

DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

DIVISION OF WASTE AND HAZARDOUS SUBSTANCES

Statutory Authority: 7 Delaware Code, Section 6001(c)(6) (7 Del.C. §6001(c)(6))

7 DE Admin. Code 1301

PROPOSED

PUBLIC NOTICE

1301 Regulations Governing Solid Waste

SAN # 2018-16

DOCKET # 2025-R-WHS-0016

BRIEF SYNOPSIS OF THE SUBJECT, SUBSTANCE AND ISSUES:

The purpose of this action is to modify [7 DE Admin. Code 1301](#) to increase the protection to human health and the environment by modifying outdated and/or obsolete regulatory language, clarifying existing regulatory language, adding clarifying language, and correcting typographical and grammatical errors.

POSSIBLE TERMS OF THE AGENCY ACTION:

None.

STATUTORY BASIS OR LEGAL AUTHORITY TO ACT:

7 Delaware Code, Chapter 60

OTHER REGULATIONS THAT MAY BE AFFECTED BY THE PROPOSAL:

None.

NOTICE OF PUBLIC COMMENT:

A virtual public hearing (Docket # 2025-R-WHS-0016) will be held on Tuesday, January 6, 2026, beginning at 6 p.m. The web link to the virtual hearing can be accessed through the DNREC Public Hearings site at <https://de.gov/dnrehearings>. If prompted for a password, please use: 672423. To access the audio-only portion of the virtual hearing, dial 1-646-931-3860 and enter the Meeting ID 824 8739 9983. Language assistance is available by request within 10 business days of the hearing. Closed captioning is available via the Zoom virtual meeting tool.

Those wishing to offer verbal comments during DNREC public hearings must pre-register no later than noon on the date of the virtual hearing at <https://de.gov/dnrecomments> or by telephone at 302-739-9001.

The proposed amendments may be inspected online starting December 1, 2025 at https://regulations.delaware.gov/register/current_issue, or in-person, by appointment only, by contacting Alison Kiliszek by phone at 302-739-9403 or by email at Alison.Kiliszek@delaware.gov.

The Department will accept public comment through the close of business on Wednesday, January 21, 2026. Comments will be accepted in written form via email to DNRECHearingComments@delaware.gov, or by using the online form at <https://de.gov/dnrecomments>, or by U.S. mail to the following address:

Theresa Smith, Hearing Officer
DNREC – Office of the Secretary
89 Kings Highway, Dover, DE 19901

DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENTAL CONTROL

1300 Waste Management Section

1301 Regulations Governing Solid Waste

1.0 Declaration Of Intent

- 1.1 The Delaware Department of Natural Resources and Environmental Control (Department) finds and declares that improper solid waste handling and disposal practices may result in environmental damage, including substantial degradation of the surface and groundwater and waste of valuable land and other resources, and may constitute a continuing hazard to the health and welfare of the people of the State. The Department further finds that the utilization of solid waste handling and disposal facilities which are properly located,

designed, operated, and monitored will minimize environmental damage and protect public health and welfare.

1.2 It is the intent of the Department to require that solid waste handling and disposal be conducted in a manner and under conditions which will eliminate the dangerous and deleterious effects of improper solid waste handling and disposal upon the environment and upon human health, safety, and welfare.

1.3 The purposes of ~~these regulations~~this regulation are:

~~1.1.3.1~~ To encourage, in all appropriate ways, recycling, reuse, and reclamation ~~processes~~processes; and

~~2.1.3.2~~ To implement the provisions of 7 Del.C. Ch. 60, which directs the Department to put into effect a program for improved solid waste storage, collection, transportation, processing, transfer, and disposal by providing that ~~such~~the activities may henceforth be conducted only in an environmentally acceptable manner pursuant to a permit obtained from the Department.

21 DE Reg. 893 (05/01/18)

2.0 Scope and Applicability

2.1 Authority

2.1.1 ~~These regulations are~~This regulation is enacted pursuant to 7 **Del.C.** Ch. 60.

2.1.2 ~~These regulations~~This regulation shall be known as "Regulations Governing Solid Waste" and shall repeal the "Delaware Solid Waste Disposal Regulation".

2.2 Applicability

2.2.1 ~~These regulations apply to any person using land or allowing the use of land~~This regulation applies to any person for the purposes of storage, collection, processing, transfer, or disposal of solid waste; and to any person transporting solid waste in or through the State of Delaware. The following shall be subject to the provisions of ~~these regulations~~this regulation:

2.2.1.1 Sanitary ~~landfills~~landfills.

2.2.1.2 Industrial ~~landfills~~landfills.

2.2.1.3 Resource recovery ~~facilities~~facilities.

2.2.1.4 Transfer ~~stations~~stations.

2.2.1.5 Special wastes ~~handling~~handling.

2.2.1.6 Transportation of solid ~~waste~~waste.

2.2.1.7 Storage of solid ~~waste~~waste.

2.2.1.8 Scrap tire ~~facilities~~facilities.

2.2.2 ~~These regulations do~~This regulation does not apply to those agricultural wastes that when they are subject to regulations promulgated by the Division of ~~Water Resources~~Water.

2.2.3 For the purposes of these regulations, ~~all wastes defined herein and that are subject to regulations promulgated by the Division of Water Resources shall not be regulated as solid wastes.~~All wastes defined in this regulation, when subject to regulations promulgated by the Division of Water, shall not be regulated as solid wastes.

2.2.4 ~~These regulations do~~This regulation does not apply to any waste which meets the criteria of hazardous waste as described in the ~~Delaware Regulations Governing Hazardous Waste~~7 DE Admin. Code 1302, Delaware's Regulations Governing Hazardous Waste (DRGHW).

2.3 ~~Exemptions~~Exemptions. The following activities are exempted from ~~these regulations~~this regulation unless otherwise required by the Department or law:

2.3.1 ~~Disposal or land application on a farm of the agricultural wastes that are generated on the farm or result from the operation of the farm.~~Agricultural wastes disposed of land applied on the farm where the waste was generated. The disposal or land application must be conducted in a manner that is in compliance with all federal, state, and local regulatory requirements and that does not threaten human health or the environment.

2.3.2 ~~Composting, on a private property, the leaves, grass clippings, and other vegetation originating on the property.~~Composting of agricultural wastes on the farm where it was generated. Composting must comply with all federal, state, and local regulatory requirements and that does not threaten human health or the environment.

2.3.3 Composting organic wastes at a residential property on which the organic wastes were generated, provided the resulting compost is used at that residential property and not to be sold or distributed off-property. No off-site feedstock may be used to qualify for this exemption.

~~2.3.3.2~~2.3.4 Disposal of clean fill.

~~2.3.4.2~~2.3.5 Creation of ~~brush yard waste~~brush yard waste piles on the property on which the ~~material waste~~material waste was generated.

~~2.3.5.2~~2.3.6 The use of ~~vegetative matter~~yard waste and untreated ground wood products to construct berms on the property on which the materials were generated. (~~Notification must be made to the Department prior to commencing this activity.~~)

~~2.3-62.3.7~~ 2.3.7 Farmers actively using whole scrap tires not exceeding 25 pounds each for beneficial purposes related to farming shall be exempt from Section 12.0 of this regulation provided written approval is obtained from the Department and water accumulation within the tires is prevented by boring, punching, or drilling holes in each tire.

2.3.8 The management of waste consisting of human anatomical remains, including fetal remains, managed by a licensed funeral director.

2.4 Compliance

2.4.1 ~~Existing facilities~~ facilities. All existing facilities must comply with the provisions of ~~these regulations~~ this regulation with the following exceptions:

2.4.1.1 Closed facilities or closed portions of facilities will not be required to disturb or replace their cap or cover system for the purpose of coming into compliance with ~~these regulations~~ this regulation.

2.4.1.2 Facilities currently operating under a permit which does not require a liner ~~and/or~~ or a leachate detection ~~, or both,~~ will not be required to install a liner or leachate detection system in closed or currently active areas for the purpose of coming into compliance with ~~these regulations~~ this regulation.

2.4.2 New facilities and expansions of existing ~~facilities~~ facilities. All new facilities and all expansions of existing facilities shall comply with the provisions of ~~these regulations~~ this regulation.

2.4.3 Generators of solid waste must utilize a Delaware solid waste transporter, with a valid Delaware Solid Waste Transporter Permit, unless excluded under subsection 7.2 of this regulation.

2.5 Composting ~~And~~ and Recycling Permits

2.5.1 Composting Permits

~~2.5.1.1 Other than individual household composting,~~ Unless exempted per subsections 2.3.2 and 2.3.3, all other composting ~~operations~~ facilities must obtain a permit from the Department prior to commencing a ~~composting operation~~ operations. To obtain a permit, a person must submit an application and checklist provided by the Department, including, but not limited to, the following information:

~~2.5.1.12~~ 2.5.1.2 A written ~~plan of operation~~ Plan of Operation demonstrating to the Department that the requestor of the permit and the person responsible for operating the composting facility understand and will apply the principles and proper methods of composting. The ~~plan of operation~~ Plan of Operation must also demonstrate that the composting facility will be operated in a manner that will not pose a threat to human health and the environment; and

~~2.5.1.22~~ 2.5.1.3 A written statement explaining how the applicant intends to use the compost.

~~2.5.1.4~~ 2.5.1.4 Proof of financial responsibility for closure and post-closure care, as described in subsection 4.1.11 of this regulation.

