B) The owner or operator shall operate the scrap tire collection, storage, or recovery facility in strict compliance with the terms and conditions of the registration certificate or permit issued in accordance with Chapter 3745-27 of the Administrative Code and the solid waste license issued in accordance with Chapter 3745-37 of the Administrative Code. The owner or operator shall not begin operations until all required permits, registrations, and licenses are also obtained from the divisions of Ohio EPA regulating air pollution control and water pollution control.

(C) General operational criteria for scrap tire collection, storage, and recovery facilities.

(1) Acceptance of material at a scrap tire facility.

(a) The owner or operator of a scrap tire collection or storage facility shall not accept any waste except whole scrap tires. Mounted scrap tires, including attached lead weights, may be accepted and stored. Separation of the scrap tire from the wheel is not processing of the scrap tire and may be done at a collection or storage facility.

(b) The owner or operator of a scrap tire recovery facility shall not accept any waste except scrap tires at the facility. Mounted scrap tires, including attached lead weights, may be accepted for processing and may be stored to accumulate an economic amount for shipment to a recycling or disposal facility.

(c) Upon discovery of other waste, the owner or operator shall immediately remove the waste to an appropriate licensed facility.

(d) Prior to acceptance of other solid waste, not mentioned above, including non-scrap tire rubber material, the owner or operator shall do the following:

(i) Apply for and obtain the appropriate authorization to establish and operate a solid waste transfer facility at a scrap tire collection or storage facility.

(ii) Apply for and obtain, at a scrap tire recovery facility, either of the following:

(a) The appropriate authorization to modify the scrap tire recovery facility registration or permit to store and process non-scrap tire rubber material.

(b) The appropriate authorization to establish and operate a solid waste transfer facility in order to accept other solid waste that is not rubber.

(e) The owner or operator shall obtain a solid waste facility license in accordance with Chapter 3745-37
of the Administrative Code.

(2) In accordance with the requirements of division (L) of section 3734.02 of the Revised Code and rules adopted thereunder, the technical operation and maintenance of the scrap tire collection, storage, or recovery facility shall be under the responsible charge of an operator certified by the director as having completed operator training as required by Chapter 3734. of the Revised Code and rules adopted thereunder.

(3) The owner or operator shall maintain compliance with any requirements of Chapters 3704., 3714., and 6111. of the Revised Code, including obtaining any permits and authorizations required by those chapters, as applicable.

(4) The owner or operator shall have available at the facility a copy of the solid waste license and a copy of the approved permit to install or registration certificate for the facility. If the owner or operator of a scrap tire collection facility wants to keep the documents at another business location instead of at the facility, the owner or operator shall obtain the concurrence of the licensing authority.

(5) The owner or operator shall maintain access roads at the facility in such a manner that allows passage of loaded vehicles during inclement weather conditions with minimum erosion and dust generation.

(6) The owner or operator shall limit access to the facility to authorized personnel except during operating hours and when operating personnel are present. The owner or operator shall submit a written plan that details what security measures will be implemented to protect the scrap tires and facility.

[Comment: Be aware that the means of limiting access may need to meet the standards of the local fire official, the state fire code in particular rule 1301: 7-7-25 of the Administrative Code, local fire, or zoning codes.]

(7) The owner or operator shall take all necessary measures to prevent scavenging and other activities which would interfere with proper operating procedures.

(8) The owner or operator shall ensure that the scrap tire handling shall be confined to the smallest practical size within the approved storage area.

(9) The owner or operator shall manage the facility so as not to cause a nuisance, a health hazard, water pollution, or air pollution. The owner or operator shall initiate additional monitoring or supplemental effective control measures as deemed necessary by the health commissioner or the director.

(10) The owner or operator shall post and shall maintain in legible condition clear instructions for using the facility. The owner or operator shall post these instructions at the scrap tire handling area and at the entrance to the facility. The owner or operator shall include in these postings telephone numbers of emergency personnel, including but not limited to local fire departments, boards of health, and the appropriate district office of Ohio EPA.

(11) The owner or operator shall exclude live domestic and live farm animals from all areas of the facility, except for animals utilized for security purposes or vector control.

(12) The owner or operator shall manage the facility in such a manner that scrap tires shall not be admitted to any area of the facility until all site preparations for that area have been completed, all necessary equipment has been brought to the facility, the facility has been adequately prepared for operation, and the prepared facility has been inspected by a representative of the licensing authority.

(13) All scrap tire handling shall be conducted in areas that readily allow cleanup operations to be
accomplished. All areas shall be sloped and curbed so as to direct runoff generated from the suppression of a fire and residuals from a fire to collection points and to prevent off-site migration of the runoff.

(14) Any trailers pre-positioned at the facility by a scrap tire transporter shall be considered part of the facility until the transporter removes the trailer. The scrap tire facility owner or operator shall be responsible for any violations of Chapter 3734. of the Revised Code concerning the pre-positioned trailers.

(D) General scrap tire management.

(1) The owner or operator shall not cover scrap tires with soil or store scrap tires by submergence.

(2) The owner or operator shall maintain the scrap tire handling areas and fire breaks to be free of vegetation or other combustible materials and obstructions to emergency vehicles.

(3) The owner or operator shall remove any liquids from scrap tires or treat tires with water in them for mosquito control within twenty-four hours of arrival at the facility, unless the owner or operator is provided with documentation of prior mosquito control.

(4) The owner or operator shall store only scrap tires in the scrap tire storage area. The owner or operator of a scrap tire collection facility shall only store scrap tires in portable containers.

(5) The owner or operator shall maintain drainage such that water does not pond or collect in the scrap tire storage area.

(6) The owner or operator shall separate scrap tires from possible ignition sources, for example, welding equipment, open flames, etc., by at least fifty feet.

(7) The owner or operator shall separate portable containers from buildings and structures by at least one hundred feet, except for buildings or structures that are owned or leased by the facility owner or operator. Portable containers shall be separated from buildings and structures owned or leased by the facility owner or operator by at least fifteen feet.

(8) The owner or operator of a scrap tire facility shall only arrange the transportation or delivery to or receipt of whole, cut, baled, or shredded scrap tires by one of the following:

(a) A scrap tire recovery facility licensed under Chapter 3745-37 of the Administrative Code.

(b) A scrap tire monocell or monofill facility licensed under Chapter 3745-37 of the Administrative Code.

(c) A scrap tire collection or storage facility licensed under Chapter 3745-37 of the Administrative Code.

(d) A solid waste incineration or energy recovery facility, authorized to accept scrap tires or tire derived fuel, subject to regulation under Chapter 3745-27 of the Administrative Code.

(e) A premises located in this state where scrap tires shall be beneficially used in accordance with rule 3745-27-78 of the Administrative Code.

(f) A facility authorized to accept scrap tires, or a premises that shall beneficially use the scrap tires, that is located in another state and is operating in accordance with the laws of that state.

(g) A premises operating as an unregistered scrap tire facility in accordance with rule 3745-27-61 of the Administrative Code.

(h) A transporter holding a valid annual registration certificate under rule 3745-27-54 of the
Administrative Code.

(i) A licensed solid waste landfill may accept only material the scrap tire recovery facility can not process. Materials, which were part of a scrap tire and were unusable at that scrap tire recovery facility or whole scrap tires which can not be processed by the scrap tire recovery facility, may be disposed at a solid waste landfill facility. A scrap tire recovery facility shall not cut, quarter, or otherwise render a scrap tire unusable solely for the purpose of disposal at a solid waste landfill in lieu of disposal at a scrap tire monofill or monocell.

(9) The owner or operator shall maintain access for emergency vehicles from the facility entrance to and around the scrap tires in the scrap tire storage area at all times.

(10) The owner or operator shall not store scrap tires outside of a building under bridges, elevated trestles, elevated roadways, elevated railroads, or electrical power lines having a voltage in excess of seven hundred fifty volts or that supply power to fire emergency systems.

(E) Maximum storage area size for scrap tire collection, storage, and recovery facilities.

(1) For scrap tire collection facilities only, the owner or operator shall maintain the scrap tire storage area such that the area does not exceed five thousand cubic feet in aggregate volume.

(2) For scrap tire storage facilities only, the owner or operator shall maintain the scrap tire storage area such that the area does not exceed the following:

   (a) For a registered scrap tire storage facility, ten thousand square feet.
   
   (b) For a permitted scrap tire storage facility, three acres, unless a smaller size limit is established in the facility's permit to install or financial assurance.

(3) For scrap tire recovery facilities only, the owner or operator shall maintain the scrap tire storage area such that the area does not exceed the following:

   (a) For a registered class II scrap tire recovery facility, outdoor storage shall not exceed the maximum area allowed as follows:

      (i) For whole, cut, baled, and rough shredded scrap tires; a combined maximum storage area of ten thousand square feet, or an amount equal to seven times the facility's daily designed input capacity (DDIC), which ever is greater.

      (ii) For tire derived chip (TDC) or tire derived fuel (TDF) as defined in rule 3745-27-01 of the Administrative Code, a combined maximum storage area of ten thousand square feet.

      (iii) For processed scrap tire products and by-products, not included above, a combined maximum storage area of ten thousand square feet.

      (iv) The above storage areas are additive but the storage areas for the materials listed in paragraph (E)(3)(a)(ii) or (E)(3)(a)(iii) of this rule shall not be used to store whole, cut, baled, or rough shredded scrap tires.

   (b) Containerized or inside storage of whole, cut, baled, or rough shredded scrap tires at a registered class II scrap tire recovery facility shall not exceed fifteen times the facility's daily designed input capacity or a maximum storage area of ten thousand square feet of scrap tire storage which ever is greater.
(c) For a permitted class I scrap tire recovery facility, outdoor storage shall not exceed the maximum area allowed as follows:

(i) For whole, cut, baled, and rough shredded scrap tires, a combined maximum storage area of twenty thousand square feet or an amount equal to fifteen times the facility's daily designed input capacity (DDIC), which ever is greater.

(ii) For tire derived chip (TDC) or tire derived fuel (TDF) as defined in rule 3745-27-01 of the Administrative Code, a combined maximum storage area of twenty thousand square feet.

(iii) For processed scrap tire products and by-products, not included above, a combined maximum storage area of twenty thousand square feet.

(iv) The above storage areas are additive but the storage areas for the materials listed in paragraph (E)(3)(c)(ii) or (E)(3)(c)(iii) of this rule shall not be used to store whole, cut, baled, or rough shredded scrap tires.

(d) The owner or operator of a class I or II scrap tire recovery facility shall license and register or permit the excess amount of scrap tire storage as a scrap tire collection or storage facility before the scrap tire recovery facility's scrap tire storage area exceeds the above limits.

(e) At the request of the facility owner or operator, smaller storage areas may be specified in the scrap tire recovery or storage facility's class II registration or class I permit to install to meet siting criteria or to reduce the amount of financial assurance required.

(F) Additional scrap tire management requirements for all scrap tire storage and recovery facilities. For purposes of storage at any scrap tire recovery facility, processed tires include all by-products and all products manufactured from scrap tires, including but not limited to crumb rubber, tire derived fuel, tire derived chip, components, and assembled products.

1. Outdoor storage of whole, cut, baled, or rough shredded scrap tires larger than TDC or TDF, as defined in rule 3745-27-01 of the Administrative Code shall meet the following requirements:

(a) Scrap tire storage piles shall be no greater than two thousand five hundred square feet in basal area.

(b) Scrap tire storage piles shall not exceed fourteen feet in height.

(c) Fire breaks shall be equal to or greater than those listed in appendix I to this rule.

(d) Alternate storage for any scrap tire facility may occur where scrap tires are not stacked vertically but all tires are placed on the ground. Scrap tires may rest against other scrap tires, but must remain in contact with the ground. Storage piles larger than fifty feet in length or width may be authorized if an alternate outdoor storage plan was approved by the director in the facility's registration or permit to install. Fire breaks shall be in accordance with a site-specific plan developed by the facility owner or operator and provided to the local fire chief. A copy of the fire break plan shall be attached to the application for a registration certificate or permit to install.

2. Outside storage of processed scrap tire shreds measuring less than or equal to four inches and meeting the definition of TDC or TDF, as defined in rule 3745-27-01 of the Administrative Code shall meet the following requirements:

(a) Scrap tire storage piles (windrows) shall not exceed two hundred fifty feet long and fifty feet wide.
(b) Scrap tire storage piles (windrows) shall not exceed fourteen feet in height.

(c) Fire break widths shall be in accordance with appendix I to this rule.

(3) Storage in an enclosed building of whole or baled scrap tires at any scrap tire storage facility and storage of whole, cut, baled, or rough shredded scrap tires at any scrap tire recovery facility shall meet the following requirements:

(a) Scrap tire storage piles shall not exceed twenty five hundred square feet in basal area.

(b) The width of aisles between scrap tire storage piles shall be at least eight feet.

(c) The clearance from the top of any scrap tire storage piles to sprinkler deflectors shall be at least eighteen inches.

(d) Clearances in all directions from the top of any scrap tire storage piles to roof structures shall be at least three feet.

(e) Clearances from the top of any scrap tire storage piles to unit heaters, radiant space heaters, duct furnaces, and flues shall be at least three feet in all directions, and shall be in accordance with the clearance distances recommended by the equipment manufacturer.

(4) Storage in an enclosed building at any scrap tire recovery facility of processed scrap tire shreds measuring less than or equal to four inches and meeting the definition of TDC or TDF, as defined in rule 3745-27-01 of the Administrative Code shall meet the following requirements:

(a) Scrap tire storage piles (windrows) shall not exceed two hundred fifty feet long and fifty feet wide.

(b) The width of aisles between scrap tire storage piles (windrows) shall be at least eight feet.

(c) The clearance from the top of any scrap tire storage piles (windrows) to sprinkler deflectors shall be at least eighteen inches.

(d) Clearances in all directions from the top of any scrap tire storage piles (windrows) to roof structures shall be at least three feet.

(e) Clearances from the top of any scrap tire storage piles (windrows) to unit heaters, radiant space heaters, duct furnaces, and flues shall be at least three feet in all directions, and shall be in accordance with the clearance distances recommended by the equipment manufacturer.

[Comment: Local ordinances, zoning, local fire codes, and state fire codes including rule 1301:7-7-25 of the Administrative Code may apply and be more restrictive than this rule.]

(G) The fire contingency plan for scrap tire storage and recovery facilities required by this rule and any fire safety plans required by local fire codes and the state fire code in rule 1301:7-7-25 of the Administrative Code shall be submitted to the local fire chief.

The owner or operator shall maintain and be familiar with a fire contingency plan for the occurrence of a fire at the facility. The contingency plan shall be kept at the facility and shall be updated at least annually. The contingency plan shall be updated within thirty days if the plan fails in an emergency situation, or if information contained in the plan changes. The plan shall include at least the following information:

(1) An updated list of names, addresses, and phone numbers of all local police and fire departments, Ohio EPA emergency response team, Ohio EPA district office, local health department, local solid waste
management district, contractors, and local emergency response teams.

(2) An updated list of names, addresses, and phone numbers of all persons designated to act as emergency coordinators for the facility. This list shall include at least one person authorized to commit resources necessary to procure equipment, materials, and services.

(3) A copy of arrangements or agreements with the local police and fire departments, contractors, and local emergency response teams to coordinate emergency services in the event of a fire at the facility.

(4) An updated list of all emergency equipment at the facility, including but not limited to, fire extinguishing systems and equipment, spill control equipment, and communications equipment.

(H) Mosquito and vector control at scrap tire collection, storage, and recovery facilities.

(1) The owner or operator shall implement and maintain effective control measures for mosquitoes and other vectors throughout the facility.

(2) The owner or operator shall do one or more of the following to control mosquitoes at the facility:

   (a) Remove liquids from scrap tires within twenty-four hours of arrival and store scrap tires such that water does not accumulate in scrap tires. The owner or operator shall keep the scrap tires free of water at all times.

   (b) Apply or arrange for the application of a pesticide or larvicide, which is registered for use for mosquito control by the Ohio department of agriculture at no greater than thirty-day intervals or other intervals recommended by the manufacturer or formulator. If applying any pesticide as a mosquito control, then mosquito control records shall be maintained at the facility indicating the name, type, amount used per tire, and US EPA registration number of the pesticide or larvicide; the date and time of the application; and the name of the person who applied the pesticide or larvicide.

(3) If upon inspection and written notification, Ohio EPA or the approved health department discover the existence of the following:

   (a) Mosquitoes at the facility, the owner or operator shall apply within twenty-four hours an adulticide which is registered for use for mosquito control by the Ohio department of agriculture. The application shall be according to the manufacturer's or formulator's recommendations. Records shall be maintained at the facility indicating the trade name of the adulticide, type, amount used per tire, and US EPA registration number of the pesticide or larvicide, the date and time of the application, and the name of the person who applied the adulticide.

   (b) Mosquito larvae at the facility, the owner or operator shall apply within twenty-four hours a larvicide which is registered for use for mosquito control by the Ohio department of agriculture. The application shall be according to the manufacturer's or formulator's recommendations. Records shall be maintained at the facility indicating the trade name of the larvicide, type, amount used per tire, and US EPA registration number of the pesticide or larvicide, the date and time of the application, and the name of the person who applied the larvicide.

(4) The owner or operator shall make the mosquito control records available for inspection by the director or the health commissioner during normal operating hours. The owner or operator shall retain copies of mosquito control records for a minimum period of three years.

(I) Fire response and prevention at scrap tire collection, storage, and recovery facilities.
(1) The owner or operator shall supply and maintain in working order the following equipment at the facility:

   (a) A fire extinguisher, which is clearly visible, in the immediate vicinity of the portable containers or scrap tire piles.

   (b) Communication equipment, which is under the control of the owner or operator, for the purpose of making contact with emergency services including at least a telephone land line.

(2) Whenever there is a fire at the facility, the owner or operator shall immediately do the following:

   (a) Notify local police and fire agencies.

   (b) Notify the Ohio EPA emergency response team using its twenty-four hour toll free number [800-282-9378], and provide the following information:

      (i) Name and telephone number of the contact person reporting the fire.

      (ii) Name and address of the facility.

      (iii) Time of the fire.

      (iv) Quantity of tires involved, to the extent known.

      (v) The extent of injuries, if any.

      (vi) The possible hazards to human health or the environment.

   (c) Take all reasonable actions necessary to suppress the fire and to protect human health and safety and the environment.

   (d) Take all reasonable measures necessary to contain any residuals, including but not limited to pyrolytic oil and water that results from suppressing a fire at the facility. Measures shall include establishing berms, dikes or other containment devices where necessary.

   (e) Take all reasonable measures necessary to ensure that fires do not occur, recur, or spread to other areas of the facility. These measures shall include removing or isolating tires and portable containers.

(3) Within seven days of the occurrence of a fire at the facility, the owner or operator shall do the following:

   (a) Note in the daily log the time, date, and details of the fire.

   (b) Notify in writing the Ohio EPA district office in which the facility is located, the Ohio EPA central office, the solid waste management district of the area in which the facility is located, and the local health department. The owner or operator shall include in the notification the information in paragraph (I)(2)(b) of this rule.

(4) Following the occurrence of a fire at the facility, the owner or operator shall implement and complete remediation activities in accordance with rule 3745-27-79 of the Administrative Code.

(J) Record keeping and reporting for scrap tire collection, storage, and recovery facilities.

   (1) The owner or operator shall comply with the shipping paper system described in rule 3745-27-57 of the Administrative Code.
(2) The owner or operator shall record facility operations in a daily log on forms prescribed by the director. The owner or operator shall make all entries required by the log on a daily basis. The owner or operator shall make the log available for inspection by the director, the health commissioner, or their authorized representative during normal operating hours. The owner or operator shall retain copies of daily logs for a minimum period of three years.

(3) The owner or operator shall submit an annual report on forms prescribed by the director not later than January thirty-first of each year. Copies of the report shall be submitted to the director, appropriate Ohio EPA district office, the appropriate solid waste management district, and the approved health department at the same time. The owner or operator shall retain copies of annual reports for a minimum period of three years. The report shall include at least the following information:

(a) The total number or quantity in weight or volume of scrap tires received from each transporter and an estimate of the percentage of each type of tire including passenger car tires, truck tires, and other tires.

(b) The total number or quantity in weight or volume of scrap tires received from the public, and an estimate of the percentage of each type of tire including passenger car tires, truck tires, and other tires.

(c) The total number or quantity in weight or volume of scrap tires received at, shipped from, or transported to each scrap tire storage, monocell, monofill, recovery facility, or other premises, and an estimate of the total number of each type of tire shipped, routed, or transported to each facility, including passenger car tires, truck tires, and other tires. In all cases, the report shall include out-of-state as well as Ohio facilities.

(d) For scrap tire recovery facilities only, the total number or quantity in weight or volume of scrap tires processed at the facility.

(e) Any changes to the information that identifies the name, address, and phone number of the facility's closure contact person.

(f) A notarized statement that the information contained in the annual report is true and accurate.

(g) For scrap tire storage and recovery facilities only, the most recently updated closure cost estimate, adjusted for inflation and for any change in closure cost estimate, required by rule 3745-27-15 of the Administrative Code.

(K) The owner or operator of the scrap tire storage or recovery facility shall fund and shall maintain the financial assurance instrument in accordance with paragraph (C)(2) of rule 3745-27-61 or paragraph (C)(2) of rule 3745-27-63 of the Administrative Code before accepting scrap tires at a licensed facility. The owner or operator shall also obtain any other permits or registrations required by other divisions of Ohio EPA prior to accepting scrap tires and operating the facility.

(L) If applicable, the owner or operator shall implement an ash management plan that shall comply with applicable state and federal requirements regarding the testing, analysis, and management of ash.

(M) The owner or operator of the facility shall close the facility in accordance with rule 3745-27-66 of the Administrative Code.

(N) The owner or operator of the scrap tire recovery facility shall operate portable equipment at locations other than their licensed facility, in accordance with the following requirements:
(1) At least ten days in advance of operations, the owner or operator shall notify all of the following entities of the intent to operate portable equipment at a site:

(a) The fire department having responsibility for providing fire control services where the operations are to be located.

(b) The approved local health department where the operations are to be located.

(c) The appropriate Ohio EPA district office for the county in which the operations are to be located.

(2) The owner or operator shall include in the notification, at a minimum, all of the following information:

(a) The name, business address, and registration number of the scrap tire business.

(b) A contact name and telephone number for the business.

(c) The location or address at which the portable equipment will be operated.

(d) The start date and the estimated duration of the operations.

(3) The portable equipment shall not be operated outside of a building within the areas listed in paragraph (B)(1) of rule 3745-27-62 of the Administrative Code unless the owner or operator obtains prior written agreement to operate the portable equipment at that location from the owner and the designated authority of the area.

(4) The portable equipment shall not be operated outside of a building within one thousand feet of the areas and stream segments listed in paragraph (B)(2) of rule 3745-27-62 of the Administrative Code unless the owner or operator obtains prior written agreement to operate the portable equipment at that location from the owner and the designated authority of the area.

(5) The portable equipment shall not be operated outside of a building within the following areas:

(a) One hundred feet of the property line.

(b) One hundred feet of buildings or structures not owned or leased by the property owner or the business owner or operator.

(c) Within two hundred feet of a stream, lake, or wetland.

(6) The portable equipment shall not be located or operated at any one site for longer than sixty days unless one of the following occurs:

(a) The owner or operator submits a written request for additional time and receives written approval from Ohio EPA, allowing a single extension of no more than sixty days.

(b) The portable equipment owner or operator is also the owner or operator of a class I or class II scrap tire recovery facility and is operating at that licensed facility.

(7) Within fourteen days after ceasing operations at a site other than the licensed facility owned or operated by the owner or operator of the portable equipment, the owner or operator shall do the following:

(a) Notify the entities listed in paragraph (N)(1) of this rule.

(b) Include in this notification the information in paragraph (N)(2) of this rule, the date operations ceased, and a brief description of the completed operations including the following: number of tires
processed, any remedial actions performed (e.g., solid or hazardous waste disposal, fire residual removal, grading or seeding, etc.), and an estimate of the number of scrap tires (if any) remaining at the site.

(O) The owner or operator of the portable equipment shall maintain communications equipment and portable fire extinguishers at all sites while portable equipment is being operated.

(P) Whenever there is a fire at a site where the owner or operator is operating portable equipment, the owner or operator shall immediately comply with paragraphs (I)(2) and (I)(3) of this rule. The owner or operator of the portable equipment shall assist the property owner in complying with paragraph (I)(4) of this rule.

(Q) For the owner or operator of the portable equipment to accept tires from the general public at the site of portable equipment operation that is not a licensed site, operate at a single site for longer than the maximum authorized time limit for portable equipment operation, or store scrap tires in a manner not specifically authorized by this rule for portable equipment operation, the owner or operator shall obtain additional registrations or permits and licenses to operate at the site.

(R) The owner or operator of portable equipment operated under contract to any government agency or any political subdivision may accept scrap tires from the general public or other entities in accordance with that contract at the site designated in the contract.

(S) The owner or operator of portable equipment shall also obtain any other permits or registrations required by other divisions of Ohio EPA prior to operating the portable equipment in the state of Ohio.
Five Year Review (FYR) Dates: 07/08/2014 and 07/08/2019

CERTIFIED ELECTRONICALLY

Certification

07/08/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.70, 3734.71, 3734.73
Rule Amplifies: 3734.70, 3734.71, 3734.73, 3734.75, 3734.76, 3734.78
Appendix I

Fire Break Widths

<table>
<thead>
<tr>
<th>Length of the face of pile adjoining fire break</th>
<th>8 Feet high</th>
<th>10 Feet high</th>
<th>12 Feet high</th>
<th>14 Feet high</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 Feet</td>
<td>56 Feet</td>
<td>62 Feet</td>
<td>67 Feet</td>
<td>73 Feet</td>
</tr>
<tr>
<td>50 Feet</td>
<td>75 Feet</td>
<td>84 Feet</td>
<td>93 Feet</td>
<td>100 Feet</td>
</tr>
<tr>
<td>100 Feet up to 250 feet</td>
<td>100 Feet</td>
<td>116 Feet</td>
<td>128 Feet</td>
<td>137 Feet</td>
</tr>
</tbody>
</table>

NOTE: 250 feet is the maximum length of a tire pile allowed by these rules.

The maximum width of a pile over 50 feet long is 50 feet.

**Closure of scrap tire collection, storage, or recovery facilities.**

(A) Closure activities shall be mandatory for a scrap tire collection, storage, or recovery facility if one or more of the following occurs:

1. The owner or operator declares that the facility shall no longer accept scrap tires.

2. The scrap tire collection, storage, or recovery facility license expires and no further license has been applied for in the manner prescribed in Chapter 3745-37 of the Administrative Code.

3. A scrap tire collection, storage, or recovery facility license held by the facility has expired, a further license has been applied for and denied, and all remedies for such denial have either been exhausted, or waived by failure to pursue such remedies in a timely manner.

4. A scrap tire collection, storage, or recovery facility license held by the facility has been suspended or revoked, and all remedies for such revocation or suspension have either been exhausted or waived by failure to pursue such remedies in a timely manner.

(B) Closure plan.

The closure plan for a scrap tire collection, storage, or recovery facility, shall, at a minimum, contain all of the following:

1. The name and location of the facility.

2. A schedule for all actions required prior to closure.

3. A description of the steps needed to close the scrap tire facility as detailed in paragraphs (C) and (D) of this rule.

4. The name, address, and telephone number of the person or office to contact regarding the scrap tire collection, storage, or recovery facility during closure.

(C) In closing the facility, the owner or operator implementing the closure shall do the following:

1. Not less than sixty days prior to the anticipated date upon which the scrap tire collection, storage, or recovery facility will cease to accept scrap tires, provide written notice by certified mail or any other form of mail accompanied by a receipt to all of the following:

   a. The single or joint county solid waste management district or regional solid waste management authority in which the facility is located or which is served by the facility.

   b. The board of health in which the facility is located.

   c. The local fire department.

   d. The director.

   This notice shall include information that identifies the facility's closure contact person's name, address, and phone number. This information shall be kept updated by certified mail or any other form of mail accompanied by a receipt until the owner or operator receives written concurrence in accordance with paragraph (G) of this rule.
(2) At the time a scrap tire collection, storage, or recovery facility has ceased to accept scrap tires, the facility owner or operator shall post signs in such a manner as to be easily visible at all entrances to the facility, stating that the facility is closed for all scrap tire activities. These signs shall be maintained in legible condition for not less than six months after the closing of the facility. The text of the signs shall include the following two paragraphs in letters not less than three inches high:

"This facility is closed for all scrap tire activities. Call the [name of the local solid waste management district] at [phone number of the local solid waste management district] for the location of the nearest facility which is authorized to accept scrap tires."

"Depositing scrap tires at a closed scrap tire facility constitutes open dumping which is a violation of Chapter 3734. of the Revised Code. Whoever recklessly or knowingly violates Chapter 3734. of the Revised Code may be guilty of a felony, punishable by a fine of at least $10,000 but not more than $25,000 or imprisonment for at least two years but not more than four years, or both."

(3) Not later than thirty days after a scrap tire collection, storage, or recovery facility has ceased to accept scrap tires, the facility owner shall do the following:

(a) Remove all scrap tires to one or more of the following:

(i) A scrap tire recovery facility licensed under Chapter 3745-37 of the Administrative Code.

(ii) A scrap tire monocell or monofill facility licensed under Chapter 3745-37 of the Administrative Code.

(iii) A scrap tire collection or storage facility licensed under Chapter 3745-37 of the Administrative Code.

(iv) A solid waste incineration or energy recovery facility subject to regulation under Chapter 3745-27 of the Administrative Code.

(v) A premises located in this state where scrap tires shall be beneficially used in accordance with rule 3745-27-78 of the Administrative Code.

(vi) A facility authorized to accept scrap tires, or a premises that shall beneficially use the scrap tires, that is located in another state and is operating in accordance with the laws of that state.

(vii) A transporter holding a valid annual registration certificate under rule 3745-27-54 of the Administrative Code.

(b) Remove any solid waste remaining on site and dispose of them at an facility authorized to dispose of such waste.

(c) Clean all areas of the facility and any appurtenances, including, but not limited to, containers, equipment, machines, storage tanks, floors, and facility surfaces that were in contact with scrap tires, solid waste, or processed materials at any time during the operation of the facility and that are not to be removed during the closure. The above shall be washed or otherwise subjected to procedures that substantially reduce or eliminate any remaining constituents or contaminants derived from contact with scrap tires, solid waste, or processed materials.

(d) Submit the final annual report for the facility, as required by paragraph (J)(3) of rule 3745-27-65 of
the Administrative Code, to the director.

(D) Continue mosquito and vector control in accordance with rule 3745-27-65 of the Administrative Code until written concurrence with closure is received in accordance with paragraph (G) of this rule.

(E) Closure certification. Not later than thirty days after completing the requirements as outlined in paragraphs (B), (C), and (D) of this rule or before the closed facility may be converted to other uses, whichever occurs first, the owner or operator shall submit to the licensing authority written certification that the facility has been thoroughly cleaned and closed pursuant to paragraphs (B), (C), and (D) of this rule.

(F) The health commissioner or the director, upon presenting proper identification, may enter any closed scrap tire facility at any reasonable time for the purpose of determining compliance with this rule.

(G) For the purposes of this rule, the facility shall be deemed to have completed all required closure activities under this rule when the owner or operator receives written concurrence from the approved health department or Ohio EPA that the facility has completed the requirements of this rule.
Five Year Review (FYR) Dates: 07/08/2014 and 07/08/2019

CERTIFIED ELECTRONICALLY

Certification

07/08/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.70, 3734.71, 3734.73
Rule Amplifies: 3734.70, 3734.71, 3734.73, 3734.75, 3734.76, 3734.78
Mobile scrap tire recovery facility registration and operation.

(A) Applicability.

No person shall establish or modify a mobile scrap tire recovery facility, as defined in rule 3745-27-01 of the Administrative Code, without first submitting an application for a registration certificate, as required by section 3734.78 of the Revised Code, for approval by the director, and obtaining a registration certificate in accordance with this rule.

(1) A mobile scrap tire recovery facility is a type of class II scrap tire recovery facility. This rule describes specific notification and operational requirements due to the nature of this type of facility's operations. A mobile scrap tire recovery facility consists of portable equipment used to process scrap tires into a useable product and the equipment is owned or operated by an entity not otherwise licensed in Ohio as a class I or class II scrap tire recovery facility. Portable equipment which is not used to produce a useable product, but which is used only to consolidate loads for shipping purposes, does not need to be registered as a scrap tire recovery facility or a mobile scrap tire recovery facility.

(2) The owner or operator of a mobile scrap tire recovery facility shall submit an application for a registration certificate on a form prescribed by the director at least ninety days prior to the date on which the owner or operator proposes to begin processing scrap tires.

(3) Prior to modification of a mobile scrap tire recovery facility, the owner or operator shall submit an application for a registration certificate on a form prescribed by the director. "Modification" of a mobile scrap tire recovery facility is defined the same as "modification" is defined for a class I scrap tire storage facility or class I scrap tire recovery facility in paragraph (C)(6) of rule 3745-27-02 of the Administrative Code.

(B) The owner or operator of a mobile scrap tire recovery facility shall submit and obtain a registration as a mobile scrap tire recovery facility unless the owner or operator is otherwise licensed in Ohio as a class I or class II scrap tire recovery facility.

(1) The registration certificate application for a mobile scrap tire recovery facility shall contain the following:

(a) All of the information required in paragraph (B) of this rule such that the director can determine if the criteria set forth in paragraph (C) of this rule and in rule 3745-27-02 of the Administrative Code are satisfied.

(b) Detail engineering plans, specifications, and information that shall be presented in a manner acceptable to the director. Detail shall be sufficient to allow clear understanding for technical review of the registration certificate application, to provide assurance that the facility is designed and will be operated in accordance with Chapters 3745-27 and 3745-37 of the Administrative Code, and be readily understandable by operating personnel at the facility.

For regulatory review purposes, the initial application and any subsequent revisions to the application, shall be submitted in duplicate to the director with a third copy sent to the board of health of the health district where the facility is or shall be located. Any revisions to the application shall be accompanied by an index listing the change and the page where the change occurred. Upon written request from Ohio EPA, the applicant shall submit two additional and identically complete copies of the revised application to the director and a notarized statement that, to the best of the knowledge of the applicant, the detail engineering plans, specifications, and information in the registration application are true and accurate.
The registration shall remain in effect until the director has received, and approved in writing, certification that all required closure activities have been completed, unless the registration has been revoked in accordance with this rule.

(c) Be submitted on a form prescribed by the director at least ninety days prior to the date on which the owner or operator proposes to begin processing scrap tires or to modify the facility.

(2) The application shall contain the following information:

(a) Facility name, main office address, main office location, and telephone number.

(b) The owner or operator's name, address, and telephone number.

(c) The name, address, and telephone number for the emergency contact person for the facility. This person shall be authorized to commit necessary resources for emergency equipment, materials, and services for the facility.

(d) The name, address, and telephone number of the person who prepared the application.

(e) The calculations and narrative describing the daily design input capacity (DDIC) for the facility, expressed in tons and based on the designed combined processing rate of all processing equipment to be operated at the facility.

(f) An unexecuted draft of the closure financial assurance instrument, in accordance with rule 3745-27-15 of the Administrative Code.

(g) A narrative description of the facility's method of operation.

(h) A narrative description of the procedures and equipment the owner or operator shall employ to maintain the recovery equipment and the area surrounding the recovery equipment free of litter and other debris that may affect the proper operation of the facility.

(i) A narrative description of the methods to be used to control mosquitoes which shall meet the requirements of paragraph (H) of rule 3745-27-65 of the Administrative Code.

(j) A closure plan, developed as specified in rule 3745-27-66 of the Administrative Code.

(k) Site specific information requested in the registration certificate application shall be provided in the initial application if the initial operating location is known. Due to the nature of operations of a mobile scrap tire recovery facility, the initial operating location may be unknown and those sections of the application shall be left blank. The information shall be provided when the operation location is identified as described in paragraph (F) of this rule.

(3) The application shall contain a certification by the owner or operator that the facility will not be located in any of the areas detailed in paragraph (G) of this rule without written permission from the appropriate entities or Ohio EPA.

(4) The applicant, owner, or operator signing a document in accordance with this rule shall be one of the following:

(a) In the case of a corporation, a principal executive officer of at least the level of vice president or a duly authorized representative, if such representative is responsible for the overall operation of the facility.
(b) In the case of a partnership, a general partner.

(c) In the case of a limited liability company, a manager, member, or other duly authorized representative of the limited liability company, if such representative is responsible for the overall operation of the facility.

(d) In the case of sole proprietorship, the owner.

(e) In the case of a municipal, state, federal, or other governmental facility, the principal executive officer, the ranking elected official, or other duly authorized employee.

(5) The signature on the document shall constitute personal affirmation that all statements and all assertions of fact made in the document are true, accurate, include all required information, and comply fully with applicable rules.

(6) Unless a certification statement is otherwise required, a document signed in accordance with this rule shall include the following certification statement:

"By signing this document I hereby certify that all statements and all assertions of fact made in the document are true, accurate, include all required information, and comply fully with applicable rules."

(7) Concurrent to submitting the application for a registration certificate, the applicant shall do the following:

(a) Submit to the appropriate licensing authority, an application for a license in accordance with Chapter 3745-37 of the Administrative Code. The owner or operator shall apply for a license annually. A new license application is not required when the mobile scrap tire recovery facility is relocated to a site in another county in Ohio.

(b) Submit to Ohio EPA division of air pollution control and division of surface water written notification of intent to establish and operate a mobile scrap tire recovery facility in the state of Ohio. This notification shall include a written request for information pertaining to any regulatory requirements under Chapter 3704. or 6111. of the Revised Code. Additional, separate permits or registrations may be required by these divisions in order to operate a mobile scrap tire recovery facility in the new location.

(C) The director shall not approve any application for a registration certificate submitted pursuant to this rule for a mobile scrap tire recovery facility unless the director determines all of the following:

(1) The application for a mobile scrap tire recovery facility registration certificate is substantially complete. An application, notwithstanding its deficiency, shall be considered and acted upon if sufficient information is in the detail engineering plans, specifications, and report for the director to determine whether the criteria set forth in this rule are satisfied.

If the director determines that information in addition to that required by paragraph (B) of this rule is necessary to determine whether the criteria set forth in this rule are satisfied, the director shall require that the applicant supply such information as a precondition to further consideration of the application.

(2) The mobile scrap tire recovery facility shall be capable of operating in compliance with Chapters 3704., 3734., and 6111. of the Revised Code.

(3) The mobile scrap tire recovery facility shall be capable of being operated and closed in accordance with Chapter 3745-27 of the Administrative Code.
(4) The director may consider whether the applicant or person listed as owner or operator of the mobile scrap tire recovery facility is in substantial compliance with applicable provisions of Chapters 3704., 3714., 3734., and 6111. of the Revised Code, and any rules adopted and permits, registration certificates, and licenses issued thereunder, and has maintained substantial compliance with all applicable orders issued by the director, or the environmental review appeals commission, or courts having jurisdiction in accordance with applicable law, in the course of previous or current management or operations. The director may also take into consideration whether substantial compliance has been maintained with any applicable order of a board maintaining a program on the approved list in Ohio.

(5) The person or persons listed as the operator of the facility meet the requirements of division (L) of section 3734.02 of the Revised Code and rules adopted thereunder.

(6) The applicant has submitted a financial assurance instrument meeting the requirements of rules 3745-27-15 and 3745-27-17 of the Administrative Code.

(D) The director may deny any application for a registration certificate for a mobile scrap tire recovery facility if within thirty days of receipt of notification that the application is incomplete, the owner or operator has not done one of the following:

1. Submitted written notification to the director that the application is being withdrawn.
2. Corrected noted deficiencies and resubmitted the application.
3. Submitted a written request for an extension and obtained approval from the director for an extension.

(E) The director may revoke a registration certificate if the director concludes at anytime that any applicable laws have been or are likely to be violated.

(F) Prior to conducting activities in a new location, the owner or operator of the mobile scrap tire recovery facility shall do the following:

1. Send, by certified mail or any other form of mail accompanied by a receipt, written notification of intent to operate a mobile scrap tire recovery facility at a new location to all of the following entities at least fourteen days prior to relocating:

   (a) The single or joint county solid waste management district or regional solid waste management authority or authorities where the facility is to be located.
   (b) The park administrator, if any part of the facility is to be located within or shares any portion of the park boundary.
   (c) The fire department having responsibility for providing fire control services where the facility is to be located.
   (d) The approved local health department where the facility is to be located.
   (e) The appropriate Ohio EPA district office for the county in which the facility is to be located.

2. Include in the notification, at a minimum, all of the following information:

   (a) The name, business address, and registration number of the mobile scrap tire recovery facility.
   (b) A contact name and telephone number for the facility.
(c) The location or address to which the facility is relocating.

(d) The project start date and the estimated duration of the project.

(e) A brief description of the proposed operations, including project scope (i.e., number of tires involved in the project).

(f) A brief description of any prior operations at this site and a description of any changes in equipment from the prior operation.

(3) Send the following information to the appropriate Ohio EPA district office at least fourteen days prior to relocating. This information is to be provided in addition to the notification required in paragraphs (F)(1) and (F)(2) of this rule and shall be provided for each relocation to a site. It shall be in narrative form and be accompanied by any site plans or drawings necessary to demonstrate compliance with this rule.

(a) A demonstration of compliance with the siting criteria described in paragraphs (G)(1) and (G)(2) of this rule.

(b) For sites where compliance with the siting criteria of paragraphs (G)(1) and (G)(2) of this rule cannot be demonstrated due to the nature of the site to be used and the temporary nature of operations, the owner or operator shall submit a description of alternate engineering controls or operational practices that shall be employed to protect human health and safety and the environment from fire or other accidental occurrence at the facility. This alternative shall be approved by Ohio EPA prior to the facility's relocation.

(G) The owner or operator of a mobile scrap tire recovery facility shall not locate:

(1) The facility outside of a building within the areas specified in paragraph (B)(1) of rule 3745-27-62 of the Administrative Code nor within one thousand feet of the areas specified in paragraph (B)(2) of rule 3745-27-62 of the Administrative Code. These restrictions do not apply if the owner or operator obtains prior written agreement from the owner and the designated authority over the areas to locate the scrap tire facility within the area or within the one thousand foot setback.

(2) The facility's outdoor scrap tire handling area or scrap tire storage areas within the areas specified below:

(a) Within one hundred feet of any property line or from other buildings or structures not owned or leased by the property owner or the owner or operator of the mobile scrap tire recovery facility; unless the number of tires in the individual pile or portable container is reduced to:

(i) Less than eight hundred scrap tires and more than five hundred scrap tires; in which case at least fifty-six feet of separation shall be maintained.

(ii) Five hundred scrap tires or less, in which case at least twenty-five feet of separation shall be maintained.

(b) Within five hundred feet of a domicile not owned or leased by the property owner or the owner or operator of the mobile scrap tire recovery facility, or within two hundred feet of a domicile owned or leased by the property owner or the owner or operator of the mobile scrap tire recovery facility.

(c) Within two hundred feet of a stream, lake, or wetland.

(H) When operating a mobile scrap tire recovery facility at a site, the owner or operator may temporarily store at the site up to five thousand square feet in basal area of either whole or processed scrap tires subject to the
standards specified below. This allowance, as well as the standards listed below, are limited by, and subject to, any applicable special term or condition contained in a facility's registration certificate or permit where the mobile scrap tire recovery facility may be operating, and by any applicable orders issued by the director, the environmental review appeals commission, courts having jurisdiction in accordance with applicable law, or a board of health maintaining a program on the approved list in Ohio.

(1) Individual scrap tire storage piles stored outside of a building by the owner or operator of a mobile scrap tire recovery facility shall:

(a) Be no greater than two thousand five hundred square feet in basal area for each individual pile and a total of five thousand square feet for all storage piles created by the owner or operator of the mobile scrap tire recovery facility.

(b) Not exceed eight feet in height.

(c) Be separated from other scrap tire storage piles and from buildings and structures by a fire break with a width equal to or greater than fifty-six feet.

(d) Outdoor scrap tire storage shall not be located under bridges, elevated trestles, elevated roadways, elevated railroads, or electrical power lines having a voltage in excess of seven hundred fifty volts or that supply power to fire emergency systems.

(2) Individual scrap tire storage piles stored inside of a building by the owner or operator of a mobile scrap tire recovery facility shall:

(a) Not exceed two thousand five hundred square feet in basal area.

(b) Be separated from other scrap tire storage piles by aisles with a width of at least eight feet.

(c) Have a clearance from the top of scrap tire storage piles to sprinkler deflectors of at least eighteen inches.

(d) Have clearances in all directions from the top of scrap tire storage piles to roof structures of at least three feet.

(e) Have clearances from the top of scrap tire storage piles to unit heaters, radiant space heaters, duct furnaces, and flues of at least three feet in all directions, and shall be in accordance with the clearance distances recommended by the equipment manufacturer.

(3) Scrap tire storage piles created by the owner or operator of a mobile scrap tire recovery facility shall be separated from possible ignition sources (e.g., open flame, welding equipment) by at least fifty feet.

(4) Fire breaks created by the owner or operator of a mobile scrap tire recovery facility shall be maintained to be free of combustible material including but not limited to weeds and leaves.

(5) One or more of the following shall be done by the owner or operator of a mobile scrap tire recovery facility to control mosquitoes:

(a) Remove liquids from scrap tires within twenty-four hours of arrival and store scrap tires such that water does not accumulate in scrap tires or containers. Tires shall be kept free of water at all times.

(b) Apply a pesticide or larvicide, which is registered for use for mosquito control by the Ohio department of agriculture, at no greater than thirty day intervals, or other intervals as recommended by the manufacturer or formulator. All pesticide applications are to be made according to the
manufacturer's or formulator's recommendations. If applying any pesticide as a mosquito control, then mosquito control records shall be kept at the site indicating the name, type, amount used per tire, and EPA registration number of the pesticide or larvicide, the date and time of the application, and the name of the person who applied the pesticide or larvicide. Records shall be maintained and made available upon request at the premises.

(6) The owner or operator of the mobile scrap tire recovery facility shall remove all scrap tires the mobile scrap tire recovery facility owner or operator has processed or moved, or insure that any such piles left at the site are stored in compliance with all requirements of paragraph (G) of this rule, prior to leaving the site.

(I) General operational criteria for mobile scrap tire recovery facilities.

(1) The owner or operator of a licensed and registered mobile scrap tire recovery facility shall operate the mobile scrap tire recovery facility in strict compliance with the terms and conditions of the registration certificate in accordance with Chapter 3745-27 of the Administrative Code and the mobile scrap tire recovery facility license issued in accordance with Chapter 3745-37 of the Administrative Code, and comply with the requirements and operational criteria specified in this rule until the owner or operator has certified that the facility has been closed in accordance with rule 3745-27-66 of the Administrative Code and received the director's concurrence with the facility closure.

(2) Handling of material other than scrap tires and scrap tire related material shall be as follows:

(a) The owner or operator of a mobile scrap tire recovery facility shall not accept any waste except scrap tires at the facility. Scrap tires mounted on rims and the attached lead weights may be accepted and shall be properly recycled or disposed.

(b) Upon discovery of other waste, the owner or operator shall immediately remove the waste to an appropriate licensed facility.

(c) The director may authorize acceptance of other solid waste that is rubber material. In order to obtain authorization the owner or operator of a mobile scrap tire recovery facility shall submit an application to modify the facility registration to store and recover non-scrap tire rubber material.

(3) In accordance with the requirements of division (L) in section 3734.02 of the Revised Code and rules adopted thereunder, the technical operation and maintenance of the mobile scrap tire recovery facility shall be under the responsible charge of an operator certified by the director as having completed operator training as required by Chapter 3734. of the Revised Code and rules adopted thereunder.

(4) The owner or operator shall maintain compliance with any requirements of Chapters 3704., 3714., 3734., and 6111. of the Revised Code, including obtaining any permits and authorizations required by those chapters, if applicable.

(5) The owner or operator shall have available at the facility a copy of the approved registration certificate and license.

(6) The owner or operator shall limit access to the facility to authorized personnel except during operating hours and when operating personnel are present. The owner or operator shall prepare and maintain a written plan that details what security measures shall be implemented to protect the scrap tires and facility.

(7) The owner or operator shall take all necessary measures to prevent scavenging and other activities which
would interfere with proper operating procedures.

(8) The owner or operator shall ensure that the scrap tire handling shall be confined to the smallest practical size.

(9) The owner or operator shall manage the facility so as not to cause a nuisance, a health hazard, water pollution, or air pollution. The owner or operator shall initiate additional monitoring or supplemental effective control measures as deemed necessary by the health commissioner or the director.

(10) The owner or operator shall post and shall maintain in legible condition clear instructions for using the facility. The owner or operator shall post these instructions at the scrap tire handling area. The owner or operator shall include in these postings telephone numbers of emergency personnel, including but not limited to local fire departments, boards of health, and the appropriate district office of the Ohio EPA.

(11) The owner or operator shall maintain financial assurance until the facility is certified as closed in accordance with rule 3745-27-66 of the Administrative Code and the owner or operator has received the director's concurrence with the facility's closure.

(12) Subject to any applicable orders issued by the director, the environmental review appeals commission, courts having jurisdiction in accordance with applicable law, or a board of health maintaining a program on the approved list in Ohio, the owner or operator of a mobile scrap tire recovery facility shall only arrange the transportation or delivery to, or receipt of scrap tires by, an entity listed below:

(a) A scrap tire recovery facility licensed under Chapter 3745-37 of the Administrative Code.

(b) A scrap tire monocell or monofill facility licensed under Chapter 3745-37 of the Administrative Code.

(c) A scrap tire storage facility licensed under Chapter 3745-37 of the Administrative Code.

(d) A solid waste incineration or energy recovery facility authorized to accept scrap tires or tire derived fuel and subject to regulation under Chapter 3745-27 of the Administrative Code.

(e) A premises approved to beneficially use scrap tires in accordance with rule 3745-27-78 of the Administrative Code.

(f) A facility that is authorized to dispose of scrap tires, or a premises that shall beneficially use the scrap tires, that is located in another state and is operating in accordance with the laws of that state.

(g) A premises operating as an unregistered scrap tire facility in accordance with rule 3745-27-61 of the Administrative Code.

(h) A transporter holding a valid annual registration certificate under rule 3745-27-54 of the Administrative Code.

(i) A licensed solid waste landfill may accept only material the mobile scrap tire recovery facility can not process. Materials, which were part of a scrap tire and were unusable at that mobile scrap tire recovery facility or whole scrap tires which can not be processed by the mobile scrap tire recovery facility, may be disposed at a solid waste landfill facility. A mobile scrap tire recovery facility shall not cut, quarter, or otherwise render a scrap tire unusable solely for the purpose of disposal at a solid waste landfill in lieu of disposal at a scrap tire monofill or monocell.

(13) The owner or operator shall not operate in any one location for a period longer than six months, unless one or more of the following applies:
(a) The owner or operator requests in writing additional time, and receives written approval from Ohio EPA allowing an extension.

(b) The owner or operator of the mobile scrap tire recovery facility is also the owner or operator of a class I or class II scrap tire recovery facility and is operating at that registered or permitted and licensed site.

(c) The owner or operator of the mobile scrap tire recovery facility applies for and receives a class I permit or class II scrap tire recovery facility registration and a solid waste facility license to operate a scrap tire recovery facility at the site.

(J) The owner or operator shall prepare a demobilization notice within fourteen days of relocating from a site. This notice shall be submitted to the entities listed in paragraph (F)(1) of this rule and shall contain the following information:

(1) The name, business address, and registration number of the mobile scrap tire recovery facility.

(2) A contact name and telephone number for the facility.

(3) The location or address from which the facility is relocating.

(4) The project completion date.

(5) A brief description of the completed operations, including number of tires processed, and any remedial actions performed (i.e., solid or hazardous waste disposal, fire residual removal, grading or seeding, etc.).

(K) Fire contingency plan and emergency response.

(1) The owner or operator shall prepare and maintain a fire contingency plan for the facility. This contingency plan shall be kept at the facility and shall be updated at least annually, or as needed for each relocation of the facility to a new site. The contingency plan shall be updated within thirty days if any portion of the plan fails in an emergency situation, or if information contained in the plan changes. Copies of the plan shall be sent to the local fire department, health department, and solid waste management district. The plan shall include at least the following information:

(a) An updated list of names, addresses, and phone numbers of all applicable local police and fire departments, the Ohio EPA emergency response team, Ohio EPA district office, local health department, local solid waste management district, contractors, and local emergency response teams.

(b) An updated list of names, addresses, and phone numbers of all persons designated to act as emergency coordinators. This list shall include at least one person authorized to commit resources necessary to procure equipment, materials, and services.

(c) A copy of any arrangements or agreements with the local police and fire departments, contractors, and local emergency response teams to coordinate emergency services in the event of a fire at the facility.

(d) An updated list of all emergency equipment at the facility, including but not limited to fire extinguishing systems and equipment, spill control equipment, and communications equipment.

(2) The owner or operator shall supply and maintain in working order the following equipment at the facility:
(a) A fire extinguisher, which is clearly visible, in the immediate vicinity of any portable containers or scrap tire piles.

(b) Communication equipment, which is under the control of the owner or operator, for the purpose of making contact with emergency services.

(3) Whenever there is a fire at the facility, the owner or operator shall immediately do the following:

(a) Notify local police and fire agencies.

(b) Notify the Ohio EPA emergency response team using their twenty-four hour toll free number [800-282-9378], and provide the following information:
   (i) Name and telephone number of the contact person reporting the fire.
   (ii) Name and address of the facility.
   (iii) Time of the fire.
   (iv) Quantity of tires involved, to the extent known.
   (v) The extent of injuries, if any.
   (vi) The possible hazards to human health, or the environment.

(c) Take all reasonable actions necessary to suppress the fire and to protect human health and safety and the environment.

(d) Take all reasonable measures necessary to contain any residuals including but not limited to pyrolytic oil, and water that result from suppressing a fire at the facility. Measures shall include establishing temporary berms, dikes or other containment devices where necessary.

(e) Take all reasonable measures necessary to ensure that fires do not occur, recur, or spread to other areas of the facility. These measures shall include removing or isolating tires and portable containers.

(4) Within seven days of the occurrence of a fire at the facility, the owner or operator shall do the following.

(a) Note in the daily log the time, date, and details of the fire.

(b) Notify in writing the Ohio EPA district office in which the facility is located, the Ohio EPA central office, the solid waste management district of the area in which the facility is located, and the local health department. The owner or operator shall include in the notification the information in paragraphs (K)(3)(b)(i) to (K)(3)(b)(vi) of this rule.

(5) Following the occurrence of a fire at the facility, the owner or operator of the mobile scrap tire recovery facility shall assist the property owner to implement and complete the activities specified in rule 3745-27-79 of the Administrative Code.

(L) Record keeping and reporting.

(1) The owner or operator shall comply with the shipping paper system described in rule 3745-27-57 of the Administrative Code.

(2) The owner or operator shall record facility operations in a daily log on forms prescribed by the director.
The owner or operator shall make all entries required by the log on a daily basis. The owner or operator shall make the log available for inspection by the director or the health commissioner during normal operating hours. The owner or operator shall retain copies of daily logs for a minimum period of three years.

(3) The owner or operator shall submit an annual report to Ohio EPA central office, division of solid and infectious waste management, on forms prescribed by the director, not later than January thirty-first of each year. Copies of the report shall also be submitted to the appropriate Ohio EPA district office, solid waste management district, and approved health department at the same time. The owner or operator shall retain copies of annual reports for a minimum period of three years. The report shall include at least the following information:

(a) The total number or quantity in weight or volume of scrap tires received from each transporter and an estimate of the percentage of each type of tire including passenger care tires, truck tires and other tires.

(b) The total number or quantity in weight or volume of scrap tires received from the public, and an estimate of the percentage of each type of tire including passenger car tires, truck tires, and other tires.

(c) The total number or quantity in weight or volume of scrap tires received at, shipped from, or transported to each scrap tire storage, monocell, monofill, or recovery facility, or other premises, and an estimate of the total number of each type of tire shipped, routed, or transported to each facility including passenger car tires, truck tires, and other tires. In addition for scrap tire recovery facilities only, the report shall include the total number or quantity in weight or volume of scrap tires processed at the facility. In all cases the report shall include out-of-state as well as Ohio facilities.

(d) Any changes to the information that identifies the name, address, and phone number of the facility's closure contact person.

(e) A notarized statement that the information contained in the annual report is true and accurate.

(M) The owner or operator of the mobile scrap tire recovery facility shall close the facility in accordance with rule 3745-27-66 of the Administrative Code, and shall implement the facility's closure plan, as submitted with the registration application.
Five Year Review (FYR) Dates: 07/08/2014 and 07/08/2019

CERTIFIED ELECTRONICALLY

Certification

07/08/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.73
Rule Amplifies: 3734.73, 3734.78
Applicability of requirements for a scrap tire monocell facility.

[Comment: The requirements for the permitting, construction, operation, closure, post-closure care, and financial assurance for a scrap tire monofill facility are specified in rules 3745-27-15 to 3745-27-17 and 3745-27-70 to 3745-27-75 of the Administrative Code.]

(A) Applicability. A scrap tire monocell facility may be established and operated within the limits of waste placement of either of the following facilities as previously delineated in the applicable authorizing documents or as proposed in an application for permit to install a new facility or to expand an existing facility:

(1) A sanitary landfill facility subject to Chapter 3745-27 of the Administrative Code.

(2) An industrial solid waste landfill facility subject to Chapter 3745-29 of the Administrative Code provided the scrap tires to be received at the facility are "industrial solid wastes" as defined in rule 3745-29-01 of the Administrative Code.

(B) Permit to install.

(1) For the purposes of this rule, "contiguous monocell facility" means a scrap tire monocell facility which is contiguous to other cells, phases, and/or units of the sanitary or industrial solid waste landfill facility.

(2) For the purposes of this rule, "noncontiguous monocell facility" means a scrap tire monocell facility which is not contiguous to other cells, phases, and/or units of the sanitary or industrial solid waste landfill facility such that it is physically separated from the other cells, phases, and/or units and has separate environmental control systems (leachate collection, surface water management, etc.).

(3) An application for a permit to install as required by section 3734.77 of the Revised Code, shall be submitted to and approved by the director, before the establishment or modification of a scrap tire monocell facility is begun, as follows:

(a) For a contiguous monocell facility, rule 3745-27-06 or 3745-29-06 of the Administrative Code, whichever is applicable, apply.

(b) For a noncontiguous monocell facility, rule 3745-27-70 of the Administrative Code applies.

(C) Other requirements. The construction, operation, closure, post-closure care, and financial assurance for a scrap tire monocell shall be as follows:

(1) For a contiguous monocell facility, rules 3745-27-06 to 3745-27-20 of the Administrative Code, or Chapter 3745-29 of the Administrative Code, whichever is applicable, apply, except that the owner or operator may comply with following scrap tire monofill facility operational requirements in lieu of the equivalent provisions in rule 3745-27-19 or 3745-29-19 of the Administrative Code:

(a) Paragraph (E) of rule 3745-27-75 of the Administrative Code (general requirements).

(b) Paragraph (F) of rule 3745-27-75 of the Administrative Code (daily cover).

(c) Paragraph (G) of rule 3745-27-75 of the Administrative Code (intermediate cover).

(d) Paragraph (M) of rule 3745-27-75 of the Administrative Code (annual report).

(2) For a noncontiguous monocell facility, rules 3745-27-70 to 3745-27-75 of the Administrative Code apply with the exception that the noncontiguous monocell facility shall be included within the ground water
monitoring program for the sanitary or industrial solid waste landfill.
Five Year Review (FYR) Dates: 04/23/2014 and 04/23/2019

CERTIFIED ELECTRONICALLY

Certification

04/23/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.72, 3734.77
Rule Amplifies: 3734.72, 3734.77
Scrap tire monofill facility permit to install application.

(A) A permit to install application as required by section 3734.77 of the Revised Code shall be submitted, and approved by the director, before the establishment or modification of the scrap tire monofill facility is begun. Compliance with this rule shall not exempt any person from compliance with any other permit, license, or other obligation for authorization.

(1) The permit to install application shall contain all the information required in paragraphs (B) and (C) of this rule, as specified below, so that the director can determine if the criteria set forth in rules 3745-27-02 and 3745-27-71 of the Administrative Code are satisfied. If Ohio EPA determines that information in addition to that required by paragraphs (B) and (C) of this rule is necessary to determine whether the criteria set forth in rules 3745-27-02 and 3745-27-71 of the Administrative Code are satisfied, the applicant shall supply such information as a precondition to further consideration of the permit to install application.

(a) The permit to install application for a new scrap tire monofill facility, to modify a scrap tire monofill for a lateral expansion, or one that is submitted in response to division (B) of section 3734.77 of the Revised Code, shall contain all the information required in paragraphs (B) and (C) of this rule with the exception of paragraph (B)(5)(c) of this rule.

(b) The permit to install application to modify a scrap tire monofill facility for a vertical expansion to the upper limits of scrap tire placement shall contain the following information:

(i) All of the plan sheets specified in paragraphs (B)(1), (B)(2), (B)(3)(f), (B)(4), (B)(5) and (B)(6) of this rule.

(ii) Detail drawings, as necessary, specified in paragraph (B)(7) of this rule.

(iii) All the reports specified in paragraphs (C)(1), (C)(2) and (C)(6) of this rule.

(iv) The subsurface investigation report, as necessary to provide supporting information for the stability analysis, specified in paragraph (C)(3) of this rule.

(v) Stability analysis for bearing capacity, static stability, seismic stability, and settlement specified in paragraphs (C)(4)(b) to (C)(4)(e) of this rule.

(vi) Calculations, as necessary, specified in paragraph (C)(5) of this rule.

(vii) The quality assurance/quality control and the final closure/post-closure care plans specified in paragraphs (C)(8)(a) and (C)(8)(b) of this rule.

(viii) The letters and list of permits specified in paragraphs (C)(9)(a) and (C)(9)(b) of this rule.

(c) The permit to install application to modify a scrap tire monofill facility for a vertical expansion to the lower limits of waste placement shall contain the following information:

(i) All of the plan sheets specified in paragraphs (B)(1) to (B)(6) of this rule.

(ii) Detail drawings, as necessary, specified in paragraph (B)(7) of this rule.

(iii) All of the reports specified in paragraphs (C)(1), (C)(2), (C)(3) and (C)(6) of this rule.

(iv) Stability analysis for hydrostatic uplift, bearing capacity, static stability, seismic stability and settlement specified in paragraphs (C)(4)(a) to (C)(4)(e) of this rule.
(v) Calculations, as necessary, specified in paragraph (C)(5) of this rule.

(vi) The quality assurance/quality control plan, as necessary, specified in paragraph (C)(8)(a) of this rule.

(vii) The letters and list of permits specified in paragraphs (C)(9)(a) and (C)(9)(b) of this rule.

(d) The permit to install application to modify a scrap tire monofill facility for a change to the information specified in paragraph (C)(7) of this rule shall discuss the change pursuant to paragraph (C)(7) of this rule in addition to the following:

(i) The summary specified in paragraph (C)(1) of this rule.

(ii) Any variance or exemption requests specified in paragraph (C)(2) of this rule.

(iii) If the change is to the authorized maximum daily waste receipt, the calculations showing gross volume and life specified in paragraph (C)(5)(a) of this rule.

(e) The permit to install application to modify a scrap tire monofill facility, other than what is listed in paragraphs (A)(1)(b) to (A)(1)(d) of this rule, shall contain the information specified by paragraphs (B) and (C) of this rule that are affected by the change and shall incorporate any alterations that were previously approved for those components affected by the change.

(f) The permit to install application for a scrap tire submergence facility shall contain the following information:

(i) All of the plan sheets specified in paragraphs (B)(1), (B)(2), (B)(3) and (B)(6) of this rule.

(ii) Plan drawings specified in paragraphs (B)(4)(a), (B)(4)(b), and (B)(4)(f) of this rule.

(iii) Cross sections specified in paragraphs (B)(5)(a)(i), (B)(5)(a)(ii) and (B)(5)(b) of this rule.

(iv) Detail drawings specified in paragraphs (B)(7)(a) and (B)(7)(f) of this rule.

(v) All the reports specified in paragraphs (C)(1) to (C)(4), (C)(6), (C)(8), and (C)(9) of this rule.

(vi) With the exception of paragraphs (C)(5)(d) and (C)(5)(k), all the calculations in paragraph (C)(5) of this rule.

(vii) Operational information specified in paragraphs (C)(7)(a) and (C)(7)(b) of this rule.

(2) The permit to install application shall contain detail engineering plans, specifications, and information that shall follow the format specified in paragraphs (B) and (C) of this rule. Detail shall be sufficient to allow clear understanding for technical review of the permit application, to provide assurance that the facility is designed and will be operated in accordance with Chapters 3745-27 and 3745-37 of the Administrative Code.

(3) [Reserved.]

(4) For regulatory review purposes, the initial application and any subsequent revisions to the application, shall be submitted in duplicate to the director with a third copy sent to the board of health of the health district where the facility is or will be located. Any revisions to the application must be accompanied by an index listing the change and the page(s) where the change occurred. Upon written request from Ohio EPA, the applicant shall submit two additional and identically complete copies of the revised application
to the director and a notarized statement that, to the best of the knowledge of the applicant, the detail engineering plans, specifications, and information in the permit application are true and accurate.

(5) Concurrent to submitting the permit to install application, the applicant shall also:

(a) Submit a disclosure statement to the office of the attorney general as required in rules 109:6-1-01 to 109:6-1-04 of the Administrative Code.

(b) Submit, to the division of Ohio EPA regulating air pollution control and water pollution control, written notification of intent to site a scrap tire monofill facility and a written request for information pertaining to any regulatory requirements under Chapter 3704. or 6111. of the Revised Code.

(6) The permit to install application, notwithstanding any deficiencies, may be considered and acted upon if sufficient information is provided in the application for the director to determine whether the criteria set forth in rules 3745-27-02 and 3745-27-71 of the Administrative Code are satisfied.

(7) Upon issuance of the permit to install, the director will send one copy of the permit to install and approved permit application to the board of health where the facility is or will be located, will return one copy to the applicant, and will retain two copies in Ohio EPA's files.

(8) The permit to install shall remain in effect until the director has discontinued the post-closure care period of the scrap tire monofill facility, unless the permit has been revoked or terminated in accordance with rule 3745-27-02 of the Administrative Code.

(B) Plan sheets. The following detail engineering plans, specifications, and information for a scrap tire monofill facility shall be shown by means of drawings and narrative descriptions where appropriate. Minimum dimensions of the plan drawings shall be twenty-four inches by thirty-six inches.

(1) The detail engineering plan cover sheet, to be numbered sheet 1, shall contain the following information:

(a) The name of the scrap tire monofill facility.

(b) The precise geographic location and boundaries of the scrap tire monofill facility and the area within a five-mile radius to be shown on a road map with a scale of one inch equals no greater than one mile.

(c) The name and address of the permit to install applicant for the scrap tire monofill facility.

(d) The name and address of the owner(s) and operator(s) of the scrap tire monofill facility, if different from the applicant.

(e) The name and address of the person(s) who prepared the plans.

(f) Index of plan sheets.

(2) Plan drawings, showing the following items located within the facility boundary within one thousand feet of the limits of waste placement and/or the temporary scrap tire storage area or as otherwise specified in this paragraph, shall contain all information in paragraphs (B)(2)(a) to (B)(2)(c) of this rule. Those items specified in paragraphs (B)(2)(b) and (B)(2)(c) of this rule shall be illustrated on a series of plan drawings which shall be numbered consecutively: 2A, 2B, 2C, etc. All items specified in an individual subheading shall be shown on the same plan drawing or a note shall be on the plan sheet stating the item does not exist within the specified distance of the limits of waste placement. An individual plan drawing may contain information specified in more than one individual subheading. A
scale of one inch equals no greater than two hundred feet shall be used.

(a) All plan drawings required by paragraph (B)(2) of this rule shall include the following:

(i) The property lines of land owned or leased for the scrap tire monofill facility as determined by a property survey conducted by a professional surveyor registered in Ohio.

(ii) The limits of waste placement and/or the temporary scrap tire storage area.

(iii) Existing topography showing streams, lakes, wetlands, springs, and other surface waters, with a contour interval no greater than five feet.

(iv) The north arrow.

(v) The location of all survey marks.

(vi) The facility boundary.

(b) The following based on publicly available information. For the purposes of this rule, "publicly available information" means written or published information from public or private sources that is reasonably available to the public, and includes but is not limited to visual surveys from public right-of-ways and public lands of the area surrounding the proposed scrap tire monofill facility and/or written or oral surveys of the landowners around the proposed scrap tire monofill facility.

[Comment: As long as the applicant can document that a reasonable attempt was made to obtain the information, the application will be considered complete even if information is lacking (e.g. the written or oral survey is not responded to).]

(i) All zoning classifications, property owners, and political subdivisions.

(ii) The limits of all aquifers declared by the federal government under the Safe Drinking Water Act, 42 U.S.C 300f et. seq. (2003), to be a sole source aquifer.

(iii) The limits of all regulatory flood plains.

(iv) A national park or recreation areas, candidate areas for potential inclusion into the national park system, and any state park or established state park purchase areas.

(v) State nature preserves, state wildlife areas, national and state scenic rivers, any national wildlife refuge, special interest areas, research natural areas in the Wayne national forest, outstanding national resource waters, and exceptional coldwater habitats, or exceptional warmwater habitats as defined in Chapter 3745-1 of the Administrative Code.

(vi) All public and private water supply wells within two thousand feet of the limits of waste placement (use a scale insert if necessary).

(vii) The limits of all wellhead protection areas or ground water source water assessment and protection areas that have been endorsed or delineated by Ohio EPA for a public water supply.

(viii) All surface and underground mining of coal and non-coal minerals and the angle of draw within two thousand feet of the limits of waste placement (use a scale insert if necessary) and all oil and gas wells.

(ix) Domiciles within five hundred feet of the limits of waste placement and/or the temporary scrap
(x) Faults that have had displacement in Holocene time.

(c) The limits of disturbance and the facility boundary. The limits of disturbance includes but is not limited to the limits of excavation, borrow areas, storage areas, staging areas, areas to be cleared and grubbed, and roadways.

(3) Plan drawings, showing the following items located within three hundred feet of the limits of waste placement and/or the temporary scrap tire storage area, shall contain all information in paragraphs (B)(3)(a) to (B)(3)(h) of this rule. Those items specified in paragraphs (B)(3)(a) to (B)(3)(h) of this rule shall be illustrated on a series of plan drawings which shall be numbered consecutively: 3A, 3B, 3C, etc. All items specified in an individual subheading shall be shown on the same plan drawing (unless specified otherwise). An individual plan drawing may contain information specified in more than one individual subheading. A scale of one inch equals no greater than two hundred feet shall be used.

(a) All plan drawings required by paragraph (B)(3) of this rule shall include those items specified in paragraph (B)(2)(a) of this rule.

(b) The location of existing or proposed pipes and conduits, electric lines, french drains, roads, and railroads, and any easements bordering or within the proposed facility boundaries.

(c) The location of all subsurface investigation sites, which are any location where subsurface conditions are investigated by data collection and/or evaluation, including but not limited to borings, test pits, monitoring wells, piezometers, tensiometers, geophysical survey stations and soil gas survey stations.

(d) Potentiometric maps of the uppermost aquifer system and all significant zones of saturation above the uppermost aquifer system (more than one plan sheet may be used).

(e) The location of any permanent ground water control structures.

(f) A diagram showing the phases of the scrap tire facility.

(g) The land set aside for leachate treatment/pretreatment facilities as required in paragraphs (K)(5) and (K)(6) of rule 3745-27-75 of the Administrative Code.

(h) The location of all surface waters.

(4) Plan drawings for the entire scrap tire monofill facility showing the boundaries and elevations of the following items shall be on plan drawings numbered consecutively 4A, 4B, 4C, etc. The scale on these drawings shall be one inch equals no greater than two hundred feet and contour intervals shall be no greater than five feet for slopes less than or equal to twenty-five per cent and ten feet for slopes greater than twenty-five per cent.

(a) The horizontal and vertical limits of excavation proposed in the permit to install application, showing any areas where added geologic material necessary to comply with the isolation distance requirement in rule 3745-27-71 of the Administrative Code is to be placed.

(b) The horizontal limits and top and bottom elevations of the recompacted soil liner proposed in the permit to install application.

(c) The top elevation of the leachate collection layer, pipe inverts, and layout of the leachate collection
and management system(s), including any leachate storage tanks, proposed in the permit to install application.

(d) The horizontal limits and top and bottom elevations of all existing waste and waste placement proposed in the permit to install application. Limits of existing waste and elevations can be determined by surveys.

(e) The horizontal limits and top and bottom elevations of the composite cap system; surface water control structures including permanent ditches to control run-on and runoff; and sedimentation ponds including the inlet and outlet.

(f) Establish a grid system with northing and easting not more than five hundred feet apart.

(5) Cross sections of the following shall be on plan drawings numbered consecutively 5A, 5B, 5C, etc. and shall clearly show the horizontal and vertical scale used:

(a) The hydrogeology of the scrap tire monofill facility intercepted by borings or other subsurface investigation methods showing the following:

(i) Existing topography.

(ii) The horizontal and vertical limits of excavation proposed in the permit to install application.

(iii) The horizontal limits and top and bottom elevations of any added geologic material.

(iv) The horizontal limits and bottom elevations of the recompacted soil liner.

(v) Geologic stratigraphy and significant zones of saturation corresponding to information from the subsurface investigation.

(vi) The uppermost aquifer system and all saturated stratigraphic units above the uppermost aquifer system.

(vii) All subsurface investigation logs, and monitoring well and piezometer construction diagrams, intercepted by the cross-section.

(viii) Any permanent ground water control structures.

(b) The length and width of the scrap tire monofill facility dividing the facility into quarters (i.e. three cross-sections in each direction) showing the following:

(i) Existing topography.

(ii) The horizontal and vertical limits of excavation proposed in the permit to install application.

(iii) The horizontal limits and top and bottom elevations of all existing waste and all areas of waste placement and/or the temporary scrap tire storage area proposed in the permit to install application.

(iv) The horizontal limits and top and bottom elevations of the composite cap system proposed in the permit to install application.

(c) If the permit to install application is for a vertical expansion, show the following at an interval no greater than every three hundred feet of length and width of the vertical expansion:
[Comment: Additional cross-sections may be submitted.]

(i) Limits of existing waste with the date of the survey.

(ii) Approved and proposed limits of waste placement.

(6) Plan drawings showing the systematic development of each phase of the scrap tire monofill facility. Each plan drawing numbered consecutively 6A, 6B, 6C, etc. shall show the phase, all previously operated phases, the grid system established in accordance with paragraph (B)(4)(f) of this rule, and all of the following:

(a) The location of any leachate collection and management structures or surface water control structures to be installed prior to accepting waste in the depicted phase.

(b) The extent of waste placement for that phase.

(c) The contours of any previously filled phases.

(d) The limits of final cover, transitional cover, and intermediate cover on the previously filled phases.

(e) The contours of the bottom limits of waste placement for the depicted phase.

(f) The location of access roads for the depicted phase.

(g) The permanent and temporary measures to be utilized to control surface water run-on and runoff, and erosion.

(7) The following detail drawings shall be on plan drawings numbered consecutively 7A, 7B, 7C, etc.:

(a) Recompacted soil liner, and any of the following if applicable, the flexible membrane liner, geosynthetic clay liner, liner cushion layer, leachate collection layer, and filter layer including any engineered components that are constructed through the composite liner system, and the interface between phases.

(b) Composite cap system, including any engineered components that are constructed through the composite cap system, and surface water control structures.

(c) Relationship of the composite cap system (if applicable) to the leachate collection and management system (if applicable), and recompacted soil liner, flexible membrane liner (if applicable), and geosynthetic clay liner (if applicable).

(d) All leachate collection and management system elements, including but not limited to the following:

   (i) Leachate collection layer.

   (ii) Collection pipes, including bedding media and boots.

   (iii) Filter layer.

   (iv) Sumps.

   (v) Conveyance apparatus.

   (vi) Storage tanks.
(e) Permanent ground water control structures, if any.

(f) Sedimentation pond and discharge structures and surface water run-on and runoff control structures.

(g) Other necessary details, including but not limited to structural fill for berms and subbase, and transitional cover.

(C) Reports. The following information shall be presented in narrative form in a report with a table of contents and divided and labeled according to paragraphs and subparagraphs (C)(1) to (C)(9) of this rule.

(1) Summary. Summary of the facility environs and a demonstration that the scrap tire monofill facility will meet the criteria for permit approval by the director specified in rules 3745-27-02 and 3745-27-71 of the Administrative Code. The demonstration shall include a discussion of the facility's, owner's, or operator's compliance with any applicable authorizing document(s), the facility's limits of waste placement and/or the temporary scrap tire storage area, and operational criteria.

[Comment: The discussion of the facility's, owner's, or operator's compliance status should compare the limits of waste placement and/or the temporary scrap tire storage area specified in the facility's authorizing document(s) with the information on existing waste required by paragraphs (B)(4) and (B)(5) of this rule. The discussion should also include the facility's, owner's, or operator's compliance with the operational requirements in rule 3745-27-75 of the Administrative Code.]


(3) Site investigation. A hydrogeologic and geotechnical site investigation report(s), which shall at a minimum include the following:

(a) Sufficient information to allow the director to determine the suitability of the site for scrap tire disposal through the following:

(i) Identification and characterization of the hydrogeology of the uppermost aquifer system and all stratigraphic units that exist above the uppermost aquifer system.

(ii) Characterization of the site geology and hydrogeology to allow for the evaluation of the proposed design of the scrap tire monofill facility and to ensure that it will be in compliance with the requirements of paragraph (C)(4) of this rule.

[Comment: The narrative portion of the hydrogeologic and geotechnical report focuses on the siting and ground water monitoring issues. The subsurface investigation portion of the report also addresses stability and design issues.]

(b) A description, based on publicly available information, of the regional geology and hydrogeology within one mile of the proposed scrap tire monofill facility. This shall include, but is not limited to the following:

[Comment: Publicly available information regarding unstable areas is placed in a separate section located in the stability analysis in paragraph (C)(4) of this rule.]

(i) The identification and average yield of the regional aquifer system(s).

(ii) The direction of ground water flow in the regional aquifer system(s).
(iii) The identification of recharge and discharge areas, within one mile of the limits of waste placement, of the regional aquifer system(s).

(iv) Regional stratigraphy, including any regional stratigraphic or structural features, such as the bedrock surface, bedrock dip, or joint systems, that may influence the ground water flow system.

(v) A description of the regional geomorphology, including the location of surface water bodies, flood plains, etc. and a description of any topographic features that may influence the ground water flow system.

c) The following documents:

(i) If any surface or underground mines were identified in accordance with paragraph (B)(2)(b)(viii) of this rule, a letter from the Ohio department of natural resources division of mineral resource management or other appropriate agency verifying type, mining method, location, depth, and status.

(ii) Documentation of who owns the mineral rights below the scrap tire monofill facility.

(iii) If any oil or gas wells were identified in accordance with paragraph (B)(2)(b)(viii) of this rule, a letter from the Ohio department of natural resources or other appropriate agency verifying type, location, depth and status.