2.5.2 Recycling Permits

~~2.5.2.1~~ 2.5.2.1 Recycling solid waste into specific market applications requires a permit prior to commencing ~~this~~ the activity. To obtain a permit, a person must submit an application and checklist provided by the Department, including, but not limited to, the following information:

~~2.5.2.12~~ 2.5.2.2 A written ~~plan of operation~~ Plan of Operation describing the types and quantities of ~~materials~~ waste that will be accepted at the facility, the processing methods and equipment that will be used, and the products that will be produced, and

~~2.5.2.22~~ 2.5.2.3 Documentation demonstrating the existence of a market or markets for the ~~product(s)~~ product or products.

~~2.5.2.4~~ 2.5.2.4 Proof of financial responsibility for closure and post-closure care, as described in subsection 4.1.11 of this regulation.

2.6 Other Applicable Requirements. Nothing in ~~these regulations~~ this regulation shall be construed as relieving an owner or operator of a facility from the obligation of complying with any other laws, regulations, orders, or requirements which may be applicable.

[19 DE Reg. 418 \(11/01/15\)](#)

[19 DE Reg. 422 \(11/01/15\)](#)

[20 DE Reg. 296 \(10/01/16\)](#)

[21 DE Reg. 893 \(05/01/18\)](#)

3.0 Definitions

The following words, phrases, and terms as used in ~~these regulations~~ this regulation have the meanings given below:
means a flood that has a ~~one percent~~ 1.0% or greater chance of recurring in any given year or a flood of a magnitude equaled or exceeded once in 100 years on the average over a significantly long period.

"Action Leakage Rate" "leakage rate" means the quantity of liquid collected from a leak detection system of a double liner system over a specified period of time which, when exceeded, requires certain actions to be taken as described in the Action Leakage Rate response plan approved by the Department.

"Active Life"life means the period of operation beginning with the initial receipt of solid waste and ending at the completion of closure activities.

"Active Portion"portion means that portion of a facility that presently has an operating permit issued by the Department of Natural Resources and Environmental Control.

"Agricultural Waste"waste means carcasses of poultry or livestock, crop residue, or animal excrement.

"Aquifer" means a geologic formation, group of formations, or part of a formation capable of yielding usable quantities of groundwater to wells, springs, or surface water.

"ASTM" means the American Society for Testing and Materials.

"Authorized Representative"representative means the person responsible for the overall operation of a facility or an operational unit (i.e., part of a facility), e.g., the plant manager, landfill manager, superintendent, or person of equivalent responsibility.

"Berm" means a shelf, ledge, pile, ridge or barrier. A berm is typically constructed of compacted soil, gravel, rocks, or stones.

"Bottom Ash"ash means the residue remaining in the bottom of the combustion chamber of an incinerator after the combustion of fuel or waste.

"Buffer Zone"zone means those on-site areas of a facility adjacent to the facility property line boundary which shall be left undeveloped during the active life as well as the inactive life of the facility.

"Bulky Waste"waste means items whose large size or weight precludes or complicates their handling by normal collection, processing, or disposal methods.

"Cap" or **"Capping System"**system means the material used to cover the top and sides of a sanitary or industrial landfill when fill operations cease.

"Cell" means a discrete engineered area that is designed for the disposal of solid waste and that is a subpart of a landfill.

"Certification" means a statement of professional opinion based upon knowledge and belief.

"CFR" means the Code of Federal Regulations.

"Clay", as a soil ~~separate~~ separate class, means the mineral soil particles less than 0.002 mm in diameter. As a soil textured class, "CLAY" means soil material that is 40% or more clay, less than 45% sand, and less than 40% silt. Clay used as a liner or cap should be classifiable as a CL or CH (Unified Soil Classification System) with a liquid limit between 30 and 60, should place above the A-line on the plasticity chart, and should have a minimum plastic index of 15. A clay liner should have a cation exchange capacity greater than 15 meq/100 grams and be in the neutral pH range.

"Clean Fill"fill means a non-water-soluble, non-decomposable, environmentally inert solid such as rock, soil, gravel, concrete, broken glass, and/or clay products, or ceramic products.

"Closed" means a facility that has ceased the management of solid waste (e.g., landfilling, material recovery operations) and the owner or operator has closed in accordance with the approved facility closure plan and all other applicable closure requirements.

"Closed Portion"portion means that portion of a facility which an owner or operator has closed in accordance with the approved facility closure plan and all other applicable closure requirements.

"Closure" means the cessation of operation of a facility or a portion thereof and the act of securing ~~such~~ at the facility so that it will pose no significant threat to human health or the environment.

"Closure Plan"plan means written reports and engineering plans detailing those actions that will be taken by the owner or operator of a facility to effect proper closure of that facility or a portion thereof.

"Coal Combustion Residuals (CCR)"combustion residuals or **"CCR"** means fly ash, bottom ash, boiler slag, flue gas desulfurization, and other solid wastes generated from burning coal for the purpose of generating electricity by electric utilities and independent power producers.

"Commercial Waste"waste means solid waste generated by stores, offices, restaurants, warehouses, and other non-manufacturing, non-processing activities.

"Compost" means a product of composting that has been stabilized to a humus-like product, is free of pathogens at an infectious level and of viable plant seeds, that does not attract insects or vectors, can be handled and stored without nuisance, and ~~is beneficial to the growth of plants.~~ can be used as soil additive, fertilizer, growth media, or for another beneficial use.

"Composting" means the biological decomposition and stabilization of organic material, under conditions that allow development of thermophilic temperatures as a result of biologically produced heat, to produce a final product that is stable, free of pathogens and viable plant seeds, and can be beneficially applied to the land.

"Composting Facility"facility means a facility where organic material is processed ~~using~~ by use of composting technology, which may include, but is not limited to, physical turning, windrowing, in-vessel composting, or other mechanical handling of organic material. A composting facility will fall under a single Tier, categorized as one of the following:

(1) **Tier one:** A composting facility shall fall under Tier One permit pricing if its Solid Waste Permit limits are no more than 10 tons, or 20 cubic yards, of waste and finished compost product or products on-site at any given time.

(2) **Tier two:** A composting facility shall fall under Tier Two permit pricing if its Solid Waste Permit limits are between 10 and 5,000 tons of waste, or between 20 and 10,000 cubic yards of waste and finished compost product or products on-site at any given time.

(3) **Tier three:** A composting facility shall fall under Tier Three permit pricing if its Solid Waste Permit limits are over 5,000 tons of waste, or more than 10,000 cubic yards of waste and finished compost product or products on-site at any given time.

"Composting feedstock" means the organic material used in the production of compost, further categorized as the following:

(1) **Type 1** feedstocks include yard waste, crop residues, and other materials determined to pose a low risk to human health and the environment, including from physical contaminants and human pathogens.

(2) **Type 2** feedstocks are materials that pose a low level of risk to the environment but have a higher level of risk from physical contaminants and human pathogens compared to **Type 1** feedstocks. Examples of **Type 2** feedstocks include, but are not limited to, agricultural residuals, source-separated organics; and Department approved food processing residuals and industrial by-products.

(3) **Type 3** feedstocks are materials that pose a higher level of risk to human health and the environment from physical and chemical contaminants and from human pathogens compared to **Type 1** and **Type 2** feedstocks. Examples of **Type 3** feedstocks include, but are not limited to, mixed solid waste, diapers, and industrial by-products and food processing residuals not covered in **Type 2** or not governed by the Division of Water.

"Confined Aquifer" ~~an aquifer~~ means an aquifer containing groundwater which is everywhere at a pressure greater than atmospheric pressure and from which water in a well will rise to a level above the top of the aquifer. A confined aquifer is overlain by material of distinctly lower permeability ("confining bed") than the aquifer, bounded above and below by impermeable beds or by beds of distinctly lower permeability than that of the aquifer itself and containing Groundwater. An aquifer containing Groundwater which is at a pressure greater than atmospheric pressure is one in which water in a well will rise to a level above the top of the aquifer.

"Contaminant" means any substance that enters the environment at a concentration that has the potential to endanger human health or degrade the environment, health, or to degrade, or otherwise harm, the environment.

"Contiguous" or **"contiguous property"** means land that is physically touching or sharing a common boundary, forming a single, unbroken piece of land. It can also include land separated only by a public right-of-way, like a road or easement, provided the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing, as opposed to going along, the right-of-way, and the ownership is the same.

"Controlling Slopes" ~~slopes~~ means slopes on those areas of a liner that have a direct influence on the maximum leachate head, or slopes that are perpendicular to the collection laterals.

"Daily Cover" ~~cover~~ means a layer of compacted earth, or other suitable material as approved by the Department, used to enclose a volume of solid waste each working day.

"Department" means ~~The~~ the Department of Natural Resources and Environmental Control.

"Dike" means an embankment, berm, or ridge of either natural or man-made materials used to prevent or to control the movement of solids, liquids, sludges, or other materials.

"Discharge" means the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of a substance into or onto any land, water, or air.

"Disposal" means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste into or upon any land or water.

"Disposal Facility" ~~facility~~ means any facility or portion of a facility at which solid waste is intended to be and/or is intentionally placed into or onto any land and at which solid waste will remain after closure has taken place.

"Double Liner System" ~~liner system~~ means a liner system consisting of ~~two~~ 2 liners with a leachate detection and collection system in between.

"DRGSW" means 7 DE Admin. Code 1301, Delaware's Regulations Governing Solid Waste.

"Dry Waste" ~~waste~~ (formerly called "Inert Solid Waste") means wastes including, but not limited to, plastics, rubber, lumber, trees, stumps, vegetative matter, asphalt pavement, asphaltic products incidental to construction/demolition debris, or other materials which have reduced potential for environmental degradation and leachate production.

"Enclosed by a Building" ~~building~~ means a permanent fixed structure surrounded on all sides by ~~four~~ 4 solid walls, a structurally sound roof, and an impermeable floor, with no permanent openings.

"Enclosed by a trailer" means an unaltered, prefabricated metal structure, fully enclosed, sound in construction, and designed for use as a shipping container (e.g., a semi-truck trailer).

"Environmental Assessment" ~~assessment~~ means a detailed and comprehensive description of the condition of all environmental parameters as they exist at and around the ~~site~~ facility of a proposed action prior to implementation of the proposed action. This description is used as a baseline for assessing the environmental impacts of a proposed action.

"Environmentally Unsound"unsound" means characterized by any condition, resulting from the methods of operation of a facility or design of a facility, which impairs the quality of the environment when compared to the surrounding background environment or any appropriate promulgated federal, state, ~~county~~county, or municipal standard.

"Existing Facility"facility" means a facility which was in operation or for which construction had commenced on or before the date of enactment of ~~these regulations~~this regulation, provided that the facility was being constructed or operated pursuant to all permits and/or approvals required by the Department at the time of enactment. A facility has commenced construction if either:

- (1) An on-site physical construction program has begun and is moving toward completion within a reasonable time; or
- (2) The owner or operator has entered into contractual obligations which cannot be cancelled or modified without substantial loss for physical construction to be completed within a reasonable time.

"Existing Landfill Cell"landfill cell" means a landfill cell which was in operation or for which construction had commenced on or before the date of enactment of ~~these regulations~~this regulation, provided that the landfill cell was being constructed or operated pursuant to all permits and/or approvals required by the Department at the time of enactment. A landfill cell has commenced construction if either:

- (1) An on-site physical construction program has begun and is moving toward completion within a reasonable time; or
- (2) The owner or operator has entered into contractual obligations which cannot be cancelled or modified without substantial loss for physical construction to be completed within a reasonable time.

"Expansion" means the process of increasing the areal dimensions, vertical elevations, or slopes beyond the original approved limits of the facility.

"Facility" means all contiguous ~~land, property~~, as well as the structures, other appurtenances, and improvements ~~on the land~~, used in resource recovery and/or the treatment, handling, composting, storage, or disposal of solid waste. A facility may consist of several operational units (e.g., ~~one~~1 or more landfills, cells, incinerators, compactors, or combinations thereof).

"Final Cover"cover" means the material used to cover the top and sides of a landfill cell when fill operations cease.

"Flood Plain""Floodplain" means the lowland and relatively flat areas adjoining inland and coastal waters, that are inundated by the ~~400-YEAR FLOOD~~100-year flood.

"Fly Ash"ash" means a powdery residue resulting from the combustion of fuel or waste and captured by air pollution control equipment prior to exiting the smokestack.

"Free Liquids"liquids" means liquids which readily separate from the solid portion of a waste under ambient temperature and ~~pressure~~pressure using any or all of the following tests: EPA Paint Filter Test; EPA Plate Test; EPA Gravity Test.

"Garbage" means any putrescible solid and semisolid animal ~~and/or~~ vegetable ~~wastes~~waste, or ~~both~~ resulting from the production, handling, preparation, cooking, serving, or consumption of food or food materials.

"Generation" means the act or process of producing solid waste.

"Generator" means the producer or the source of the solid waste.

"Geomembrane" means a prefabricated continuous sheet of flexible polymeric or geosynthetic material.

"Gross Vehicle Weight Rating (GVWR)" or gross vehicle weight, **"Gross vehicle weight rating"** or **"Gross vehicle weight"** or **"GVWR"** means the value specified by the manufacturer as the loaded weight of a single vehicle.

"Groundwater" means any water naturally found under the surface of the earth in a zone of saturation.

"Hazardous Waste"waste" means a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating irreversible, illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed. Without limitation, included within this definition are those hazardous wastes described in ~~Sections 261.31, §261.31, 261.32, and 261.33 of 7 DE Admin. Code 1302,~~ Delaware's Regulations Governing Hazardous Waste (DRGHW).

"Household Waste"waste" or **"Residential waste"** means any solid waste routinely derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).

"Hydraulic Conductivity"conductivity" means the capacity to transmit water through a permeable medium (i.e., the coefficient of permeability). It is expressed as the volume of water that will move in a unit of time under a unit hydraulic gradient through a unit area.

"Impermeable" means having a hydraulic conductivity equal to or less than 1×10^{-7} cm/sec as determined by field and laboratory permeability tests made according to standard test methods which may be correlated with soil densification as determined by compaction test.

"Industrial Landfill"~~landfill~~ means a ~~land site~~property at which industrial waste is deposited on or into the land as fill for the purpose of permanent disposal, except that it will not include any facility that has been approved for the disposal of hazardous waste under the ~~Delaware~~Delaware's Regulations Governing Hazardous Waste.

"Industrial Waste"~~waste~~ means any water-borne liquid, gaseous, solid, or other waste substance or a combination thereof resulting from any process of industry, manufacturing, ~~trade~~trade, or business, or from the development of any agricultural or natural resource.

"Infectious Waste"~~waste~~: see Section 11.0 - Special Wastes Management, Part 1 - Infectious Waste, subsection 11.3 of this regulation for additional definitions pertaining to infectious waste.

"Institutional Waste"~~waste~~ means solid waste that is generated by institutional enterprises such as social, charitable, educational, and government services and that is similar in nature to household waste.

"Interim-closure care" means maintenance and long-term monitoring of, and financial responsibility for, any portion of a facility closed in accordance with this regulation prior to the entire site or facility being closed in accordance with this regulation.

"Intermediate Cover"~~cover~~ means a layer of compacted earth, or other suitable material as approved by the Department, applied to a partially completed landfill.

"Landfill" means a natural topographic depression and/or man-made excavation and/or diked area, formed primarily of earthen materials, which has been lined with man-made and/or natural materials or remains unlined and which is designed to hold an accumulation of solid wastes.

"Landfill Cell Boundary"~~cell boundary~~ means an imaginary vertical surface located at the hydraulically downgradient limit of the cell. This imaginary vertical surface extends down into the uppermost aquifer.

"Leachate" means liquid that has passed through, contacted, or emerged from solid waste and contains dissolved, suspended, or miscible materials, chemicals, and microbial waste products removed from the solid waste.

"Lift" means a completed series of compacted layers within a cell.

"Liner" means a continuous layer of impermeable material beneath and on the sides of a landfill or landfill cell.

"Liquid Waste"~~waste~~ means a waste that contains less than ~~20 percent~~20% solids or releases free liquids.

"Local Agency"~~agency~~ means any ~~special~~ district, authority, municipality, county, or any other political subdivision.

"Marketplace" means a person or persons that utilize the majority, if not all, of the recyclable materials it receives to produce a marketable product. Incinerators, landfills, and other methods of disposal are disqualified as an acceptable marketplace.

"Materials Recovery Facility"~~recovery facility~~ means a facility at which materials, other than source separated materials, are recovered from solid waste and require management for the sorting, processing, and transfer for recycling or for use as an energy source.

"Municipal Solid Waste"~~solid waste~~ means household waste and solid waste that is generated by commercial, institutional, and industrial sources and is similar in nature to household waste.

"Municipal Solid Waste Ash"~~solid waste ash~~ means the ash resulting from the combustion of municipal solid waste in a thermal recovery facility.

"New Industrial Landfill Cell"~~industrial landfill cell~~ means any industrial solid waste landfill unit which has not received waste prior to the effective date of ~~these regulations~~this regulation. See *Existing Landfill Cell* definition.

"New Sanitary Landfill Cell"~~sanitary landfill cell~~ means any municipal solid waste landfill unit which has not received waste prior to the effective date of ~~these regulations~~this regulation. "Sanitary Landfill Cell" has the same meaning as "Municipal Solid Waste Landfill Unit" in the RCRA Subtitle D (40 CFR Part 258) Regulations.

"New Solid Waste Facility"~~solid-waste facility~~ means a facility which was not in operation or for which construction had not commenced on or before the date of enactment of ~~these regulations~~this regulation.

"Non-commercial capacity" means not for a profit; receiving a reimbursement, monetary or otherwise; or receiving other compensation.

"On-site" means on the same or geographically contiguous property which may be divided by public or private right-of-way. ~~Noncontiguous properties owned by the same person but connected by a right-of-way which the owner controls and to which the public does not have access are also considered on-site property.~~

"Open Burning"~~burning~~ means the combustion of solid waste without:

- (1) Control of combustion air to maintain adequate temperature for efficient combustion,
- (2) Containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and
- (3) Control of the emission of the combustion products.

"Operator" means the person responsible for the overall operation of a solid waste facility.

"Owner" means the person who owns a facility or any part of a facility.

"Paper bag" means a bag provided at check-out made of paper that meets all of the following requirements: a. Is one hundred percent (100%) recyclable and contains a minimum of forty percent (40%) postconsumer recycled material; b. Is accepted for recycling; c. Has printed on the bag the name of the manufacturer, the location (country) where the bag was manufactured, and the percentage of postconsumer recycled material used; d. Displays the word "Recyclable" and "Reusable" in a highly visible manner on the outside of the bag; and e. Does not contain plastic lining or plastic handles. **"Passenger Tire Equivalent" "tire equivalent" or "PTE's"** means a conversion measurement using the assumption that one 1 passenger car tire is equal to 25 pounds. A tire weighing more than 25 pounds shall be evaluated by dividing its total weight by 25 pounds to equal the number of PTEs.

"Perched Water" "water" or "Perched Water Table" "water table" means a subsurface, discontinuous saturated lense with unsaturated conditions existing both above and below; typically due to the existence of a horizontal, low-permeability layer in a relatively high-permeability formation that captures and contains the downward percolating groundwater.