(iv) A letter from the army corps of engineers agreeing with the wetland delineation, as depicted on the plan drawing with the information required by paragraph (B)(2)(a)(iii) of this rule, including if appropriate, that no wetlands are isolated.

d) A detailed description and analysis of the geology and hydrogeology under the proposed scrap tire monofill facility. This description shall be based on data collected using appropriate subsurface investigatory methods such as borings, test pits, monitoring wells, piezometers, tensiometers, geophysical surveys, dutch cone penetrometers, and soil gas surveys. The description and analysis shall include, but is not limited to, the following:

[Comment: This information may also be used in the stability analysis required by paragraph (C)(4) of this rule.]

(i) The consolidated and unconsolidated stratigraphic units from the ground surface down to the base of the uppermost aquifer system including the following:

(a) Characteristics, composition and features including the following:

(i) For unconsolidated stratigraphic units, the textural classification using the Unified Soil Classification System (USCS), described in ASTM D2487-00.

(ii) For consolidated stratigraphic units, the rock type(s) such as limestone, dolomite, coal, shale, siltstone, sandstone.

(iii) Color; moisture content; stratigraphic features such as layering, interbedding, or weathering; fracturing, jointing, and other types of secondary porosity; and any visible accessory minerals such as pyrite, calcite or gypsum.

(iv) Hydraulic conductivity.
(b) Thickness.

(c) Lateral extent.

(d) Depth and elevation.

(e) Variations in texture, saturation, stratigraphy, structure, or mineralogy exhibited by each stratigraphic unit that could influence the ground water flow or quality in the uppermost aquifer system or any overlying zones of saturation.

(ii) The local geomorphology at the proposed scrap tire monofill facility including surface water bodies or topographic features that could influence the ground water flow or quality in the uppermost aquifer system or any overlying zones of saturation.

(iii) Any local structural geology features under the proposed scrap tire monofill facility that could influence the ground water flow or quality in the uppermost aquifer system or any overlying zones of saturation.

(iv) The uppermost aquifer system and all significant zones of saturation above the uppermost aquifer system. This description shall include the depth to, and lateral and vertical extent of, the uppermost aquifer system and all significant zones of saturation above the uppermost aquifer system. This description and analysis shall include but shall not be limited to the following:

(a) Temporal fluctuations in ground water levels over a period of time to determine the seasonal effects on ground water flow directions.

[Comment: Temporal fluctuations will also be used for determining the temporal high phreatic and piezometric surfaces, required to address stability issues.]

(b) An interpretation of the ground water flow system, including hydraulic conductivity, rate of flow, direction of flow, vertical and lateral components of flow, and interconnections between and within the uppermost aquifer system and any significant zones of saturation above the uppermost aquifer system. This interpretation shall be described in both narrative and map form.

(c) Identification and characterization of recharge and discharge areas within the boundaries of the proposed scrap tire monofill facility. This shall include any relationships of ground water with seeps, springs, streams, and other surface water features.

(d) Yield of any significant zones of saturation and of the uppermost aquifer system(s).

(v) If the applicant chooses, site specific justification that an unconsolidated aquifer system capable of sustaining a yield of one hundred gallons per minute for a twenty-four-hour period (based on evidence gathered in accordance with paragraph (C)(3)(b) of this rule), is not located beneath the facility.

(e) Subsurface investigation information. The following information will be used to prepare the site investigation report narrative required in paragraphs (C)(3)(b) and (C)(3)(d) of this rule and the stability analyses required in paragraph (C)(4) of this rule. All submitted information shall be adequate to satisfy the performance standards of paragraphs (C)(3)(a) and (C)(4) of this rule. At a minimum the information shall include the following:

[Comment: The narrative portion of the hydrogeologic and geotechnical report focuses on the siting
and ground water monitoring issues. The subsurface investigation portion of the report also address stability and design issues.]

(i) Publicly available information collected and used to prepare the site investigation report narrative required in paragraph (C)(3)(b) of this rule and the plan sheets required in paragraph (B)(2) of this rule. For the purposes of this rule, "publicly available information" means written or published information from public or private sources that is reasonably available to the public, and includes but is not limited to visual surveys from public right-of-ways and public lands of the area surrounding the proposed residual waste landfill facility and/or written or oral surveys of the landowners around the proposed residual waste landfill facility. At a minimum, the publicly available information includes the following:

[Comment: As long as the applicant can document that a reasonable attempt was made to obtain the information, the application will be considered complete even if information is lacking (e.g. the written or oral survey is not responded to).]

(a) All well logs, and, where applicable, the decommissioning records, for public and private water supply wells within one mile of the proposed residual waste landfill facility.

(b) The Ohio department of natural resources, division of water's county ground water resource maps or other appropriate regional hydrogeological data.

(c) Other publicly available information.

(ii) Information collected at the site for each stratigraphic unit from the surface to the bottom of the uppermost aquifer system or to one hundred and fifty feet below the proposed liner system, whichever is shallower. The information will be used to prepare the site investigation report narrative required in paragraph (C)(3)(d) of this rule. This information shall be presented on logs appropriate for the subsurface investigatory method used. At a minimum the information shall include the following:

[Comment: The subsurface investigation conducted to provide the information required by this paragraph may be combined with the subsurface investigation conducted to provide the information required by paragraph (C)(3)(e)(v) of this rule.]

(a) Location of the subsurface investigation site (northing and easting location coordinates).

(b) Surface elevation surveyed to the nearest tenth of a foot.

(c) Depth interval for each stratigraphic unit.

(d) Field descriptions of the consolidated and unconsolidated units. At a minimum the information shall include the following:

(i) Textural classification for each unconsolidated stratigraphic unit using the Unified Soil Classification System (USCS), described in ASTM D2487-00.

(ii) Color.

(iii) Moisture content.

(iv) Stratigraphic features such as layering, interbedding, or weathering.

(v) Structural features such as fracturing or jointing.
(vi) Visible accessory minerals such as pyrite, calcite or gypsum.

(vii) Rock type such as limestone, dolomite, coal, shale, siltstone or sandstone.

(viii) Thickness.

(ix) Variations in texture, saturation, stratigraphy, structure or mineralogy in each stratigraphic unit.

(e) Depth to saturation.

(f) Hydraulic conductivity, including the following:

(i) For saturated unconsolidated stratigraphic units, at least one field measurement of hydraulic conductivity per saturated unconsolidated unit and one additional measurement per saturated unconsolidated unit for each twenty acres.

(ii) For unconsolidated stratigraphic units, from which an undisturbed sample can be collected, at least one laboratory measurement of vertical hydraulic conductivity per unconsolidated unit and one additional measurement per unconsolidated unit for each twenty acres.

(iii) For saturated consolidated stratigraphic units, at least one field measurement of hydraulic conductivity per saturated consolidated unit and one additional measurement per saturated consolidated unit for each twenty acres.

[Comment: Most field methods for measuring hydraulic conductivity primarily evaluate lateral hydraulic conductivity, but also account for at least some effects of vertical hydraulic conductivity over the tested interval. In cases where laboratory measurements of vertical hydraulic conductivity are obtained for unconsolidated saturated units which are wholly or partially saturated, the vertical hydraulic conductivity should be compared to the field hydraulic conductivity to help evaluate the extent to which near-vertical fractures may be contributing to ground water flow through the unit. Hydraulic conductivity data should be interpreted with respect to the primary and secondary porosity features that are observed or are reasonably expected to occur in the investigated units, as well as the stratigraphic and structural features of the investigated units.]

(g) Yield of any significant zones of saturation and of the uppermost aquifer.

(h) If an unconsolidated aquifer system capable of sustaining a yield of one hundred gallons per minute for a twenty-four-hour period is suspected beneath the facility based on evidence gathered in accordance with paragraph (C)(3)(b) of this rule, and the applicant proposes to revise that finding, the applicant must provide adequate site-specific information on the suspected aquifer system to justify any requested revision, including but not limited to the yield of any aquifer systems below the uppermost aquifer system.

(iii) Construction diagrams of all monitoring wells and piezometers. At a minimum the diagrams shall include the following:

(a) The top-of-casing elevation used for water level measurement reference surveyed to the nearest hundredth of a foot.
(b) The boring diameter and the inside diameter of the well casing.

(c) The total depth of the boring and the total depth of the well.

(d) The screened interval depth and elevation, and the screen slot size.

(e) A description of all construction materials and depth intervals for all construction materials.

(iv) Information collected at the site and used to prepare the stability analysis required in paragraph (C)(4) of this rule. This information shall be presented on logs appropriate for the subsurface investigatory method used. The subsurface investigatory method(s) and frequency must be adequate to find the unconsolidated stratigraphic units susceptible to bearing capacity failure, static stability failure, seismic stability failure, or settlement, at the site. The information shall be collected for each unconsolidated stratigraphic unit under the facility down to fifty feet below the proposed depths of excavation or deeper to any unconsolidated stratigraphic unit susceptible to bearing capacity failure, static stability failure, seismic stability failure or settlement based on field data gathered pursuant to paragraphs (C)(3)(d)(i) of this rule or publicly available data gathered pursuant to paragraph (C)(4)(f) of this rule. At a minimum the information shall include the following:

[Comment: Ohio EPA recommends a frequency of one subsurface investigatory site for every four acres on a more or less uniform grid across the site. However, for sites which are located in areas where landslides or mass movements of unconsolidated material have occurred, or are underlain by complex geology with multiple unconsolidated stratigraphic units, more borings may be necessary pursuant to paragraph (A)(1) of this rule. Sites which are located in areas with a consistent stratigraphy, which is supported by comprehensive and reliable information from previous studies, may use a lower frequency of borings. Ohio EPA recommends against boring through cap, existing waste, or liner to obtain this information. Other methods or increased borings around the landfill footprint should be used.]

[Comment: Given the objective of finding thin unconsolidated stratigraphic units susceptible to bearing capacity failure, static stability failure, seismic stability failure, or settlement, the unconsolidated stratigraphic units should be logged continuously, and the subsurface investigation may also need to go deeper if publicly available data gathered pursuant to paragraph (C)(4)(g) of this rule or if field data gathered pursuant to paragraph (C)(3)(d)(i) of this rule indicate that deeper susceptible units exist.]

[Comment: The subsurface investigation conducted to provide the information required by this paragraph may be combined with the subsurface investigation conducted to provide the information required by paragraph (C)(3)(e)(ii) of this rule.]

(a) Location of the subsurface investigation site (northing and easting location coordinates).

(b) Surface elevation surveyed to the nearest tenth of a foot.

(c) Depth interval for each stratigraphic unit.

(d) Field descriptions of the unconsolidated units. At a minimum the information shall include the following:

   (i) Textural classification for each unconsolidated stratigraphic unit using the Unified Soil Classification System (USCS), described in ASTM D2487-00.
(ii) Color.

(iii) Moisture content.

(iv) Stratigraphic features such as layering, interbedding, or weathering.

(v) For fine-grained unconsolidated units (e.g. silts and clays), field descriptions of consistency and plasticity or dilatancy.

(vi) Thickness.

(vii) Variations in texture, saturation, stratigraphy, structure or mineralogy in each stratigraphic unit.

(e) Identification of the depth interval of any samples collected including those submitted for laboratory testing.

(f) Depth to phreatic and piezometric surfaces.

[Comment: "Phreatic surface" is synonymous with the term "water table" and "piezometric surface" is synonymous with the term "potentiometric surface." Hydrogeologic investigations generally use "water table" for a water level surface in an unconfined saturated unit and "potentiometric surface" for the pressure head surface associated with a confined saturated unit. In hydrogeologic applications, the "water table" is considered a special type of potentiometric surface where the head pressure is equal to atmospheric pressure.]

[Comment: Any piezometric surfaces associated with bedrock that may affect the facility during excavation or construction may also be identified.]

(g) Results from penetration testing following ASTM D1586-99, plus the corrected and normalized standard penetration number, or results from mechanical cone penetration testing following ASTM D3441-98.

(v) Laboratory analysis on representative samples of all the unconsolidated stratigraphic units under the facility down to a minimum of fifty feet below the proposed depths of excavation. The information is used to prepare the stability analysis required in paragraph (C)(4) of this rule. At a minimum the information shall include the following:

[Comment: Undisturbed samples from at least ten per cent of the borings passing through each susceptible unit, or a minimum of three, whichever is greater, should be collected to provide representative data.]

(a) Grain size distribution (sieve and hydrometer curves).

(b) Atterberg limits.

(c) Specific gravity.

(d) In situ unit weight.

(e) In situ moisture content.

(f) Dry unit weight.
(g) For unconsolidated stratigraphic units susceptible to bearing capacity failure, the effective
drained or undrained peak shear strength parameters as appropriate using direct shear
(ASTM D3080-03), unconsolidated undrained compression (ASTM D2850-03a), or
consolidated undrained triaxial compression (ASTM D6467-99).

(h) For unconsolidated stratigraphic units susceptible to static stability failure or seismic stability
failure, the effective shear strength using ASTM D3080-03 (direct shear test) or ASTM
D4767-02 (consolidated undrained triaxial compression test), or ASTM D6467-99
(torsional ring shear test).

(i) For unconsolidated stratigraphic units susceptible to static stability failure or seismic stability
failure due to excessive increase in pore pressures from construction and operation
activities, the undrained shear strength using fully saturated samples shall be determined
using ASTM D2850-03a (unconsolidated-undrained triaxial compression).

(j) For unconsolidated stratigraphic units susceptible to settlement, the following parameters:

   (i) The coefficient of consolidation.
   (ii) The over consolidation ratio.
   (iii) The pre-consolidation pressure.
   (iv) The compression index.
   (v) The swelling index.
   (vi) The in situ void ratio.
   (vii) The effective porosity.

   (vi) Any other data generated.

(f) A detailed description of how the subsurface investigation was conducted to include the following:

   (i) The subsurface investigatory and sampling methods used in characterizing the geologic properties
       of the proposed scrap tire monofill facility and an explanation of why the particular subsurface
       investigatory method(s) was chosen.

   (ii) The analytical procedures and methodology used to characterize the consolidated and
       unconsolidated materials obtained from test pits and borings.

   (iii) The methodology, equipment, and procedures used to define the uppermost aquifer system and
       all significant zones of saturation above the uppermost aquifer system, including the following:

       (a) Well and piezometer construction specifications.
       (b) Water level measurement.

(4) Stability analysis. The following analyses establishing the stability of the scrap tire monofill facility and
the subsurface. The analyses shall provide sufficient information to allow Ohio EPA to sufficiently
characterize the facility geology to allow for the evaluation of the proposed design of the scrap tire
monofill facility.
(a) The hydrostatic uplift analysis shall include the following:

(i) The scope, extent, and findings of the subsurface investigation conducted in accordance with paragraph (C)(3) of this rule, as it pertains to hydrostatic uplift.

(ii) A narrative description of the rationale used for the selection of the analysis input parameters.

(iii) A description of the method used to calculate hydraulic uplift.

(iv) A description of the assessed failure modes and conditions.

(v) A narrative description of the rationale used for the selection of the critical cross section that, at a minimum, shall consider the worst case intersection of the highest phreatic or piezometric surface with the maximum excavation depth.

(vi) A plan drawing showing the greatest temporal high phreatic or piezometric surface (prepared in compliance with paragraph (B)(3)(d) of this rule) and the horizontal and vertical limits of excavation (prepared in compliance with paragraph (B)(4)(a) of this rule).

(vii) A profile view of the critical area that fully depicts the analysis input model including the following:

(a) The material boundaries.

(b) The applicable dimensions including but not limited to the depth of excavation, and depth to the temporal high phreatic and piezometric surfaces.

(c) The material types.

(d) The in situ weights and saturated unit weights.

(viii) The actual calculations and/or computer output.

(b) The bearing capacity analysis for any vertical sump risers on the composite liner system shall include the following:

(i) The scope, extent, and findings of the subsurface investigation conducted in accordance with paragraph (C)(3) of this rule, as it pertains to bearing capacity.

(ii) A narrative description of the rationale used for the selection of the analysis input parameters.

(iii) A description of the method used to calculate bearing capacity.

(iv) A description of the assessed failure modes and conditions.

(v) A profile view of the critical cross section that fully depicts the analysis input model including the following:

(a) The material boundaries.

(b) The temporal high piezometric surface.

(c) The material types.

(d) The in situ unit weights and saturated unit weights.
(vi) The plan view of the critical cross section including northings and eastings for the endpoints of the section.

(vii) The actual calculations and/or computer output.

c) The static stability analysis shall include the following:

(i) The scope, extent, and findings of the subsurface investigation conducted in accordance with paragraph (C)(3) of this rule, and earthen materials testing program as it pertains to static stability.

(ii) A narrative description of the rationale used for the selection of the analysis input parameters.

(iii) A description of the method used to calculate static stability.

(iv) An assessment of failure modes and conditions that at a minimum should include the following:

(a) Deep-seated translational and rotational failure mechanisms of internal slopes, interim slopes and final slopes for drained conditions and, as applicable, undrained conditions.

(b) Shallow transitional and rotational failure mechanisms of internal slopes and final slopes for saturated conditions and drained conditions.

(v) For each of the failure modes and conditions assessed, provide a narrative description of the rationale used for the selection of the critical cross sections for the internal slopes, interim slopes, and final slopes.

(vi) A profile view of the critical cross sections that fully depicts the analysis input model including the following:

(a) The material boundaries.

(b) The temporal high phreatic and piezometric surfaces.

(c) The material types.

(d) The in situ unit weights and, where applicable, the in situ saturated unit weights.

(e) The material shear strengths.

(vii) The plan view of the critical cross sections that includes the northings and eastings for the endpoints of the sections.

(viii) A summary of the results using two dimensional limit equilibrium methods or other methods acceptable to the director for each of the critical cross sections.

(ix) The actual calculations and/or computer output.

d) The seismic stability analysis shall include the following:

(i) The scope, extent, and findings of the subsurface investigation conducted in accordance with paragraph (C)(3) of this rule, and earthen materials testing program as it pertains to seismic stability.

(ii) A narrative description of the rationale used for the selection of the analysis input parameters.
(iii) A description of the method used to calculate the seismic stability.

(iv) An assessment of failure modes and conditions that, at a minimum, should include the following:

(a) Deep-seated translational and rotational failure mechanisms of final slopes for drained conditions.

(b) Deep-seated translational and rotational failure mechanisms of internal and interim slopes for drained conditions, if required by the director.

(c) Shallow translational and rotational failure mechanisms of final slopes for drained conditions.

(d) Liquefaction failure mechanisms of internal slopes, interim slopes, and final slopes.

(v) For each of the failure modes and conditions assessed, provide a narrative description of the rationale used for the selection of the critical cross sections for the internal slopes, interim slopes, and final slopes.

(vi) The profile views of the critical cross sections that fully depict the analysis input model including the following:

(a) The material boundaries.

(b) The temporal high phreatic and piezometric surfaces.

(c) The material types.

(d) The in situ unit weights and, where applicable, the in situ saturated unit weights.

(e) The material shear strengths.

(vii) The plan views of the critical cross sections that include the northings and eastings for the endpoints of the sections.

(viii) A summary of the results using two or three dimensional limit equilibrium methods or other methods acceptable to the director for each of the critical cross sections.

(ix) The actual calculations and/or computer output.

(e) The settlement analyses of the liner system shall include the following:

(i) The scope, extent, and findings of the subsurface investigation conducted in accordance with paragraph (C)(3) of this rule, and earthen materials testing program as it pertains to settlement.

(ii) A narrative description of the rationale used for the selection of the analysis input parameters.

(iii) A description of the method used to calculate the settlement.

(iv) A description of the assessed failure modes and conditions.

(v) A summary of the results.

(vi) The actual calculations of settlement and/or computer output.

(f) A description, based on publicly available information, of unstable areas within one mile of the limits.
of waste placement. For the purposes of this rule, "publicly available information" means written or published information from public or private sources that is reasonably available to the public, and includes but is not limited to visual surveys from public right-of-ways and public lands of the area surrounding the proposed scrap tire monofill facility and/or written or oral surveys of the landowners around the proposed scrap tire monofill facility. The description shall include the following:

[Comment: As long as the applicant can document that a reasonable attempt was made to obtain the information, the application will be considered complete even if information is lacking (e.g. the written or oral survey is not responded to).]

(i) Regional stratigraphic or structural features that are susceptible to bearing capacity failure, static stability failure, seismic stability failure, or settlement.

(ii) Areas susceptible to liquefaction.

(iii) Areas susceptible to mass movement such as landslides, debris slides and falls, and rock falls.

(iv) Areas impacted by natural and human induced activities such as cutting and filling, draw down of ground water, rapid weathering, heavy rain, seismic activity and blasting.

(v) Presence of karst terrain.

(vi) Presence of underground mining.

(vii) Areas susceptible to coastal and river erosion.

If the scrap tire monofill facility is located in any of these areas, provide an analysis using the publicly available information and findings of the subsurface investigation conducted in accordance with paragraph (C)(3) of this rule, that the structural components will maintain their integrity.

(5) Calculations. The following design calculations with references to equations used, showing site specific input and assumptions that demonstrate compliance with the design requirements of rule 3745-27-72 of the Administrative Code:

(a) Calculations showing gross volume of the scrap tire monofill facility in cubic yards and anticipated life in years, and the gross volume in cubic yards and anticipated life of each phase of the scrap tire monofill facility.

(b) Recompacted soil liner thickness, as required by rule 3745-27-72 of the Administrative Code.

(c) Calculations for the leachate head and flow.

(d) Calculations for sizing any leachate storage tanks based on the volume of leachate generated after final closure.

(e) Pump size and pipe size calculations based on paragraph (C)(5)(c) of this rule.

(f) Pipe strength and pipe deflection calculations for the leachate collection and management system.

(g) An itemized written closure cost estimate, in current dollars, based on the following:

(i) The cost of final closure of a scrap tire monofill facility in accordance with rule 3745-27-73 of the
Administrative Code.

(ii) A third-party conducting the final closure activities, assuming payment to its employees of not less than the applicable prevailing wage.

(h) An itemized written post-closure care cost estimate, in current dollars, based on the following:

(i) The cost of post-closure care of the phase(s) of the scrap tire monofill facility in accordance with rule 3745-27-74 of the Administrative Code.

(ii) A third-party conducting the post-closure care activities, assuming payment to its employees of not less than the applicable prevailing wage.

(i) Soil erosion calculations.

(j) Calculations for sizing and surfacing water control structures and verifying that scouring and crushing is minimized.

(k) Sedimentation basin calculations.

(l) Other relevant calculations.

(6) Construction information. Demonstration of physical resistance as required in paragraphs (C) and (D) of rule 3745-27-72 of the Administrative Code and compaction equipment slope limitations.

(7) Operational information. State the following information, which if modified, could require a permit:

(a) Authorized maximum daily waste receipt, as defined in rule 3745-27-01 of the Administrative Code, requested for the scrap tire monofill facility.

(b) Technique of waste receipt, including but not limited to accepting baled scrap tires, loose scrap tires, or using tippers.

(c) Type of equipment to be used to construct, operate, and maintain the scrap tire monofill facility.

[Comment: A change in equipment that decreases the capability of the owner or operator to handle the waste received, may be considered to endanger human health and may require a permit.]

(8) Plans. The following plans:

(a) The quality assurance/quality control plan for the engineered components addressing the following:

(i) Surveying.

(ii) Calibration of testing equipment.

(iii) Sampling and testing procedures to be used in the field and in the laboratory, including but not limited to the following:

(a) Testing required by rule 3745-27-75 of the Administrative Code.

(b) Testing required due to design requirements that must be met.

(c) Voluntary testing.
Procedures shall establish testing frequency, parameters, and sample locations.

(iv) Procedures to be followed if a test fails.

(b) The "final closure/post-closure plan" in paragraph (B) of rule 3745-27-73 of the Administrative Code.

(9) Notifications and certifications. All applications shall include the following:

(a) Letters of intent to establish or modify a scrap tire monofill facility, which include a description of property and facility boundaries, shall be sent via certified mail or any other form of mail accompanied by a receipt to the following entities (copies of these letters of intent with copies of the mail receipts shall be included with the application):

(i) The governments of the general purpose political subdivisions where the scrap tire monofill facility is located, e.g., county commissioner, legislative authority of a municipal corporation, or the board of township trustees.

(ii) The single county or joint county solid waste management district.

(iii) The owner or lessee of any easement or right of way bordering or within the proposed facility boundaries that may be affected by the proposed scrap tire monofill facility.

(iv) The local zoning authority having jurisdiction, if any.

(v) The park system administrator, if any part of the scrap tire monofill facility is located within or shares the park boundary.

(vi) The conservancy district, if any part of the scrap tire monofill facility is located within or shares the conservancy district boundary.

(b) A list of the permits, licenses, plan approvals, authorizations or other approvals that have been applied for and the local, state or federal office or agency where application has been made.

(c) Proof of property ownership or lease agreement to use the property as a scrap tire monofill facility.
Five Year Review (FYR) Dates: 04/23/2014 and 04/23/2019

CERTIFIED ELECTRONICALLY

Certification

04/23/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.72
Rule Amplifies: 3734.72, 3734.77
3745-27-71 Additional criteria for approval of scrap tire monofill facility permit to install applications.

(A) General criteria.

The director shall not approve any permit to install application for a scrap tire monofill facility unless the director determines all of the following:

(1) Establishment or modification and operation of the scrap tire monofill facility will not violate Chapter 3704., 3734., or 6111. of the Revised Code.

(2) The scrap tire monofill facility will be capable of being constructed, operated, closed, and maintained during the post-closure care period in accordance with Chapter 3745-27 of the Administrative Code, and with the terms and conditions of the permit.

(3) The applicant, and/or the person(s) listed as owner and operator if the owner and operator are not the applicant, who has previously been or is currently responsible for the management or operation of one or more solid waste facilities, has managed or operated such facility in substantive compliance with applicable provisions of Chapters 3704., 3734., 3714., and 6111. of the Revised Code, and any rules, permits or other authorizations issued thereunder, and has maintained substantial compliance with all applicable orders issued by the director, the environmental review appeals commission, or courts having jurisdiction in accordance with Chapter 3746-13 of the Administrative Code, in the course of such previous or current management or operations. The director may take into consideration whether substantial compliance has been maintained with any applicable order from a board of health maintaining a program on the approved list and any other courts having jurisdiction.

(4) The person listed as operator meets the requirements of division (L) of section 3734.02 of the Revised Code and rules adopted thereunder.

(5) The applicant meets the requirements of sections 3734.40 to 3734.47 of the Revised Code and rules adopted thereunder.

(B) Discretionary criteria.

The director may consider, when determining whether or not to approve a permit to install application for a scrap tire monofill facility, the following:

(1) The impact the establishment or modification of the scrap tire monofill facility may have on corrective measures that have been taken, are presently being taken, or are proposed to be taken at the facility or in the immediate area.

(2) The technical ability of the owner or operator to adequately monitor the impact of the scrap tire monofill facility on the environment.

(C) Design criteria.

The director shall not approve a permit to install application for any of the following unless the director determines that the application conforms to the appropriate sections of rule 3745-27-72 of the Administrative Code as follows:

(1) New scrap tire monofill facilities and vertical and lateral expansions areas shall comply with paragraphs (C), (D), and (E) of rule 3745-27-72 of the Administrative Code.
(2) [Reserved.]

(3) Application for a scrap tire monofill facility submitted in response to division (B) of section 3734.77 of the Revised Code shall comply with paragraphs (C), (D), and (E) of rule 3745-27-72 of the Administrative Code.

(4) Permit to install applications exclusively requesting a change in technique of waste receipt, or type of waste received, or type of equipment used, need not comply with rule 3745-27-72 of the Administrative Code.

(5) Applications exclusively requesting a change in the authorized maximum daily waste receipt (AMDWR) and submitted pursuant to paragraph (E) of this rule need not comply with rule 3745-27-72 of the Administrative Code.

(6) Other "modifications" of scrap tire monofill facility, as the term modification is defined in rule 3745-27-02 of the Administrative Code shall, comply with the relevant paragraphs of rule 3745-27-72 of the Administrative Code.

(D) [Reserved.]

(E) Additional criteria for authorized maximum daily waste receipt (AMDWR) increase applications.

The director shall not approve a permit to install application for a permanent change in the AMDWR for the scrap tire monofill facility unless the owner or operator demonstrates that the scrap tire monofill facility can operate in compliance with all applicable solid waste regulations while receiving the requested maximum daily waste receipt. An adequate demonstration for a scrap tire monofill facility includes, but is not limited to, the following:

1. An explanation of the overall facility design including construction time frames and fill sequences for the scrap tire monofill facility.
2. Operational criteria such as the scrap tire monofill facility's equipment availability, cover availability, and manpower.
3. If applicable, the owner's or operator's previous compliance history throughout the life of the scrap tire monofill facility and the daily logs for any period that the scrap tire monofill facility was out of compliance.

[Comment: An application for a temporary increase in the AMDWR must satisfy the criteria specified rule 3745-37-14 of the Administrative Code.]

(F) [Reserved.]

(G) Applicability of siting criteria.

The director shall not approve the permit to install application for scrap tire monofill facility unless the director determines that the application meets the criteria specified in paragraph (H) of this rule, as follows:

1. Call-in permits. A scrap tire monofill facility for which the permit to install application, including any proposed lateral or vertical expansions, is submitted in response to division (B) of section 3734.77 of the Revised Code, shall meet all the criteria specified in paragraph (H) of this rule.
2. Operation changes. A permit to install application which exclusively proposes a substantial change in technique of waste receipt, or type of waste received, or type of equipment used at the scrap tire
monofill facility, need not comply with the criteria specified in paragraph (H) of this rule.

(3) AMDWR increase. A permit to install application which exclusively proposes a change in the AMDWR limit for the scrap tire monofill facility need not comply with the criteria specified in paragraph (H) of this rule.

(4) Other modification permits. A permit to install application that incorporates a "modification" of the scrap tire monofill facility as that term is defined in rule 3745-27-02 of the Administrative Code, and the modification does not incorporate a capacity increase or otherwise change the vertical or horizontal limits of waste placement, need not comply with the criteria specified in paragraph (H) of this rule.

(5) Proposed new landfill or vertical or lateral expansion. A proposed new landfill or a vertical or lateral expansion of an existing landfill shall meet all of the criteria specified in paragraph (H) of this rule; however, the director may approve the application for one (or more) non-contiguous areas proposed in the application which meet the criteria specified in paragraph (H) of this rule, even though other proposed areas do not meet the criteria specified in paragraph (H) of this rule.

(H) Siting criteria.

(1) The limits of waste placement and/or the temporary scrap tire storage area of the scrap tire monofill facility are not located within one thousand feet of or within any of the following areas, in existence on the date of receipt of the permit to install application by Ohio EPA:

(a) National park or recreation area.

(b) Candidate area for potential inclusion in the national park system.

(c) State park or established state park purchase area.

(d) Any property that lies within the boundaries of a national park or recreation area but that has not been acquired or is not administered by the secretary of the United States department of the interior.

The one-thousand-foot setback from the limits of solid waste placement does not apply if the applicant obtains a written authorization from the owner(s) and the designated authority of the areas designated in paragraph (H)(1) of this rule to locate the limits of solid waste placement within one thousand feet. Such authorizations must be effective prior to the issuance date of the permit.

[Comment: Pursuant to division (M) of section 3734.02 of the Revised Code, the limits of solid waste placement cannot be located within these areas.]

(2) Ground water aquifer system protection.

(a) Sole source aquifer.

The scrap tire monofill facility is not located above an aquifer declared by the federal government under the Safe Drinking Water Act, 42 U.S.C 300f et. seq. (2003), to be a sole source aquifer prior to the date of receipt of the permit to install application by Ohio EPA.

(b) One hundred gallons per minute (gpm) aquifer system.

The scrap tire monofill facility is not located above an unconsolidated aquifer system capable of sustaining a yield of one hundred gpm for a twenty-four-hour period to an existing or future water supply well located within one thousand feet of the limits of waste placement.
(c) Isolation distance.

The isolation distance between the uppermost aquifer system and the bottom of the recompacted soil liner of a scrap tire monofill facility is not less than five feet of in-situ geologic material constructed in accordance with rule 3745-27-72 of the Administrative Code.

(3) Ground water setbacks.

(a) A wellhead protection area or a drinking water source protection area for a public water system using ground water. The limits of waste placement and any temporary or permanent leachate ponds or lagoons are not located within the surface and subsurface areas of a wellhead protection area or a drinking water source protection area for a public water system using ground water.

For purpose of this paragraph a wellhead protection area includes areas near or surrounding a public water supply well or well field as delineated by the owner or operator of the public water supply well or well field and endorsed by Ohio EPA.

For purposes of this paragraph a drinking water source protection area for a public water system using ground water includes areas near or surrounding a public water supply well or well field as delineated by Ohio EPA. For the purposes of this paragraph, the prohibition against siting in a drinking water source protection area for a public water system using ground water shall not be effective until a map of the delineated area is sent by Ohio EPA and received by the owner or operator of the relevant public water supply well or well field.

[Comment: Information on wellhead protection areas and drinking water source protection area for public water system using ground water may be obtained from Ohio EPA's division of drinking and ground waters.]

(b) Underground mine.

The scrap tire monofill facility is not located within an area of potential subsidence due to an underground mine or within the angle of draw of an underground mine in existence on the date of receipt of the permit to install application by Ohio EPA unless the potential impact to the facility due to subsidence is minimized.

[Comment: Removal or filling of the mines is an acceptable method for minimizing the potential for subsidence.]

(c) One thousand feet from water supply well.

The limits of waste placement are not located within one thousand feet of a water supply well or a developed spring in existence on the date the permit to install application was received by Ohio EPA, unless one or more of the following conditions are met:

(i) The water supply well or developed spring is controlled by the applicant and provided the following:

(a) The water supply well or developed spring is needed as a source of nonpotable water in order to meet the requirements of an approved permit or as a source of nonpotable water used in a manufacturing process.

(b) No other reasonable alternate water source is available.
(c) The water supply well or developed spring is constructed to prevent contamination of the ground water.

(ii) The water supply well or developed spring is at least five hundred feet hydrogeologically upgradient of the limits of waste placement and the applicant demonstrates that the potential for migration of landfill gas to that well or developed spring is minimized.

[Comment: If the applicant does not meet the demonstration, then the limits of waste placement must be located at least one thousand feet hydrogeologically downgradient of the water supply well or developed spring.]

(iii) The water supply well or developed spring is separated from the limits of waste placement by a hydrogeologic barrier.

(iv) The water supply well or developed spring was constructed and is used solely for monitoring ground water quality.

For the purposes of this paragraph, a developed spring is any spring that has been permanently modified by the addition of pipes or a collection basin to facilitate the collection and use of the spring water.

(4) General setbacks.

(a) One thousand feet from natural areas.

The limits of waste placement and/or the temporary scrap tire storage area of the scrap tire monofill facility are not located within one thousand feet of the following:

(i) Areas designated by the Ohio department of natural resources as either a state nature preserve including all lands dedicated under the Ohio natural areas law, a state wildlife area, or a state wild, scenic or recreational river.

(ii) Area designated, owned, and managed by Ohio historical society as a nature preserve.

(iii) Areas designated by the United States department of the interior as either a national wildlife refuge or a national wild, scenic or recreational river.

(iv) Areas designated by the United States forest service as either a special interest area or a research natural area in the Wayne national forest.

(v) Stream segments designated by Ohio EPA as either a state resource water, a coldwater habitat, or an exceptional warmwater habitat.

[Comment: Stream segments designated as state resource waters may include some wetlands. Those wetlands that do not meet this designation are addressed in paragraph (H)(4)(d) of this rule.]

(b) Three hundred feet from property line.

The limits of waste placement and/or the temporary scrap tire storage area of the scrap tire monofill facility are not located within three hundred feet of the scrap tire monofill facility's property line.

(c) One thousand feet from domicile.
The limits of waste placement and/or the temporary scrap tire storage area of the scrap tire monofill facility are not located within one thousand feet of a domicile, whose owner has not consented in writing to the location of the scrap tire monofill facility, in existence on the date of receipt of the permit to install application by Ohio EPA.

(d) Two hundred feet from surface waters.

The limits of waste placement and/or the temporary scrap tire storage area of the scrap tire monofill facility are not located within two hundred feet of areas determined by Ohio EPA or the United States army corps of engineers to be a stream, lake, or wetland.

(e) Seismic impact zone.

The limits of waste placement and the leachate management system are not located in a "seismic impact zone" as that term is defined in rule 3745-27-01 of the Administrative Code, unless the owner or operator demonstrates that all containment structures, including liners, leachate collection systems, sedimentation ponds, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site.

(f) Floodway and flood plain.

The limits of waste placement and/or the temporary scrap tire storage area of the scrap tire monofill facility is not located in a floodway, and the limits of waste placement and the leachate management system are not located in a regulatory flood plain.

[Comment: Pursuant to division (A) or (G) of section 3734.02 of the Revised Code, an applicant may request a variance or exemption from any of the siting criteria contained in this rule. However, pursuant to division (M) of section 3734.02 of the Revised Code, the director shall not issue a permit, variance or exemption that authorizes a new scrap tire monofill facility, or an expansion of an existing scrap tire monofill facility, within the boundaries of the areas indicated in paragraph (H)(1) of this rule.]
Five Year Review (FYR) Dates: 04/23/2014 and 04/23/2019

CERTIFIED ELECTRONICALLY

Certification

04/23/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.12, 3734.72
Rule Amplifies: 3734.12, 3734.72, 3734.77
Scrap tire monofill facility construction.

(A) Applicability. The construction requirements specified in this rule are applicable to the following:

(1) A scrap tire monofill facility.

(2) A scrap tire monocell facility as specified in rule 3745-27-69 of the Administrative Code.

(B) [Reserved]

(C) The owner or operator shall comply with the following specifications in the design and construction of the scrap tire monofill or monocell facility. Alternatives for paragraphs (C)(1)(a) to (C)(1)(e) of this rule may be used if it is demonstrated to the satisfaction of the director or his authorized representative that the materials and techniques will result in each lift having a maximum permeability of \(1 \times 10^{-6}\) cm/sec.

(1) A recompacted soil liner shall at a minimum comply with the following:

(a) Be constructed using loose lifts eight inches thick or less to achieve uniform compaction. Each lift shall have a maximum permeability of one times ten to the minus six centimeters per second \((1 \times 10^{-6}\) cm/sec).

(b) Be constructed of a soil with a maximum clod size of three inches or half the lift thickness, whichever is less.

(c) Be constructed of a soil as follows:

(i) With one hundred per cent of the particles having a maximum dimension not greater than two inches.

(ii) With not more than ten per cent of the particles, by weight, having a dimension greater than 0.75 inches.

(iii) With not less than fifty per cent of the particles, by weight, passing through the 200-mesh sieve.

(iv) With not less than twenty-five per cent of the particles, by weight, having a maximum dimension not greater than 0.002 millimeters.

(d) Be compacted to at least ninety-five per cent of the maximum "standard proctor density" using ASTM D698-00a or at least ninety per cent of the maximum "modified proctor density" using ASTM D1557-00.

(e) Be compacted at a moisture content at or wet of optimum.

(f) Not be comprised of solid waste.

(g) Be constructed using the number of passes and lift thickness, and the same or similar type and weight of compaction equipment established by testing required in paragraphs (C)(1)(m) and (C)(1)(n) of this rule.

(h) Be placed on the bottom and exterior excavated sides of the monofill and have a minimum bottom slope of two per cent and a maximum slope based on the following:

(i) Compaction equipment limitations.
(ii) Slope stability.

(i) Be constructed on a prepared surface that shall comply with the following:

(i) Be free of debris, foreign material, and deleterious material.

(ii) Be able to bear the weight of the facility and its construction and operations without causing or allowing a failure of the liner to occur through settling.

(iii) Not have any abrupt changes in grade that may result in damage to geosynthetics.