"Permittee" means a person holding a permit issued by the Department pursuant to this regulation.

"Person" means any individual, trust, firm, joint stock company, federal agency, partnership, corporation (including a government corporation), association, state, municipality, commission, political subdivision of a state, any interstate body, company, society, or any organization of any form.

"Personnel" or "Facility Personnel" means all persons who are trained to work at, or oversee the operations of, a solid waste facility, and whose actions or failure to act may result in noncompliance with the requirements of 7 DE Admin. Code 1302, Delaware's Regulations Governing Solid Waste Regulations or other regulations under the jurisdiction of the State of Delaware.

"Plastic carryout bag" means a plastic carryout bag provided by a store to a customer at the point of sale made from plastic and not specifically designed and manufactured to be reusable. **"Post-Closure Care" "Post-closure care"** means maintenance and long-term monitoring of, and financial responsibility for, a closed facility.

"Professional Engineer" means an individual who is currently licensed by the State of Delaware to practice one 1 or more disciplines of engineering and who is qualified by education, technical knowledge, and experience to make the specific technical certifications required.

"Professional Geologist" means an individual who is currently licensed by the State of Delaware to practice one 1 or more disciplines of geology and who is qualified by education, technical knowledge, and experience to make the specific technical certifications required.

"Property" means 1 or more parcels of land that are owned, leased, or under direct control of the same owner or operator.

"Prudent or practical" means:

- a)(1) Tread depth shall not be less than 2/32 of an inch deep;
- b)(2) Free from chunking, bumps, knots, or bulges evidencing cord, ply, or tread separation from the casing or other adjacent materials; and
- c)(3) Tire cords or belting materials shall not be exposed, either to the naked eye or when cuts or abrasions on the tire are probed.

"Qualified Person" "person" means a person or persons trained to recognize specific appearances of structural weakness and other conditions which are disrupting or have the potential to disrupt the operation or safety at Solid Waste Facilities (e.g., landfills) by visual observations and, if applicable, to monitor instrumentation.

"Radioactive material" means:

- (1) Licensed radioactive material as described in 16 DE Admin. Code 4465 – Delaware Radiation Control Regulations; or
- (2) Any radioactive material considered source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954.

"Recharge Area" "area" means the total surficial area of land surface where the movement of water downward from the land surface through the unsaturated zone to the saturated zone or water table occurs; and has a discharge point (or zone) which specifically defines the area of surface water capture.

"Recognized and Generally Accepted Good Engineering Practices" "Recognized and generally accepted good engineering practices" means engineering maintenance or operation activities based on established coded, widely accepted standards, published technical reports, or a practice widely recommended throughout the industry. ~~Such~~ ~~The~~ practices generally detail approved ways to perform specific engineering, inspection, or mechanical integrity activities.

"Recyclable Material" "material" means a solid waste that exhibits the potential to be used repeatedly in place of a virgin material.

"Recycling" means the process by which recyclable materials, which would otherwise be disposed of as solid waste, are returned to the economic mainstream in the form of raw materials or products.

"Refuse" means any putrescible or nonputrescible solid waste, except human excreta, but including garbage, rubbish, ashes, street cleanings, dead animals, scrap ~~tire(s)~~ tire or tires, offal and solid agricultural, commercial, industrial, hazardous and institutional wastes, and construction wastes.

"Regulated Medical Waste"~~medical waste~~ : see Section 11.0 - Special Wastes Management, Part 1 - Infectious Waste, subsection 11.3 of this regulation for additional definitions pertaining to Regulated Medical / Infectious Waste.

"Representative Sample"~~sample~~ means a sample of a universe or whole (e.g., waste pile, lagoon, and groundwater) which can be expected to exhibit the average properties of the universe or whole.

"Resource Recovery"~~recovery~~ means the process by which materials, excluding those under control of the Nuclear Regulatory Commission, which still have useful physical or chemical properties after serving a specific purpose, are reused or recycled for the same or another purpose, including use as an energy source.

"Resource Recovery Facility"~~recovery facility~~ means a facility that is either a Materials Recovery Facility or a Thermal Recovery Facility.

~~"Retail space" means total space within a store, leased or owned, for the purposes of promoting, selling, or distributing goods and services to consumers.~~**"Reusable bag"** means a fabric or plastic carryout bag which meets all of the following requirements:~~a. Is either a bag made of cloth or other fabric that has handles or is a durable plastic bag with handles that is at least 2.25 mils thick;b. Is designed and manufactured to be used for at least 125 uses;c. Has a volume capacity of at least 4 gallons (equivalent to 15 liters or 924 cubic inches);d. Is machine washable or made from a material that can be cleaned and disinfected;e. Has a tag or label attached to or printed on the bag with content information. Does not contain lead, cadmium, or any other toxic material that may pose a threat to public health. A reusable bag manufacturer may demonstrate compliance with this requirement by obtaining a no objection letter from the federal Food and Drug Administration;f. Complies with 16 C.F.R. §260.12 related to recyclable claims if the reusable bag producer makes a claim that the reusable grocery bag is recyclable; andg. A reusable bag made from plastic film shall also meet the following requirements: it shall be capable of carrying 22 pounds over a distance of 175 feet for a minimum of 125 uses and be at least 2.25 mils thick, in addition to those specified in 7 Del.C. Ch. 60 Subchapter IX, Recycling and Waste Reduction.~~**"Rubbish"** means any nonputrescible solid waste, excluding ashes, such as cardboard, paper, plastic, metal or glass food containers, rags, waste metal, yard clippings, small pieces of wood, excelsior, rubber, leather, crockery, and other waste materials.

"Runoff" means any precipitation, leachate, or other liquid that drains over land from any part of a facility.

"Run-on" means any precipitation, leachate, or other liquid that drains over land onto any part of a facility.

"Salvaging" means the controlled removal of solid waste from any facility for reuse of the waste material.

~~"Sanitary Landfill" means a land site~~**"Sanitary landfill"** means a property at which solid waste is deposited on or into the land as fill for the purpose of permanent disposal, except that it will not include any facility that has been approved for the disposal of hazardous waste under the Delaware ~~7 DE Admin. Code 1302, Delaware's~~ Regulations Governing Hazardous Waste.

~~"Sanitary Landfill Cell Boundary"~~**"Sanitary landfill cell boundary"** means a vertical surface located at the hydraulically downgradient limit of the cell. This vertical surface extends down into the uppermost aquifer. "Sanitary Landfill Cell Boundary" has the same meaning as "Waste Management Unit Boundary" in the RCRA Subtitle D (40 CFR Part 258) Regulations. "Sanitary Landfill" has the same meaning as "MSWLF" in the RCRA Subtitle D (40 CFR Part 258) Regulations.

"Saturated Zone"~~"Saturated zone"~~ means that part of the earth's crust in which all the voids are filled with water.

"Scavenging" means the uncontrolled and/or unauthorized removal of solid waste from any facility.

"Scrap tire" means:

(1) ~~a~~A tire that is no longer prudent or practical for vehicular use; or

(2) ~~a~~A tire that has not been used on a vehicle for more than 6 months after the last date it was used on a vehicle; or

(3) ~~a~~A tire that is ~~six~~6 years or older from the date of manufacture.

"Scrap tire facility" means an accumulation of 100 or more scrap tires wherein each scrap tire weighs 25 pounds or less; or 100 or more scrap passenger tire equivalents; or any combination thereof that, upon conversion, results in 100 or more passenger tire equivalents, in the same general vicinity that is not enclosed by a building, including, but not limited to, open fields, woodlots, pavement, dumpsters or rollofs, trailers, and fenced areas. For scrap tires weighing more than 200 pounds each, the first 10 scrap tires are exempt from the accumulation amount.

~~"Seasonal high water table"~~**"Seasonal high-water table"** means an undulating or planar surface (two-dimensional) defined by a series of the highest points of saturated soil or rock in the uppermost-unconfined aquifer that is seasonally or permanently saturated. A ~~two-dimensional~~2-dimensional surface, below which all pores in rock or soil that is seasonally or permanently saturated. The ~~season-high water~~seasonal high-water table must be determined using ~~one~~1 of the following:

(1) A representative number of soil profile descriptions (minimum of ~~three~~(3) soil borings or ~~two~~(2)3 soil borings or 2 test pits per acre and ~~one~~1 soil profile description per design area in the evaluated ~~area(s)~~area or areas. Soil boring and test pit data must be evaluated by a State of Delaware Class D Soil Scientist. These shall identify the soil series or taxonomic subgroup (e.g. Sassafras or Typic

Hapludult). The geographic coordinates of each representative soil boring and/or test pit, a minimum of ~~two (2), 2,~~ must be determined by a global positioning system.

(2) Zones of saturation (as indicated by redoximorphic features).

(3) Wet-season water-level monitoring shall be conducted at least weekly from January 1~~st~~1 through April 30~~th~~30. Wells installed for the purpose of establishing groundwater-flow direction may be used for wet season monitoring. Pressure transducers may be deployed to collect continuous water-level data. On-site wet-season data shall be correlated to the nearest unconfined ~~well(s)~~well or wells with a long-term record (≥ 20 years). The hydrograph shall include; the minimum, 10th, 25th, 50th (e.g., median), 75th and 90th percentiles and maximum water level for the long-term ~~well(s)~~well or wells in conjunction with the on-site water-level data. The peak on-site wet-season water level shall be corrected to the 10th percentile of the long-term record. Water levels ≤ 10 th percentile shall not be corrected.

"Secretary" means the Secretary of the Department of Natural Resources and Environmental Control or ~~his or her~~the Secretary's duly authorized designee.

"Seismic Factor of Safety"~~"Seismic factor of safety"~~ means the factor of safety (safety factor) determined using analysis under earthquake conditions using the peak ground acceleration for seismic event with a 2% probability of exceedance in 50 years, equivalent to a return period of approximately 2,500 years, based on the U.S. Geological Survey (USGS) seismic hazard maps for seismic events with this return period for the region where the coal combustion residual (CCR) surface impoundment is located.

"Setback" means the area between the actual disposal area and the property line which can be used for construction of environmental control systems such as runoff diversion ditches, monitoring wells, or scales; for scrap tire facilities, "setback" means the minimum amount of distance required between the most outer edge of the scrap tire facility and another object, including, but not limited to, a property line, public roads, wells, etc.

~~"Site" means the area of land or water within the property boundaries of a facility where one or more solid waste treatment, resource recovery, recycling, storage, or disposal areas are located.~~

"Sludge" means any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.

~~"Solid Waste"~~**"Solid waste"** means any garbage, refuse, rubbish, sludge from a waste treatment plant, water supply treatment ~~plant~~plant, or air pollution control ~~facility~~facility, and other discarded material, including solid, liquid, semisolid or contained gaseous material resulting from industrial, commercial, ~~mining~~mining, and agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved material in irrigation return flows or industrial discharges which are point sources subject to permits under 7 **Del.C.** Ch. 60, as amended, or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended.

~~"Solid Waste Management"~~**"Solid waste management"** or **"Management"** means the systematic administration of the activities which provide for the collection, source separation, storage, transportation, processing, treatment, or disposal of solid waste.

"Solid Waste Permit" means any permit issued by the Department in accordance with Delaware's Regulations Governing Solid Waste. Types of Solid Waste Permits include, but are not limited to, Sanitary Landfill, Industrial Landfill, Solid Waste Transporter, Resource Recovery, Transfer Station, Scrap Tire, Composting, and Recycling.

~~"Source Separated"~~**"Source separated"** means divided into its separate recyclable components at the point of generation.

~~"Special Solid Wastes"~~**"Special solid wastes"** means those wastes that require extraordinary management. They include but are not limited to: abandoned automobiles, white goods, ~~used tires,~~scrap tires, waste oil, sludges, dead animals, agricultural and industrial wastes, infectious waste, municipal ash, septic tank pumpings, and sewage residues.

"Storage" means the holding of solid waste for a temporary period, at the end of which time the solid waste is treated, disposed of, or stored elsewhere. ~~"Store" means an entity in Delaware, with a business license issued by the Delaware Department of Finance, Division of Revenue, whose business activity includes the category "Retailer" and operates a physical location within Delaware consisting of a single location that has at least 7,000 square feet of retail space or three (3) or more locations each having at least 3,000 square feet of retail space. Stores that carry multiple business activity licenses are bound by this regulation; stores that carry a single business activity license of "Retailer - Restaurant" are exempt from these regulations.~~

"Subbase" means the supporting soil layers beneath a liner.

"Surface impoundment" means a natural topographic depression, and/or man-made excavation, and/or diked area formed primarily of earthen materials (although it may be lined with man-made materials) or remains unlined, and which is designed to hold an accumulation of liquid wastes or wastes containing free liquids.

~~"Surface Water"~~**"Surface water"** means water occurring generally on the surface of the earth.

~~"Thermal Recovery Facility"~~**"Thermal recovery facility"** means a facility designed to thermally break down solid waste and to recover energy from the solid waste.

"Tire" means a covering fitted around the rim of a vehicular wheel to absorb shocks, usually of reinforced rubber or a rubberized compound, and pressurized with air or by a pneumatic inner tube, including, but not limited to, car tires, truck tires, and off-the-road tires, and any substantial portion of ~~such the~~ covering.

"Tire casing" means the supporting structure of the tire consisting of plies anchored to the bead on one side and running in a radius to the other side and anchoring to the bead.

"TMECC" means the "Test Methods for the Examination of Composting and Compost" published by the United States Composting Council and last updated in 2015.

"Topsoil" means the friable dark upper portion of a soil profile that contains mineral substances and organic material in varying degrees of decomposition and is capable of supporting vegetation.

~~"Transfer Station"~~**"Transfer station"** means any facility where quantities of solid waste are delivered by vehicle ~~are and~~ consolidated or aggregated for subsequent ~~transfer by vehicle~~transportation for processing, recycling, or disposal.

"Transportation" means the movement of solid waste by air, rail, water, over the roadway, or on the ground.

"Transporter" means any person engaged in the transportation of solid waste.

"Treatment" means the process of altering the physical, chemical, or biological condition of the solid waste to prevent pollution of water, air, or soil or to render the waste safe for transport, disposal, or reuse.

"TSDRF" means a Treatment, Storage, Disposal, or Recycling Facility.

~~"Unconfined Aquifer"~~**"Unconfined aquifer"** means an aquifer in which the upper surface of the zone of saturation is at atmospheric pressure.

~~"Uppermost Aquifer"~~**"Uppermost aquifer"** means the geologic formation nearest the natural ground surface that is an aquifer, as well as, lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary. Upper limit is measured at a point nearest to the natural ground surface to which the aquifer rises during the wet season.

"USCC" means the United States Composting Council.

"Variance" means a permitted deviation from an established rule or regulation, or plan, or standard or procedure, as provided in 7 **Del.C.** Ch. 60.

"Vector" means a carrier organism that is capable of transmitting a pathogen from ~~one~~1 organism to another.

"Vehicle" means a motorized means of transporting ~~something~~something and includes both the motorized unit and all containerized units of a conveyance attached thereto.

~~"Water Table"~~**"Water table"** means that surface in a groundwater body at which the water pressure is atmospheric. It is defined by the levels at which water stands in wells that penetrate the water body just far enough to hold standing water.

"Well" means any excavation that is drilled, cored, bored, washed, driven, dug, jetted, or otherwise constructed when the intended use of ~~such the~~ excavation is for the location, testing, acquisition or artificial recharge of underground water, and where the depth is greater than the diameter or width.

~~"Working Face"~~**"Working face"** means that portion of a landfill where waste is discharged, spread, and compacted prior to placement of cover.

[8 DE Reg. 354 \(08/01/04\)](#)

[19 DE Reg. 418 \(11/01/15\)](#)

[19 DE Reg. 422 \(11/01/15\)](#)

[20 DE Reg. 296 \(10/01/16\)](#)

[21 DE Reg. 893 \(05/01/18\)](#)

[24 DE Reg. 603 \(12/01/20\)](#)

4.0 Permit Requirements ~~And~~ and Administrative Procedures

4.1 General Provisions

4.1.1 Permit required

4.1.1.1 No person shall engage in the construction, operation, material alteration, or closure of a solid waste facility, unless exempted ~~from these regulations under subsection 2.3,~~under subsection 2.3 of this regulation without first having obtained a permit from the Department.

4.1.1.2 No person that is subject to the requirements of ~~of these regulations~~Section 7.0 of this regulation shall transport solid waste in or through the State of Delaware without first having obtained an appropriate solid waste transporter's permit from the Department.

4.1.1.3 No person that is subject to the requirements of Section 12.0 of ~~these regulations~~this regulation shall construct or operate a scrap tire facility without first having obtained a permit from the Department.

4.1.1.4 Permittees shall abide by the conditions of their permit issued by the Department.

4.1.2 Public notice; hearing

- 4.1.2.1 Within 60 days after receipt of a completed application and all other required information, the Department will give public notice and the opportunity for a public hearing as provided in 7 **Del.C.** Ch. 60. The cost of the advertisement shall be borne by the applicant. A 15 day comment period will follow the publication date of each public notice. If no meritorious adverse public comments are received during this period, and the Secretary does not deem a public hearing to be in the best interest of the State, the Department will enter into the permit approval/denial phase. If a meritorious request for a hearing is received during the comment period, or if the Secretary deems a hearing to be in the best interest of the State, a public hearing will be held as provided in 7 **Del.C.** ~~§6004~~§§6004 and 6006.
- 4.1.3 Approval/denial of a permit
- 4.1.3.1 The Department shall act upon an application for a permit within 60 days after the close of the public notice comment period or upon receipt of the hearing officer's report if a hearing was required. When a final determination is made on an application, the Department shall issue a permit or send a letter of denial to the applicant explaining the reasons for the denial.
- 4.1.3.2 Permits may be modified, denied, terminated, or revoked by the Department for, including but not limited to, the following reasons:
- 4.1.3.2.1 Noncompliance by the permittee with any conditions of the permit, or requirements of ~~these regulations;~~this regulation, including failure to pay annual permit fees;
- 4.1.3.2.2 The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any facts at any time, or failure to comply with the requirements of the application;
- 4.1.3.2.3 A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification, revocation or termination; or
- 4.1.3.2.4 A permit may be terminated at the written request of the permittee for ~~such reasons as, but not limited to:~~reasons that could include: the company is no longer conducting the permitted activity in Delaware, or is no longer in business.
- 4.1.4 Suspension, revocation of a permit
- 4.1.4.1 A permit may be revoked or suspended for violation of any condition of the permit or any requirement of this regulation, after notice and opportunity for hearing in accordance with 7 **Del.C.** Ch. 60.
- 4.1.5 Duration of a permit
- 4.1.5.1 A permit will be issued for a specific duration which will be determined by the Department.
- 4.1.5.14.1.5.2 ~~Solid Waste Permits waste facility operating permits (landfills, resource recovery facilities, transfer stations, incinerators, scrap tire facilities)~~ shall not be issued for periods greater than 10 years.
- 4.1.5.24.1.5.3 Post-closure permits shall be valid and enforceable throughout the entire post-closure period.
- 4.1.6 Permit renewal
- 4.1.6.1 Any person ~~wishing~~seeking to renew an existing permit that is yet to expire shall, not less than 180 days prior to the expiration date of the existing permit, submit to the ~~Department,~~Department a letter of intent and a permit renewal application form with all supporting documentation and appropriate fees as required by ~~these regulations;~~this regulation.
- 4.1.6.2 In the event that the permittee submits a timely application, (not less than 180 days prior to the expiration date of the existing permit) and the Department, through no fault of the permittee, is unable to make a final determination on the application before the expiration date of the existing permit, the Department may, at its discretion, grant an extension of that permit. If the Department issues an extension, all conditions of the permit will remain in effect, for a period of time ~~which will~~to be determined by the Department.
- 4.1.7 Modification of permit
- 4.1.7.1 A permittee may request modifications to a permit. All ~~such~~ requests must be submitted in writing to the Department.
- 4.1.7.2 The Department may initiate modification of a permit if it finds that the existing permit conditions ~~either are not adequate or are~~are either not adequate or not necessary to protect human health and the environment.
- 4.1.7.3 Public notice and opportunity for hearing in accordance with ~~paragraph 4.1.2 of this Section~~subsection 4.1.2 shall be accomplished for all major modifications proposed for the permit. In the event a hearing is requested or deemed necessary by the Secretary, only the permit conditions subject to the modification shall be reopened for public comment.