(j) Be at least one of the following:

(i) Three feet thick, unless the director approves an alternate thickness, to be no less than one and one-half feet thick.

(ii) One and one-half feet thick with a geosynthetic clay liner that meets the specifications in paragraph (C)(3) of this rule.

(iii) Based on a design acceptable to the director that is no less protective of human health and the environment than the designs specified in paragraphs (C)(1)(j)(i) and (C)(1)(j)(ii) of this rule.

[Comment: A flexible membrane liner is not used due to the heat or contact with burning pyrolitic oils from a fire.]

(k) Have a factor of safety for hydrostatic uplift not less than 1.4.

(l) Be adequately protected from damage due to desiccation, freeze/thaw cycles, wet/dry cycles, and the intrusion of objects during construction and operation.

(m) The recompacted soil liner shall be modeled by the construction of test pads. Test pads shall comply with the following:

(i) Be designed such that the proposed tests are appropriate and their results are valid.

(ii) Be constructed to establish the construction details, or verify or amend the construction details proposed in the approved permit, which are necessary to obtain sufficient compaction to satisfy the permeability requirement. The construction details include such items as the lift thickness, the water content necessary to achieve the desired compaction, and the type, weight, and number of passes of construction equipment.

(iii) Be constructed prior to the construction of the scrap tire monofill or monocell facility component which the test pad will model.

(iv) Be constructed whenever there is a significant change in soil material properties.

(v) Have a minimum width three times the width of compaction equipment, and a minimum length two times the length of compaction equipment, including power equipment and any attachments.

(vi) Be comprised of at least four lifts.

(vii) Be tested for field permeability, following the completion of test pad construction, using methods acceptable to the director. For each lift, a minimum of three tests for moisture content
and density shall be performed.

(viii) Be reconstructed as many times as necessary to meet the permeability requirement. Any amended construction details shall be noted for future soil liner or soil barrier layer in alterations section of the construction certification report prepared in accordance with paragraph (H) of this rule.

(ix) An alternative to test pads may be used if it is demonstrated to the satisfaction of the director or his authorized representative that the alternative meets the requirements of this paragraph.

(n) If test pad results necessitate amended construction details, as outlined in paragraph (C)(1)(m)(viii) of this rule, the amended construction details shall replace the appropriate construction details from the approved permit to install. The scrap tire monofill or monocell facility component which the test pad modeled shall be constructed using the amended construction details. These amendments shall be explicitly outlined in the construction certification report required by paragraph (H) of this rule.

(o) Moisture content and density testing of the recompacted soil liner and recompacted soil barrier in the cap system shall be performed at a frequency of no less than five tests per acre per lift. Any penetrations shall be repaired using methods acceptable to the director.

(2) A flexible membrane liner, placed on the recompacted soil liner, for submergence facilities only, or recompacted soil barrier layer, shall be sixty mil high density polyethylene (HDPE) and meet the requirements in paragraphs (C)(2)(e) and (C)(2)(f) of this rule. Other materials or thicknesses may be used if, at a minimum, the flexible membrane liner meets all the following:

(a) Be negligibly permeable to fluid migration.

(b) Be physically and chemically resistant to chemical attack by the scrap tires, leachate, or other materials which may come in contact with the flexible membrane liner.

(c) Be seamed to allow no more than negligible amounts of leakage; the seaming material shall be physically and chemically resistant to chemical attack by the scrap tires, leachate, or other materials which may come in contact with the seams.

(d) Have properties for its installation and use which are acceptable to the director.

(e) Have a minimum thickness of forty mils.

(f) Be tested in accordance with the following, unless the manufacturer's specifications for testing are more stringent than the paragraphs (C)(2)(f)(i) to (C)(2)(f)(iii) of this rule, in which case the manufacturer's specifications shall be used:

(i) For the purpose of testing every seaming apparatus in use each day, peel and shear tests shall be performed on scrap pieces of flexible membrane liner at the beginning of the seaming period and every four hours thereafter.

(ii) Nondestructive testing shall be performed on one hundred per cent of the flexible membrane liner seams.

(iii) Destructive testing for peel and shear shall be performed at least once for every five hundred feet of seam length. An alternate means may be used if it is demonstrated to the satisfaction of the director or his authorized representative that the alternate means meets the requirements of this paragraph.
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(3) A geosynthetic clay liner shall have the following characteristics:

(a) Be negligibly permeable to fluid migration.

(b) Be installed to allow no more than negligible amounts of leakage by a minimum overlap of six inches, or, for end-of-panel seams, a minimum overlap of twelve inches. Overlap shall be increased in accordance with manufacture's specifications or to account for shrinkage due to weather conditions.

(c) Have a bentonite mass per unit area of at least one pound per square foot.

(d) Be installed in accordance with the manufacture's specifications in regards to handling, overlap, and the use of granular or powdered bentonite to enhance bonding at the seams.

(e) In the case of geosynthetic clay liner used in lieu of a portion of the recompacted soil barrier layer pursuant to paragraph (C)(9) of this rule, the geosynthetic clay liner shall be constructed on an engineered subgrade that meets the following specifications:

(i) The thickness of the subgrade shall be sufficient to achieve an evenly graded surface and shall be a minimum of twelve inches.

(ii) Paragraphs (C)(1)(c)(i) and (C)(1)(c)(iv) of this rule (particle size).

(iii) Paragraph (C)(1)(d) of this rule (proctor density).

(iv) After being smooth-rolled, the surface shall not have sharp edged or protruding particles.

(v) The particle size and proctor density required by this paragraph shall be verified by tests performed on representative samples based on the variability and homogeneity of the material, but no less than a minimum of once for every five thousand cubic yards of material used in the engineered subgrade.

(vi) Field density testing in accordance with paragraph (C)(1)(o) of this rule at a frequency not less than five tests per acre. Any penetrations in the subgrade as a result of the testing must be repaired using bentonite or a bentonite-soil mixture.

(4) A leachate management system shall be designed to prevent clogging and crushing of the system, and shall, at a minimum, consist of the following:

(a) A drainage layer placed on top of the liner that is able to rapidly collect leachate entering the system. The granular material shall comply with the following:

(i) Have a minimum permeability of one times ten to the minus three centimeters per second ($1 \times 10^{-3}$ cm/sec).

(ii) Have a minimum thickness of one foot.

(iii) Have a negligible amount of fines.

(iv) Not contain more than five per cent carbonate material.

(v) The drainage layer shall not consist of scrap tires if a geosynthetic clay liner is used in the liner of the monofill or monocell facility.

An alternate material and/or thickness may be used if it is demonstrated to the satisfaction of the
director or his authorized representative that the material meets the requirements of this paragraph.

(b) A means to remove leachate from the bottom of the facility. Leachate collection shall comply with the following:

(i) Be designed to collect leachate within the limits of waste placement.

(ii) Be designed to be capable of maintaining less than a one foot depth of leachate over the liner, excluding the leachate sump collection point(s).

(iii) Have a minimum slope of 2.0 per cent.

(iv) Have lengths and configuration which shall not exceed the capabilities of clean-out devices.

(v) Be provided with access for clean-out devices, as required by the director, which shall be protected from differential settling.

An alternative means for leachate removal may be used if it is demonstrated to the satisfaction of the director or his authorized representative that the means for leachate removal meets the requirements of this paragraph.

(c) A filter layer, to prevent clogging of the leachate collection system.

(d) A protective layer to protect the recompacted soil liner and leachate collection system from damage due to dessication, freeze/thaw cycles, wet/dry cycles, and the intrusion of objects during construction and operation.

(e) Lift stations which are to be protected from adverse effects from leachate and differential settling. If manholes are used as lift stations, they shall be equipped with automatic high level alarms located no greater than six feet above the invert of the leachate inlet pipe. Lift station pumps shall be of adequate capacity and shall automatically commence pumping before the leachate elevation activates the high level alarm or if a gravity drainage system is used it shall be of adequate capacity to meet the requirements of paragraph (C)(4)(b) of this rule.

(5) Any leachate conveyance and storage structures located outside of the limits of scrap tire placement shall be no less protective of the environment than the scrap tire monofill facility, as determined by the director, and shall comply with the following:

(a) Be monitored, as required by the director.

(b) For storage structures, have a minimum of one week of storage capacity using design assumptions simulating final closure completed in accordance with rule 3745-27-73 of the Administrative Code.

(e) If, at any time, leachate is evaluated to be hazardous in accordance with rule 3745-52-11 of the Administrative Code, it shall be managed in accordance with Chapters 3745-50 to 3745-69 of the Administrative Code, and the generator standards for storage shall apply in accordance with Chapter 3745-52 of the Administrative Code.

(6) Any permanent or temporary surface water control structures shall, at a minimum, be designed to accommodate, by non-mechanical means, the peak flow from the twenty-five year/twenty-four hour storm event and to minimize silting and scouring.

(7) At least three permanent survey marks on separate sides of the scrap tire monofill or monocell facility
shall be within easy access to the limits of waste placement in accordance with the following:

(a) Survey marks shall be referenced horizontally to the "1927 North American Datum, 1983 North American Datum, or State Plane Coordinate System and vertically to the 1929 or 1988 North American Vertical Sea Level Datum" as identified on the 7.5 minute series quadrangle sheets published by the United States geological survey.

(b) Survey marks shall be at least as stable as a poured concrete monument ten inches in diameter installed to a depth of forty-two inches below the ground surface. Each constructed survey mark shall include a corrosion resistant metallic disk which indicates horizontal and vertical coordinates of the survey mark and shall contain a magnet or ferromagnetic rod to allow identification through magnetic detection methods.

(c) Survey control standards for the survey marks shall be in accordance with the following:

(i) For the first facility survey mark established from the known control point, minimum horizontal distance accuracy shall be one foot horizontal to two thousand five hundred feet horizontal.

(ii) For each facility survey mark established from the first facility survey mark, minimum horizontal accuracy shall be one foot horizontal distance to five thousand feet horizontal.

(iii) For the first facility survey mark established from the known control point and for each facility survey mark established from the first facility survey mark, minimum vertical accuracy shall be one inch to five thousand feet horizontal.

(8) Grades of access roads shall not exceed twelve per cent. All access roads shall be designed to allow passage of loaded vehicles during all weather conditions with minimum erosion and dust generation and with adequate drainage.

(9) A cap system in all areas of scrap tire placement, as specified in paragraph (G) of rule 3745-27-73 of the Administrative Code, which shall minimize infiltration and shall, at a minimum, consist of the following components:

(a) A geotextile fabric.

(b) A recompacted soil barrier layer, a minimum of sixty inches thick constructed in accordance with the specifications in paragraphs (C)(1)(a) to (C)(1)(f) and (C)(1)(o) of this rule; or

(c) A geosynthetic clay liner of equal or less permeability as the recompacted soil barrier layer, with an eighteen inch engineered subgrade, constructed in accordance with paragraph (C)(3)(e) of this rule; or

(d) A flexible membrane liner constructed in accordance with the specifications in paragraph (C)(2) of this rule, on top of an eighteen inch engineered subgrade or geosynthetic clay liner.

(e) A drainage layer shall be used when constructing the barrier layer with either the flexible membrane liner or geosynthetic clay liner, that is either of the following:

(i) A minimum of twelve inches of granular material, constructed in accordance with the specifications in paragraph (C)(4)(a) of this rule.

(ii) A drainage net that has equivalent performance capabilities as the granular material constructed in accordance with paragraph (C)(4)(a) of this rule.
(f) A frost protection layer placed on top of the drainage layer. The frost protection layer shall be a minimum of thirty-six inches thick for facilities in the northern tier of counties in Ohio (Williams, Fulton, Lucas, Ottawa, Erie, Lorain, Cuyahoga, Lake, Geauga, and Ashtabula counties) and thirty inches thick for facilities elsewhere in Ohio.

(g) A vegetative layer, consisting of soil and vegetation, placed on top of the frost protection layer. The soil shall be of sufficient thickness and fertility to support its vegetation and to protect the recompacted soil barrier layer and flexible membrane liner from damage due to root penetration. Soil from the frost protection layer may be used as a part of the vegetative layer. Healthy grasses or other vegetation shall form a complete and dense vegetative cover.

(h) The cap system shall have a maximum projected erosion rate of five tons per acre per year and shall have the slopes and the final elevations specified in the permit to install for the scrap tire monofill facility.

(i) Any penetrations into the cap system shall be sealed so that the integrity of the recompacted soil barrier layer is maintained.

(j) Comparable materials and/or thicknesses for the soil barrier layer, the granular drainage layer, and the soil vegetative layer may be used if approved by the director.

(D) Material specifications. Prior to being used in the construction of the recompacted soil liner and drainage layer and the recompacted soil barrier layer and the drainage layer in paragraph (C) of this rule, the following characteristics of the earthen materials shall be determined to show that the material is suitable for use in construction of the scrap tire monofill or monocell facility:

(1) For the soil material, all of the following:
   
   (a) Recompacted permeability at construction specifications.
   
   (b) Moisture content and density using an approved ASTM method.
   
   (c) Grain size distribution using ASTM D422-63 for sieve and hydrometer methods.
   
   (d) Atterberg limits using ASTM D4318-00.

   Each of the above tests shall be performed on representative samples at least once for every one thousand five hundred cubic yards of soil, except the test outlined in paragraph (D)(1)(a) of this rule, which shall be performed at least once for every ten thousand cubic yards of soil; and

(2) For the granular drainage material to be tested at least once for every three thousand cubic yards of material for the following:

   (a) Permeability.

   (b) Grain size distribution using ASTM D422-63 for the sieve method.

(3) Chemical compatibility testing may be required by the director.

At the request of the health commissioner of an approved health department or the director, or their authorized representatives, results of testing required in this paragraph shall be made available for inspection. Upon submission of a certification report in accordance with paragraph (D) of rule 3745-27-75 of the Administrative Code, the owner or operator shall include the results of testing in the certification report.
(E) Prior to the installation of the geosynthetics, other synthetic materials, and joint sealing compounds used in the construction of the flexible membrane liner (for a submergence facility only), geosynthetic clay liner, and leachate management system in paragraph (C) of this rule, these materials shall comply with the following:

(1) Be shown to be physically and chemically resistant to attack by the scrap tires, leachate, or other materials that they may come in contact with, using USEPA Method 9090 or other documented data; and

(2) Be shown to have properties acceptable for installation and use.

(F) Quality assurance/quality control. The owner or operator of a scrap tire monofill facility shall demonstrate in a "quality assurance/quality control plan" that the construction of the scrap tire monofill facility will be in accordance with the applicable authorizing document(s) including an approved permit(s) to install. The quality assurance/quality control plan shall include all applicable components and applicable test methods specified in paragraphs (F)(1) and (F)(2) of this rule.

(1) The following components shall be included in a quality assurance/quality control plan:

   (a) In-situ foundation preparation.

   (b) Recompacted soil liner.

   (c) Flexible membrane liner (for a submergence facility only).

   (d) Leachate management system.

   (e) Cap system.

   (f) Geotextile fabric.

   (g) Geosynthetic clay liner.

(2) The following testing procedures shall be included in a quality assurance/quality control plan:

   (a) Sampling and testing procedures to be used in the field and in the laboratory.

   (b) Testing frequency.

   (c) Parameters and sample locations.

   (d) Procedures to be followed if a test fails.

   (e) The management structure and the experience and training of the testing personnel.

   (f) Contingency plan if construction difficulties are anticipated.

(G) All tests failing to meet the specifications outlined in this rule must be investigated. An area with a verified failure must be reconstructed to meet specifications. Reconstructed areas shall be retested at a frequency acceptable to the director. Reconstruction and retesting shall be performed in accordance with paragraph (D) of rule 3745-27-75 of the Administrative Code.

(H) Construction certification report. Pursuant to paragraphs (D) of rule 3745-27-75 of the Administrative Code and paragraph (J) of rule 3745-27-73 of the Administrative Code, a certification report shall be prepared by a professional skilled in the appropriate discipline(s) and submitted to the Ohio EPA and to the approved health department. The certification report shall include the following:
(1) Results of all testing required by this rule, by the quality assurance/quality control plan, and paragraph (F)(2) of this rule. However, if a quality assurance/quality control plan is not required by the applicable authorizing document(s) including an approved permit(s) to install, the owner or operator shall include the results of testing performed, testing procedures, sampling frequency and location, parameters tested for, etc., performed to certify compliance.

(2) Any alterations and all other changes are to be presented as follows:

(a) A listing of all alterations previously concurred with by Ohio EPA and a copy of all concurrence letters.

(b) All alteration requests and supporting documentation which are proposed by the owner or operator for concurrence with the construction certification report.

[Comment: Paragraph (D) of rule 3745-27-75 of the Administrative Code requires that the owner or operator obtain Ohio EPA's written concurrence with the certification report prior to placing scrap tires in the phase.]

(c) A list of any other changes made by the owner or operator which do not require Ohio EPA concurrence but which affect construction or the record drawing.

[Comment: The listing of these changes is for Ohio EPA's informational purposes only.]

(3) Record drawings of the constructed facility components showing the following:

(a) Plan views showing the grades of the following, as appropriate:

(i) The limits of excavation.

(ii) The bottom of the recompacted soil liner or barrier layer.

(iii) The top of the recompacted soil liner or barrier layer.

(iv) The configuration of the leachate management system and the top of the drainage layer.

(v) The limits of emplaced waste.

(vi) The top of the cap system.

(vii) The surface water management system.

(b) Plan views of the deployment of the flexible membrane liner panels and the locations of and identification of the destructive tests.

(c) Cross sections of the phase(s) at closure showing the following items. The cross sections shall be taken at the same locations and using the same scale as in the approved permit to install. Otherwise, the cross sections shall be taken at an interval no greater than every three hundred feet of length and width:

(i) The limits of excavation.

(ii) The limits of emplaced waste.

(iii) Final grade including the cap system (not applicable to submergence facilities).
(d) Necessary details.

(4) After the initial construction and establishment of facility survey marks, the following information summarizing the activities performed to construct and establish the facility survey marks:

(a) An identification and description of the known control point(s) used to establish the horizontal and vertical coordinate(s) of the facility survey marks.

(b) The horizontal and vertical coordinates of the known control point(s) and facility survey marks.

(c) A summary of surveying activities performed in determining the coordinates of the facility survey marks.

(d) A copy of the 7.5 minute series quadrangle sheet(s) used in establishing the survey marks with the known control point(s) and the location of the facility survey marks clearly identified.

(e) A detailed drawing(s) illustrating the design of the facility survey marks, as constructed.

(5) A notarized statement that, to the best of the knowledge of the owner or operator, the certification report is true, accurate, and contains all information required by paragraph (F) of this rule.

(I) Submergence facilities. The owner or operator of a scrap tire submergence facility shall comply with the construction requirements specified in this rule except that the following are not applicable to a scrap tire submergence facility;

(1) Paragraph (C)(4) of this rule.

(2) Paragraph (C)(5) of this rule.

(3) Paragraph (C)(9) of this rule.

(4) Paragraphs (F)(1)(d) and (F)(1)(e) of this rule.

(5) Paragraphs (H)(3)(a)(iv) and (H)(3)(a)(v) and (H)(3)(c)(iii) of this rule.

Alternatives to the construction requirements in paragraph (C) of this rule may be used if it is demonstrated to the satisfaction of the director or his authorized representative that the alternative provides equivalent protection of human health, safety, and the environment.
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Final closure of a scrap tire monofill facility.

(A) Applicability. The owner or operator of a scrap tire monofill facility shall comply with the requirements of this rule.

(B) Final closure/post-closure care plan. The final closure/post-closure care plan for a scrap tire monofill facility, which shall, at a minimum, contain all of the following:

1. The name and location of the facility in the final closure/post-closure care plan and a schedule.
2. Any variances or exemptions from the requirements of this rule or rule 3745-27-74 of the Administrative Code or any alternative schedule for completing final closure activities.
   [Comment: If a variance, exemption, or alternative schedule is identified, the request must be submitted to the director and must receive prior approval; otherwise, the rule requirements are applicable and enforceable.]
3. The name, address, and telephone number of the person or office to contact regarding the scrap tire monofill facility during the final closure and post-closure care period.
4. The following information to be presented in the same manner as outlined in rule 3745-27-72 of the Administrative Code:
   a. Plan drawings of the horizontal limits and top elevations of waste and the cap system; and surface water control structures including permanent ditches to control run-on and runoff; and sedimentation ponds including the inlet and outlet.
   b. Establish a grid system with northings and eastings not more than five hundred feet apart.
   c. Detail drawings of the composite cap system including but not limited to the key trench, any penetrations, cap drainage structures and surface water run-on and runoff control structures.
   d. Detail drawings of sedimentation pond and discharge structures and surface water run-on and runoff control structures.
   e. Static and seismic stability analysis.
5. Description of availability and suitability of cap material.
6. Quality assurance/quality control plan for cap system construction in accordance with paragraph (F) of rule 3745-27-72 of the Administrative Code.
7. Description of anticipated measures to control erosion.
8. Contingency plans for ground water contamination, leachate, fire, differential settling.

(C) Mandatory closure. The owner or operator shall begin final closure activities in accordance with the final closure/post-closure care plan and paragraph (F) of this rule no later than seven days after any of the occurrences specified in this paragraph. Approval of the final closure/post-closure care plan does not affect
the owner's or operator's obligations to begin and complete final closure activities in accordance with paragraphs (G) and (H) of this rule. It is mandatory to begin closure activities for a scrap tire monofill facility upon the occurrence of any of the following:

(1) A solid waste license issued for the scrap tire monofill facility has expired, and a renewal license has not been applied for in the manner prescribed in Chapter 3745-37 of the Administrative Code.

(2) A solid waste license issued for the scrap tire monofill facility has expired, and another license has been applied for and been denied as a final action.

(3) A solid waste license issued for the scrap tire monofill facility has been revoked as a final action.

(4) A solid waste license issued for the scrap tire monofill facility has been suspended as a final action.

(5) The owner or operator declares that the facility will cease acceptance of scrap tires for disposal by a date certain.

(6) All approved limits of solid waste placement for the facility have been reached, as specified in the plan approval, operation report, approved permit(s) to install, or other authorization of the director.

(D) Notification of anticipated date to cease acceptance of scrap tires.

(1) The owner or operator shall provide notice by certified mail or any other form of mail accompanied by a receipt of the anticipated date on which the scrap tire monofill will cease to accept scrap tires if final closure is or will be triggered by paragraph (C)(1) or (C)(5) or (C)(6) of this rule. Such notice shall be provided not less than ninety days prior to the anticipated date on which scrap tires will cease to be accepted.

(2) The owner or operator shall send a copy of the notice specified in paragraph (D)(1) of this rule to the following:

(a) The board of health having jurisdiction.

(b) The single or joint county solid waste planning district in which the monofill is located.

(c) The director.

(3) Concurrently with the submission of the notice required by paragraph (D)(1) of this rule, the owner or operator shall commence publishing at three-week intervals, prominent notice of the anticipated date on which scrap tires will cease to be accepted at the scrap tire monofill. Such notice shall be published in the county in which the scrap tire monofill facility is located and in any other county which has been a source of at least twenty-five per cent of the scrap tires deposited at the scrap tire monofill facility over the previous twelve months of operation. Notice shall be provided to the director and the board of health having jurisdiction that affirms the notices have been published in accordance with this paragraph.

(4) Not less than thirty days prior to the anticipated date on which the facility will cease to accept scrap tires, notice shall be provided by certified mail or any other form of mail accompanied by a receipt to the director of any changes to the information that identifies the facility's final closure contact person.

(E) The owner or operator shall send notification by certified mail or any other form of mail accompanied by a receipt to the director and to the board of health having jurisdiction of the actual date that the scrap tire monofill facility ceased to accept scrap tires. Notification shall be sent to the director and the board of health
having jurisdiction not later than seven days after the date specified in the notification.

(F) The owner or operator shall begin final closure activities at the scrap tire monofill facility not later than seven days after any of the occurrences in paragraph (C) of this rule. Final closure activities for all of a scrap tire monofill facility shall include, at a minimum, the items specified in the final closure/post-closure care plan and paragraphs (G) and (H) of this rule.

(G) Composite cap system. The owner or operator shall construct a composite cap system in accordance with 3745-27-72 of the Administrative Code, consisting of a geotextile fabric, a soil barrier layer, a granular drainage layer and cap protection layer.

(H) Other closure activities.

(1) The owner or operator shall continue to comply with rule 3745-27-75 of the Administrative Code and all monitoring and reporting activities required during the operating life of the scrap tire monofill facility until the closure certification is submitted and the post-closure care period begins.

(2) The owner or operator shall install the required surface water control structures including permanent ditches to control run-on and runoff and sedimentation pond(s), as shown in the final closure/post-closure plan, and as necessary, grade all land surfaces to prevent ponding of water where scrap tires has been placed and institute measures to control erosion.

[Comment: The minimum slope standard in OAC rule 3745-27-72 is a design standard. For closure certification, it is not necessary to regrade the site if there is not a ponding problem, even if the slope no longer meets the design in the closure/post-closure plan.]

(3) The owner or operator shall bait for rodents and treat for other vectors as necessary.

(4) The owner or operator shall record on the plat and deed to the scrap tire monofill facility property, or on some other instrument which is normally examined during title search, that will in perpetuity notify any potential purchaser of the property that the land has been used as scrap tire monofill facility, a notation describing the impacted acreage, exact location, depth, volume, and nature of scrap tires deposited in the phase(s) of the scrap tire monofill facility.

(5) Upon ceasing acceptance of scrap tires at a scrap tire monofill facility, the owner or operator shall post signs, in such a manner as to be easily visible from all access roads leading onto the scrap tire monofill facility, stating in letters not less than three inches high that the scrap tire monofill facility no longer accepts scrap tires. Signs shall be maintained in legible condition for not less than two years after final closure activities have been completed.

(6) Upon ceasing acceptance of scrap tires at the scrap tire monofill facility, the owner or operator shall block, by locked gates, fencing, or other sturdy obstacles, all entrances and access roads to the scrap tire monofill facility to prevent unauthorized access during the final closure and post-closure period.

(7) Upon closing the facility, the owner or operator shall construct the composite cap system in accordance with rule 3745-27-72 of the Administrative Code.

(I) Final closure activities shall be completed not later than one year after any of the occurrences in paragraph (C) of this rule, unless an alternate schedule has been approved by the director.

(J) Final closure certification. Not later than ninety days after the completion of final closure activities, the owner
or operator shall submit to the director, and to the board of health having jurisdiction, a written certification report. The final closure certification shall include verification that the scrap tire monofill facility has been closed in accordance with this rule and the "final closure/post-closure plan". The final closure certification shall at a minimum include the following:

(1) A list of the construction certification reports for construction of the composite cap system with the date of submittal and a topographic map of the entire scrap tire monofill facility showing the areas certified by each report. The map shall also show the horizontal limits of waste placement and the surface water control structures including permanent ditches to control run-on and runoff, and the following if present: the sedimentation pond(s) including the inlet and outlet, the outlet of any permanent ground water control structures, and the explosive gas control system.

(2) A demonstration that the sign required by paragraph (H)(5) of this rule has been posted, and that all entrances and access roads have been blocked as required by paragraph (H)(6) of this rule.

(3) A copy of the plat and deed or other instrument which is normally examined during a title search, showing the notation required by paragraph (H)(4) of this rule and bearing the mark of recordation of the office of the county recorder for the county in which the property is located.

(K) [Reserved.]

(L) The health commissioner and the director, or their authorized representatives, upon proper identification, may enter the scrap tire monofill facility at any time during the final closure period for the purpose of determining compliance with this rule.

(M) It is the responsibility of the owner or operator to complete final closure of a scrap tire monofill facility in a manner that minimizes the need for further maintenance and minimizes post-closure formation and release of leachate to air, soil, ground water, or surface water to the extent necessary to protect human health and the environment.

(N) The owner or operator of a scrap tire submergence facility shall also do the following:

(1) Remove all scrap tires from the facility.

(2) Prior to discharging water from the facility to waters of the state, perform testing and obtain necessary authorizations required by Chapter 6111. of the Revised Code and the rules adopted thereunder.

(3) Perform such other activities as are necessary to close the facility in a manner that is protective of human health, safety, and the environment.

(O) The owner or operator of a scrap tire submergence facility shall comply with the closure requirements specified in this rule except that the following are not applicable to a scrap tire submergence facility:

(1) Paragraphs (B)(4) to (B)(8) with the exception of (B)(4)(f), and (B)(7) of this rule.

(2) Paragraph (G) of this rule.
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Post-closure care of scrap tire monofill facilities.

(A) Following completion of final closure activities in accordance with rule 3745-27-73 of the Administrative Code the owner, operator, or permittee shall conduct post-closure care activities at the scrap tire monofill facility, other than a scrap tire submergence facility, for a minimum of fifteen years. The post-closure care period begins when the certification required by paragraph (J) of rule 3745-27-73 of the Administrative Code has been submitted for a scrap tire monofill facility. Post-closure care activities for a scrap tire monofill facility shall include, but are not limited to the following:

(1) Continuing operation and maintenance of the leachate management system, the surface water management system, and any other required monitoring system.

(2) Maintaining the integrity and effectiveness of the cap system, including making repairs to the cap system as necessary to correct the effects of settling, dead vegetation, subsidence, ponding, erosion, leachate outbreaks, or other events, and preventing run-on and runoff from eroding or otherwise damaging the cap system.

(3) Repairing any leachate outbreaks detected at the scrap tire monofill facility by doing the following:
   
   (a) Contain and properly manage the leachate at the scrap tire monofill facility.
   
   (b) If necessary, collect, treat, and dispose of the leachate, including, if necessary, following the contingency plan for leachate storage and disposal prepared pursuant to rule 3745-27-75 of the Administrative Code.
   
   (c) Take action to minimize, control, or eliminate the conditions which contribute to the production of leachate.

(4) Quarterly inspection of a scrap tire monofill facility during each year of the post-closure care period and submittal of a written summary to the appropriate Ohio EPA district office not later than fifteen days after the inspection date detailing the results of the inspection and a schedule of any actions to be taken to maintain compliance with paragraphs (A)(1), (A)(2), and (A)(3) of this rule.

(5) Submitting a report to the appropriate Ohio EPA district office and approved health department not later than the first day of April of each year, which contains the following:

   (a) A summary of the quantity of leachate collected for treatment and disposal on a monthly basis during the year, and the location of leachate treatment and/or disposal.

   (b) Results of analytical testing of an annual grab sample of leachate for the parameters specified in appendix I of rule 3745-27-79 of the Administrative Code. The grab sample shall be obtained from the leachate management system.

   (c) Results of any monitoring required by any orders or authorizing documents, if the orders or authorizing document(s) do not specify a schedule for submittal.

   (d) The most recent updated post-closure cost estimate adjusted for inflation and for any change in the post-closure cost estimate required by rule 3745-27-16 of the Administrative Code.

(6) Records and reports generated by paragraphs (A)(4) and (A)(5) of this rule are to be kept for the duration of the post-closure care period at a location where the records and reports are available for inspection by Ohio EPA or the approved health department during normal working hours.
(B) Upon completion of the post-closure care period, the owner, operator, or permittee shall submit to the director written certification that the scrap tire monofill facility has completed post-closure activities in accordance with this rule and the "final closure/post-closure plan." Based on such factors as the inspections or reports required by paragraphs (A)(4) and (A)(5) of this rule and whether human health or safety or the environment is or will be protected, the director may either discontinue or extend the post-closure care period. The certification shall be accompanied by documentation which demonstrates that all post-closure care activities have been completed. The certification shall be signed and sealed by a professional engineer registered in Ohio. The documentation shall include the following:

1. A summary of changes to leachate quality and quantity.
2. A summary of any on-going ground water assessment or corrective measures.
3. An assessment of the integrity and stability of the cap system if post-closure care activities cease.

[Comment: If the landfill shows an improvement to leachate quality, the quantity of leachate generated will not cause an outbreak or slope failure, that ground water monitoring is no longer needed, and that the cap system will maintain its integrity and stability if post-closure care activities cease, the director may release the owner, operator, or permittee from continuing post-closure care activities.]

(C) The health commissioner and the director, or their authorized representatives, upon proper identification, may enter any closed scrap tire monofill facility at any time during the post-closure care period for the purpose of determining compliance with this rule.
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Operational criteria for a scrap tire monofill facility.

(A) Applicability. The owner or operator of a scrap tire monofill facility, or a monocell facility as specified in rule 3745-27-69 of the Administrative Code, shall comply with the requirements and operational criteria specified in this rule until the final closure certification required by paragraph (J) of rule 3745-27-73 of the Administrative Code is submitted and the post-closure care period begins.

(B) The owner or operator shall conduct all operations at a scrap tire monofill facility in strict compliance with the terms and conditions of the scrap tire monofill disposal license issued for the facility in accordance with Chapter 3745-37 of the Administrative Code.

(C) The owner or operator shall conduct all construction and operation at a scrap tire monofill facility in strict compliance with the applicable authorizing document(s), including permit(s) to install, and alteration(s) concurred with in writing by Ohio EPA, unless, the owner or operator has obtained written concurrence from Ohio EPA for the alteration of the scrap tire monofill facility or the owner or operator has obtained a permit to install prior to modifying of the scrap tire monofill facility.

[Comment: "Alteration" is defined in rule 3745-27-01 of the Administrative Code; "modification" is defined in rule 3745-27-02 of the Administrative Code.]

(D) Construction certification, concurrence, and compliance.

(1) Construction certification and concurrence. After the installation of any of the engineered components specified in rule 3745-27-72 of the Administrative Code, other than the cap system, in any cell of any phase of a scrap tire monofill facility, the owner or operator shall not accept scrap tires in the phase until all of the following occur:

(a) A construction certification report for that phase, prepared in accordance with the paragraph (H) of rule 3745-27-72 of the Administrative Code, has been submitted to Ohio EPA and the approved health department.

(b) The owner or operator has received written concurrence from the appropriate Ohio EPA district office for the components specified in paragraph (F)(1) of rule 3745-27-72 of the Administrative Code.

(2) Construction compliance. Upon discovery by the owner or operator, or upon notification by Ohio EPA that a failed test or an alteration has occurred in construction of any engineered component or portion of a facility, the owner or operator shall comply with the procedures outlined in this paragraph.

(a) Failed test. For the purposes of this rule, a "failed test" occurs when a test performed on a component of the scrap tire monofill facility yields a result that does not meet the specifications outlined in the applicable authorizing document(s) specified in paragraph (C) of this rule or other requirements of these rules. If, prior to submission of the construction certification report for the component or portion of the facility, the owner or operator determines that there is a "failed test," the owner or operator shall do the following:

(i) Assess the component or portion of the facility to determine if construction is in compliance with the applicable authorizing document(s) or other requirements of these rules.

(ii) Implement measures to attain compliance with the applicable authorizing document or other requirements of these rules. An area with a verified failure must be reconstructed. Reconstructed areas must be retested at a frequency. Sufficient to demonstrate to the director that compliance
(b) Alteration. If, prior to submission of the construction certification report for the component or portion of the facility, the owner or operator determines that there is an alteration, the owner or operator shall do all of the following:

(i) Include the applicable testing results and an explanation of the alteration(s) in the certification report "alterations" section required by rule 3745-27-72 of the Administrative Code.

(ii) Provide a demonstration in the certification report that the alteration(s) is at least equivalent to the requirement in the applicable authorizing document(s) or other requirements of these rules.

(iii) Submit the certification report to Ohio EPA and the approved health department.

(iv) Continue to comply with paragraph (D)(1) of this rule.

[Comment: Paragraph (D)(2)(b) of this rule applies only to a change that qualifies as an alteration as that term is defined in rule 3745-27-01 of the Administrative Code. Paragraph (A) of rule 3745-27-70 and rule 3745-27-02 of the Administrative Code require an owner or operator to obtain a permit to install prior to the establishment of a new or modification of an existing scrap tire monofill facility. Obtaining concurrence for an alteration in accordance with the procedures outlined in paragraph (D)(2) of this rule does not relieve the owner or operator from liability for failure to obtain a permit to install to modify the facility if the change being addressed constitutes a modification.]

(c) Detection after submission of certification report. If the owner or operator determines that the certification report is in error because a "failed test" or alteration was detected after submission of the construction certification report to Ohio EPA, the owner or operator shall do the following:

(i) Notify, within twenty-four hours after discovery by phone and within seven days after discovery in writing, the appropriate Ohio EPA district office and the approved health department of the noncompliance.

(ii) Within fourteen days of the submitting the written notification required by paragraph (D)(2)(c)(i) of this rule, do either of the following:

(a) Implement compliance with the applicable steps outlined in paragraph (D)(2)(a) of this rule and amend and resubmit the construction certification report to explain the circumstances and how compliance was achieved.

(b) Submit the information required by paragraph (D)(2)(b) of this rule.

[Comment: Compliance with paragraph (D)(2)(c) of this rule does not relieve the owner or operator from liability for failure to construct or operate the scrap tire monofill facility in strict compliance with the applicable authorizing document(s), other requirements of these rules, or failure to submit a certification report that is true, accurate, and complete as required by the construction certification requirements of rule 3745-27-72 of the Administrative Code.]

(E) General operational criteria.

(1) The owner or operator shall ensure preparations have been made such that, during inclement weather, the
The facility is able to receive and cover incoming scrap tires. The preparations shall include, but need not be limited to, construction and maintenance of all-weather access roads leading from the point(s) where loaded vehicles enter the site to the inclement weather areas, construction and maintenance of storage area, and stockpiling of cover material.

(2) The owner or operator shall construct and maintain all-weather access roads in such a manner as to withstand the anticipated degree of use and allow passage of the loaded refuse vehicles at all times, with a minimum of erosion and dust generation.

(3) The owner or operator shall limit access to the facility by non-employees except during operating hours when operating personnel are present. The owner or operator shall, at all times, limit access to the facility as necessary to prevent scavenging or salvaging operations not conducted in accordance with paragraph (E)(7) of this rule to prevent interference with proper operating procedures. This paragraph shall not apply to the health commissioner or to the director who upon proper identification may enter the facility at any time to determine compliance with Chapter 3745-27 of the Administrative Code.

(4) The owner or operator shall confine unloading of scrap tires to the scrap tire handling area and shall ensure that unloading is supervised by competent operating personnel and that the amount is kept within permitted limits.

(5) The owner or operator shall ensure that all scrap tires arriving at the monofill/monocell facility not immediately placed in the working face or scrap tires in an unprocessed form are placed at the facility's temporary scrap tire storage area in compliance with rule 3745-27-65 of the Administrative Code. The temporary scrap tire storage area shall not exceed an amount of ten thousand square feet of effective scrap tire storage area.

(6) The owner or operator shall operate the facility in such a manner that operation does not create a nuisance or a health hazard, does not cause water pollution, and does not violate any regulation adopted by the director pursuant to Chapter 3704. of the Revised Code. The owner or operator shall manage the facility in such a manner that noise and dust are strictly controlled so as not to cause a nuisance or a health hazard.

(7) The owner or operator may only conduct salvaging in a manner specified in plans approved by the director.

(8) The owner or operator shall exclude live domestic and farm animals from the operating areas of the facility, except for animals employed for security purposes.

(9) Daily log of operations.
   (a) The owner or operator shall keep a daily log of operations of the facility that contains all the information specified on forms prescribed by the director. All entries required by the log form shall be completed. The owner or operator of the facility may use alternate forms, either in paper or electronic formats, for the daily log of operations, provided that all of the information requested on the prescribed forms is present.
   (b) A copy of the log shall be available for inspection by the health commissioner or director during normal operating hours.
   (c) When required by Ohio EPA, the owner or operator shall submit log forms or summaries of daily logs to the health commissioner or the director on either paper or electronic versions of forms prescribed.
by the director. The owner or operator may use alternate forms, either in paper or electronic formats, for the log forms or summary of daily logs, provided that all of the information requested on the prescribed forms is present.