- 4.1.7.4 Public notice shall not be required for minor modifications to the permit. Minor modifications are those which if granted would not result in any increased impact or risk to the environment or to the public health. Minor modifications include:
- 4.1.7.4.1 Changes in operation or design which do not involve pollution control devices or procedures.
 - 4.1.7.4.2 Improvements to approved pollution control devices or procedures.
 - 4.1.7.4.3 Administrative changes.
 - 4.1.7.4.4 A change in monitoring or reporting frequency.
 - 4.1.7.4.5 The correction of typographical errors.
 - 4.1.7.4.6 Other permit modifications deemed minor by the Department.
- 4.1.8 ~~Transfer of a permit.~~Transfer of a permit
- 4.1.8.1 ~~Until the permit has been transferred in accordance with this section~~Until the permit has been transferred in accordance with this subsection of the ~~regulations.~~regulation, the current permittee shall remain liable for compliance with all ~~solid waste permit~~Solid Waste Permit requirements, including liability for financial assurance, closure, and post-closure care. The following submittals are required in order to complete a permit transfer.
- 4.1.8.14.1.8.2 ~~At least 60 days prior to the proposed transfer, the current permittee shall submit their written request for transfer of the permit. The permittee shall submit the request to the Department and include the following:~~
- 4.1.8.14.1.8.2.1 ~~Written notification of the proposed transfer to include the scope and schedule of the transfer and the company name, address, phone~~Written notification of the proposed transfer to include the scope and schedule of the transfer and the company name, address, telephone number, and point of contact information for the prospective transferee.
 - 4.1.8.14.1.8.2.2 ~~A written agreement between the current permittee and the prospective transferee, signed by both parties and containing a specific date upon which assets transfer will occur. The agreement must reference the specific solid waste permit~~A written agreement between the current permittee and the prospective transferee, signed by both parties and containing a specific date upon which assets transfer will occur. The agreement must reference the specific Solid Waste Permit for which transfer is sought and state both the current permittee's and the prospective transferee's desire for transfer of the permit. The agreement shall acknowledge that the current permittee is responsible for compliance with all permit requirements until the permit has been transferred to the transferee in accordance with the requirements of this ~~section.~~subsection The agreement shall acknowledge that the transferee will not interfere with the current permittee's ability to comply with the ~~solid waste permit~~Solid Waste Permit so long as the current permittee remains responsible for compliance with that permit.
 - 4.1.8.14.1.8.2.3 ~~Demonstration that financial assurance requirements will continue to be met by the current permittee until the permit transfer has been completed, including provisions for providing financial assurance in the event that the solid waste permit~~Demonstration that financial assurance requirements will continue to be met by the current permittee until the permit transfer has been completed, including provisions for providing financial assurance in the event that the Solid Waste Permit cannot be transferred by the time company assets are transferred.
- 4.1.8.24.1.8.3 ~~At least 60 days prior to the proposed transfer, the prospective transferee shall submit a letter of intent to the Department and include the following:~~
- 4.1.8.3.1 ~~An updated Solid Waste Management Facility Application provided by the Department. All information provided by the prospective transferee is certified to be true, accurate, and complete by the prospective transferee's signature on the provided application.~~
 - 4.1.8.24.1.8.3.2 ~~A description of the transferee's training and experience with the permitted activity and a demonstration that the prospective transferee will be able to comply with applicable statutes, regulations, permit conditions and other requirements to which the current permittee is subject.~~
 - 4.1.8.24.1.8.3.3 ~~A written agreement between the current permittee and the prospective transferee, signed by both parties and containing a specific date upon which assets transfer will occur. The agreement must reference the specific solid waste permit~~A written agreement between the current permittee and the prospective transferee, signed by both parties and containing a specific date upon which assets transfer will occur. The agreement must reference the specific Solid Waste Permit for which transfer is sought and state both the current permittee's and the prospective transferee's desire for transfer of the permit. The agreement shall acknowledge that the current permittee is responsible for compliance with all permit requirements until the permit has been transferred to the transferee in accordance with the requirements of this ~~section.~~subsection. The agreement shall acknowledge that the transferee will not interfere with the current permittee's ability to comply with the ~~solid waste permit~~Solid Waste Permit so long as the current permittee remains responsible for compliance with that permit.
 - 4.1.8.24.1.8.3.4 ~~The environmental permit application background statement required by 7 Del.C. Ch. 79.~~
 - 4.1.8.24.1.8.3.5 ~~Demonstration that the prospective transferee has satisfied the financial assurance requirements imposed by these regulations.~~Demonstration that the prospective transferee has satisfied the financial assurance requirements imposed by this regulation. For additional information on financial assurance requirements see ~~subsection 4.1.11 of these regulations.~~subsection 4.1.11.
- 4.1.8.34.1.8.4 ~~In the event that the transfer of the permit can not~~In the event that the transfer of the permit cannot be completed because of either the current permittee's or the prospective transferee's failure to provide the submittals required in

~~subsections 4.1.8.1 and 4.1.8.2 above, the current permittee subsections 4.1.8.2 and 4.1.8.3, the current permittee shall either:~~

- ~~4.1.8.3.14.1.8.4.1~~ Close the facility in accordance with the closure requirements contained in the ~~solid waste facility permit and these regulations,~~Solid Waste Permit and this regulation; or
- ~~4.1.8.3.24.1.8.4.2~~ Continue to maintain control of, and responsibility for the facility in compliance with the conditions of the permit and ~~these regulations,~~this regulation, including, but not limited to, the requirements for financial assurance, operations, recordkeeping, reporting, monitoring, closure, post-closure care, and corrective actions ~~if needed,~~as required by the Department.

4.1.9 Enforcement

- 4.1.9.1 The Department reserves the right to inspect any ~~site,~~property, or any vehicle intended for use in the transportation of solid waste, before issuing a ~~solid waste permit~~Solid Waste Permit for the site or the transporter.
- 4.1.9.2 The Department may, at any reasonable time, enter any ~~permitted solid waste~~ facility or inspect any vehicle being used in the transportation of solid waste in order to verify compliance with the ~~permit and these regulations.~~Solid Waste Permit and this regulation.
- 4.1.9.3 The Department may require ~~such~~ reports, interviews, tests or other information necessary for the evaluation of permit applications and the verification of compliance with the ~~permit and these regulations.~~Solid Waste Permit and this regulation.
- 4.1.9.4 Any person using land, or allowing the use of land, for the storage, processing, or disposal of solid waste who violates a requirement of this regulation shall be subject to the provisions of 7 **Del.C.** Ch. 60, §§6005, 6013, 6018, and 6025(c).

4.1.10 Replacement of Contaminated Water SuppliesSupplies.

If the Department determines, based on information obtained by or submitted to the Department or the Division of Public Health, that any drinking water supply well has become contaminated as a result of the construction or operation of a ~~solid waste~~ facility, the owner or operator of the facility will be required to construct and maintain, at ~~his or her~~the owner or operator's expense, a permanent alternative water supply of comparable quantity and quality to the source before it was contaminated. ~~Such a~~The determination will be subject to the review procedures contained in 7 **Del.C.** Ch. 60.

4.1.11 Financial Assurance Criteria

- 4.1.11.1 Applicability. The requirements of this ~~section~~subsection apply to owners and operators of all solid waste facilities, except owners or operators who are State or Federal Government entities whose debts and liabilities are the debts and liabilities of the State or the United States.
- 4.1.11.2 Financial Assurance for Closure, Post-Closure Care, and Corrective Action
 - 4.1.11.2.1 The owner or operator of a solid waste facility must provide assurance that the financial costs associated with closure, post-closure care, and corrective action can be met throughout the life of the facility until released from these requirements by the Department after demonstrating successful completion of compliance with the requirements for each of these activities.
 - 4.1.11.2.2 Records documenting compliance with the Financial Assurance Criteria of this ~~Part~~Section shall be made available upon the request of the Department.
 - 4.1.11.2.3 The language of the financial assurance mechanisms listed in this ~~section~~subsection must satisfy the following criteria:
 - 4.1.11.2.3.1 They must ensure that the amount of funds assured is sufficient to cover the costs of closure, post-closure care, and corrective action for known releases when needed.
 - 4.1.11.2.3.2 They must ensure that funds will be available in a timely fashion when needed.
 - 4.1.11.2.3.3 They must be obtained by the owner or operator by the effective date of these requirements or prior to the initial receipt of solid waste, whichever is later, in the case of closure and post-closure care, and no later than 120 days after the corrective action remedy has been selected, until the owner or operator is released from the financial assurance requirements.
 - 4.1.11.2.3.4 They must be legally valid, binding, and enforceable under State law.
 - 4.1.11.2.3.5 Upon request by the Department, the applicant or permittee shall provide a ~~third party~~third-party review of the financial assurance documents submitted. The ~~third party~~third-party review must certify to the Department that the financial assurance documents as submitted by the applicant or permittee meet the requirements of ~~subsection 4.1.11.2.2 of these regulations,~~ 4.1.11.2.1 of this regulation, and be sealed and signed by a Certified Public Accountant duly ~~registered~~licensed in Delaware, or other professional acceptable to the Department.

- 4.1.11.2.3.6 The application shall not be deemed complete until and unless the applicant has complied with subsection 4.1.11.2.4 of ~~these regulations as specified above~~ this regulation.
- 4.1.11.2.4 The mechanisms used to demonstrate financial assurance under this ~~section~~ subsection must ensure that the funds necessary to meet the costs of closure, post-closure care, and corrective action for known releases will be available whenever they are needed. Owners or operators must choose from the options specified in subsections 4.1.11.2.4.1 through 4.1.11.2.4.9 of this ~~section~~ regulation and comply with any conditions noted ~~therein~~ in it.
- 4.1.11.2.4.1 Trust Fund
- 4.1.11.2.4.1.1 ~~Condition 1:~~ The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal agency or an agency of the State in which the fund is established.
- 4.1.11.2.4.1.2 ~~Condition 2:~~ The wording of the trust agreement must be identical to the wording specified in ~~Appendix A~~ Appendix A of this regulation, except that instructions in brackets shall be replaced with the relevant information and the brackets deleted. The trust agreement shall be accompanied by a formal certification of acknowledgment.
- 4.1.11.2.4.1.3 ~~Condition 3:~~ The trust fund, when established, shall be funded for the full required amount of coverage, or funded for part of the required amount of coverage and used in combination with other mechanisms that provide the remaining required coverage.
- 4.1.11.2.4.1.4 ~~Condition 4:~~ The owner or operator shall submit the receipt from the trustee for the initial payment into the trust fund as well as the originally signed duplicate of the trust agreement for Department approval prior to receiving solid waste, or in the case of an existing facility, prior to the cancellation of the existing financial assurance mechanism.
- 4.1.11.2.4.1.5 ~~Condition 5:~~ Pay-in periods and amounts for all solid waste facilities shall be in accordance with those specified in 40 CFR ~~Part 258.74~~ §258.74, subsections (a)(2), (a)(3), (a)(4), and (a)(6) or otherwise acceptable to the Department. Amounts for scrap tire facilities shall be in accordance with those specified in Section 12.0 of ~~these regulations~~ this regulation.
- 4.1.11.2.4.1.6 ~~Condition 6:~~ Schedule A, attached to the trust agreement, shall list the facility name and address and the current cost estimate. Schedule A must relate the trust agreement to the specific facility and ~~obligation(s)~~ obligation or obligations being assured and shall be updated at least annually to account for inflation or other increases to the cost estimate. Costs reflected in Schedule A shall not be reduced without the written consent of the Department.
- 4.1.11.2.4.1.7 ~~Condition 7:~~ Schedule B, attached to the trust agreement, shall list the property or money that the fund consists of initially. Property must consist of cash or securities acceptable to the trustee. Other property (e.g., real estate) is not an acceptable payment into the trust fund.
- 4.1.11.2.4.1.8 ~~Condition 8:~~ Exhibit A, attached to the trust agreement, shall list the persons designated by the Grantor to sign orders, requests, and instructions to the trustee.
- 4.1.11.2.4.1.9 ~~Condition 9:~~ Annually, the trustee shall furnish to the Department and to the owner or operator, a statement confirming the value of the trust fund. Any securities in the trust fund shall be valued at market value as of no more than 60 days prior to the date the statement is submitted to the Department. If possible, the statement should be submitted during the month that Schedule A is adjusted annually.
- 4.1.11.2.4.1.10 ~~Condition 10:~~ The trustee shall make payments from the fund only as the Department directs to provide for the payment for the costs of corrective action, closure, and/or post-closure care.
- 4.1.11.2.4.1.11 ~~Condition 11:~~ After beginning closure, post-closure care, or corrective action, an owner or operator or other person authorized in accordance with ~~Condition 7~~ subsection 4.1.11.2.4.1.7 may request reimbursements for partial expenditures by submitting itemized bills to the Secretary. The owner or operator may request reimbursements for partial closure, post-closure care, or corrective action only if sufficient funds are remaining in the trust fund to cover the maximum costs of completing the activities for which the trust agreement was established. Within 60 days ~~after~~ of receiving bills for reimbursable closure, post-closure care, or

corrective action activities, the Secretary will instruct the trustee to make reimbursements in those amounts as the Secretary specifies in writing. Reimbursements will be allowed only if the Secretary determines that the partial or final expenditures are in accordance with the approved closure, post-closure care, or corrective action plan or are otherwise justified. If the Secretary has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the value of the trust fund, ~~he/she~~the Secretary may withhold reimbursements of such amounts as ~~he/she~~the Secretary deems prudent. If the Secretary does not instruct the trustee to make such reimbursements, ~~he/she~~the Secretary will provide the owner or operator with a detailed written statement of reasons.

~~4.1.11.2.4.1.12~~ ~~Condition 12:~~ The trust agreement may be amended by an instrument in writing executed by the grantor, the trustee, and the Department, or by the trustee and the Department if the grantor ceases to exist.

~~4.1.11.2.4.1.13~~ ~~Condition 13:~~ Subject to ~~Condition 11,~~subsection 4.1.11.2.4.1.11, the trust agreement shall be irrevocable and shall continue until terminated at the written agreement of the grantor, the trustee, and the Department, or by the trustee and the Department if the grantor ceases to exist.

4.1.11.2.4.2 Surety Bond

~~4.1.11.2.4.2.1~~ ~~Condition 1:~~ At a minimum, the surety company issuing the bond must be listed in Circular 570 of the U.S. Department of Treasury as qualified in the state where the bond was executed.

~~4.1.11.2.4.2.2~~ ~~Condition 2:~~ The surety's underwriting limit must be at least as great as the amount of the surety bond.

~~4.1.11.2.4.2.3~~ ~~Condition 3:~~ The wording of the surety bond must be identical to the wording specified in Appendix B of this regulation, except that instructions in brackets shall be replaced with the relevant information and the brackets deleted.

~~4.1.11.2.4.2.4~~ ~~Condition 4:~~ The owner or operator must establish a standby trust fund~~, agreement,~~ and the standby trust fund ~~agreement~~ must meet the requirements of ~~these regulations~~this regulation except that initial and annual payments are not required. Updates of Schedule A, and annual valuation reporting will not be required until payment is made into the trust fund ~~agreement~~. Payments made under the terms of the surety bond shall be deposited by the issuing institution directly into the standby trust fund.

~~4.1.11.2.4.2.5~~ ~~Condition 5:~~ The wording of the standby trust fund ~~agreement~~ must be identical to the wording specified in Appendix G of this regulation except that instructions in brackets shall be replaced with the relevant information and the brackets deleted.

~~4.1.11.2.4.2.6~~ ~~Condition 6:~~ The owner or operator shall submit the bond and standby trust fund ~~agreement~~ for Department approval prior to receiving solid waste, or in the case of an existing facility, prior to the cancellation of the existing financial assurance mechanism.

~~4.1.11.2.4.2.7~~ ~~Condition 7:~~ Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation to the Secretary of the Department, to the Solid and Hazardous Waste Management Division of Waste and Hazardous Substances' Compliance and Permitting Section, and to the owner and operator at least 120 days in advance of cancellation. If the Surety cancels the bond, the owner or operator must obtain alternate financial assurance. The Department may draw on the surety bond if the owner or operator has not provided alternative financial assurance within 90 days after receipt by the Solid Waste Management Division of Waste and Hazardous Substances' Compliance and Permitting Section of a notice of cancellation from the surety.

~~4.1.11.2.4.2.8~~ ~~Condition 8:~~ The owner or operator may cancel the surety bond if the Department provides its written consent to do so. The Department will provide such written consent when the owner substitutes alternate financial assurance as specified in ~~these regulations~~this regulation or the bonded activity has been completed in accordance with ~~these regulations~~this regulation.

~~4.1.11.2.4.2.9~~ ~~Condition 9:~~ The surety shall become liable on the bond when the owner or operator has failed to fulfill the closure, post-closure ~~care~~care, or corrective action activities as required. Upon notification by the Department that the owner or operator has failed to perform closure or post-closure care guaranteed by a

payment bond, the surety shall place funds in the amount guaranteed for the facility into the standby trust fund. Upon notification that the owner or operator has failed to perform closure, post-closure care, or corrective action as guaranteed by a performance bond, the surety shall either perform the activities guaranteed by the bond or place funds in the amount guaranteed for the facility into the standby trust fund.

4.1.11.2.4.3 Letter of Credit

4.1.11.2.4.3.1 ~~Condition 1:~~ The issuing financial institution must 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.