(d) The owner or operator shall make the completed daily logs available for inspection at the facility for a minimum of three years. The records retention period may be extended during the course of any unresolved litigation or when so requested by Ohio EPA. The three-year period for retention of records shall begin on the date the daily log form is completed.

(10) The owner or operator shall ensure that all operations at the facility shall be performed by individuals who are thoroughly familiar with proper operational procedures and with the approved detail plans, specifications, and information.

(11) The owner or operator shall ensure a copy of the approved detail plans, specifications, and information is maintained at the facility and is available and may be inspected by the health commissioner or director during normal operating hours.

(12) The owner or operator shall ensure that operable equipment of adequate size and quantity for the operations of the facility is available at all times, or that an appropriate contingency plan is prepared to properly handle and dispose of scrap tires in the event of equipment failure.

(13) The owner or operator shall clear naturally occurring vegetation to the extent necessary for proper operation of the facility.

(14) Prior to accepting scrap tires at a new facility, in a lateral expansion area, or in a vertical expansion, the owner or operator shall comply with all applicable requirements for leachate treatment and/or disposal and air emissions.

(15) The owner or operator shall not begin filling in a new phase without completing the previous phase, except to the extent necessary for the proper operation of the scrap tire monofill facility.

(16) The owner or operator shall perform chemical compatibility testing if the director determines that such testing is necessary to demonstrate that the scrap tires to be received at the facility will not comprise the integrity of any material used to construct the facility.

(17) The owner or operator shall not deposit scrap tires that are burning or at a temperature likely to cause fire at the working face. The owner or operator shall deposit such material in a separate location at a sufficient distance from the working face to prevent fires from spreading to the working face shall immediately extinguish the scrap tires by covering them with a sufficient amount of earth or other material, or by spraying them with water or other appropriate fire suppressant. The owner or operator shall notify, within twenty-four hours, the local health department and the Ohio EPA district office prior to placing the material in the working face.

(18) Except as provided in paragraph (E)(17) of this rule, the owner or operator shall ensure that all scrap tires admitted to the facility are deposited at the working face or in the temporary storage area. An alternate method may be used if approved by the director. During periods when inclement weather prevents compliance with this rule, the scrap tires shall be deposited at the area prepared in accordance with paragraph (D)(1) of this rule.

(19) The owner or operator shall maintain the integrity of the engineered components of the facility and repair any damage to or failure of the components. "Engineered components" include the components
described in rule 3745-27-72 of the Administrative Code.

(20) The owner or operator shall comply with all of the following:

(a) The applicable construction specifications in rule 3745-27-72 of the Administrative Code.

(b) The final closure requirements of rule 3745-27-73 of the Administrative Code.

(c) The final closure and post-closure care financial assurance requirements of rules 3745-27-15 and 3745-27-16 of the Administrative Code.

(21) Only off road construction and mining equipment tires, that have a bead width of at least fourteen inches or larger and a rim or wheel diameter of a least twenty-four inches or larger, are authorized to be placed in the working face of a monofill or monocell without being processed. The owner or operator of the monofill or monocell shall place the scrap tires in the working face and fill with either soil, processed tires, or other material, approved for disposal at the facility, to prevent possible future settling above these scrap tires.

(22) Any oil wells and gas wells within the proposed limits of scrap tire placement shall be properly plugged and abandoned in accordance with Chapter 1509. of the Revised Code.

(F) Cell cover. Cover shall be applied to all exposed scrap tires in the cell at the end of the work week to control fire hazards, insects, vectors, and rodents. Cover material shall be nonputrescible, shall not be solid waste, and shall not contain large objects in such quantities as may interfere with its application and intended purpose of preventing the ignition and spread of a fire at the facility, the movement of leachate from ponding and the breeding of mosquitoes.

(1) Cell cover shall be a minimum of twelve inches thick. Cell cover in an area shall be removed or prepared as necessary so as not to impede the flow of leachate to the leachate collection system within the limits of waste placement prior to the placement of the next layer of scrap tires in that area. The soil for the cell cover shall either:

(a) Possess properties of a fine-grained soil as defined in the unified soil classification system described in ASTM D2487-00.

(b) Be an alternative soil type acceptable to the director of Ohio EPA, if the owner or operator can demonstrate that the alternative material and/or thickness provides comparable protection and is protective of human health and the environment.

(2) Frequencies, other than weekly, may be used if it can be demonstrated to the satisfaction of the director that the alternate frequency provides comparable and adequate protection.

(G) Intermediate cover.

(1) To minimize infiltration and prevent fire and mosquito breeding, the owner or operator shall apply intermediate cover to all filled areas of a facility where additional scrap tires are not to be deposited for at least one hundred eighty days. The director may approve the use of some alternate time period if it can be demonstrated to the satisfaction of the director that by use of the alternate time period, infiltration or ponding of water that may breed mosquitoes, and the possibility of fire, will not be increased.

(2) Intermediate cover material shall be nonputrescible and have low permeability to water, good
compactability, cohesiveness, and relatively uniform texture, and shall not contain large objects in such quantities as may interfere with its application and intended purpose of preventing the ignition and spread of fire, the movement of leachate from ponding, and the breeding of mosquitoes.

(3) A soil layer, a minimum of twenty-four inches thick, and a geo-textile fabric shall be used. The soil for the intermediate cover shall either:

(a) Possess properties of a fine-grained soil as defined in the unified soil classification system described in ASTM D2487-00.

(b) Be an alternative soil type acceptable to the director of Ohio EPA.

(4) Intermediate cover in an area shall be removed or prepared as necessary so as not to impede the flow of leachate to the leachate collection system within the limits of waste placement prior to the placement of the next layer of scrap tire in that area.

(5) The owner or operator shall perform measures to protect the intermediate cover from erosion if the intermediate cover is exposed or will be exposed for more than one hundred eighty days.

(H) Final cover. The owner or operator shall construct the final cap system when a phase has reached approved final elevations of scrap tire placement, in accordance with paragraph (C)(9) of rule 3745-27-72 of the Administrative Code.

(I) Scales. The owner or operator of a scrap tire monofill facility shall use scales as the sole means of determining gate receipts. All scales shall be inspected, tested, and approved by the county auditor or city sealer having jurisdiction where the scale is located and shall meet the specifications, tolerances, and regulatory requirements of section 1327.49 of the Revised Code.

(J) Surface water management.

(1) The owner or operator shall ensure that surface water at a scrap tire monofill facility is diverted from areas where scrap tires are being, or have been, deposited. The owner or operator shall ensure that a scrap tire monofill facility is designed, constructed, maintained, and provided with surface water control structures that control run-on and runoff of surface water. These surface water control structures shall ensure minimal erosion and infiltration of water through the cover material and cap system. Surface water control structures shall be designed in accordance with paragraph (C)(6) of rule 3745-27-72 of the Administrative Code.

(2) The owner or operator shall manage surface water in compliance with the requirements of Chapter 6111. of the Revised Code.

(3) If ponding or erosion occurs on areas of the scrap tire monofill facility where scrap tires are being, or have been, deposited, the owner or operator shall undertake actions as necessary to correct the conditions causing the ponding or erosion.

(4) If a substantial threat of surface water pollution exists, the director or health commissioner may require the owner or operator to monitor the surface water.

(K) Leachate management.

(1) If leachate is detected on the surface of the facility, the owner or operator shall repair the outbreaks and do
the following:

(a) Contain and properly manage the leachate at the facility.

(b) If necessary, collect and dispose of the leachate in accordance with paragraphs (K)(5) and (K)(6) of this rule.

(c) Take action to minimize, control, or eliminate the conditions which contribute to the production of leachate.

(2) The owner or operator shall maintain at least one lift station back-up pump at the scrap tire monofill facility at all times.

(3) The owner or operator shall visually or physically inspect the collection pipe network of the leachate management system after placement of the initial lift of scrap tires to ensure that crushing of the collection pipe network has not occurred, and the owner or operator shall inspect the collection pipe network annually thereafter to ensure that clogging of the collection pipe network has not occurred.

(4) If authorized by the director, the owner or operator may temporarily store leachate within the limits of waste placement until the leachate can be treated and disposed as outlined in rule 3745-27-70 of the Administrative Code.

(5) The owner or operator shall treat and dispose of collected leachate in accordance with the one of the following:

(a) Treat and dispose of collected leachate on site at the scrap tire monofill facility.

(b) Pretreat collected leachate on-site and dispose of collected leachate off-site of the scrap tire monofill facility.

(c) Treat and dispose of collected leachate off-site of the scrap tire monofill facility.

(6) The owner or operator shall prepare a contingency plan as detailed in rule 3745-27-70 of the Administrative Code, for the storage and disposal of leachate and place a copy in the operating record. The plan shall describe the immediate and long-term steps, including the setting aside of land for the construction and operation of an on-site treatment facility, to be taken for leachate management in the event that collected leachate cannot be managed in accordance with the management option selected in paragraph (K)(5) of this rule.

(7) If a substantial threat of water pollution exists from the leachate entering surface waters, the director or health commissioner, may require the owner or operator to monitor the surface water.

(L) [Reserved.]

(M) Annual operational report. The owner or operator of a facility shall submit an "annual operational report" to the appropriate Ohio EPA district office, approved local health department, and the local solid waste management district not later than April first of each year for paragraphs (M)(1) to (M)(6) and (M)(8) of this rule and January thirty-first of each year for paragraphs (M)(7) and (M)(8) of this rule. The "annual operational report" shall include, at a minimum, the following information summarizing the previous calendar year's operations:

(1) A topographic map of the facility, certified by a professional skilled in the appropriate discipline(s), with
updated contour lines on the plan drawing containing information specified in paragraph (B)(3) of rule 3745-27-70 of the Administrative Code. The scale and contour interval shall be consistent with the approved plans. At a minimum, the owner or operator shall identify the following:

(a) The calendar year which the submittal represents.

(b) The areal extent of each phase of construction.

(c) The areal extent of closed areas that have a final cap system.

(d) Areas that have intermediate cover.

(e) The current working phase and cell(s).

(f) The projected phase(s) and cell(s) for filling in the coming year.

(g) Access roads and buildings.

(h) On-site borrow areas and cover material stockpiles.

(i) A comparison of the actual vertical and horizontal limits of emplaced scrap tires to the vertical and horizontal limits of scrap tire placement authorized in the applicable authorizing document(s), including an approved permit(s) to install, plan approval, or operational report. If emplaced scrap tires exceed the limits of vertical and horizontal scrap tire placement authorized in the applicable authorizing document(s), this comparison shall include a topographic map which delineates the areal extent of emplaced scrap tires that exceed approved limits specified in such authorizing documents. In addition, the topographic map shall contain notes that indicate the following information for scrap tires exceeding authorized limits of waste placement: the maximum established volume, the maximum depth, and the average depth.

[Comment: The submittal of this information does not relieve an owner or operator from complying with applicable authorizing documents or correcting violations.]

(2) An estimate of the remaining scrap tire monofill facility life, in years, and an estimate in terms of the remaining volume of the scrap tire monofill facility to be filled, in cubic yards.

(3) A summary of the quantity of leachate collected for treatment and disposal on a monthly basis during the year, location of leachate treatment and/or disposal, and verification that the leachate management system is operating in accordance with this rule.

(4) Results of analytical testing of an annual grab sample of leachate for the parameters specified in appendix I of rule 3745-27-79 of the Administrative Code. The grab sample shall be obtained from the leachate management system.


(6) A summary of any maintenance performed on the leachate management system, and any other monitoring and control system installed at the scrap tire monofill facility or performed in response to this rule.

(7) The owner or operator shall submit an annual report on forms prescribed by the director (to Ohio EPA,
central office, division of solid and infectious waste) not later than January thirty-first of each year. Copies of the report shall also be submitted to the appropriate Ohio EPA district office and approved health department at the same time. The owner or operator shall retain copies of annual reports for a minimum period of three years. The report shall include at least the following information:

(a) The total number or quantity in weight or volume of scrap tires received from each transporter, the place of origin, and an estimate of the total number of each type of tire including passenger car tires, truck tires and other tires.

(b) The total number or quantity in weight or volume of scrap tires received from the public, and an estimate of the total number of each type of tire including passenger car tires, truck tires, and other tires.

(c) The total number or quantity in weight or volume of scrap tires received at, shipped from, or transported to each storage, monowell, monofill, or recovery facility, or other premise, and an estimate of the total number of each type of tire shipped, routed, or transported to each facility including passenger car tires, truck tires, and other tires. In addition for scrap tire recovery facilities only, the total number or quantity in weight or volume of scrap tires processed at the facility. In all cases the report shall include out-of-state as well as Ohio facilities.

(d) The number of scrap tires or quantity in weight or volume of scrap tires received at and shipped from the facility, and the number of scrap tires or quantity in weight or volume of scrap tires present at the facility's temporary scrap tire storage area.

(8) A notarized statement that, to the best of the knowledge of the owner or operator, the information contained in the annual report is true and accurate.

(N) Ten year design demonstration. Upon every tenth anniversary of the effective date of the initial permit to install issued to the owner or operator of the scrap tire monofill facility pursuant to Chapter 3734. of the Revised Code and each tenth anniversary thereafter, the owner or operator shall submit to Ohio EPA an analysis demonstrating that the design of the unconstructed portions of the facility continues to be consistent with the design standards established in the current version of rule 3745-27-72 of the Administrative Code. If the director determines that the design is no longer consistent with the standards established in the current version of rule 3745-27-72 of the Administrative Code, then the director may require the owner or operator to make the necessary changes to the scrap tire monofill facility to bring the facility into compliance with the design standards in the current version of rule 3745-27-72 of the Administrative Code. Since these changes will represent deviations from what is contained in the current authorizing document(s), the owner or operator shall obtain the appropriate authorization from Ohio EPA prior to making the changes. If a permit to install application is required, the director shall not apply the criteria outlined in paragraph (H) of rule 3745-27-71 of the Administrative Code, when considering the permit to install application.

[Comment: A deviation may be an alteration, a modification, or an other change depending upon the significance of the deviation. If the deviation represents an alteration, then the owner or operator is required to obtain written concurrence from Ohio EPA prior to making any change to the facility. If the deviation represents a modification, then the owner or operator is required to obtain a permit to install for the modification from Ohio EPA prior to making any change to the facility.]

[Comment: To determine when Ohio EPA does and does not apply siting criteria to the review of an application for a permit to install to modify the facility, see rule 3745-27-71 of the Administrative Code.]
(O) Submergence facilities. The owner or operator of a scrap tire submergence facility shall comply with the operational requirements specified in this rule except that the following are not applicable to a scrap tire submergence facility:

(1) Paragraph (E)(14) of this rule. In lieu of paragraph (E)(14) of this rule, prior to accepting scrap tires at a new scrap tire submergence facility or an expansion of an existing scrap tire submergence facility, the owner or operator shall comply with all applicable requirements for in Chapter 3704. or 6111. of the Revised Code.

(2) Paragraph (E)(15) of this rule (phasing).

(3) Paragraph (F) of this rule (cell cover).

(4) Paragraph (G) of this rule (intermediate cover).

(5) Paragraph (H) of this rule (final cover).

(6) Paragraph (K) of this rule (leachate management).
Five Year Review (FYR) Dates: 04/23/2014 and 04/23/2019

CERTIFIED ELECTRONICALLY

Certification

04/23/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.12, 3734.77
Rule Amplifies: 3734.12, 3734.72, 3734.77
Beneficial use of scrap tires.

[Comment: It is recommended that the definitions of "beneficial use," "premises," "open dumping," "scrap tire," and "scrap tire recovery facility" located in rule 3745-27-01 of the Administrative Code be read before reading this rule.]

(A) Applicability. This rule is applicable to the beneficial use of scrap tires at any premises, pursuant to paragraph (A)(2) of rule 3745-27-03 of the Administrative Code, and as "beneficial use" is defined in rule 3745-27-01 of the Administrative Code. The term "beneficial use" does not include the processing of a scrap tire which occurs at a scrap tire recovery facility. Also, scrap tires which have been "processed" at a scrap tire recovery facility may no longer be defined as "scrap tires" when used. Beneficial use of one hundred or fewer scrap tires is not regulated by Chapter 3734. of the Revised Code or rules adopted under it, unless the director or the board of health of the local health district determines that the storage causes a nuisance, is a hazard to public health or safety, or is a fire hazard.

(1) The property owner or the person leasing the property shall notify the director and the health department of a proposed beneficial use listed in paragraph (D) or (E) of this rule prior to receipt of scrap tires at the premises.

(2) If the beneficial use is not listed in paragraph (D) or (E) of this rule, the property owner or the person leasing the property shall submit and receive approval of a beneficial use project plan prior to receipt of scrap tires at the premises.

(B) Authorization.

No person shall beneficially use scrap tires at a premises unless:

(1) The particular use is authorized in accordance with paragraph (D) or (E) of this rule and the person has provided notification required in accordance with paragraph (I) of this rule.

(2) If the use of scrap tires is not authorized in accordance with paragraph (D) or (E) of this rule, the person shall obtain authorization in accordance with paragraph (F) of this rule prior to receiving or beneficially using the scrap tires at a premises.

(3) Failure to provide notification or obtain authorization may result in the responsible person being cited for open dumping if any scrap tires are deposited on or in the ground or water.

(C) Storage.

(1) The storage of scrap tires prior to final placement or construction of the beneficial use project at a site shall be deemed a nuisance, a hazard to public health or safety, or a fire hazard unless:

(a) Scrap tires stored at the beneficial use site are stored for less than thirty days prior to final placement in the beneficial use project, and the tires are stored in accordance with the standards in rule 3745-27-60 of the Administrative Code.

(b) For beneficial use projects that may take thirty or more days to construct, the temporary storage of scrap tires shall not exceed the lesser of one thousand five hundred whole scrap tires, the equivalent amount of scrap tire shreds, or the amount of scrap tires that are scheduled in the beneficial use project plan to be used in a thirty-day period. All scrap tires stored at a beneficial use site shall be stored in accordance with the standards in rule 3745-27-60 of the Administrative Code, unless the
beneficial use is at a licensed solid waste facility or licensed construction and demolition debris landfill.

(c) For shredded scrap tires stored at a licensed solid waste landfill or licensed construction and demolition debris landfill prior to beneficial use at that facility, the tires shall be stored in accordance with the standards in rule 3745-27-65 of the Administrative Code. The processed tires stored shall meet the storage specifications approved in the facility's permit to install, license, or other authorizing documents.

(2) When an approved beneficial use project plan is required in accordance with this rule, then the maximum size and duration of temporary storage shall be in accordance with the approved plan rather than paragraph (C)(1) of this rule.

(3) When the beneficial use is authorized in accordance with paragraph (D) or (E) of this rule, the quantity and time limits, specified in paragraph (C)(1) of this rule, for storage prior to being beneficially used shall not be exceeded without prior written notification to Ohio EPA and the local health department and approval by the director.

(D) Authorized beneficial uses of whole or cut scrap tires.

(1) The following uses and quantities of whole or cut scrap tires are authorized in accordance with rule:

(a) Crash barriers at race tracks, up to one thousand five hundred scrap tires.

(b) Rifle range backstopping, up to one thousand five hundred scrap tires.

(c) Agricultural use to hold down tarps and covers, up to two hundred fifty scrap tires and up to five thousand tire sidewalls. Mosquito control shall be maintained, as required in accordance with paragraph (D)(2) of this rule, the use of tire sidewalls rather than whole tires or bagel cut tires may provide adequate mosquito control by preventing the formation of standing water which may become a mosquito breeding habitat.

(d) For use at a solid waste landfill or construction and demolition debris landfill to hold down tarps and covers, up to two hundred fifty scrap tires and up to five thousand tire sidewalls. Mosquito control shall be maintained, as required in accordance with paragraph (D)(2) of this rule, the use of tire sidewalls rather than whole tires or bagel cut tires may provide adequate mosquito control by preventing the formation of standing water which may become a mosquito breeding habitat.

(2) Scrap tires being beneficially used shall be maintained such that the tires do not provide a breeding environment for mosquitoes.

(3) Scrap tires in use or stored at a beneficial use site, other than a licensed solid waste facility, shall meet the requirements of rule 3745-27-60 of the Administrative Code including but not limited to mosquito control, pile size, and fire breaks. At a licensed facility, scrap tires in use or stored at a beneficial use site shall meet the requirements of rule 3745-27-65 of the Administrative Code.

(4) At any time when the use of the premises at which the whole or cut scrap tires are placed changes in such a way that the scrap tire beneficial use authorizations specified above no longer apply, all whole or cut scrap tires shall be removed from the premises within thirty days and delivered to an authorized destination, as described in paragraph (C) of rule 3745-27-56 of the Administrative Code. The scrap tires shall be transported in accordance with the requirements in rule 3745-27-56 of the Administrative Code.
(E) Authorized beneficial uses of shredded scrap tires. The following beneficial uses of shredded scrap tires are authorized in accordance with this rule if the applicable guidelines published by the American Society for Testing and Materials (ASTM) in the "Standard Practice for Use of Scrap Tires in Civil Engineering Applications" (D6270-98) (www.astm.org), are followed:

1. For civil engineering applications in a solid waste landfill, as specified in the approved landfill permit to install or alteration or other authorizing documents.

2. For civil engineering applications in a construction and demolition debris landfill, as specified in the approved license, license modification, or other authorizing documents.

3. Light weight fill or construction material in public road, public parking, and public road embankment construction, if the use of shredded scrap tires is specifically approved by the government official responsible for the engineering and construction of the public roads and the public construction projects.

4. Covering material for playgrounds. This beneficial use is restricted to shredded bias ply tires or tire shreds with all metal removed.

5. Bulking agent for compost, with specific approval from the director, as required by Chapter 3745-560 of the Administrative Code.

6. As a gravel substitute in septic system leach fields, provided that the use and the amount of shredded scrap tires to be used is approved by the appropriate local health department or Ohio EPA, division of surface water. The compacted volume of tire shreds shall not exceed the volume of gravel that would have been used.

7. As a gravel substitute for backfill around home and building foundations or basements provided that the use and the amount of shredded tires to be used complies with the applicable local building codes and the compacted volume of tire shreds used does not exceed the volume of gravel normally used.

8. As a gravel substitute around drainage tiles and pipes as long as the compacted volume of tire shreds used does not exceed the volume of gravel normally used in the installation of the drainage system. Compressibility of the tire shreds shall be addressed in the project design.

(F) Beneficial uses not specifically authorized in paragraph (D) or (E) of this rule.

A project plan for a beneficial use request shall be submitted to and approved by the director before the applicant for a beneficial use project may accept scrap tires for use in the beneficial use project. The project plan shall contain the following:

1. All the information required in paragraphs (F) and (G) of this rule such that the director can determine whether the criteria set forth in paragraph (J) of this rule are satisfied.

2. Detailed engineering plans, specifications, and information that shall be presented in a manner acceptable to the director. Detail shall be sufficient to allow clear understanding for technical review of the project plan, and to provide assurance that the beneficial use shall be in compliance with Chapter 3745-27 of the Administrative Code.

Amendments to the project plan shall contain new pages or sheets to replace those affected by the
proposed change, as well as any revised report sections. New narrative added to the revised project plan shall appear in capital letters, and narrative to be deleted out shall be lined out.

A project plan, notwithstanding any deficiency, may be considered and acted upon if sufficient information is contained in the detailed engineering plans, specifications, and report for the director to determine whether the criteria set forth in paragraph (J) of this rule are satisfied.

If the director determines that information in addition to that required by this rule is necessary to determine whether the criteria set forth in paragraph (J) of this rule are satisfied, the director shall require that the applicant supply such information as a precondition to further consideration of the project plan.

(G) The project plan for a beneficial use request shall include all of the following:

1. The name, address, and phone number of the applicant.

2. The location and address of the proposed temporary storage and beneficial use site.

3. The name, address, and phone number of all owners of the property listed in paragraph (G)(2) of this rule.

4. Plan view drawings and detailed engineering plans containing plan view drawings with a scale of one inch equals a maximum of one hundred feet shall be used. The drawings shall legibly show the following items within the boundary of the beneficial use site and within five hundred feet of the boundary, or as otherwise specified in this paragraph:

   a. The location of all property lines.

   b. Location and limits of both the beneficial use site and the scrap tire storage area including any portable scrap tire storage containers and scrap tire storage piles (include maximum height of all scrap tire storage piles and use a scale insert as necessary).

   c. The location and limits of all fire breaks and all access roads.

   d. The location and limits of all buildings and structures.

   e. The location and limits of the regulatory floodplain.

   f. The location and boundaries of all natural areas as listed in paragraphs (B)(1) and (B)(2) of rule 3745-27-62 of the Administrative Code.

   g. Existing topography showing streams, wetlands, lakes, springs, and other surface waters of the state as defined in Chapter 3745-1 of the Administrative Code, with a contour interval no greater than five feet.

   h. The north arrow.

5. Estimates of the maximum amount of tires, either number or quantity in weight or volume, to be used for this project and of the maximum amount of tires to be temporarily stored prior to being beneficially used. If the construction of the project will take longer than thirty days, temporary storage shall not exceed the amount of scrap tires planned to be used in a thirty-day period.

6. A detailed description of how the scrap tires are to be used and the engineering or financial benefits of
using scrap tires versus other materials normally used.

(7) A detailed schedule of the project, including start date and end date, from start to completion of construction of the beneficial use project.

(8) A description of the mosquito control to be used during storage and beneficial use of the scrap tires.

(9) A letter of consent from the owner of the property on which the beneficial use and temporary storage is to take place, if the property owner is not the person requesting the beneficial use approval. The letter shall include the following statement: "I understand that, as the owner of the property on which this beneficial use of scrap tires will be placed, I shall be responsible for the removal of the scrap tires in the event the project fails to comply with the approved plan and the beneficial use applicant fails to correct the problem or fails to remove the scrap tires."

(10) Any beneficial use that places more than one hundred tires in contact with surface waters of the state shall not be considered by the director without evidence of prior coordination with the Ohio department of natural resources and the U.S. army corps of engineers. Proof of this coordination in the form of written correspondence to and from the listed agencies shall be submitted with the project plan. Any objections or reservations by these agencies be fully resolved before Ohio EPA shall process any approval of the project plan.

(11) If the scrap tires are used for structural fill, submit construction plans for the structural fill, including a stability analysis when necessary, prepared by a registered professional engineer in accordance with sound engineering practice and signed and certified by the engineer. This includes, but is not limited to, all erosion control projects and embankments.

(12) A copy of the letter of transmittal and signed receipt demonstrating the project plan was sent to the local approved health department.

(H) After project plan approval, the applicant shall do the following:

(1) Comply with the project plan as submitted to and approved by the director.

(2) Comply with the mosquito control requirements of paragraph (D)(3) of this rule while the scrap tires are in storage and in use.

(3) Comply with the general scrap tire storage and handling provisions as specified in paragraph (C) of this rule unless alternate storage was approved in the project plan.

(4) Comply with the scrap tire shipping paper system of rule 3745-27-57 of the Administrative Code and shall enter the beneficial use project plan number, assigned by the Ohio EPA upon plan approval, on all shipping papers.

(5) Submit a report of project completion within sixty days of project completion, which includes as built drawings and a summary report of all scrap tires used as follows:

(a) The total quantity in number, weight (tons), or volume (cubic feet) of scrap tires used in the beneficial use project (clearly define the unit of measure used).

(b) The total quantity in number, weight (tons), or volume (cubic feet) of scrap tires received from each scrap tire transporter (clearly define the unit of measure used). If the applicant is a registered scrap
tire transporter, the requirements of this paragraph and paragraph (H)(5)(c) of this rule are waived since the applicant shall include this information in his scrap tire transporter's annual report.

(c) An estimate of the percentage of tires in each of the following three categories: (i) passenger car tires, (ii) heavy and medium truck tires, and (iii) all other tires.

(6) At any time when the use of the premises at which the whole scrap tires, tire pieces, or tire shreds are placed changes in such a way that the project plan no longer applies, all whole scrap tires, tire pieces, or tire shreds shall be removed from the premises within thirty days and delivered to an authorized destination, as described in paragraph (C) of rule 3745-27-56 of the Administrative Code. The scrap tires shall be transported in accordance with the requirements in rule 3745-27-56 of the Administrative Code.

(7) Upon revocation of a scrap tire beneficial use, the applicant shall remove and properly recycle or dispose of all scrap tires, tire pieces, and tire shreds within thirty days.

(I) Prior notification of beneficial use of scrap tires.

(1) A letter of notification shall be sent by certified mail or any form of mail accompanied by a receipt to Ohio EPA and the approved local health department for beneficial uses, authorized in accordance with paragraph (D) of this rule. The letter shall identify the name, address, and phone of the responsible individual, the address of the beneficial use site, and the total number of scrap tires to be beneficially used at the site.

(2) A letter of notification shall be sent by certified mail or any form of mail accompanied by a receipt to Ohio EPA and the approved local health department for beneficial uses authorized by paragraph (E) of this rule. The letter shall identify the name, address, and phone of the responsible individual, the address of the beneficial use site, and an estimate of the total number of scrap tires to be beneficially used at the site.

(J) Criteria for approval.

The director shall not approve a project plan for a beneficial use of scrap tires unless the director determines all of the following:

(1) The beneficial use as described in the project plan shall not violate Chapter 3704., 3714., 3734., or 6111. of the Revised Code.

(2) The beneficial use as described in the project plan shall provide a sound engineering or financial benefit over the material normally used.

(3) The beneficial use as described in the project plan shall not result in unacceptable damage to the environment or public health and safety.

(4) The scrap tire storage area, if any, shall meet the requirements of paragraph (C) of this rule.

(5) The scrap tire beneficial use shall be capable of being constructed and completed in accordance with Chapter 3745-27 of the Administrative Code.

(6) The person listed as property owner and the facility owner or operator or the person requesting approval for the beneficial use request is in substantial compliance with applicable provisions of Chapters 3704.,
3714., 3734., and 6111. of the Revised Code, including all rules adopted, and any permits, registration certificates, or licenses issued thereunder, and has maintained substantial compliance with all applicable orders issued by the director or the environmental review appeals commission, or courts having jurisdiction in accordance with applicable law, in the course of such previous or current management or operations. The director may take into consideration whether substantial compliance has been maintained with any applicable order of a board of health maintaining a program on the approved list.

(7) All proposed scrap tire storage area, including all portable containers are:

(a) At least one hundred feet from any buildings or structures not owned or leased by the property owner or the person requesting approval for the beneficial use.

(b) Not located in a regulatory floodplain.

(c) Not located within the natural areas specified in paragraph (B)(1) of rule 3745-27-62 of the Administrative Code.

(d) At least one thousand feet from the boundaries of the natural areas listed in paragraph (B)(2) of rule 3745-27-62 of the Administrative Code.

(e) At least two hundred feet from surface waters of the state, as defined in rule 3745-1-02 of the Administrative Code.

(f) At least five hundred feet from a domicile, not owned by the applicant. If the applicant is not the property owner of the beneficial use site, then at least five hundred feet from a domicile not owned by the property owner or applicant.

(g) Not located within one hundred feet of any property line.

(K) The director may deny a request for a beneficial use of scrap tires if within thirty days of receipt of notification that the project plan is incomplete, unless the applicant has done one of the following:

(1) Notified the director, in writing, that the project plan is being withdrawn.

(2) Corrected noted deficiencies and resubmitted the project plan.

(3) Submitted a written request to and obtained authorization from the director for an extension for a specific period of time.

(L) The director may revoke the approval of a project plan for a beneficial use of scrap tires if the director concludes at anytime that any applicable laws have been or are likely to be violated.
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Five Year Review (FYR) Dates: 09/12/2014 and 12/01/2019

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Soil, surface water, and ground water contamination characterization and remediation caused by open burning of scrap tires.

[Comment: The purpose of this rule is to provide guidelines and self-implementing characterization and remediation procedures after the open burning of scrap tires has caused contamination or degradation of soil, surface water, ground water, or other natural resources. This includes areas where open burning of scrap tires leaches chemicals into soil or ground water, or into a stream or wetland which causes water quality and habitat degradation.]

(A) Applicability.

(1) This rule is applicable to any site or facility where the open burning of scrap tires has occurred including, but not limited to, all licensed scrap tire facilities, all premises where scrap tires are beneficially used, and all other sites where scrap tires are managed, collected, stored, recovered, disposed, or beneficially used regardless of whether it is specifically exempted from the registration or permitting, and licensing, requirements for scrap tire facilities, and to any associated areas affected by the scrap tire fire, including soil, surface water, and ground water.

(2) This rule is applicable to the "responsible individual" which includes, but is not limited to, the owner, operator, registrant, permittee, licensee, and/or person who conducted or allowed the accumulation or open burning of scrap tires.

(3) All actions required to be taken pursuant to this rule shall be undertaken in accordance with the requirements of all applicable local, state, and federal laws and regulations. This rule shall not be construed to prevent the director from seeking legal or equitable relief to enforce the terms of this rule or from taking other administrative, legal or equitable action as deemed appropriate and necessary, including penalties for noncompliance. This rule shall not be construed to prevent the director from exercising the director's authority to enforce or require additional activities pursuant to Chapter 3704., 3714., 3734., or 6111. of the Revised Code or any other state or federal law, including the "Comprehensive Environmental Response, Compensation and Liability Act" (CERCLA), (July 1, 2007) (www.gpoaccess.gov/uscode/index.html).

(4) Except as specified in section 3746.02 of the Revised Code and any rules adopted under Chapter 3746. of the Revised Code, nothing in this rule shall be construed to prevent participation in the voluntary action program established under Chapter 3746. of the Revised Code.

(5) For a scrap tire fire involving less than ten thousand passenger tire equivalents (PTEs), as defined in appendix I of rule 3745-27-61 of the Administrative Code, paragraphs (D) to (H) of this rule do not apply unless otherwise required by the director, an approved board of health, or a court of law.

(6) The terms "fire" and "scrap tire fire" as used in this rule means the "open burning" of scrap tires as "open burning" is defined in rule 3745-27-01 of the Administrative Code. The terms "fire," "scrap tire fire," and "open burning" as used in this rule do not refer to the controlled combustion of tires or tire material at a facility with a permit that includes the use of tires or tire material as fuel.

(B) General requirements.

(1) The responsible individual shall characterize and, if necessary, remediate areas of contamination resulting from the open burning of scrap tires in accordance with this rule as follows:

(a) After the occurrence of a fire at a site or facility.
(b) After the open burning of scrap tires at any site or facility.

c) Whenever the responsible individual is ordered by the director, an approved board of health, or a court of law, to comply with this rule or other applicable laws.

(2) Subject to paragraphs (A)(3) and (A)(4) of this rule, unless otherwise specified by the director, an approved board of health, or a court of law, any work performed by the responsible individual to characterize and/or remediate contamination shall accurately and completely characterize the rate, source, and extent of contamination, and to remediate the contamination in a manner that is protective of human health and the environment and, to the extent technically and economically feasible, provides for the restoration of the contaminated site or facility to its pre-existing condition.

(3) Whenever there is a fire at a site or facility, the responsible individual shall immediately do the following:

(a) Notify local police and fire agencies.

(b) Notify the Ohio EPA emergency response team using their twenty-four hour toll-free number [800-282-9378].

(c) Take all reasonable actions necessary to suppress the fire and to protect human health and safety and the environment.

(d) Take all reasonable measures necessary to contain any residuals including but not limited to pyrolytic oil and water that result from suppressing a fire at the site or facility. These measures shall include establishing berms, dikes or other containment devices where necessary.

(e) Take all reasonable measures necessary to ensure that fires do not occur, recur, or spread to other areas of the site or facility. These measures shall include removing or isolating tires and/or portable containers.

(C) Priorities for remediation of scrap tire fire sites.

(1) After the occurrence of a fire at a site or facility, the responsible individual shall complete the following actions, as prioritized:

(a) Priority 1: Within seven days of the occurrence of a fire at a site or facility, notify, in writing, the Ohio EPA district office in which the site or facility is located, the local solid waste management district, the Ohio EPA central office, and the local health department. The responsible individual shall include in the notification the name and telephone number of the contact person reporting the fire; the address or location of the scrap tire fire; the date and duration of the fire; and the quantity of tires involved, to the extent known.

(b) Priority 2: Remove all whole and partially burned tires as soon as possible to reduce the possibility of additional fires. Partially burnt tires shall be disposed of as solid waste. Whole tires with melted or charred surfaces and partially burnt tires shall not be used in civil engineering projects or disposed of in a scrap tire monofill or monocell per ASTM, "Standard Practice for Use of Scrap Tires in Civil Engineering Applications," (D6270-98) (www.astm.org) paragraph 6.10.2: "In no case shall the tire shreds contain the remains of tires that have been subjected to a fire because the heat of a fire may liberate liquid petroleum products from the tire that could create a fire hazard when the shreds are placed in a fill." Whole tires that can not be recycled due to exposure to high temperatures shall be disposed of as solid waste.
(c) Priority 3: Containerize all visible fire residue to avoid further migration of contaminants by wind and precipitation.

(d) Priority 4: Characterize the containerized fire residual to determine if the material meets the definition of a hazardous waste, as defined in Chapters 3745-51 and 3745-52 of the Administrative Code.

(e) Priority 5: Remove all containerized fire residue from the site or facility and dispose of this residue in a licensed sanitary landfill if characterized as a solid waste; or manage and dispose in accordance with applicable state and federal laws.

(2) The actions described in paragraphs (C)(1)(b), (C)(1)(c), (C)(1)(d), and (C)(1)(e) of this rule shall be:

(a) Completed within ninety days at any site or facility where less than ten thousand passenger tire equivalents (PTEs) are involved in a fire or at any site or facility where a scrap tire fire occurs within the limits of an approved wellhead protection/source water assessment and protection program area.

(b) Begun within forty-five days at any site or facility where more than ten thousand PTEs are involved in a fire.

(c) Implemented as otherwise required by the director, an approved board of health, or a court of law.

(D) Characterization and remediation plan.

(1) The responsible individual identified in paragraph (A) of this rule shall submit to Ohio EPA a "characterization and remediation plan" within forty-five days after the start of any scrap tire fire involving more than ten thousand PTEs or if the fire occurs within the limits of an approved wellhead protection/source water assessment and protection program area, unless either of the following occurs:

(a) Ohio EPA concurs in writing that a plan is unnecessary or that the plan may be submitted later than forty-five days after the start of a scrap tire fire.

(b) As otherwise required by the director, an approved board of health, or a court of law.

(2) The "characterization and remediation plan" shall consist of all of the following:

(a) A map and a description of the site or facility which includes detailed drawings of the area affected by the fire including lateral extent.

(b) A description of action already taken.

(c) Actions to be taken which will prevent further fire at the site or facility.

(d) A schedule and detailed description of activities required for contamination characterization, remediation, and/or restoration.

(e) A site sampling plan and analytical procedures including quality assurance and quality control protocols for laboratory analyses, field methods, and chain of custody for sample collection and transportation.

(f) Cost estimates for contamination characterization.
(g) A certification statement signed by the owner or operator and an independent registered professional engineer stating that the information in the document is true and accurate.

(h) A schedule for implementation and completion.

(3) Ohio EPA may review the "characterization and remediation plan" and require changes or additional submissions if the plan does not satisfy the requirements of this rule. Within fifteen days of receipt of notification that the plan does not comply with the requirements of this rule, the responsible individual shall revise the plan to attain compliance with this rule.

(4) The responsible individual, unless otherwise required by the director or his authorized representative, an approved board of health, or a court of law do the following:

(a) Shall begin implementation of the "characterization and remediation plan" within ninety days after the start of any scrap tire fire involving more than ten thousand PTEs or if the fire occurs within the limits of an approved wellhead protection/source water assessment and protection program area.

(b) Complete the remedial work within the time frame specified in the schedule submitted as required in paragraph (D)(2)(d) of this rule.

(E) Soil contamination.

Contamination of soil shall be characterized and remediated as specified in this paragraph, unless prior written concurrence is obtained from Ohio EPA, or unless other or different requirements are specified by the director, an approved board of health, or a court of law.

(1) Material including but not limited to soil, pyrolytic oil, or partially burned scrap tires and wastes may be removed before the procedures required by paragraph (D)(2) of this rule are initiated. If material is removed, the material shall be managed according to either of the following guidelines, whichever is applicable:

(a) Material shall be disposed of at a licensed sanitary landfill unless the material is a hazardous waste as defined in Chapter 3745-51 of the Administrative Code, or the material is otherwise prohibited from being disposed of at a licensed solid waste disposal facility, in which case it shall be managed or disposed in accordance with applicable state and federal laws.

(b) The appropriate authorizations to treat, store, or dispose of the material on-site are obtained.

(2) Soil contamination characterization.

(a) The full extent of vertical and horizontal soil contamination shall be adequately defined by determining the contaminant concentrations for the parameters listed in appendix I of this rule and for any other parameter(s) required by the director or his authorized representative, an approved board of health, or a court of law. If pyrolytic oil generated by the scrap tire fire is present, it shall be sampled within seven days from the start of the fire and analyzed for all chemical constituents. Any chemical constituents found in the pyrolytic oil samples that are not listed in appendix I of this rule are to be added to the parameters for soil sample analysis.

(b) Quality assurance/quality control protocols shall be established for laboratory analyses, field methods, and chain-of-custody for sample collection and transportation.

(d) Analytical methods and data reporting procedures should be consistent with U.S. EPA publication SW-846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition", (2005) (www.epa.gov/epaoswer/hazwaste/test/main.htm), unless no SW-846 method exists in which case the responsible individual shall propose and justify a method. Methods shall be capable of achieving the lowest possible analytical detection limit. All concentration data shall be reported, even if it is estimated, for compounds or elements that have been positively identified in the sample.

(e) Analytical results shall include a certification statement signed by the responsible individual and an independent registered professional engineer stating that sampling and analysis of contaminated soils and wastes was performed in accordance with this rule.

(3) Remediation.

(a) Unless the appropriate authorizations to treat, store, or dispose of material on-site is obtained, all residuals including, but not limited to, pyrolytic oil, partially burned scrap tires, and other solid wastes shall be removed from the site or facility in accordance with paragraph (E)(1) of this rule.

(b) Contaminated soils shall be removed, unless appropriate authorizations to treat, store, or dispose of the soil on-site is obtained, if considered contaminated by one of the following standards:

(i) For naturally occurring elements or compounds, soils in the affected area containing constituents listed in appendix I of this rule, which are demonstrated to occur in nearby background soils unaffected by the scrap tire fire, shall be considered contaminated if the concentration of any constituent in the soils circumscribing the site exceeds the upper confidence limit (i.e., the mean concentration plus two standard deviations) for the background concentration of the constituent. Background concentrations shall be adequately determined by taking samples from an area not affected by the fire, but which is made of the same type of soil horizon material as the comparison samples and shall be analyzed using total constituent analysis. Background samples need not be analyzed using the toxicity characteristic leachate procedure.

(ii) For compounds not naturally occurring, soil at the site shall be considered contaminated if the presence of synthetic or non-naturally occurring elements or compounds are detected (although not necessarily quantifiable) using the most sensitive methods available in U.S. EPA publication SW-846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Third Edition", (2005) (www.epa.gov/epaoswer/hazwaste/test/main.htm), unless it is demonstrated that these compounds occur in nearby background soils unaffected by the scrap tire fire. Soil at the site or facility shall be considered contamination if the concentration of any constituent in the soils circumscribing the site exceeds the upper confidence limit (i.e., the mean concentration plus two standard deviations) for the background concentration of the constituent. Background concentrations shall be appropriately determined by taking samples from an area not affected by the fire, but which is comprised of the same type of soil horizon material as the comparison samples and shall be analyzed using total constituent analysis. The detection limits developed by the analytical laboratory at the time the sample is analyzed shall be used. "Detection limit" is defined as the minimum concentration of a substance that can be measured and reported with
ninety-nine percent confidence that the value is above zero.

(iii) Other standards approved in writing by Ohio EPA.

[Comment: For the purposes of paragraph (E)(3)(b)(ii) of this rule, background contamination for synthetic or non-naturally occurring elements or compounds will typically be the result of a previous use of the site or facility. The prior contamination, including the probable cause, should be documented, along with sample analysis results.]

(c) Excavated or collected material shall not be stored on site or facility for longer than sixty days and shall be stored in covered containers unless a longer period of storage is approved in writing by Ohio EPA.

(d) Other remediation methods may be implemented with prior written approval of Ohio EPA.

(F) Surface water.

Contamination or degradation of surface waters of the state shall be characterized and remediated as specified in this paragraph, unless prior written concurrence is obtained from or unless other or different requirements are specified by the director, the approved board of health, or a court of law.

(1) The responsible individual shall comply with this paragraph when the open burning of scrap tires has caused or may have caused solid wastes or other pollutants, such as pyrolytic oil, to enter surface waters of the state. This is to include, but is not limited to, the investigation of potential drainage pathways to surface water such as floor drains, field tiles, or combined sewers.

(2) Analysis and general procedures. The extent of contamination or degradation of surface waters shall be adequately defined using, as necessary, the following:

(a) A bioassay toxicity instream evaluation.

(b) Chemical analytical evaluations of selected matrices including water column, sediment, and fish tissue using the parameters specified in appendix I of this rule.

(c) A biological survey evaluation which may include fish community, macrobenthos, plant/animal community, or habitat assessments.

(d) A surface water/habitat restoration plan.

(e) All physical and biological field, laboratory, data processing, sample collection, and data analysis methods should be consistent with those specified in the following: "Manual of Ohio EPA Surveillance Methods and Quality Assurance Practices (Ohio Environmental Protection Agency 1989)"; "Biological Criteria for the Protection of Aquatic Life, Volumes I, II, and III (Ohio Environmental Protection Agency 1988, 1989)" (www.epa.state.oh.us); "Qualitative Habitat Evaluation Index (QHEI): Rationale, Methods, and Application (Rankin 1989)" (www.epa.state.oh.us); and sample collection methods and analytic procedures specified in 40 C.F.R. Part 136 (July 1, 2007) (www.gpoaccess.gov/cfr/index.html).

(f) Analytical and survey results shall include a certification statement signed by the responsible individual and an independent professional engineer stating that sample collection and analysis was performed in accordance with this rule.
(3) Remediation and restoration.

(a) Material including but not limited to pyrolytic oil, partially burned scrap tires, and other solid wastes shall be removed from the surface waters of the state and managed and disposed in accordance with paragraph (E)(1) of this rule, unless authorization to treat, store, or dispose of material on-site is obtained.

(b) The responsible individual shall perform such actions as may be necessary to restore the surface waters to their pre-existing condition.

(G) Ground water.

[Comment: Per paragraph (A)(5) of this rule, this paragraph does not apply to a scrap tire fire involving less than ten thousand passenger tire equivalents (PTEs), unless otherwise required by the director, an approved board of health, or a court of law.]

(1) General applicability. The responsible individual shall implement a "ground water monitoring program" capable of determining the impact of open burning of scrap tires on the quality of ground water occurring within the first continuous significant zone of saturation underlying the scrap tire fire site.

(a) A "ground water quality assessment monitoring program" will be required when ten thousand or more PTEs, as defined in appendix I of rule 3745-27-61 of the Administrative Code) have caught fire, unless otherwise directed by the director or his authorized representative, an approved board of health, or a court of law. A "ground water quality assessment monitoring program" includes, but is not limited to:

(i) A ground water monitoring system in accordance with paragraph (G)(2) of this rule.

(ii) Sampling and analysis procedures in accordance with paragraph (G)(3) of this rule.

(iii) A "ground water quality assessment monitoring plan" in accordance with paragraph (G)(4) of this rule.

(iv) Determinations of rate, extent, and concentration of contaminants caused by open burning of scrap tires and detected in the ground water in accordance with paragraph (G)(4)(e) of this rule.

(v) Notification to persons residing on or owning land above the contaminant plume in accordance with paragraph (G)(4)(i) of this rule.

(vi) Submission of a "ground water quality assessment report" in accordance with paragraph (G)(4)(f) of this rule.

(b) A "corrective measures program" will be required to remediate ground water contamination when contaminants due to open burning of scrap tires have entered the ground water. A "corrective measures program" includes, but is not limited to:

(i) A ground water monitoring system in accordance with paragraph (G)(2) of this rule.

(ii) Sampling and analysis procedures in accordance with paragraph (G)(3) of this rule.

(iii) A "corrective measures plan" in accordance with paragraph (G)(5) of this rule.
(iv) Proposed concentration levels in accordance with paragraph (G)(5)(g) of this rule.

(v) A public meeting held to discuss the results of the "ground water quality assessment report" and "corrective measures plan" with interested persons in accordance with paragraph (G)(5)(d) of this rule.

(vi) Selection and implementation of a corrective measure in accordance with paragraph (G)(5)(j) of this rule.

(c) Implementation of "ground water quality assessment monitoring program" and "corrective measures program." The responsible individual shall implement a "ground water quality assessment monitoring program" and/or a "corrective measures program" when required by paragraph (G)(4) or (G)(5) of this rule to implement these programs. Implementation shall be in accordance with the time frames specified in paragraphs (G)(4) and (G)(5) of this rule.

(d) For the purposes of this rule, the assessment monitoring and corrective measures programs are implemented upon the commencement of sampling of ground water monitoring wells in accordance with paragraph (G)(3), (G)(4), or (G)(5) of this rule.

(e) A qualified ground water scientist shall certify, in accordance with rule 3745-27-09 of the Administrative Code, the "ground water monitoring plan," the "ground water quality assessment plan," and the "corrective measures plan," and any revisions thereof, submitted in accordance with this rule.

(2) Ground water monitoring system.

(a) The ground water monitoring system, for assessment monitoring or corrective measures shall consist of a sufficient number of wells installed at appropriate locations and depths to yield ground water samples from the first continuous significant zone of saturation and all significant zones of saturation that exist above the first continuous significant zone of saturation underlying the scrap tire fire site that include both of the following:

(i) Represent the quality of the background ground water that has not been affected by past or present operations at the site or facility.

(ii) Represent the quality of the ground water passing directly downgradient of the area affected by the open burning of scrap tires.

(b) The responsible individual shall establish background ground water quality, unless the exception in paragraph (G)(2)(c) of this rule applies, by analyzing ground water samples collected from hydraulically upgradient well(s) for each of the parameters required to be sampled in accordance with paragraph (G)(4)(d) of this rule.

(c) Background ground water quality at a site or facility may be based on sampling of wells that are not hydraulically upgradient where both of the following apply:

(i) Hydrogeologic conditions do not allow the responsible individual to determine which wells are upgradient.

(ii) Sampling of other wells will provide an indication of background ground water quality that is as
representative or more representative than that provided by upgradient wells.

(d) All monitoring wells shall be designed, installed, and developed in a manner that allows the collection of ground water samples that are representative of ground water quality in the geologic unit being monitored and at a minimum, do all of the following:

(i) Monitoring wells shall be cased in a manner that maintains the integrity of the monitoring well boreholes.

(ii) The annular space (i.e., the space between the borehole and the well casing) above the sampling depth shall be sealed to prevent the contamination of the samples and the ground water.

(iii) The casing shall be screened or perforated and surrounded by sand or gravel in such a way that allows all of the following:

(a) For the minimization of the passage of formation materials into the well.

(b) For the monitoring of discrete portions of the first continuous significant zone of saturation.

(c) The monitoring wells, piezometers, and other measurement, sampling, and analytical devices shall be operated and maintained to perform to design specifications throughout the life of the monitoring program.

(e) The number, spacing, and depth of ground water monitoring wells shall be based on site-specific hydrogeologic information including, but not limited to, that information listed in paragraphs (C)(3)(a) to (C)(3)(e) of rule 3745-27-06 of the Administrative Code.

(f) The responsible individual shall, at least annually, evaluate the ground water surface elevation data obtained in accordance with paragraph (G)(3)(c) of this rule to determine whether the requirements of paragraph (G)(2) of this rule for locating the monitoring wells continue to be satisfied. If the evaluation shows that paragraph (G)(2) of this rule is no longer satisfied, the responsible individual shall immediately revise the number, location, and/or depth of the monitoring wells to bring the ground water monitoring system into compliance with this requirement.

(3) Ground water sampling, analysis, and data evaluation methods.

(a) General requirements. The assessment monitoring program and corrective measures program shall include consistent sampling and analysis procedures that are protective of human health and the environment and that are designed to ensure monitoring results that provide an accurate representation of ground water quality at the background and downgradient wells installed in accordance with paragraphs (G)(2), (G)(3), (G)(4) and (G)(5) of this rule. The "ground water quality assessment monitoring plan," and "corrective measures plan" shall include both of the following:

(i) A written sampling and analysis plan which documents the sampling and analysis procedures employed in the "ground water quality assessment monitoring program," and the "corrective measures program."

(ii) Submission of ground water analysis shall be in accordance with paragraph (G)(3)(e) of this rule.

(b) A sampling and analysis plan shall, at a minimum, include a detailed description of the equipment, procedures, and techniques to be used for all of the following:
(i) Measurement of ground water elevations.

(ii) Detection of immiscible layers.

(iii) Collection of ground water samples, including all of the following:

   (a) Well evacuation.

   (b) Sample withdrawal.

   (c) Sample containers and handling.

   (d) Sample preservation.

(iv) Performance of field analysis, including procedures and form for recording data and the exact location, time, and site-specific conditions associated with the data acquisition.

(v) Decontamination of equipment.

(vi) Methods for ground water sample analysis for all constituents due to open burning of tires at the site or facility, including all constituents listed in appendix I of this rule.

(vii) Chain of custody control consisting of both of the following:

   (a) Standardized field tracking reporting forms to record sample custody in the field prior to and during shipment.

   (b) Prepared sample labels containing all information necessary for effective sample tracking.

(viii) Field and laboratory quality assurance and quality control including all of the following:

   (a) Collection of duplicate samples.

   (b) Submission of field-bias blanks.

   (c) Potential interferences.

(c) Measurement of ground water elevations. Ground water elevations shall be measured in all wells prior to any purging and sampling. The responsible individual shall determine, for the significant zone of saturation monitored, the direction of ground water flow each time ground water elevation measurements are performed. Ground water elevations in wells monitoring this unit shall be measured within a period of time short enough to avoid temporal variations in ground water flow which could preclude an accurate determination of ground water flow rate and direction. The responsible individual shall annually evaluate the ground water elevation data collected pursuant to this paragraph in accordance with paragraph (G)(2)(d) of this rule.

(d) The responsible individual shall determine whether or not there is an increase from background values for each parameter in appendix I of this rule. The responsible individual shall make this determination each time they assess ground water quality. To determine whether a significant increase has occurred, the responsible individual shall compare the ground water quality of each parameter in appendix I of this rule at each downgradient ground water monitoring well to the background value of that parameter. The responsible individual may use any one or more of the data
evaluation procedures specified in paragraph (G)(4)(c)(iv) of this rule.

(e) Submission of results. All ground water elevation, sample analysis results and ground water quality evaluation data generated in accordance with paragraphs (G)(2), (G)(3), (G)(4), and (G)(5) of this rule shall be submitted to the appropriate Ohio EPA district office not later than seventy-five days after sampling the well. All ground water data and an accompanying text shall be submitted to the appropriate Ohio EPA district office in a form specified by Ohio EPA.

(4) Ground water quality assessment monitoring program.

(a) General requirements. Ground water quality assessment monitoring is required if ten thousand or more PTEs have caught fire. Additionally, assessment monitoring may be required in the event that the results from an initial screening conducted by the field inspector indicate a possible release to the ground water underlying the site or facility. If ten thousand or more PTEs have caught fire, or a release to ground water is indicated, unless otherwise required by the director, an approved board of health, or a court of law, the responsible individual for a site or facility shall implement a "ground water quality assessment monitoring program" capable of determining the concentration, rate, and extent of migration of contaminants in the ground water due to open burning of tires at the site or facility. The responsible individual shall implement the "ground water quality assessment monitoring program" in accordance with the "ground water quality assessment plan" and any other requirements identified by the director.

(b) Within ninety days of the start of the fire, the responsible individual shall submit to the director a "ground water quality assessment plan" for implementing the "ground water quality assessment program" at the site or facility.

(c) The "ground water quality assessment plan" shall include, at a minimum, detailed descriptions of the following:

(i) Hydrogeologic conditions at the site or facility.

(ii) The investigatory approach to be followed during the assessment, including but not limited to the all of the following:

(a) The proposed number, location, depth, installation method, and construction of any assessment monitoring wells deemed necessary.

(b) The proposed method(s) for gathering additional hydrogeologic information.

(c) The planned use of supporting methodology (i.e., soil gas or geophysical surveys).

(iii) A sampling and analysis plan as required in paragraph (G)(3)(b) of this rule.

(iv) Data evaluation procedures, including but not limited to all of the following:

(a) Planned use of computer models.

(b) Planned use of previously gathered information.

(c) Planned use of statistical methods.

(d) Planned use of data display (e.g., stiff or piper) diagrams.
(e) Criteria which will be utilized to determine if additional assessment activities are warranted.

(v) Schedule of implementation which incorporates the requirements specified by the director.

(vi) Provisions for installing additional wells, as necessary, for determining the nature and extent of any release of contaminants due to open burning of tires.

(d) Assessment monitoring schedule, frequency, and parameters. Not later than two hundred seventy days after the start of the fire, the responsible individual shall sample all wells on-site. The responsible individual shall continue to sample all wells at least quarterly after this initial sampling and analyze the samples for all constituents listed in appendix I of this rule or any other constituents required by the director.

(e) First determination of rate, extent, and concentration. The responsible individual shall implement the "ground water quality assessment plan" which satisfies the requirements of paragraphs (G)(4)(b) and (G)(4)(c) of this rule and, at a minimum, determine the rate, concentration and extent of migration of any parameters required to be sampled for by paragraph (G)(4)(d) of this rule in the ground water.

(f) Ground water assessment report. The responsible individual shall make a determination according to paragraph (G)(4)(e) of this rule within the time frame specified in the submitted "ground water quality assessment plan." The responsible individual shall submit to the appropriate Ohio EPA district office, not later than fifteen days after making a determination, a written "ground water quality assessment report" containing an assessment of the ground water quality including all data generated as part of implementation of the "ground water quality assessment plan."

(g) Cessation of ground water monitoring.

(i) The responsible individual may demonstrate that a source other than the scrap tire fire caused the contamination, or that the elevated constituent concentration resulted from error in sampling, analysis, or natural variation in ground water quality. A report documenting this demonstration must be submitted to the appropriate Ohio EPA district office along with a request that the director approve cessation of the ground water monitoring program described in paragraphs (G)(3) and (G)(4) of this rule.

(ii) Until the appropriate Ohio EPA district office receives notice of approval of cessation of the ground water monitoring program from the director, the responsible individual shall comply with paragraphs (G)(4)(h) and (G)(5) of this rule.

(h) Semiannual determination of rate, extent, and concentration. If the responsible individual determines, based on the determination made according to paragraph (G)(4)(e) of this rule, that parameters required to be sampled for by paragraph (G)(4)(d) of this rule from the site or facility have entered the ground water, then the responsible individual shall continue to make this determination on a semiannual basis until released from this obligation by the director or unless an alternate time interval is established by the director or his authorized representative. The responsible individual shall submit documentation of the semiannual determination of rate, extent, and concentration with the reports required to be submitted in accordance with paragraph (G)(4)(j) of this rule.

(i) Notification of adjacent landowners. After the determination of rate, extent, and concentration in accordance with paragraph (G)(4)(e) of this rule, the responsible individual shall notify, by certified mail or any other form of mail accompanied by a receipt, all persons who own land or reside on the
land that directly overlies any part of the plume of the contamination, as determined in accordance with paragraph (G)(4)(e) of this rule, of the rate, extent, and concentration of the parameters required to be sampled for by paragraph (G)(4)(d) of this rule in the ground water. The responsible individual shall submit copies of the return receipts or other evidence of notification to the appropriate Ohio EPA district office. The responsible individual shall re-notify persons or notify additional persons, as necessary, but no more than annually, based on the results of the determinations of rate, extent, and concentration.

(j) Semi-annual assessment activities report. The responsible individual shall submit to the appropriate Ohio EPA district office and to the approved health department, upon implementation of the "ground water quality assessment plan" submitted under paragraph (G)(4)(c) of this rule, a report on the activities being conducted at the site or facility as part of implementation of the "ground water quality assessment plan." This report shall be submitted semi-annually and contain the following:

(i) A narrative description of all assessment activities that have occurred since the previous report.

(ii) All data generated as part of the assessment program since the previous report.

(5) Corrective measures program.

(a) General requirements. Unless the director approves cessation of the ground water monitoring program in accordance with paragraph (G)(4)(g) of this rule, the responsible individual shall implement a "corrective measures program" capable of evaluating all practical ground water remediation procedures, attaining the concentration level for parameters required to be sampled for by paragraph (G)(4)(d) of this rule detected in the ground water, controlling the source of the release, and eliminating further releases. The responsible individual shall implement the "corrective measures program" in accordance with the "corrective measures plan" and the requirements of this rule.

(b) Submission of corrective measures plan. Within one hundred eighty days after making a determination in accordance with paragraph (G)(4)(e) of this rule, the responsible individual shall submit a "corrective measures plan" to the director. The "corrective measures plan" shall evaluate all practical remediation procedures which are available for remediating any contamination discovered during assessment monitoring program." The evaluated remediation procedures shall, at a minimum, do all of the following:

(i) Be protective of human health and the environment.

(ii) Attain the proposed ground water concentration levels specified in accordance with paragraph (G)(5)(g) of this rule.

(iii) Control the source(s) of releases to reduce or eliminate, to the maximum extent practical, further releases of parameters required to be sampled for by paragraph (G)(4)(d) of this rule into the environment.

(iv) Comply with standards for management of wastes as specified in paragraph (G)(5)(m) of this rule.

(c) The responsible individual shall evaluate each proposed remediation procedure within the corrective measures plan. This evaluation shall, at a minimum, consider:

(i) Any potential remediation procedure, which shall be assessed for the long-term and short-term
effectiveness and the protection it affords. This shall include the degree of certainty that the remediation procedure will prove successful. Factors to be considered include all of the following:

(a) Magnitude of reduction of existing risks.

(b) Magnitude of residual risks in terms of likelihood of further releases due to waste remaining following implementation of a remediation procedure.

(c) The type and degree of long-term management required, including monitoring, operation, and maintenance.

(d) Short-term risks that may affect the community, workers, or the environment during implementation of such a remediation procedure, including potential threats to human health and the environment associated with excavation, transportation, disposal, or containment.

(e) Potential for human and environmental receptor exposure to remaining wastes, considering the potential threat to human health and the environment associated with excavation, transportation, disposal, or containment.

(f) Long-term reliability of the engineering and institutional controls.

(g) Potential need for replacement of the remediation procedure.

(h) Time until full protection is achieved.

(ii) The effectiveness of the remediation procedure in controlling the source in order to reduce further releases, including both of the following:

(a) The extent to which containment practices will reduce further releases.

(b) The extent to which treatment technologies may be used.

(iii) The need to coordinate with, and obtain necessary approvals and permits from other agencies.

(iv) The available capacity and location of needed treatment, storage, and disposal services.

(v) The ease or difficulty of implementing a potential remedy(s) based on consideration of all of the following types of factors:

(a) Degree of difficulty associated with constructing the technologies.

(b) Expected operational reliability of the technologies.

(c) Availability of necessary equipment and specialists.

(vi) The degree to which community concerns are addressed by a potential corrective measure; the performance, reliability, ease of implementation, and potential impacts of the potential remediation procedures, including safety impacts, cross-media impacts, and control of exposure to any residual contamination.

(vii) A schedule for initiating and completing each remediation procedure discussed in the plan. In
establishing this schedule, the responsible individual shall consider at a minimum all of the following:

(a) The extent and nature of any contamination.

(b) The practical capability of remedial technologies to achieve compliance with ground water concentration levels established in accordance with paragraph (G)(5)(g) of this rule and other objectives of the remediation procedure.

(c) The availability of treatment or disposal capacity for wastes managed during implementation of the remediation procedure.

(d) The desirability of utilizing technologies that are not currently available, but which may offer significant advantages over currently available technologies in terms of protection. Reliability, safety, or the ability to achieve remedial objectives.

(e) Potential risks to human health and the environment from contaminant exposure prior to completion of the remediation procedure.

(f) Practical capability of the responsible individual.

(g) Other relevant factors.

(viii) Resource value of the ground water system, including all of the following:

(a) Current and future uses.

(b) Proximity and withdrawal rate of users.

(c) Ground water quantity and quality.

(d) The potential damage to wildlife, crops, vegetation, and physical structures resulting from exposure to waste constituents.

(e) The hydrogeologic characteristics of the site or facility and surrounding area.

(f) Ground water removal and treatment costs.

(g) The cost and availability of alternate water supplies.

(ix) Practical capability of the responsible individual.

(x) Other relevant factors.

(d) Public meeting. The responsible individual shall do all of the following:

(i) Not later than thirty days after submitting the "corrective measures plan" to the director, place copies of the "ground water quality assessment report" and the "corrective measures plan" in the nearest public library or other publicly accessible equivalent location to the affected site or facility. The responsible individual shall periodically revise and update the copies, but not later than annually. The copies shall be made available to the public until a remedy is selected by the director.
(ii) Within sixty days of submitting the corrective measures plan to the director, discuss the results and content of the "ground water quality assessment report" and the "corrective measures plan" in a public meeting with interested and affected parties. The responsible individual shall provide adequate and reasonable public notice of the meeting, and the public meeting must be held at a place and time reasonably convenient to the interested and affected parties.

(iii) Solicit public comment on the proposed "corrective measures plan." Any public comments received shall be submitted to the appropriate Ohio EPA district office and the approved health department.

(e) The director may require the responsible individual to evaluate, as part of the corrective measures study, one or more specific potential remediation procedures.

(f) Interim corrective measures. If, at any time during the assessment described in paragraph (G)(4) of this rule, the director determines that the site or facility threatens human health or the environment, the director may require the responsible individual to implement the following measures:

(i) Notify all persons, by certified mail or any other form of mail accompanied by a receipt, who own the land or reside on the land that directly overlies or lies adjacent to any part of the plume of contamination.

(ii) Take any interim measures deemed necessary by the director to ensure the protection of human health and the environment. Interim measures should, to the extent practical, be consistent with the objectives of and contribute to the performance of any remediation procedure that may be required pursuant to paragraphs (G)(5)(a), (G)(5)(b), (G)(5)(c), (G)(5)(d), and (G)(5)(g) of this rule. The following factors may be considered by the director in determining whether interim measures are necessary:

(a) The amount of time required to develop and implement a final remediation procedure.

(b) Actual or potential exposure of nearby populations or environmental receptors to parameters required to be sampled for by paragraph (G)(4)(d) of this rule.

(c) Actual or potential contamination of drinking water supplies or sensitive ecosystems.

(d) Any further degradation of the ground water that may occur if remedial action is not initiated expeditiously.

(e) Weather conditions that may cause parameters required to be sampled for by paragraph (G)(4)(d) of this rule to migrate or be released.

(f) Risks of fire, explosion, or potential for exposure to parameters required to be sampled for by paragraph (G)(4)(d) of this rule as a result of an accident or failure of a container or handling system.

(g) Other situations that threaten human health and the environment.

(g) Concentration levels for contaminants. The corrective measures plan shall propose a concentration level for each scrap tire-derived constituent which has been detected in the ground water at a statistically significant level. These shall be established as follows:
(i) The proposed concentration levels in the ground water shall be protective of human health and the environment.

(ii) Unless an alternate level is deemed necessary to protect environmental receptors, then:

(a) For constituents for which a maximum contaminant level has been promulgated under the "National Primary Drinking Water Regulations," title 40 Code of Federal Regulations, part 141, (July 1, 2007) (www.gpoaccess.gov/cfr/index.html), the maximum contaminant level for that constituent.

(b) For constituents for which maximum contaminant levels have not been promulgated, the background concentration for the constituent collected from hydraulically upgradient wells.

(c) If the responsible individual can demonstrate to the director that a scrap tire-derived constituent found on appendix I of this rule is already present in the ground water at a background level, then the proposed concentration levels shall not be set below background levels unless the director or his authorized representative determines that cleanup to levels below background levels is necessary to protect human health and the environment and such cleanup is in connection with an area-wide remedial action under other authorities.

(iii) In establishing the proposed concentration levels that meet the requirements of paragraph (G)(5)(g)(ii) of this rule, the responsible individual shall consider all of the following:

(a) Multiple contaminants in the ground water.

(b) Exposure threat to sensitive environmental receptors.

(c) Other site-specific exposure or potential exposure to ground water.

(d) The reliability, effectiveness, practicality, and other relevant factors of the remediation procedure.

(iv) The director may establish an alternative ground water protection standard for constituents for which maximum contaminant levels have not been established. These ground water protection standards shall be appropriate health-based levels that satisfy any of the following criteria:

(a) The level is derived in a manner consistent with federal guidelines for assessing the health risks of environmental pollutants.

(b) The level is based on scientifically valid studies conducted in accordance with the "Good Laboratory Practice Standards," title 40 Code of Federal Regulations, part 792, (2007) (www.gpoaccess.gov/cfr/index.html) or equivalent standards.

(c) For known or suspected carcinogens, the proposed concentration levels shall be established at concentration levels below those that represent a cumulative (due to lifetime exposure) excess upperbound lifetime cancer risk to an individual within the 1 X 10^-4 to 1 X 10^-6 range.

(d) For systemic toxicants, the proposed concentration levels shall be reduced to levels to which the human population (including sensitive subgroups) could be exposed on a daily basis without appreciable risk of deleterious effects during a lifetime. For the purposes of this...
rule, "systemic toxicants" include toxic chemicals that cause effects other than cancer or mutation.

(h) Determination that remediation is not necessary. The director may determine that remediation of a release of parameters required to be sampled for by paragraph (G)(4)(d) of this rule from the site or facility is not necessary if the responsible individual demonstrates any of the following:

(i) The ground water is additionally contaminated by substances that have originated from a source other than the site or facility and those substances are present in concentrations such that cleanup of the release from the site or facility would provide no significant reduction in risk to actual or potential receptors.

(ii) The constituent is present in ground water that applies to the following:

(a) Is not currently or reasonably expected to be a source of drinking water.
(b) Is not hydraulically connected with waters to which the scrap tire-derived constituent(s) are migrating or are likely to migrate in a concentration(s) that would exceed the ground water concentration levels established under paragraph (G)(5)(g) of this rule.

(iii) Remediation of release(s) is technically impractical.

(iv) Remediation results in unacceptable cross-media impacts.

(i) A determination by the director pursuant to paragraph (G)(5)(h) of this rule shall not affect the director's authority to require the responsible individual to undertake source control measures or other measures that may be necessary to eliminate or minimize further releases to ground water, to prevent exposure to ground water, or to remediate ground water to concentrations that are technically practical and significantly reduce threats to human health and the environment.

(j) Selection of corrective measure. The director shall select from the corrective measures plan, or designate according to paragraph (G)(5)(f) of this rule, the corrective measure which best meets the criteria listed in paragraphs (G)(5)(b), (G)(5)(c), and (G)(5)(g) of this rule. The responsible individual shall implement the corrective measure designated by the director in accordance with the schedule of implementation selected by the director.

(k) Determination that corrective measure not technically practical. The director may determine, based on information developed by the responsible individual after implementation of the remediation procedure has begun, or from other information, that compliance with the requirement(s) for the remediation procedure selected under paragraphs (G)(5)(g) of this rule is not technically practical. In making such a determination, the director shall consider both of the following:

(i) The responsible party's efforts to achieve compliance with the requirement(s).
(ii) Whether other currently available or new methods or techniques could practicably achieve compliance with the requirements.

(l) Alternative measures. If the director determines that compliance with a remediation procedure requirement is not technically practical, then the director may require that the responsible individual do all of the following:
(i) Implement alternate measures to control human or environmental receptor exposure to residual contamination, as necessary, to protect human health and the environment.

(ii) Implement alternate measures for control of the sources of contamination, or for removal or decontamination of equipment, units, devices, or structures required to implement the remediation procedure(s), that are as follows:

(a) Technically practical.

(b) Consistent with the overall objective of the remediation procedure.

(m) All solid wastes that are managed pursuant to a remediation procedure required under paragraph (G)(5)(f) of this rule, or an interim measure required under paragraph (G)(5)(f) of this rule, shall be managed in the following manner:

(i) That is protective of human health and the environment.

(ii) That complies with applicable laws and regulations.

(n) Quarterly corrective measures activities report. The responsible individual shall submit to the appropriate Ohio EPA district office and the approved health department, upon implementation of the remediation procedure chosen under paragraph (G)(5)(i) of this rule, a report of the activities being conducted at the site or facility as part of implementation of the corrective measures program. This report shall be submitted quarterly and contain the following:

(i) A narrative description of all remedial activities that have occurred since the previous report.

(ii) All data generated as part of the remedial activities at the site or facility.

(o) Completion of corrective measures. The corrective measures selected pursuant to paragraph (G)(5)(j) of this rule shall be considered complete when all of the following are done:

(i) The responsible individual complies with the ground water protection standards established under paragraph (G)(5)(g) of this rule at all points within the plume of contamination that lie beyond the limits of the scrap tire fire site or facility.

(ii) Compliance with the ground water protection standards established under paragraph (G)(5)(g) of this rule has been achieved by demonstrating semiannually via ground water monitoring that the contamination has not exceeded the ground water protection standards for a period of three years using the procedures in paragraph (G)(3)(d) of this rule. The director may specify an alternative length of time during which the responsible individual shall demonstrate that the contamination has not exceeded the ground water protection standards taking into account all of the following considerations:

(a) Extent and concentration of the contamination.

(b) Behavior characteristics of the contamination in the ground water.

(c) Accuracy of monitoring or modeling techniques, including any seasonal, meteorological, or other environmental variabilities that may affect the accuracy.

(d) Characteristics of the ground water.
(iii) All actions required to complete the corrective measure have been satisfied.

(6) Certification corrective measures completed. Upon completion of the corrective measure, the responsible individual shall certify within fourteen days to the director or his authorized representative that the corrective measure has been completed in compliance with paragraph (G)(5)(o) of this rule. The certification shall be signed by the responsible individual and a qualified ground water scientist.

(H) Certification.

A certification report shall be submitted to Ohio EPA following remediation of the area. The certification document shall include all of the following:

1. A certification statement signed by the responsible individual and an independent registered professional engineer stating that sampling and all remedial activities were performed in accordance with this rule.

2. The volume of contaminated soils and other wastes removed and waste receipts from the facilities where soils or other wastes were disposed.

3. Details of the sampling and analysis methods.

4. Laboratory records.

5. A narrative description of all activities performed, including surface water or ground water remediation activities.
Effective: 12/01/2014

Five Year Review (FYR) Dates: 09/12/2014 and 12/01/2019

CERTIFIED ELECTRONICALLY

Certification

11/21/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02, 3734.70, 3734.71, 3734.72, 3734.73, 3734.74
Rule Amplifies: 3734.70, 3734.71, 3734.72, 3734.73, 3734.74
Appendix I

This appendix contains the common names of constituents that are widely used in government regulation, scientific publications, and commerce. However, synonyms may exist for many constituents. The chemical abstract service registry number (CAS RN) for each constituent has been provided.

<table>
<thead>
<tr>
<th>Constituent</th>
<th>CAS RN</th>
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<tbody>
<tr>
<td>1) Acenaphthene; 1,2-dihydroacenaphthylene</td>
<td>83-32-9</td>
</tr>
<tr>
<td>2) Acenaphthylene</td>
<td>208-96-8</td>
</tr>
<tr>
<td>3) Acetone; 2-Propanone</td>
<td>67-64-1</td>
</tr>
<tr>
<td>4) Anthracene</td>
<td>120-12-7</td>
</tr>
<tr>
<td>5) Arsenic</td>
<td>7400-38-2</td>
</tr>
<tr>
<td>6) Benzene</td>
<td>71-43-2</td>
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<tr>
<td>7) Benzo[a]anthracene; Benzanthracene</td>
<td>56-55-3</td>
</tr>
<tr>
<td>8) Benzo[b]flouranthene; Benz[e]acephenanthylene</td>
<td>205-99-2</td>
</tr>
<tr>
<td>9) Benzoic Acid</td>
<td>65-85-0</td>
</tr>
<tr>
<td>10) Benzo[a]pyrene</td>
<td>50-32-8</td>
</tr>
<tr>
<td>11) Cadmium</td>
<td>7440-43-9</td>
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<tr>
<td>12) Caprolactam</td>
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<td>16) Copper</td>
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<td>17) Ethylbenzene</td>
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<td>18) Flouranthene</td>
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<td>19) Lead</td>
<td>7439-92-1</td>
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<td>20) Manganese</td>
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<td>21) Mercury</td>
<td>7439-97-6</td>
</tr>
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<td>22) Methyl ethyl ketone; MEK; 2-Butanone</td>
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<tr>
<td>23) 2-methylnapthalene</td>
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<td>24) 4-methyl-2-pentanone; Methyl isobutyl ketone</td>
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<td>25) Methylene chloride; Dichloromethane</td>
<td>75-09-2</td>
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<td>26) Naphthalene</td>
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<td>28) Phenanthrene</td>
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<td>30) Pyrene</td>
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<td>31) Selenium</td>
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<tr>
<td>32) Strontium</td>
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<td>33) Styrene; Ethenylbenzene</td>
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<td>35) Xylene (Total); Dimethylbenzene</td>
<td>1330-20-7</td>
</tr>
<tr>
<td>36) Zinc</td>
<td>7440-66-6</td>
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For Surface Water Samples Only:

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<table>
<thead>
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<tbody>
<tr>
<td>37)</td>
<td>Temperature</td>
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<td>38)</td>
<td>pH</td>
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<tr>
<td>39)</td>
<td>Chemical oxygen demand</td>
</tr>
<tr>
<td>40)</td>
<td>Total suspended solids</td>
</tr>
<tr>
<td>41)</td>
<td>Biological oxygen demand, 5 day</td>
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</table>
Applicability and definitions for authorizations to stabilize waste through bulk liquid addition.

(A) Applicability. Rules 3745-27-80 to 3745-27-89 of the Administrative Code are applicable to the facility if the following criteria are met:

1. The owner or operator is requesting authorization to accept bulk liquids at the facility pursuant to paragraph (E)(8)(b) of rule 3745-27-19 of the Administrative Code.

[Comment: Acceptance of bulk liquids to stabilize waste is a change in type of waste received, and may entail a change to operation, technique of waste received, or design or construction of the facility, which may endanger human health or the environment. The change is therefore a modification to the facility and requires a permit to install, which is also subject to the public involvement requirements of Chapter 3734. of the Revised Code.]

2. The research, development, or demonstration project will occur at a new or existing sanitary landfill facility subject to regulation under 40 CFR Part 258 "Criteria for Municipal Solid Waste Landfills."

3. The bulk liquid addition will occur in a designated area above a leachate collection system that is designed and constructed to maintain the depth of leachate to not more than one foot on the composite liner system.

4. The bulk liquid addition will occur in a designated area that meets the ground water aquifer system protection siting criteria established in paragraph (H)(2) of rule 3745-27-07 of the Administrative Code.

5. The purpose of the project is to research, develop, or demonstrate methods or technologies to optimize waste stabilization.

6. Any extension of the boundary of the designated research, development, or demonstration project area for waste stabilization through bulk liquid addition for a facility that has received authorization to stabilize waste through bulk liquid addition constitutes a modification to the facility and requires another authorization.

[Comment: In all cases, expanding the project area is a change which may endanger human health or the environment. Other changes, such as changing the type of bulk liquid or the amount of bulk liquid to be accepted, may also be considered a change which may endanger human health or the environment. The owner or operator is encouraged to consult with the Ohio EPA beforehand to determine whether a change is a modification or an alteration for authorization purposes.]
(B) Definitions. For the purposes of rules 3745-27-80 to 3745-27-89 of the Administrative Code, the following terms are defined as follows:

(1) "Extending," when used in the context of extending the termination date for authorization to stabilize waste through bulk liquid addition, means an action of the director to establish a new termination date before the term of the authorization expires and without changes to implement the research, development, or demonstration project.

(2) "Reauthorizing" means an action of the director to establish a new termination date of an authorization to stabilize waste through bulk liquid addition of a request made after the termination date.
Effective: 06/06/2011
R.C. 119.032 review dates: 06/06/2016

CERTIFIED ELECTRONICALLY

Certification

02/28/2011

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02
Rule Amplifies: 3734.02
3745-27-81  Application for a permit to stabilize waste through bulk liquid addition.

The permit to install application shall comply with rule 3745-27-06 of the Administrative Code and this rule. The permit to install application shall contain the following:

(A) Plan drawings. Detail engineering plans, specifications, and information for the research, development, or demonstration project shall include the following:

(1) The location of the designated research, development, or demonstration project area and the control area, if one is proposed.

(2) A demonstration that the ground water aquifer system protection criteria in paragraph (H)(2) of rule 3745-27-07 of the Administrative Code are met in the designated research, development, or demonstration project area.

(3) The design of the composite liner system underlying the designated research, development, or demonstration project area.

(4) For any flexible membrane liner to be installed as part of the composite liner system, the horizontal limits of the liner integrity survey.

(5) A demonstration that the leachate in the designated research, development, or demonstration project area will be physically separated from the leachate from the rest of the landfill and monitored.

(6) The specifications for the leachate collection drainage layer material underlying the designated research, development, or demonstration project area, including permeability.

(7) The design of the liquid addition system.

(8) The horizontal and vertical limits of where liquid addition will occur.

(9) The design of the gas management system.

(B) Variance and exemption requests. In addition to variance and exemption requests, include any requested alternative materials, designs, or construction requirements and any alterations to the authorizing document necessary to implement the research, development, or demonstration project.

(C) Calculations. The design calculations shall include the following:

(1) Capacity of the leachate collection and management system.
(2) Capacity of the gas management system.

(3) Analysis of slope stability in the designated research, development, or demonstration project area with the piezometric surface established at the top of waste.

(4) The amount of liquid that can be added without exceeding one foot of head on the composite liner system.

(5) The financial assurance cost estimate for closure of the facility.

(D) Research, development, and demonstration information. The application shall provide the following information regarding the objective of the research, development, or demonstration project:

(1) The hypothesis.

(2) The conditions necessary to meet the desired outcome.

(3) A description of test and control groups, including whether a control area will be employed at the facility.

(4) The variables to be changed, measured, and controlled.

(5) The time period for conducting the research, development, or demonstration project.

[Comment: The time period of the authorization to stabilize waste through bulk liquid addition cannot exceed three years (see rules 3745-27-82 and 3745-27-85 of the Administrative Code). Therefore, the design of the project should result in an outcome that can be determined within that time frame.]

(6) A summary of research as it relates to the project, including the need for this project and a list of published papers supporting the project hypothesis.

(E) Operational information for the authorization to stabilize waste through bulk liquid addition. The application shall provide the following information regarding control of the waste stabilization process in the research, development, or demonstration project:

(1) Waste acceptance, including the following:

   (a) Identification of the types of liquids (including leachate, water, and bulk liquids) to be added and why the addition will stabilize waste.
(b) Identification of any waste, liquid, or material types or characteristics that may be detrimental for the purposes of the research, development, or demonstration project.

(c) Identification of any waste or liquid types or characteristics to be prohibited from being disposed in the designated research, development, or demonstration project area and in the control area, if one is proposed. At a minimum, wastes which exhibit an exothermic reaction when combined with the bulk liquid are likely to result in a surface or subsurface fire shall be identified on this list (e.g., aluminum production waste).

(2) Description of methods to be used to introduce the liquid (including leachate, water, and bulk liquids) into the waste mass.

(3) Description of any special operational activities or equipment, including whether the sanitary landfill facility will be operated under aerobic conditions.

(4) Surface elevation control points to be established.

(5) Description of procedures to ensure that daily cover or disposal of low permeability solid waste will not adversely affect the free movement of liquids and gases within the waste mass.

(6) When landfill gas collection will commence with respect to introduction of bulk liquids to the designated area.

(F) Monitoring plan for the authorization to stabilize waste through bulk liquid addition. The application shall provide information regarding the monitoring of the following:

(1) If certain liquid qualities or characteristics are necessary to conduct the research, development, or demonstration project, the monitoring parameters and frequency.

(2) Waste, liquid, and material types or characteristics in order to do the following:

   (a) Prevent the disposal or application of prohibited items identified in accordance with paragraph (E)(1)(c) of this rule to the designated research, development, or demonstration project area or control area, if one is proposed.

   (b) Record acceptance of detrimental items identified in accordance with paragraph (E)(1)(b) of this rule to the designated research, development, or demonstration project area or control area, if one is proposed.

(3) Odors, including how the owner or operator will do the following:
(a) Respond to complaints from citizens.

(b) Locate and identify the source of the odor.

(4) Any monitoring in addition to that required in rule 3745-27-84 of the Administrative Code for the following:

(a) To detect a fire at the facility.

(b) To determine the degree of waste stabilization in the designated research, development, or demonstration project area and in the control group.

(c) To determine the impact on the flexible membrane liner component of the composite liner system.

(d) To determine if liquid addition is excessive.

(5) Any additional monitoring of conditions necessary to meet the desired outcome of the project.
Effective: 06/06/2011
R.C. 119.032 review dates: 06/06/2016

CERTIFIED ELECTRONICALLY

Certification

02/28/2011

Date

Promulgated Under: 119.03
Statutory Authority: 3734.02
Rule Amplifies: 3734.02
Issuing and denying a permit to install; extending and reauthorizing an authorization to stabilize waste through bulk liquid addition.

(A) The director shall issue or deny an application for a permit to install to stabilize waste through bulk liquid addition.

(B) The director may choose to extend the termination date of an authorization to stabilize waste through bulk liquid addition.

(C) The director may choose to reauthorize bulk liquid addition and establish a new termination date.

(D) The director shall not grant a variance or exemption request made with the application from any of the following:

1. The location restriction demonstrations established in paragraph (C) of rule 3745-27-20 of the Administrative Code.

2. The requirement to conduct groundwater monitoring or any selected corrective measures pursuant to rule 3745-27-10 of the Administrative Code.


4. The hazardous waste prohibition established in paragraph (E)(8)(c) of rule 3745-27-19 of the Administrative Code.

5. The requirement to abate or minimize explosive gas migration as established in rule 3745-27-12 of the Administrative Code.

6. The requirement to limit the depth of leachate to not more than one foot on the composite liner system as established in paragraph (C)(3)(c) of rule 3745-27-08 of the Administrative Code.

7. The park siting criterion as established in paragraph (H)(1) of rule 3745-27-07 of the Administrative Code.

(E) The director shall not issue a permit to install, choose to extend the termination date, or reauthorize bulk liquid addition and establish a new termination date unless the director determines the following:

1. The construction, operation, closure activities, and post-closure care activities of the sanitary landfill facility, in the manner approved by the permit to install and any terms or conditions imposed as part of the permit to install, will not create a
nuisance or a hazard to public health or safety or the environment and are unlikely to result in a violation of any other requirements of Chapters 3704., 3734., and 6111. of the Revised Code and any rules adopted thereunder.

(2) The designated area where bulk liquid addition will occur meets the following criteria:

(a) The ground water aquifer system protection siting criteria established in paragraph (H)(2) of rule 3745-27-07 of the Administrative Code.

[Comment: If the designated area is in a location that was previously authorized by issuance of a variance or exemption, or was deemed acceptable by the director, for any of the siting criteria in paragraph (H)(2) of rule 3745-27-07 of the Administrative Code, then the area does not meet the criterion established by paragraph (D)(2)(a) of this rule.]

(b) A composite liner system is present. If the flexible membrane liner has not yet been installed, a liner integrity survey will be conducted on the installed flexible membrane liner after the leachate collection drainage layer is placed.

(c) A dedicated leachate transfer point is present, or an alternative acceptable to the director, which ensures that leachate generated within the designated area can be accurately measured and a representative sample of leachate collected.

(d) The surrounding areas are sloped or separated by a berm to ensure that leachate generated outside the designated area is diverted from the designated area.

(e) A leachate collection system is present that is designed and constructed to maintain the depth of leachate to not more than one foot on the composite liner system. At a minimum, the leachate collection system drainage layer shall meet the following criteria:

(i) Consist of aggregate or shredded scrap tires. Shredded scrap tires shall not be placed above a flexible membrane liner that has not yet been installed unless the shredded scrap tires will not interfere with the ability of the leak location survey to detect defects.

(ii) Have a permeability exceeding one centimeter per second.

(3) The liquids including leachate, water, and bulk liquids will be evenly distributed.

(4) Liquid addition shall not occur within fifty feet of the following:
(a) The boundary of the designated research, development, or demonstration project area.

(b) External slopes of the facility.

(5) The leachate collection and management system has the capacity to manage the anticipated increase in leachate production.

(6) The landfill gas generated within the research, development, and demonstration project area is adequately controlled and managed, including at a minimum, the following:

(a) The design of the gas management system conforms to rule 3745-27-89 of the Administrative Code.

(b) The gas management system has the capacity to manage the anticipated increase in landfill gas production rates.

(c) The gas management system for the area does not vent the landfill gas to the atmosphere but conveys the landfill gas to one or more gas control devices.

(d) Landfill gas collection commences prior to introduction of liquids to the area.

(e) The operation of the gas management system is capable of conforming to rule 3745-27-83 of the Administrative Code.

(7) The slopes in the research, development, and demonstration project area are stable with the piezometric surface at the top of waste.

(8) The bulk liquid addition is unlikely to cause an exothermic reaction resulting in a surface or subsurface fire.

(9) The research, development, or demonstration project will result in development of useful information related to optimizing waste stabilization. The addition of bulk liquid must be necessary to accelerate or enhance the stabilization of the solid waste and is not being used by the owner or operator merely as a means to dispose of the liquid.

(10) The closure cost estimate includes a separate item to address closure contingencies. The cost estimate for closure contingencies shall be at minimum twenty per cent of the non-contingency closure cost estimate items.

(11) The owner and operator are in substantial compliance at the facility with all applicable provisions of Chapters 3704., 3714., 3734., and 6111. of the Revised Code and any rules, permits, registrations, or other authorizations issued
thereunder, and has maintained compliance with all applicable orders issued by
the director or an approved board of health, the environmental review appeals
commission, or courts having competent jurisdiction, in the course of such
previous or current management or operations.

(12) The owner or operator is in compliance with the ground water monitoring
program requirements in rule 3745-27-10 of the Administrative Code and there
has been no known ground water contamination from the designated research,
development, or demonstration project area or, in the event there has been
known contamination from the designated research, development, or
demonstration project area, the director has approved the certification that
corrective measures were completed.

(F) The permit to install application, request to extend the termination date of the
authorization to stabilize waste through bulk liquid addition, or request to reauthorize
bulk liquid addition and establish a new termination date, notwithstanding any
deficiencies, may be considered and acted upon if sufficient information is provided
in the application or request for the director to determine whether the criteria in
paragraphs (D) and (E) of this rule were met.

(G) The valid term shall not exceed three years for any authorization to stabilize waste
through bulk liquid addition, reauthorization to stabilize waste through bulk liquid
addition, or extension of the termination date of an authorization. The director shall
determine that the total term of all authorizations issued for research, development,
and demonstration projects to accept bulk liquids at the facility shall not exceed
twelve years. Only the time the authorization is in effect is counted for the purpose
of this rule.

[Comment: Time during which there is no authorization to add bulk liquids, or the
authorization is terminated, does not count toward the twelve year limit in paragraph
(G) of this rule. However, the twelve year limit applies to the entire facility and
issuance of another permit to install to stabilize waste through bulk liquid addition at
the same facility does not reset the time limits.]
3745-27

3745-27-82

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For the duration of the authorization to stabilize waste through bulk liquid addition at the facility and for a minimum of three years after ceasing addition of bulk liquids, the owner or operator shall perform the following gas management system requirements in compliance with this rule.

(A) Gas management system operations. The owner or operator shall do the following:

1. Commence extraction or continue to extract landfill gas from each area of the facility in which gas collection devices have been installed.

2. Operate the gas management system in a manner that prevents fire and controls odors.

3. Perform ongoing cover maintenance in the area designated for bulk liquid addition as needed to prevent ambient air infiltration into disposed material.

4. Keep the gas management system free of liquids to the extent necessary to ensure the effectiveness of the gas management system.

(B) Gas collection device operations. The owner or operator shall operate a gas collection device in the area designated for bulk liquid addition in accordance with the following:

1. Maintain negative pressure at each gas wellhead except during the following circumstances:
   (a) When an increased temperature is measured and the owner or operator takes measures to prevent a subsurface fire.
   (b) When a subsurface fire is occurring in the vicinity of the well and the owner or operator takes measures to respond to the fire.

2. For landfill gas from a gas collection device placed within the waste mass, both of the following:
   (a) The temperature of the landfill gas does not exceed one hundred thirty degrees Fahrenheit.
   (b) Either the nitrogen concentration in the landfill gas does not exceed twenty per cent by volume or the oxygen concentration in the landfill gas does not exceed five per cent by volume.
(3) If monitoring indicates positive pressure during circumstances other than those specified in paragraph (B)(1) of this rule or if monitoring indicates an exceedance of a value in paragraph (B)(2) of this rule (temperature, nitrogen, or oxygen), the owner or operator shall perform the following activities:

(a) For positive pressure, the owner or operator shall perform the following:

(i) Adjust the vacuum to increase the landfill gas extracted not later than five days after the monitoring event. The owner or operator shall re-monitor the gas well within one calendar day of the adjustment to verify whether the exceedance continues or was corrected by the adjustment.

(ii) Not later than one hundred twenty days after the original monitoring event, one or more of the following if negative pressure cannot be achieved within fifteen calendar days of the original monitoring event, unless the monitoring event occurred during the first one hundred eighty days after gas collection system startup:

(a) Replace the gas well or expand the gas management system.

(b) Upgrade the gas mover equipment, header pipe, or control device.

(c) If the design of the gas management system is documented in the permit to install, obtain concurrence from Ohio EPA to alter the gas management system design in the permit to install to incorporate new or different components that are capable of achieving negative pressure.

(b) The owner or operator shall prevent additional occurrences of positive pressure and additional exceedances of values in paragraph (B)(2) of this rule while performing maintenance, adjustments, or other corrective actions.

(c) For an exceedance of a value in paragraph (B)(2) of this rule, the owner or operator shall perform the following:

(i) Cover maintenance and maintenance around the gas collection device and connections to decrease air infiltration not later than five days after the monitoring event. The owner or operator shall re-monitor the gas collection device within one calendar day of performing such maintenance to determine whether the exceedance continues or was corrected by the maintenance.

(ii) If a gas collection device is connected to a gas mover, adjust the vacuum to decrease the landfill gas extracted not later than five days after the monitoring event. The owner or operator shall re-monitor the gas
collection device within one calendar day of the adjustment to determine whether the exceedance continues or was corrected by the adjustment.

(iii) If correction of the exceedance cannot be achieved within fifteen calendar days of the original monitoring event, notify the appropriate district office of the Ohio EPA and the approved board of health in writing of the exceedance and the actions that the owner or operator plans to take to correct the exceedance.

This paragraph does not apply during periods of startup, shutdown, or malfunction, provided that the duration of startup, shutdown, or malfunction does not exceed five days for the gas collection and conveyance systems and does not exceed one hour for control devices.

(C) Gas control device operations. The owner or operator shall operate the gas control device in accordance with the following:

(1) At all times when the collected landfill gas is conveyed to the gas control device.

(2) The permit to operate and applicable state and federal statutes, rules, and regulations governing air pollution control.

(D) In the event a component of the gas management system becomes inoperable, the owner or operator shall do the following:

(1) Not later than one hour after discovering the inoperable component, close all valves in the gas management system contributing to venting of landfill gas to the atmosphere.

(2) Record in the log of operations the date and time that the inoperable component was discovered and the date and time that the component resumed operating.

(E) Decommissioning a gas collection device in the area designated for bulk liquid addition. An owner or operator shall decommission a gas collection device in a manner that prevents infiltration of air and water into disposed material. If the gas collection device penetrated the cap system, an owner or operator shall do the following:

(1) Remove any casing to a minimum of two feet below the ground surface.

(2) If casing remains within the cap system, cap the gas vent or gas well.

(3) If casing remains but is no longer present within the cap system, place fill material in the remaining casing or cap the gas vent or gas well.
(4) If all casing is removed, place fill material in the remaining borehole.

(5) Construct cap system engineered components in the area of the penetration to maintain the continuity of the cap system.

(6) Submit a construction certification report in accordance with rule 3745-27-08 of the Administrative Code.
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3745-27-84 Monitoring, notification, and annual reporting requirements.

For the duration of the authorization to stabilize waste through bulk liquid addition, the owner or operator shall comply with paragraphs (A) to (D) of this rule. For twenty years after commencing bulk liquid addition, the owner or operator shall comply with paragraphs (A)(4)(a), (D)(3)(c), and (D)(4)(k)(ii) of this rule.

(A) The owner or operator shall monitor for the following:

(1) Odors, in accordance with the issued authorization to stabilize waste through bulk liquid addition.

(2) Indications of fire in the area designated for bulk liquid addition, including the following:
   (a) Monthly monitoring of the temperature of landfill gas.
   (b) When the temperature of landfill gas at a wellhead is measured above one hundred thirty degrees Fahrenheit, carbon monoxide concentration in landfill gas at the wellhead.
   (c) If the sanitary landfill facility is operating under aerobic conditions, annual monitoring of the temperature of the waste.

(3) Progress or degree of waste stabilization in the designated research, development, or demonstration project area and in the control group, including the following:
   (a) Annual testing of the cellulose to lignin ratio, biological methane potential, and per cent volatile solids of the incoming and disposed waste.
   (b) Quarterly analysis of leachate from the leachate collection and management system in the designated research, development, or demonstration project area and in the control area, if one is employed, for the following parameters:
      (i) Parameters listed in appendix I of rule 3745-27-10 of the Administrative Code.
      (ii) Biochemical oxygen demand.
      (iii) Chemical oxygen demand.
      (iv) Field analysis for pH.
      (v) Field analysis for temperature.
(vi) Field analysis for specific conductance.

(vii) Other parameters required by the issued authorization to stabilize waste through bulk liquid addition.

(c) Monthly monitoring of landfill gas flow rates from each gas collection well.

(d) Quarterly monitoring of landfill gas for moisture content and per cent methane by volume.

(e) Any additional monitoring required by the issued authorization to stabilize waste through bulk liquid addition.

(4) Impact on the flexible membrane liner component of the composite liner system in the designated research, development, or demonstration project area, including the following:

(a) Prior to commencement of bulk liquid addition, the owner or operator shall place a sufficient number of flexible membrane liner coupons in a sump, or other comparable location, in the designated research, development, or demonstration project area where the coupons will be continuously exposed to the leachate and are easily retrievable to provide for annual sampling for twelve years. The coupons shall be tested in accordance with ASTM D5747 (chemical resistance) in conjunction with ASTM D5496 (field immersion).

ASTM D5747 and ASTM D5496 are hereby made a part of this rule. ASTM standards are regulated by the date specified, another standard may be used if it is at least equivalent to those cited in this rule and is acceptable to Ohio EPA. Information and copies may be obtained by writing to: "ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, Pennsylvania 19428-2959." These documents are available for purchase at http://www.astm.org.


(b) Any additional monitoring of impact on the flexible membrane liner required by the issued authorization to stabilize waste through bulk liquid addition.

(5) Liquid addition, including the following:
(a) Daily monitoring of the amount of liquid added, including leachate, water, bulk liquids, and precipitation.

(b) Daily monitoring of the amount of leachate collected from the leachate collection and management system in the designated research, development, or demonstration project area and from the control area, if one is employed.

(c) Annual testing of moisture content in the disposed waste in the designated research, development, or demonstration project area.

(6) Annually, a ground survey of surface elevation control points in the designated research, development, or demonstration project area and in the control area, if one is employed.

(B) Notification of fire.

(1) Indications of fire. If any of the following is observed or occurs in the designated research, development, or demonstration project area, the owner or operator shall comply with paragraph (B)(2) of this rule:

(a) Flames or embers.

(b) Temperature of landfill gas at the wellhead is measured above one hundred fifty degrees Fahrenheit.

(c) Waste temperature is measured above one hundred seventy degrees Fahrenheit.

(d) Carbon monoxide concentration in landfill gas at a wellhead is measured above one thousand parts per million by volume.

(2) Not later than twenty-four hours after detection of an indication of fire pursuant to paragraph (B)(1) of this rule, the owner or operator shall notify the appropriate district office of the Ohio EPA and the approved board of health. The notification shall include the following:

(a) A description of the incident.

(b) Whether the local fire department or other emergency personnel were called and have entered the sanitary landfill facility in response to the incident.

(c) Whether the integrity or effectiveness of any engineered component at the facility was damaged or failed as a result of the incident.
(C) Notification of operational issues. The owner or operator shall notify the appropriate district office of the Ohio EPA and the approved board of health in writing not later than one week after any of the following occurrences:

(1) Commencement of the bulk liquid addition approved in the permit to install.

(2) If during the three month period after commencement of bulk liquid addition, the following:

   (a) Odor complaints received by the owner or operator.

   (b) Any difficulties with monitoring the depth of leachate in the research, development, or demonstration project area.

   (c) Any difficulties with the liquid introduction system.

   (d) Any difficulties associated with a certain type of liquid or solid waste (such as odors or increased temperature).

   (e) Any difficulties related to the function of the composite liner system.

(3) Indications of excessive liquid addition, including but not limited to:

   (a) The amount of liquid addition exceeds the amount of liquid addition authorized in the issued authorization to stabilize waste through bulk liquid addition.

   (b) The depth of leachate on the composite liner system exceeds one foot.

   (c) The amount of leachate collected from the leachate collection and management system in the designated research, development, or demonstration project area exceeds the calculated amount of liquid that can be added without exceeding one foot of head on the composite liner system, or two thousand gallons per acre per day, whichever is less.

   (d) Leachate outbreaks with a constant liquid output and flow down the side slope are observed by the owner or operator.

   (e) Abnormal vibration or shaking caused by traffic is detected when standing on the waste several feet away.

   (f) Trucks or vehicles sinking into soft waste, particularly if the waste is wet or saturated, where the sinking is persistent and not weather-related.

(4) Occurrence of a slope failure in the area of the research, development, or demonstration project.
(5) The gas management system is overwhelmed as evidenced by at a minimum either of the following:

(a) The volume of landfill gas generated results in the inability of the gas management system to maintain negative pressure.

(b) The volume of landfill gas exceeds the capacity of the gas management system components.

(6) Acceptance of any detrimental or prohibited materials identified in the permit to install application as required by paragraph (E)(1) of rule 3745-27-81 of the Administrative Code.

[Comment: Disposal of a prohibited liquid or solid waste may be a violation of the authorization and may be considered grounds for terminating or suspending the authorization.]

(7) Evidence that waste stabilization is not occurring including but not limited to acidic leachate with a high chemical oxygen demand and little or no methane in the landfill gas.

(8) The owner or operator's decision to suspend bulk liquid addition or to terminate the research, development, or demonstration project.

(D) Annual report. The owner or operator shall include, as an importable electronic file, in the annual operational report required to be submitted pursuant to paragraph (M) of rule 3745-27-19 of the Administrative Code the following:

(1) Information regarding achievement of project objective, including the following:

(a) A restatement of the project hypothesis and the conditions necessary to meet the desired outcome.

(b) An assessment of whether the desired outcome is being or has been achieved.

(c) Suggested changes to the experimental procedure or design, or possibilities for further potential research, development, or demonstration projects.

(2) A summary and analysis of the following monitoring and testing results, including an analysis of the results for any cause and effect relationships:

(a) Waste stabilization measurements, including cellulose to lignin ratio, biological methane potential, and per cent volatile solids.
(b) Moisture content of disposed waste.

(c) A description of the decomposed waste.

(d) The quality of leachate and a comparison to the leachate from the control group, including changes over time.

(e) The volume of landfill gas generated and a comparison to the predicted generation rate and to the generation rate of the control group.

(f) The quality of landfill gas, including moisture content, temperature, and constituents, and a comparison to the landfill gas from the control group.

(g) Type and amount of liquid added (including leachate, water, bulk liquids, and precipitation) and a comparison to the amount of liquid addition authorized.

(h) The volume of leachate collected and a comparison to the predicted generation rate and to the volume of leachate collected from the control group, including an assessment of the depth of leachate in the sanitary landfill facility.

(i) Results of the annual ground survey of surface elevation control points with an assessment of whether changes are due to settlement caused by waste degradation or due to displacement caused by a slope failure or waste movement.

(3) A summary of any other operating information, including the following:

(a) The types and amounts of bulk liquids added.

(b) Any monitoring results from assessing the quality of liquids added.

(c) Results from testing of flexible membrane liner coupons.

(d) Changes observed in the leachate or landfill gas (such as appearance or variability in volume or quality).

(4) A summary of any difficulty that occurred in the designated research, development, or demonstration project area and how the difficulties were resolved by the owner or operator, including the following:

(a) Indications of slope instability.
(b) Difficulties monitoring the depth of leachate in the sanitary landfill facility or indications that the depth of leachate exceeded one foot above the composite liner.

(c) Difficulties associated with certain solid or liquid waste streams, including the occurrence of odors or heat.

(d) Difficulties with the liquid introduction system.

(e) Any liquid or leachate outbreaks observed by the owner or operator.

(f) Odor complaints received by the owner or operator.

(g) Temperature of landfill gas at a wellhead is measured above one hundred thirty degrees Fahrenheit.

(h) Temperature of waste is measured above one hundred seventy degrees Fahrenheit.

(i) Any exceedance in the operation of the gas management system observed pursuant to paragraph (B)(2) of rule 3745-27-83 of the Administrative Code and the actions that the owner or operator took to correct the exceedance.

(j) Acceptance of detrimental or prohibited materials identified in the permit to install application as required by paragraph (E)(1) of rule 3745-27-81 of the Administrative Code.

(k) Any adverse impact on the flexible membrane liner component of the composite liner system or composite cap system, including the following:
   
   (i) Indications of leakage through the liner (such as leachate or a waste-derived constituent detected in a ground water monitoring well).

   (ii) Evidence of adverse impact on the flexible membrane liner coupons.

   (iii) Temperature of leachate is measured above one hundred sixty degrees Fahrenheit or temperature of waste in proximity to the composite cap system is measured above one hundred forty degrees Fahrenheit.

(5) A summary of any violations of a requirement in Chapter 6111. of the Revised Code or any rules adopted thereunder.

(6) Any other reporting required by the terms and conditions of the issued authorization to stabilize waste through bulk liquid addition.
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Extending or establishing a new termination date of an authorization to stabilize waste through bulk liquid addition.

(A) If the owner or operator desires to extend the termination date of an authorization to stabilize waste through bulk liquid addition, the owner or operator shall submit a request to the appropriate district office of the Ohio EPA at least one hundred twenty days before the term of the authorization expires. The request shall include the new requested termination date, a demonstration of the need for continued research, and any revisions to the closure cost estimate to address closure contingencies. The annual reports submitted to Ohio EPA pursuant to rule 3745-27-84 of the Administrative Code shall be deemed to be included in this request.

[Comment: The time period of the authorization to stabilize waste through bulk liquid addition cannot exceed three years and the total term to accept bulk liquids at the facility cannot exceed twelve years (see rule 3745-27-82 of the Administrative Code). Therefore, the design of the project should result in an outcome that can be determined within that time frame.]

(B) If the owner or operator desires to stabilize waste through bulk liquid addition after the termination date, the owner or operator shall submit a request to the appropriate district office of the Ohio EPA to reauthorize bulk liquid addition. The request shall include the new requested termination date, a demonstration of the need for continued research, any changes to implementation of the research, development, or demonstration project, and any revisions to the closure cost estimate to address closure contingencies. The annual reports submitted to Ohio EPA pursuant to rule 3745-27-84 of the Administrative Code shall be deemed to be included in this request.

[Comment: If a change to implement the research, development, or demonstration project is a modification, the action cannot be a reauthorization.]

(C) In deciding whether to grant an extension of the termination date, or reauthorize bulk liquid addition and establish a new termination date, the director may consider the following from observed or reported information:

1. Whether information generated by the research, development, or demonstration project is useful in optimizing waste stabilization.

2. Whether the following were successfully resolved by the owner or operator:
   a. Difficulties with waste acceptance, including the type, quality, and amount.
   b. Difficulties with introduction of bulk liquids.
(c) Difficulties with the depth of leachate in the sanitary landfill facility or management of leachate in the leachate collection and management system.

(d) Difficulties with management of landfill gas in the gas management system.

(3) Whether any of the following effects from the bulk liquid addition at the facility have occurred:

(a) Presence of odors.

(b) Presence of leachate seeps or surface exposure of leachate.

(c) Temperature of landfill gas at a wellhead is measured above one hundred fifty degrees Fahrenheit.

(d) Methane concentration in landfill gas at a wellhead is measured below forty-five per cent.

(e) Temperature of waste is measured above one hundred seventy degrees Fahrenheit.

(f) Carbon monoxide concentration in landfill gas at a wellhead is measured above one thousand parts per million by volume.

(g) Occurrence of a slope failure in the waste mass in the designated research, development, or demonstration project area.

(h) Any adverse impact on the flexible membrane liner component of the composite liner system or composite cap system, including the following:

   (i) Indication of leakage through the liner (such as leachate or a waste-derived constituent detected in a ground water monitoring well).

   (ii) Evidence of adverse impact on the flexible membrane liner coupons.

   (iii) Temperature of leachate is measured above one hundred sixty degrees Fahrenheit or temperature of waste in proximity to the composite cap system is measured above one hundred forty degrees Fahrenheit.

   (i) Other persistent and deleterious effects.

(4) Whether conditions to meet the desired outcome of the project are not being met or that the waste is not stabilizing.
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Terminating and suspending the authorization to stabilize waste through bulk liquid addition by the owner or operator.

(A) If any of the following is observed or occurs, the owner or operator shall suspend liquid addition or terminate the research, development, or demonstration project:

(1) Fire, including or as evidenced by any of the following:

(a) Flames or embers at the surface of the waste mass, excluding waste at the working face.

(b) Temperature of waste is measured above one hundred seventy degrees Fahrenheit.

(c) Carbon monoxide concentration in landfill gas at a wellhead is measured above one thousand parts per million by volume.

(2) Indications of excessive liquid addition, including or as evidenced by any of the following:

(a) The amount of liquid addition exceeds the amount of liquid addition authorized by the authorization to stabilize waste through bulk liquid addition.

(b) The depth of leachate on the composite liner system exceeds one foot.

(c) Leachate outbreaks with a constant liquid output and flow down the side slope are observed by the owner or operator.

(d) Abnormal vibration or shaking caused by traffic is detected when standing on the waste several feet away.

(e) Trucks or vehicles sinking into soft waste, particularly if the waste is wet or saturated, where the sinking is persistent and not weather-related.

(3) Occurrence of a slope failure in the area of the research, development, or demonstration project.

(4) The amount of leachate collected from the leachate collection and management system exceeds the calculated amount of liquid that can be added without exceeding one foot of head on the composite liner system, or two thousand gallons per acre per day, whichever is less.

(5) The gas management system is overwhelmed, as evidenced by any of the following:
(a) The volume of landfill gas generated results in the inability of the gas management system to maintain negative pressure.

(b) The volume of landfill gas exceeds the capacity of the gas management system components.

(6) Acceptance of prohibited materials identified in the permit to install application as required by paragraph (E)(1) of rule 3745-27-81 of the Administrative Code.

(7) Evidence that waste stabilization is not occurring (such as acidic leachate with a high chemical oxygen demand and little or no methane in the landfill gas).

(B) If the owner or operator terminates the research, development, or demonstration project before the authorization to stabilize waste through bulk liquid addition expires, the owner or operator may notify Ohio EPA of the project termination. Through such notification, the remaining period of the term of the authorization to stabilize waste through bulk liquid addition will be available for future research, development, or demonstration projects and shall not be counted toward the twelve year limit for acceptance of bulk liquids.
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Terminating and suspending an authorization to stabilize waste through bulk liquid addition by the director; corrective measures.

(A) The director may terminate or suspend an authorization to stabilize waste through bulk liquid addition.

(B) An authorization may be terminated or suspended by the director if any of the following is observed or reported or is the subject of a complaint:

(1) Odors.

(2) Indications of excessive liquid addition, including or as evidenced by any of the following:

(a) Gas wells are flooded with liquid or landfill gas production has decreased.

(b) Ponding of liquid or seepage of leachate near the point of introduction of the bulk liquid.

(c) The amount of liquid addition exceeds the liquid addition authorized in the authorization to stabilize waste through bulk liquid addition.

(d) The amount of leachate collected exceeds the calculated amount of liquid that can be added without exceeding one foot of head on the composite liner system, or two thousand gallons per acre per day, whichever is less.

(e) The depth of leachate on the composite liner system exceeds one foot.

(f) Leachate outbreaks with a constant liquid output and flow down the side slope are observed.

(g) Abnormal vibration or shaking caused by traffic is detected when standing on the waste several feet away.

(h) Trucks or vehicles sinking into soft waste, particularly if the waste is wet or saturated, where the sinking is persistent and not weather-related.

(3) Indications of fire at the facility, including or as evidenced by any of the following:

(a) Heat.

(i) Temperature of landfill gas at the wellhead is measured above one hundred thirty degrees Fahrenheit.
(ii) Temperature of waste is measured above one hundred seventy degrees Fahrenheit.

(iii) Abnormal snowmelt patterns.

(b) Flames or embers or light from embers, combustion, or oxidation.

(c) Settlement of waste that is unexpected or abnormal.

(d) Smoke, steam, or vapor.

(e) Smoldering material.

(f) Soot, charred material, or combustion residue.

(g) Stressed vegetation.

(h) Combustion odors.

(i) Methane concentration in landfill gas is less than in the control group or less than forty-five per cent by volume.

(j) Carbon monoxide concentration in landfill gas at a wellhead is measured above one hundred parts per million.

(4) Adverse impact on the flexible membrane liner component of the composite liner system or composite cap system.

(5) The gas management system is overwhelmed, including or as evidenced by any of the following:

(a) Landfill gas or odor emissions that require the owner or operator to make major adjustments of the gas management system to control.

(b) The volume of landfill gas generated results in the inability of the gas management system to maintain negative pressure.

(c) The volume of landfill gas exceeds the capacity of the gas management system components.

(6) Indication of slope instability or occurrence of a slope failure in the area of the research, development, or demonstration project.

(7) Acceptance of detrimental or prohibited materials identified in the permit to install application as required by paragraph (E)(1) of rule 3745-27-81 of the Administrative Code.
(8) Evidence that waste stabilization is not occurring (such as acidic leachate with a high chemical oxygen demand and little or no methane in the landfill gas).

(9) The research, development, or demonstration project is not generating useful information for optimizing waste stabilization.

(10) Other nuisances or hazards to public health or safety or the environment, or a violation at the facility of Chapter 3704., 3734., or 6111. of the Revised Code or any rule promulgated thereunder.

(C) When an authorization to stabilize waste through bulk liquid addition is terminated, the director may also terminate other variances, exemptions, or alternatives contained in the authorization to stabilize waste through bulk liquid addition.

[Comment: Other variances, exemptions, alternatives, or alterations issued to the owner or operator for the facility contained in another authorizing document are not terminated or suspended by the termination or suspension of the authorization to stabilize waste through bulk liquid addition unless so stated in the director's orders.]

(D) The suspension of an authorization to stabilize waste through bulk liquid addition may apply to all or a part of the authorization. If all or part of the authorization is suspended, the owner or operator may consider changes to implementation of the research, development, or demonstration project and report recommendations to the appropriate district office of the Ohio EPA. The Ohio EPA shall notify the owner or operator when the authorization is no longer suspended.

(E) If the director terminates the research, development, or demonstration project before the authorization to stabilize waste through bulk liquid addition expires, the remaining period of the term of the authorization to stabilize waste through bulk liquid addition will be available for future research, development, or demonstration projects and shall not be counted toward the twelve year limit for acceptance of bulk liquids.

(F) The director may order implementation of corrective measures to protect public health or safety or the environment.
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02/28/2011

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Statutory Authority: 3734.02
Rule Amplifies: 3734.02
Monitoring, reporting, and financial assurance requirements after termination of an authorization to stabilize waste through bulk liquid addition.

For a minimum of three years after termination of the authorization to stabilize waste through bulk liquid addition, the owner or operator shall comply with this rule.

(A) The owner or operator shall continue to monitor for the following:

(1) Odors, in accordance with the terminated authorization.

(2) Indication of fire in the area designated for bulk liquid addition, including the following:

   (a) Monthly monitoring of the temperature of landfill gas.

   (b) When temperature of landfill gas at a wellhead is measured above one hundred thirty degrees Fahrenheit, carbon monoxide concentration in landfill gas at the wellhead.

   (c) If the sanitary landfill facility was operated under aerobic conditions, annual monitoring of the temperature of the waste.

(3) Quarterly analysis of the leachate from the leachate collection and management system in the designated research, development, or demonstration project area for the following parameters:

   (a) Parameters listed in appendix I to rule 3745-27-10 of the Administrative Code.

   (b) Biochemical oxygen demand.

   (c) Chemical oxygen demand.

   (d) Field analysis for pH.

   (e) Field analysis for temperature.

   (f) Field analysis for specific conductance.

(4) Landfill gas from the gas management system in the designated research, development, or demonstration project area for the following:

   (a) Monthly monitoring of landfill gas flow rates from each gas collection well.
(b) Quarterly monitoring of moisture content and per cent methane by volume.

(5) Annually, a ground survey of surface elevation control points in the designated research, development, or demonstration project area.

(B) Annual report. The owner or operator shall include, as an importable electronic file, in the annual operational report required by paragraph (M) of rule 3745-27-19 of the Administrative Code the following:

(1) A summary and analysis of the following monitoring and testing results:

(a) The quality of leachate and a comparison to the leachate from the control group, including changes over time.

(b) The volume of landfill gas generated as compared to the predicted generation rate and to the volume of landfill gas generated from the control group.

(c) The quality of landfill gas, including moisture content, temperature, and constituents, and a comparison to the landfill gas from the control group.

(d) If the sanitary landfill facility was operated under aerobic conditions during that year, the temperature of the waste.

(e) Results of the annual ground survey of surface elevation control points with an assessment of whether changes were due to settlement caused by waste degradation or due to displacement caused by a slope failure or waste movement.

(2) A summary of any difficulty that occurred in the designated research, development, or demonstration project area and how the difficulties were resolved by the owner or operator, including the following:

(a) Indications of slope instability.

(b) Any difficulties monitoring the depth of leachate in the sanitary landfill facility or indications that the depth of leachate exceeded one foot above the composite liner.

(c) Liquid or leachate outbreaks.

(d) Odor complaints.

(e) Temperature of landfill gas at a wellhead is measured above one hundred thirty degrees Fahrenheit.
(f) Temperature of waste is measured above one hundred seventy degrees Fahrenheit.

(3) A summary of any violations of a requirement in Chapter 6111. of the Revised Code or any rules adopted thereunder.

(C) Financial assurance. The owner or operator shall include in the closure cost estimate a separate item to address closure contingencies. The closure cost estimate contingency items shall be a minimum of twenty per cent of the closure cost estimate for non-contingency items.

(D) After three years after termination of the authorization to stabilize waste through bulk liquid addition, the owner or operator may request to discontinue monitoring, reporting, and maintaining financial assurance in accordance with all or part of the requirements of paragraphs (A) to (C) of this rule. Upon the director's written authorization, the owner or operator may discontinue monitoring, reporting, or maintaining financial assurance as stated in the authorization.
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Rule Amplifies: 3734.02
(A) The gas collection and conveyance system at the designated area for bulk liquid addition shall be designed to meet the following:

(1) To consist of the following:

(a) A gas collection layer. Landfill gas collected in the gas collection layer shall be directed to a gas vent or gas well or other gas collection device.

(b) Gas wells or elements of the leachate collection system used as gas collection devices. A gas well is a device within a landfill that relies on a gas mover to move gas out of the landfill. A gas well can be vertical or horizontal.

(c) A gas mover system. A gas mover system includes the gas mover and associated equipment such as the power source. A gas mover is the equipment used to cause transport of landfill gas (such as fans, blowers, and compressors).

(d) A gas conveyance system. A gas conveyance system includes the devices used to convey landfill gas from a gas collection device and may consist of headers and laterals.

(e) A gas control device. Examples of gas control devices are open flares, enclosed combustors (such as enclosed flares, boilers, or process heaters), and gas treatment systems.

(2) To not compromise the integrity of the cap system, the leachate management system, the liner system, or the separatory leachate barrier and collection system. At a minimum, the design of the gas collection and conveyance system shall meet the following criteria:

(a) Gas wells that are installed through waste shall not be installed within ten feet of the top of the liner system or separatory leachate barrier and collection system.

(b) Any penetrations through the cap system at the designated area for bulk liquid addition shall account for settlement of the waste relative to the gas wells.

(3) To not cause fires within the disposal limits. At a minimum, perforations in the gas wells shall not occur within twenty feet of the surface.
(4) To prevent landfill gas flow from being restricted due to accumulation of leachate or of landfill gas condensate.

(5) To be capable of isolating individual gas wells and portions of the gas conveyance system for maintenance and repair.

[Comment: Certain municipal solid waste landfills are required to control landfill gas emissions. Permits for gas collection and control systems are obtained through Ohio EPA, division of air pollution control.]

(B) The gas collection layer at the designated area for bulk liquid addition shall be designed to meet the following:

(1) As a component of a cap system, be located as close as possible to the disposal limits.

(2) Either remain dry or be oversized to accommodate leachate and landfill gas condensate. If oversized to accommodate leachate and landfill gas condensate, the gas collection layer shall direct the leachate and landfill gas condensate to the waste mass or to the leachate collection system.

(3) If the gas collection layer is below a flexible membrane liner or geosynthetic clay liner, meet the following criteria:

   (a) Provide sufficient flow capacity to reduce the landfill gas pressure sufficiently to not result in loss of intimate contact between the flexible membrane liner or geosynthetic clay liner and the underlying recompacted soil barrier layer or subbase.

   (b) The surface of the gas collection layer shall have no abrupt changes in grade that may result in damage to the flexible membrane liner or geosynthetic clay liner.

(C) Gas wells at the designated area for bulk liquid addition shall be designed to obtain landfill gas samples, control landfill gas flow, and measure the following:

(1) Temperature at different locations down the gas well.

(2) The water level in the gas well and withdrawing leachate from the gas well.

(3) Landfill gas pressure.

(4) Landfill gas composition.

(5) Landfill gas flow.
(D) The gas mover system shall be designed to have the capacity to manage the maximum gas generation flow rate expected over the intended use period of the gas mover system.

(E) Landfill gas condensate collected in the gas collection and conveyance system designed in accordance with paragraph (A) of this rule shall be directed to one or more of the following:

(1) The leachate collection and management system.

(2) A condensate storage tank that conforms to paragraph (E) of this rule.

(3) A public sewerage system.

(4) A wastewater treatment works permitted in accordance with Chapter 6111. of the Revised Code.

(5) If collected from within or above the disposal limits and the waste mass is above a leachate collection system, the waste mass.

(F) Condensate holding tanks shall be designed to meet the following:

(1) Have a minimum storage capacity of ten times the anticipated daily amount of condensate generated from continuous operation of the gas extraction system.

(2) For a condensate holding tank comprised of metal, incorporate cathodic protection.

(3) For an above ground holding tank, have a foundation capable of supporting the holding tank when the tank is full of condensate without compromising the integrity of any engineered components.

[Comment: Pursuant to rule 3745-42-11 of the Administrative Code, industrial waste holding tanks are required to obtain a permit through Ohio EPA, division of surface water.]

(G) Condensate holding tank load-out facilities shall be designed to meet the following criteria:

(1) Be protected from damage caused by freezing and facility operations.

(2) Prevent releases of leachate from load-out operations.

(3) Contain spills and facilitate spill cleanup.
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3745-27-90 Standards for solid waste management districts.

[Comment: This rule has been promulgated for the purpose of codifying the goals established in the 1995 "State Solid Waste Management Plan" and the performance standards that were later developed as required by the plan. Section 3734.50 of the Revised Code requires the Ohio EPA, with the advice of the solid waste advisory council, to prepare a state solid waste management plan to reduce reliance on the use of landfills and to establish objectives for solid waste reduction, recycling, reuse, and minimization. In 1995, the "State Solid Waste Management Plan" was revised and approved by the solid waste advisory council. This plan established seven goals for solid waste management districts and stated that Ohio EPA would develop program standards to complete the details of the general requirements of the state plan goals. The performance standards were developed and approved by the solid waste management advisory council in 1995. The goals of the state plan and the performance standards have been incorporated into this rule and can be found in the following locations:

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(A) Applicability. A solid waste management district amending a solid waste management plan pursuant to section 3734.56 of the Revised Code or to address a material change in circumstances shall prepare its amended plan in accordance with paragraphs (B) to (E) of this rule.

(B) Each solid waste management district shall prepare a solid waste management plan that provides for, demonstrates, and certifies the availability of and access to, sufficient solid waste management facility capacity to meet the solid waste management needs of the district. This plan shall conform to the following:

(1) Encompass at least a ten-year planning period.

(2) Be reviewed and revised by the solid waste management policy committee as follows:

   (a) Triennially, in accordance with the timelines established in division (A) of section 3734.56 of the Revised Code, if the solid waste management plan encompasses a planning period of less than fifteen years.

   (b) Every five years, in accordance with the timelines established in division (A) of section 3734.56 of the Revised Code, if the solid waste management plan encompasses a planning period of fifteen years.
years or more.

(3) Be prepared in a format prescribed by the director in accordance with division (A) of section 3734.53 of
the Revised Code.

(C) The solid waste management district shall submit the solid waste management plan to Ohio EPA for approval
by the director. The director shall not approve any county or joint county district plan unless the director
determines that, in spite of any minor deficiencies, the plan meets the requirements of paragraphs (D) and
(E) of this rule.

(D) The solid waste management plan shall include the following:

(1) Those items as required in section 3734.53 of the Revised Code.

(2) Strategies for providing informational or technical assistance on waste reduction to solid waste generators
or particular categories of solid waste generators within the solid waste management district. The solid
waste management plan shall describe the types of assistance that is, or will be, provided by the district
or other entities within the district, and the specific categories of generators that are to be served. The
district has the sole discretion to determine the types of assistance that are to be provided and the
categories of generators that will be served.

(3) Strategies for providing informational assistance on reuse, recycling, and composting opportunities to the
solid waste generators within the solid waste management district. The solid waste management plan
shall describe the types of informational assistance available to residential, commercial, and industrial
generators within the district that is, or will be, provided by the district or other entities within the
district. The informational assistance strategies planned by the district should be comprehensive with
regard to the types of materials, management opportunities, and generators served by the available
opportunities in the district. Informational assistance may include but is not limited to public awareness
efforts such as brochures or flyers on the types of recyclable materials accepted and hours of operation
for donation or drop-off locations.

(4) Strategies for providing technical assistance on reuse, recycling, and composting opportunities. The solid
waste management plan shall describe the technical assistance available to residential, commercial, and
industrial generators within the solid waste management district that is, or will be, provided by the district
or other entities within the district. The technical assistance activities planned by the district
should be comprehensive with regard to the types of materials, management opportunities, and
generators served by the available opportunities in the district. Technical assistance may include but is
not limited to programs and activities such as the following:

(a) Waste audits for local businesses.

(b) Assistance to local communities in setting up recycling or yard waste composting programs.

(c) Marketing collected materials.

(d) Workshops, conferences, and seminars.

(5) Strategies for the proper management of both of the following:
(a) Scrap tires. Strategies for the management of scrap tires may include but are not limited to the following:

(i) Estimates of the amount of tires that were generated in the solid waste management district and the amount of these tires recycled.

(ii) Educational activities pertaining to the proper management of scrap tires and prevention of illegal tire dumps.

(iii) A listing of the legal scrap tire recycling and disposal opportunities that exist within the boundaries of the solid waste management district, including their hours of operation.

[Comment: Division (A)(4) of section 3734.53 of the Revised Code states that a solid waste management plan shall include an inventory of open dump sites for solid wastes. This inventory should include tire dump sites.]

(b) Household hazardous wastes. Strategies for the management of household hazardous wastes may include but are not limited to the following:

(i) Education and awareness programs.

(ii) The operation of a household hazardous waste hotline.

(iii) Technical assistance activities.

(iv) Programs and activities that collect household hazardous waste for proper reuse, recycling, or disposal.

(6) A list of all of the following:

(a) Areas in division (C) of section 3734.53 of the Revised Code that the solid waste management district authorizes adoption of rules during the time period covered by the solid waste management plan.

(b) Rules that are already in effect within the solid waste management district and the dates when they were adopted.

[Comment: In addition to the requirements established in paragraph (D) of this rule, solid waste management districts are encouraged to include in the solid waste management plans and market development activities to promote the use of recycled products and to develop local markets for recovered materials. A market development strategy is not a mandatory element of the plan. For additional discussion of potential market development activities, see Chapter IX of the 1995 "State Solid Waste Management Plan."]

(E) The solid waste management plan shall demonstrate compliance with either paragraph (E)(1) or (E)(2) and paragraph (E)(3) of this rule.

[Comment: Although solid waste management districts have the option of demonstrating that their solid waste management plans are in compliance with either paragraph (E)(1) or (E)(2) of this rule, complying with both paragraphs should be the intent. Solid waste management districts may rely on private entities to comply with paragraphs (E)(1) or (E)(2) of this rule. Solid waste management districts are not required to
directly provide services in order to comply with either paragraph (E)(1) or (E)(2) of this rule.

(1) The solid waste management district shall, through its solid waste management plan provide strategies to ensure the availability of programs and activities to reduce, reuse, and recycle district-generated municipal solid waste, or ensure the availability of other methods of managing solid waste that are alternatives to landfilling. To obtain Ohio EPA approval under this paragraph, the plan shall demonstrate the following:

(a) The solid waste reduction, reuse, or recycling programs, activities, or other methods of managing solid waste that are alternatives to landfilling, in existence or scheduled in the solid waste management district's solid waste management plan to be implemented not later than the end of the third year of the planning period established in accordance with paragraph (B)(1) of this rule, will be available to the residential and commercial or institutional sectors for a minimum of seven of the following eleven materials:

(i) Corrugated cardboard.

(ii) Office papers.

(iii) Newspapers.

(iv) Beverage and food containers made of glass.

(v) Beverage and food containers made of steel.

(vi) Beverage and other containers made of aluminum.

(vii) Plastic containers.

(viii) Wood packaging and pallets.

(ix) Lead acid batteries.

(x) Yard waste.

(xi) Major appliances. These are also known as white goods. This category includes but is not limited to clothes washing machines and dryers, refrigerators, and water heaters. Small appliances such as toasters and hair dryers are not included in this category.

The solid waste management plan shall designate the seven materials that will be used to demonstrate compliance with this paragraph.

(b) Residential solid waste generators have access to solid waste reduction, reuse, or recycling programs, activities, or other methods of managing solid waste that are alternatives to landfilling, that are in existence or scheduled in the solid waste management district's solid waste management plan to be implemented not later than the end of the third year of the planning period established in accordance with paragraph (B)(1) of this rule for at least four of the seven materials designated by the district as required by paragraph (E)(1)(a) of this rule. These four materials will be used to demonstrate access
for the residential sector.

For the purposes of this rule, residential sector access to solid waste reduction and recycling opportunities is defined as the presence of waste reduction, reuse or recycling services or opportunities, or other methods of managing solid waste that are alternatives to landfilling. Services or opportunities may include but are not limited to subscription curbside recycling, non-subscription curbside recycling, drop-off recycling, centralized materials recovery facility, or any combination of these.

For the purpose of determining if residential solid waste generators have access to solid waste reduction and recycling opportunities, the solid waste management district shall be divided into service areas. Each county within the district will be a separate service area, including all the incorporated and unincorporated areas in the county. Districts may, however, establish smaller service areas as long as the entire district is included in a service area. The district shall ensure that each residential sector service area in the district has access by demonstrating the following:

(i) All solid waste reduction and recycling activities used to demonstrate compliance with paragraph (E)(1) of this rule for the residential sector collect four of the seven materials designated in accordance with paragraph (E)(1)(a) of this rule.

(ii) A minimum of ninety per cent of the population of the service area has access. Determining the percentage of the population which has access to services depends upon the type of service or opportunity being provided. To calculate the percentage of the population that has access to reduction, reuse, and recycling programs, or other methods of managing solid waste that are alternatives to landfilling, the solid waste management district will add the population with access to the various recycling opportunities described in paragraphs (E)(1)(b)(ii)(a) to (E)(1)(b)(ii)(e) of this rule, divide by the total population of the service area, and multiply by one hundred.

[Comment: it is possible to calculate access over one hundred per cent in some situations. If the access provided by the combination of programs described in paragraphs (E)(1)(b)(ii)(a) to (E)(1)(b)(ii)(e) of this rule results in an access number greater than the population of the service area, the solid waste management district should make the total access estimate equal to the population. By making this adjustment, the final access percentage should never exceed one hundred per cent.]

The population which can be credited for each type of opportunity is as follows:

(a) Subscription curbside recycling. For the purposes of this rule, subscription curbside recycling is defined as curbside recycling programs that handle the four materials used to demonstrate access and are offered to individual households who voluntarily determine whether to participate in the program and pay a separate bill for this service. Access for subscription curbside recycling is determined by the number of households that have the opportunity to subscribe to curbside recycling collection, as a result of existing haulers in the service area that offer subscription curbside recycling, multiplied by twenty-five per cent. This figure is then multiplied by 2.6 residents per household to determine the number of residents that have access to subscription curbside recycling. If the solid waste management district can demonstrate greater access through the actual number of subscriptions, participation, or tons of recyclables recovered, the access contribution from these curbside programs may be
Non-subscription curbside recycling. For the purposes of this rule, non-subscription curbside recycling is defined as curbside recycling programs that handle the four materials used to demonstrate access and are contracted and the service paid by a political jurisdiction, or programs in which the resident does not pay separately for curbside collection, or in which residential payment for curbside recycling services is not voluntary. Assume all households provided non-subscription curbside recycling service within the political jurisdiction have access. Multiply the number of households in the political jurisdiction by 2.6 residents per household to determine the number of residents that have access to non-subscription curbside recycling.

Full-service drop-off recycling. For the purposes of this rule, full-service drop-off recycling is defined as a drop-off site that is open to the public at least forty hours per week and handles the four materials designated by the solid waste management district to meet the access standard in accordance with paragraph (E)(1)(a) of this rule.

Full-service drop-offs in an urban area which are exclusively available for, or used by, residents of a specific city, village or township, access credit should be equal to the population of the jurisdiction, or five thousand, whichever value is lower. If the solid waste management district can demonstrate greater access based upon the actual number of tons of recyclables recovered, the access contribution from the full-service drop-off may be increased.

Full-service drop-offs in a rural area should be given access credit of two thousand five hundred persons. For full-service drop-offs in a rural area which are exclusively available for, or used by, residents of a specific city, village or township, access credit should be equal to the population of the jurisdiction, or two thousand five hundred, whichever value is lower. If the solid waste management district can demonstrate greater access based upon the actual number of tons of recyclables recovered, the access contribution from the full-service drop-off may be increased.

Part-time drop-off recycling. For the purposes of this rule, part-time drop-offs are drop-off sites that are available less than forty hours per week or accept less than the four designated materials.

Assume two thousand five hundred persons served, or have access, per drop-off, if the four materials designated to demonstrate access are handled and the drop-off is available to the public at least once per month at a regularly-scheduled time. The solid waste management district may combine drop-off sites which handle less than the four designated materials to get credit for one part-time drop-off. For the purposes of this rule, yard waste composting facilities can be credited as a part-time drop-off accepting one material. Buyback centers
and other types of drop-off recycling opportunities should all be considered full-service or part-time drop-offs, depending upon the hours available, and the number of designated materials handled. For drop-offs which are exclusively available for, or used by, residents of a specific city, village or township, access credit should be equal to the population of the jurisdiction, or two thousand five hundred, whichever value is lower. If the solid waste management district can demonstrate greater access based upon the actual number of tons of recyclables recovered, the access contribution from the part-time drop-off may be increased.

(e) Material recovery facility, or MRF. For the purposes of this rule, a MRF is a solid waste facility that receives mixed municipal solid waste for separation into recyclable materials for recovery, and waste to be disposed. To receive credit for access to a MRF, the four materials designated by the solid waste management district to demonstrate compliance in accordance with paragraph (E)(1)(b) of this rule must be recovered by the MRF. Access to a MRF is calculated as follows:

(i) Assume that each person whose mixed solid waste is taken to a MRF has access, provided that the MRF has an overall recovery rate of recyclables of at least fifteen per cent.

(ii) A MRF that has an overall recovery rate of less than fifteen per cent will receive partial credit for access.

[Comment: For a discussion on how to calculate partial credit for access to a MRF that has a recovery rate of less than fifteen per cent, see the most current version of the "District Solid Waste Management Plan Format" as provided by Ohio EPA.]

(c) Residential solid waste generators participate in reduction, reuse, or recycling programs and activities or other solid waste management programs and activities that are alternatives to landfilling, that are in existence or scheduled in the solid waste management plan to be implemented not later than the end of the third year of the planning period established in accordance with paragraph (B)(1) of this rule. Solid waste management districts shall meet the participation standard by complying with paragraphs (E)(1)(c)(i) and (E)(1)(c)(ii) of this rule.

(i) The solid waste management plan shall demonstrate that education and awareness strategies are in place for each waste reduction, reuse, and recycling program and activity, and other solid waste management methods that are alternatives to landfilling, that are used to meet the access standards. The education and awareness strategies described in the plan shall include but are not limited to information on the following:

(a) Target audiences.

(b) Entity who will implement each strategy.

(c) Measurement method to be used for tracking success of education efforts.

(d) Mechanisms used to reinforce the educational message.

(e) Method of information delivery including but not limited to a description of how the solid waste management district will ensure residents are provided:
Instructions for using recycling opportunities, including information such as how to prepare materials for recycling, the location of drop-off sites, hours and days of operation of drop-off sites, and curbside pickup schedule.

An inventory of all recycling opportunities available in the solid waste management district that is updated annually and communicated to residents regularly.

If the solid waste management plan does not currently have a strategy in place for promoting financial incentives that encourage increased recycling or waste reduction, then the district shall evaluate the feasibility of developing and implementing both of the following:

(a) Financial incentives. The financial incentives should be designed to increase participation in the waste reduction and recycling programs and activities that are used to demonstrate access. Options for financial incentives may include mechanisms that increase the relative cost of disposal, such as volume-based collection rates, or reduce the cost of recycling, such as drop-offs that are made more convenient by locating them closer to residents, curbside recycling replacing drop-off service, or rebates to residents who recycle.

[Comment: It is unlikely that the use of subsidies or grants to enlarge the size of a recycling center or purchase additional equipment will lead to increases in the participation rate of residents.]

(b) Programs to educate the following:

(i) Residents and political jurisdictions regarding the advantages of financial incentives designed to increase participation in waste reduction programs and activities, and the steps for implementing the financial incentives.

(ii) Haulers regarding the advantages of volume-based collection and encourage them to offer this service.

(d) Commercial or institutional solid waste generators have access to solid waste reduction, reuse, or recycling programs, activities, or other methods of managing solid waste that are alternatives to landfilling, that are in existence or scheduled in the solid waste management district's solid waste management plan to be implemented not later than the end of the third year of the planning period established in accordance with paragraph (B)(1) of this rule. The commercial or institutional sector includes but is not limited to all retail and wholesale businesses, schools, banks, government office buildings, and prisons. For the purposes of this rule, access for the commercial or institutional sector is defined as the presence of waste reduction, reuse, recycling services or opportunities, or other methods of managing solid waste that are alternatives to landfilling.

For the purpose of determining if commercial or institutional solid waste generators have access, the solid waste management district shall be divided into service areas. Each county within the district should be a separate service area and should include all the incorporated and unincorporated areas in the county. Districts may, however, establish smaller service areas as long as the entire district is included in a service area. The district shall ensure that each commercial or institutional sector service area in the district has access by demonstrating the following:
(i) Four of the seven materials designated by the solid waste management district in accordance with paragraph (E)(1)(a) of this rule are recycled by entities that are used by the district to demonstrate access to the commercial or institutional sector.

(ii) Only one of the four materials referred to in paragraph (E)(1)(d)(i) of this rule may duplicate a material used to demonstrate access for the residential sector in accordance with paragraph (E)(1)(b)(i) of this rule.

(iii) At least one of the following collection options is available to commercial or institutional solid waste generators for each service area:

(a) A drop-off or buyback center.

(b) Haulers that will pick up recyclables for a fee or at no charge offer service within the service area.

(c) A MRF that accepts commercial or institutional sector waste and recovers recyclables from this waste serves the service area.

(d) Other methods as described by the solid waste management district and approved by the director.

(e) Commercial or institutional solid waste generators participate in reduction, reuse, or recycling programs and activities or other solid waste management programs and activities that are alternatives to landflling, that are in place or scheduled in the solid waste management plan to be implemented not later than the end of the third year of the planning period established in accordance with paragraph (B)(1) of this rule. Solid waste management districts shall meet the participation standard by complying with paragraphs (E)(1)(c)(i) and (E)(1)(c)(ii) of this rule for the commercial or institutional sector.

(f) A solid waste management district relying on incineration or municipal solid waste composting for managing more than fifty per cent of its solid waste shall have waste reduction, reuse, or recycling programs, or other methods for managing solid waste that are alternatives to landflling, in place or scheduled in the solid waste management plan to be implemented not later than the end of the third year of the planning period established in accordance with paragraph (B)(1) of this rule for a minimum of three non-combustible or non-compostable materials out of the seven materials designated by the district, in accordance with paragraph (E)(1)(a) of this rule.

(g) If a solid waste management district determines that it will be unable to reduce and recycle at least twenty-five per cent of its municipal solid waste stream not later than the end of the third year of the planning period established in accordance with paragraph (B)(1) of this rule, calculated in accordance with paragraph (E)(2)(a) of this rule, even after demonstrating compliance with paragraphs (E)(1)(a) to (E)(1)(f) of this rule, the district shall set a target reduction and recycling percentage. The target established by the district shall be higher than the most recent solid waste management plan's reference year municipal solid waste reduction and recycling percentage rate. The district shall incorporate strategies into its plan that will allow it to meet this target not later than
the end of the third year of the planning period established in accordance with paragraph (B)(1) of
this rule.

(h) If a solid waste management district determines that it will be unable to reduce and recycle at least
fifty per cent of its industrial solid waste stream not later than the end of the third year of the
planning period established in accordance with paragraph (B)(1) of this rule, calculated in
accordance with paragraph (E)(2)(b) of this rule, the district shall set a target reduction and
recycling percentage. To demonstrate that the district cannot meet the fifty per cent industrial waste
reduction and recycling rate, the district shall document the composition of the waste stream
generated by industries and explain the difficulty in reducing and recycling these materials in greater
quantity. The target established by the district shall be higher than the most recent solid waste
management plan's reference year industrial solid waste reduction and recycling percentage rate.
The district shall incorporate strategies into its plan that will allow it to meet this target not later than
the end of the third year of the planning period established in accordance with paragraph (B)(1) of
this rule.

(2) The solid waste management district shall demonstrate that existing or new solid waste reduction, reuse,
and recycling programs and activities, and other solid waste management methods that are alternatives
to landfilling that are implemented in order to comply with paragraphs (D) and (E) of this rule will do
the following:

(a) Reduce or recycle at least twenty-five per cent of the municipal solid wastes generated not later than
the end of the third year of the planning period established in accordance with paragraph (B)(1) of
this rule. This twenty-five per cent goal differs from the twenty-five per cent goal established in the
1989 "State Solid Waste management Plan" in that the following are now creditable toward the goal:

(i) Documented recycling of yard wastes at centralized composting facilities or other operations such
as land application and Christmas tree chipping.

(ii) Recycled motor oil collected from persons who change their own motor oil.

(iii) Household hazardous wastes which are recycled.

(iv) Scrap tires that are recycled or beneficially used.

(b) Reduce or recycle at least fifty per cent of the industrial solid wastes generated not later than the end
of the third year of the planning period established in accordance with paragraph (B)(1) of this rule.
The following materials cannot be credited toward the solid waste management district's municipal
or industrial source reduction and recycling percentage:

(i) Train boxcars.

(ii) Ferrous metals from motor vehicle salvage operations conducted by licensed motor vehicle
salvage dealers.

(iii) Metals from demolition activities.
[Comment: In calculating this percentage, solid waste management districts may now credit materials which were initially recycled or reduced by programs that began prior to January 1985.]

(c) Include solid waste reduction, reuse, or recycling programs and activities, or other alternative methods for managing solid waste that are alternatives to landfilling, not later than the end of the third year of the planning period established in accordance with paragraph (B)(1) of this rule for a minimum of three of the following materials if the solid waste management district relies on incineration or municipal solid waste composting for managing more than fifty per cent of its solid waste:

(i) Beverage and food containers made of glass.

(ii) Beverage and food containers made of steel.

(iii) Beverage and other containers made of aluminum.

(iv) Lead-acid batteries.

(v) Major appliances. These are also known as white goods. This category includes but is not limited to clothes washing machines and driers, refrigerators, and water heaters. Small appliances such as toasters and hair driers are not included in this category.

(3) A solid waste management district shall provide a schedule, in the solid waste management plan for achieving compliance with the requirements of paragraph (E)(1) or (E)(2) of this rule. This schedule shall do the following:

(a) Demonstrate that the solid waste management district will achieve compliance with either paragraph (E)(1) or (E)(2) of this rule not later than the end of the third year of the planning period established pursuant to paragraph (B)(1) of this rule.

(i) If the solid waste management district chooses in its solid waste management plan to demonstrate compliance with the requirements of paragraph (E)(1) of this rule, then the solid waste management plan shall include the following:

(a) The percentage of the solid waste management district's residential population that will have access to recycling opportunities in the year selected in accordance with paragraph (E)(3)(b) of this rule. The calculation of the population with access to recycling opportunities must be made in accordance with paragraph (E)(1) of this rule.

(b) Target reduction and recycling percentages for both the municipal and industrial waste streams for the year selected in accordance with paragraph (E)(3)(b) of this rule. These targets shall be higher than the waste reduction and recycling percentages reported for the reference year. The district shall incorporate strategies into its plan that will allow it to meet this target by the year selected in accordance with paragraph (E)(3)(b) of this rule.

(ii) If the solid waste management district chooses in the solid waste management plan to demonstrate compliance with the requirements of paragraph (E)(2) of this rule, then the solid
waste management plan must demonstrate, for the year selected in accordance with paragraph (E)(3)(b) of this rule, that the solid waste management district will reduce or recycle at least twenty-five per cent of its municipal solid waste stream and at least fifty per cent of its industrial solid waste stream. This demonstration must include calculations for the reduction or recycling rates for both the residential or commercial and industrial sectors. The calculations of the recycling rates must be made in accordance with paragraph (E)(2) of this rule.

(b) Clearly state which year of the planning period established pursuant to paragraph (B)(1) of this rule the solid waste management district will achieve compliance with the requirements of paragraph (E)(1) or (E)(2).

(c) Develop aggressive remedies within the solid waste management plan that will allow the solid waste management district to achieve compliance with the requirements of paragraph (E)(1) or (E)(2) of this rule by the year established pursuant to paragraph (E)(3)(b) of this rule.

[Comment: Ohio EPA will expect solid waste management districts to demonstrate compliance with either paragraph (E)(1) or (E)(2) of this rule in the first, second, or third year of the planning period established pursuant to paragraph (B)(1) of this rule. Ohio EPA expects that each solid waste management district will make every effort to come into compliance as quickly as possible. Thus, it is expected that some solid waste management districts will be able to demonstrate compliance in less than three years. All solid waste management districts will be expected to demonstrate compliance not later than by the end of the third year of the planning period established pursuant to paragraph (B)(1) of this rule.]

(F) Each solid waste management district shall submit an annual district report on a form prescribed by the director not later than the first day of June each year. Information in the report shall be based on the previous calendar year. This report will evaluate the solid waste management district's implementation of the strategies, programs, and activities listed in the implementation schedule of its approved solid waste management plan and the progress made toward the waste reduction and recycling requirements established in paragraphs (E)(1) and (E)(2) of this rule. The annual district report shall include the following:

(1) A detailed report on the status of the ongoing, new, and proposed facilities, strategies, programs, and activities listed in the implementation schedule of the solid waste management district's approved solid waste management plan.

(2) An inventory of the solid waste management methods that are available in the solid waste management district as alternatives to landfilling, such as reducing, recycling, and composting, and the types and quantities of municipal solid waste, yard waste, and industrial waste managed by these methods during the year.

(3) A description of waste reduction and recycling activities that occurred during the year and the amount reduced and recycled.

(4) Quantities of waste generated in the solid waste management district that were disposed at out-of-state landfills.

(5) Copies of revisions, additions, or rescissions of the solid waste management district's rules adopted under
division (G) of section 343.01 of the Revised Code.

(6) An inventory of municipalities and townships that levy a host community fee under division (C) of section 3734.57 of the Revised Code and the amounts collected in accordance with this fee.

(7) A report on the results of the solid waste management district's household hazardous wastes strategies, programs, and activities, including the types and quantities of household hazardous wastes collected and recycled or properly disposed, and an evaluation of the effectiveness of the district's household hazardous waste program.

(8) An update on the implementation of the solid waste management district's scrap tire strategies, programs, and activities.
Effective: 05/23/2014
R.C. 119.032 review dates: 02/28/2014 and 05/23/2019

CERTIFIED ELECTRONICALLY

Certification

05/12/2014

Date

Promulgated Under: 119.03
Statutory Authority: 3734.50
Rule Amplifies: 343.01, 3734.53
Prior Effective Dates: 06/01/1994, 08/01/1996, 05/10/2001
3745-27-99 Requirements for professional engineer certification of plans, specifications, and information.

(A) Applicability.

This rule applies to plans, specifications, or information submitted to Ohio EPA for review, consideration, or decision as part of an application for permit to install, license, or registration; any other request for authorization submitted under Chapter 3734. of the Revised Code or Chapter 3745-27, 3745-29, or 3745-30 of the Administrative Code; or any other submittal intended to demonstrate compliance with any statute, rule, or authorization.

(B) Certification requirements:

(1) The following plan drawings shall be prepared and sealed by a licensed professional engineer:

   (a) Plan drawings prepared and submitted as part of a permit to install application pursuant to one or a combination of the following:

      (i) Paragraphs (B)(3)(b), (B)(3)(c), (B)(3)(e) to (B)(3)(h), (B)(4), (B)(5)(b) to (B)(5)(d), (B)(6), and (B)(7) of rule 3745-27-06 of the Administrative Code, for a sanitary landfill facility.

      (ii) Paragraph (B)(3) of rule 3745-27-21 of the Administrative Code, for a solid waste transfer facility.

      (iii) Paragraphs (B)(3) to (B)(5) of rule 3745-27-37 of the Administrative Code, for an infectious waste treatment facility.

      (iv) Paragraphs (B)(3) to (B)(5) of rule 3745-27-50 of the Administrative Code, for a solid waste incinerator facility.

      (v) Paragraphs (C)(4) to (C)(7) of rule 3745-27-63 of the Administrative Code, for a class I scrap tire storage facility or class I scrap tire recovery facility.

      (vi) Paragraphs (B)(3)(b), (B)(3)(c), (B)(3)(e) to (B)(3)(h), (B)(4), (B)(5)(b), (B)(6), and (B)(7) of rule 3745-27-70 of the Administrative Code, for a scrap tire monofill facility.

      (vii) Paragraphs (B)(3)(b), (B)(3)(c), (B)(3)(e) to (B)(3)(h), (B)(4), (B)(5)(b) to (B)(5)(d), (B)(6), and (B)(7) of rule 3745-29-06 of the Administrative Code, for an industrial solid waste landfill facility.

      (viii) Paragraphs (B)(3)(b), (B)(3)(c), (B)(3)(e) to (B)(3)(h), (B)(4), (B)(5)(b) to (B)(5)(d), (B)(6), and (B)(7) of rule 3745-30-05 of the Administrative Code, for a residual waste landfill facility.

   (b) Plan drawings prepared and submitted as part of a plan or report pursuant to one or a combination of the following:

      (i) Paragraphs (E)(9), (G), and (H) of rule 3745-27-08 of the Administrative Code, for a sanitary landfill facility test pad certification report, pre-construction interface testing report, and construction certification report.

      (ii) Paragraphs (B)(5)(a) to (B)(5)(e) of rule 3745-27-11 of the Administrative Code, for a sanitary landfill facility closure/post-closure plan.

      (iii) Paragraph (D)(1) of rule 3745-27-23 of the Administrative Code, for a solid waste transfer
facility construction certification report.

(iv) Paragraph (H) of rule 3745-27-72 of the Administrative Code, for a scrap tire monofill facility construction certification report.

(v) Paragraphs (B)(4) and (J) of rule 3745-27-73 of the Administrative Code, for a scrap tire monofill facility closure certification.

(vi) Paragraphs (E)(9), (G), and (H) of rule 3745-29-08 of the Administrative Code, for an industrial solid waste landfill facility test pad certification report, pre-construction interface testing report, and construction certification report.

(vii) Paragraphs (B)(4)(a) to (B)(4)(e) of rule 3745-29-11 of the Administrative Code, for an industrial solid waste landfill facility closure/post-closure plan.

(viii) Paragraph (B) of rule 3745-30-07 of the Administrative Code, for a residual waste landfill facility construction certification report.

(ix) Paragraphs (A)(4)(a) to (A)(4)(e), (A)(5), and (A)(6) of rule 3745-30-09 of the Administrative Code, for a residual waste landfill facility closure/post-closure plan.

(x) Paragraph (H) of rule 3745-30-09 of the Administrative Code, for a residual waste landfill facility closure certification report.

(2) The following narrative plans, specifications, and information shall be prepared and sealed by a licensed professional engineer:

(a) Narrative information prepared and submitted as part of a permit to install application pursuant to one or a combination of the following:

(i) Paragraphs (C)(4) to (C)(7), (C)(9)(c), and (C)(9)(d) of rule 3745-27-06 of the Administrative Code, for a sanitary landfill facility.

(ii) Paragraph (C)(2) of rule 3745-27-37 of the Administrative Code, for an infectious waste treatment facility.

(iii) Paragraphs (C)(3)(b) and (C)(3)(d) of rule 3745-27-50 of the Administrative Code, for a solid waste incinerator facility.

(iv) Paragraphs (C)(4) to (C)(6) and (C)(8) of rule 3745-27-70 of the Administrative Code, for a scrap tire monofill facility.

(v) Paragraphs (C)(4) to (C)(7), (C)(8)(c), and (C)(8)(d) of rule 3745-29-06 of the Administrative Code, for an industrial solid waste landfill facility.

(vi) Paragraphs (C)(5) to (C)(8), (C)(9)(c), and (C)(9)(d) of rule 3745-30-05 of the Administrative Code, for a residual waste landfill facility.

(b) Narrative information prepared and submitted as part of a plan or report pursuant to one or a combination of the following:

(i) Paragraphs (E)(9), (G), and (H) of rule 3745-27-08 of the Administrative Code, for a sanitary landfill facility test pad certification report, pre-construction interface testing report, and
construction certification report.

(ii) Paragraphs (B)(5)(e), (B)(6), (B)(7), (B)(9), and (B)(10) of rule 3745-27-11 of the Administrative Code, for a sanitary landfill facility closure/post-closure plan.

(iii) Paragraph (B) of rule 3745-27-14 of the Administrative Code, for a sanitary landfill post-closure certification.

(iv) Paragraph (D)(1) of rule 3745-27-23 of the Administrative Code, for a solid waste transfer facility construction certification report.

(v) Paragraph (H) of rule 3745-27-72 of the Administrative code, for a scrap tire monofill facility construction certification report.

(vi) Paragraphs (B)(5) to (B)(8), and (J) of rule 3745-27-73 of the Administrative Code, for a scrap tire monofill facility closure plan and closure certification.

(vii) Paragraph (B) of rule 3745-27-74 of the Administrative Code, for a scrap tire monofill post-closure certification.

(viii) Paragraphs (E)(9), (G), and (H) of rule 3745-29-08 of the Administrative Code, for an industrial solid waste landfill facility test pad certification report, pre-construction interface testing report, and construction certification report.

(ix) Paragraphs (B)(4)(e) and (B)(5) to (B)(10) of rule 3745-29-11 of the Administrative Code, for an industrial solid waste landfill facility closure/post-closure plan.

(x) Paragraph (B) of rule 3745-29-14 of the Administrative Code, for an industrial solid waste landfill facility post-closure certification.

(xi) Paragraph (B) of rule 3745-30-07 of the Administrative Code, for a residual waste landfill facility construction certification report.

(xii) Paragraphs (A)(4)(e) and (A)(5) to (A)(9) of rule 3745-30-09 of the Administrative Code, for a residual waste landfill facility closure/post-closure plan.

(xiii) Paragraph (H) of rule 3745-30-09 of the Administrative Code, for a residual waste landfill facility closure certification report.

(xiv) Paragraph (D) of rule 3745-30-10 of the Administrative Code, for a residual waste landfill facility post-closure certification.

(3) The following plans, specifications, and information may be required to be prepared and sealed by a licensed professional engineer. Such requirement is dependent upon the scope of the activities proposed in the plans, specifications, and information and whether such activities constitute the practice of engineering pursuant to Chapter 4733. of the Revised Code.

[Comment: Those portions of the following authorization requests which constitute the practice of engineering are required to have affixed a professional engineer seal. Those portions which do not constitute the practice of engineering, such as general discussion, hydrogeologic analyses, and operational information do not require affixation of a professional engineer seal.]

(a) Request for authorization to engage in filling, grading, excavating, building, drilling, or mining on a closed solid waste facility pursuant to rule 3745-27-13 of the Administrative Code.
(b) Request for authorization to beneficially use scrap tires pursuant to rule 3745-27-78 of the Administrative Code.

(c) Request for authorization of corrective measures plan.

(d) Request for variance pursuant to division (A) section 3734.02 of the Revised Code, rule 3745-27-03 of the Administrative Code, or rule 3745-30-15 of the Administrative Code.

(e) Request for exemption pursuant to division (G) section 3734.02 of the Revised Code, or rule 3745-27-03 of the Administrative Code.

(f) Request for other method of disposal pursuant to paragraph (A)(4) of rule 3745-27-05 of the Administrative Code.

(g) Any other request for authorization, as required by the director of environmental protection.
Effective: 05/25/2015

Five Year Review (FYR) Dates: 03/09/2015 and 05/25/2020

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Certification

05/15/2015

Date

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