4.1.11.2.4.3.2 ~~Condition 2:~~ The wording of the letter of credit must be identical to the wording specified in ~~Appendix C,~~Appendix C of this regulation, except that instructions in brackets shall be replaced with the relevant information and the brackets deleted.

4.1.11.2.4.3.3 ~~Condition 3:~~ The owner or operator shall also submit an accompanying letter referring to the letter of credit by number and listing the following information: complete name and address of facility, issuing institution and date, and amount and purpose of funds assured.

4.1.11.2.4.3.4 ~~Condition 4:~~ The owner or operator must establish a standby trust fund ~~agreement,~~ and the standby trust fund ~~agreement~~ must meet the requirements of ~~these regulations~~this regulation except that initial and annual payments are not required. Updates of Schedule A, and annual valuation reporting will not be required until payment is made into the trust fund. Payments made under the terms of the ~~surety bond~~letter of credit shall be deposited by the issuing institution directly into the standby trust fund.

4.1.11.2.4.3.5 ~~Condition 5:~~ The wording of the standby trust fund ~~agreement~~ must be identical to the wording specified in ~~Appendix G,~~Appendix G of this regulation, except that instructions in brackets shall be replaced with the relevant information and the brackets deleted.

4.1.11.2.4.3.6 ~~Condition 6:~~ The owner or operator shall submit the letter of credit, standby trust agreement and accompanying letter for Department approval prior to receiving solid waste, or in the case of an existing facility, prior to the cancellation of the existing financial assurance mechanism.

4.1.11.2.4.3.7 ~~Condition 7:~~ The letter of credit must be irrevocable and issued for a period of at least ~~one~~1 year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least ~~one~~1 year unless, at least 120 days before the current expiration date, the issuing institution notifies the Secretary of the Department, the ~~Solid and Hazardous Waste Management~~Division of Waste and Hazardous Substances' Compliance and Permitting Section, and the owner or operator of a decision not to extend the expiration date.

4.1.11.2.4.3.8 ~~Condition 8:~~ Once the issuing financial institution notifies the ~~Solid and Hazardous Waste Management~~Division of Waste and Hazardous Substances' Compliance and Permitting Section of its intent not to extend the Letter of Credit, the owner or operator must, within 90 days, provide alternate financial assurance. The Department may draw on the letter of credit if the owner or operator has not provided alternative financial assurance within 90 days.

4.1.11.2.4.3.9 ~~Condition 9:~~ Following a determination by the Secretary of the Department that the owner or operator has failed to perform closure, post-closure care, or corrective action when required to do so, the Department may draw on the letter of credit.

4.1.11.2.4.4 Insurance

4.1.11.2.4.4.1 ~~Condition 1:~~ The insurer must be licensed to transact the business of insurance in ~~one~~1 or more states or be eligible to provide insurance as an excess or surplus lines insurer in ~~one~~1 or more states.

4.1.11.2.4.4.2 ~~Condition 2:~~ Captive insurance companies and risk retention groups ~~can~~cannot be used to satisfy the requirements of this ~~section.~~subsection.

4.1.11.2.4.4.3 ~~Condition 3:~~ Insurance is not an allowable mechanism for demonstrating financial responsibility for corrective action.

4.1.11.2.4.4.4 ~~Condition 4:~~ The owner or operator shall submit a certificate of insurance utilizing ~~a~~the form provided by the Department, ~~as found in Appendix D of these~~

- ~~Regulations, this regulation,~~ worded exactly as shown, except that instructions in brackets shall be replaced with the relevant information and the brackets deleted.
- ~~4.1.11.2.4.4.5 Condition 5:~~ Prior to requesting reimbursement from the insurer, owners or operators shall submit justification and documentation of the reimbursable expenses to the Department for its consent.
- ~~4.1.11.2.4.4.6 Condition 6:~~ A copy of the policy shall be submitted to the Department for its approval prior to receiving solid waste, or in the case of an existing facility, prior to the cancellation of the existing financial assurance mechanism.
- 4.1.11.2.4.5 Local Government Financial Test and ~~Guarantee~~ Guarantee.
- ~~4.1.11.2.4.5.1 Condition 1:~~ Financial tests and guarantees shall not be used for assuring funds for post-closure periods or corrective action.
- ~~4.1.11.2.4.5.2 Condition 2:~~ The Owner or Operator shall submit a guarantee agreement, utilizing a form provided by the Department, as found in Appendix E of these ~~Regulations,~~ agreement utilizing the form provided in Appendix E of this regulation, except that ~~instruction-~~ instructions in brackets are to be replaced with relevant information and the brackets deleted.
- ~~4.1.11.2.4.5.3 Condition 3:~~ A local government is not eligible to assure its obligations by this mechanism if it:
- a) ~~4.1.11.2.4.5.3.1~~ Is currently in default of any outstanding general obligation bonds; or
 - b) ~~has~~ Has any general obligation bonds rated lower than Baa as issued by Moody's or BBB as issued by Standard and Poor's; or
 - c) ~~operated~~ Operated at a deficit equal to ~~five percent~~ 5% or more of total annual revenue in each of the past ~~two~~ 2 fiscal years; or
 - d) ~~received~~ Received an adverse opinion, disclaimer of opinion, or other qualified opinion from the independent certified public accountant (or appropriate state agency) auditing its financial statement, and the Department deems the reason for the qualification as significant.
- ~~4.1.11.2.4.5.4 Condition 4:~~ The local government must meet ~~one~~ 1 of the following ~~two~~ 2 financial tests: a) If the local government has outstanding, rated, general obligation bonds that are not secured by insurance, a letter of credit, or other collateral or guarantee, it must have a current rating of Aaa, Aa, A, or Baa, as issued by Moody's, or AAA, AA, A, or BBB as issued by Standard and Poor's on all ~~such~~ general obligation bonds; or b) Based upon the most recently audited annual financial statement, a ratio of cash plus marketable securities to total expenditures greater than or equal to 0.05, and a ratio of annual debt service to total expenditures less than or equal to 0.20.
- ~~4.1.11.2.4.5.5 Condition 5:~~ The total costs being assured through a financial test must not exceed ~~43 percent~~ 43% of the local government's total annual revenue. If the local government assures other environmental obligations through financial tests; including those associated with UIC facilities under 40 CFR 144.62, §144.62 underground storage tank facilities under 40 CFR Part 280, PCB storage facilities under 40 CFR Part 761, and hazardous waste treatment, storage, and disposal facilities under 40 CFR Parts 264 and 265; it must add those costs to the closure costs it seeks to assure under this mechanism.
- ~~4.1.11.2.4.5.6 Condition 6:~~ The local government shall place a reference to the closure costs assured through the financial test into its next comprehensive annual financial report (CAFR).
- ~~4.1.11.2.4.5.7 Condition 7:~~ A Certified Public Accountant's opinion of the local government's financial statements for the most recent fiscal year must also be included in the initial financial assurance package and annually no later than 90 days after the close of the local government's fiscal year. The opinion must be unqualified and demonstrate that the local government has prepared its financial statements in accordance with the requirements of the General Accounting Standards Board Statement 18.
- ~~4.1.11.2.4.5.8 Condition 8:~~ The Chief Financial Officer must include a letter demonstrating that the local government has complied with ~~Conditions 3, 4, 5, and 6,~~ subsections 4.1.11.2.4.5.3 through 4.1.11.2.4.5.6. The CFO letter shall be submitted to the Department as part of the initial financial assurance package and annually no later than 90 days after the close of the local government's fiscal year.

- ~~4.1.11.2.4.5.9 Condition 9:~~ If, at the end of any fiscal year, the local government fails to meet the financial test criteria required by ~~conditions 3, 4, or 5, subsections 4.1.11.2.4.5.3 through 4.1.11.2.4.5.5,~~ then the local government shall send, within 90 days, by certified mail, ~~mail or nationally recognized overnight courier service,~~ notice to the Secretary of the Department and to the ~~Solid and Hazardous Waste Management Division of Waste and Hazardous Substances' Compliance and Permitting Section,~~ that they intend to provide alternate financial assurance as required by ~~these regulations.~~ this regulation. The local government shall, within 210 days following the close of the fiscal year, obtain alternative financial assurance that meets the requirements of ~~these regulations.~~ this regulation.
- ~~4.1.11.2.4.5.10 Condition 10:~~ The guarantee, approved by the Department, must be effective prior to the initial receipt of waste or in the case of an existing facility, prior to the cancellation of the existing financial assurance mechanism.
- ~~4.1.11.2.4.5.11 Condition 11:~~ The guarantee shall remain in force unless the local government sends notice of cancellation by certified mail or nationally recognized overnight courier service to the Secretary of the Department and to the ~~Solid and Hazardous Waste Management Division of Waste and Hazardous Substances' Compliance and Permitting Section.~~ Such notice ~~Notice~~ shall be given at least 120 days in advance of the cancellation. Within 90 days of receipt of this notice of cancellation by the ~~Solid and Hazardous Waste Management Division of Waste and Hazardous Substances' Compliance and Permitting Section,~~ the local government shall provide alternative financial assurance acceptable to the Department.
- 4.1.11.2.4.6 Corporate Financial Test and Guarantee
- ~~4.1.11.2.4.6.1 Condition 1:~~ Financial tests and guarantees shall not be used for assuring funds for post-closure periods or corrective actions.
- ~~4.1.11.2.4.6.2 Condition 2:~~ The owner or operator shall submit a guarantee agreement, utilizing ~~a the form provided by the Department, as found in Appendix F of these Regulations,~~ this regulation, except that ~~instruction instructions~~ in brackets are to be replaced with relevant information and the brackets deleted.
- ~~4.1.11.2.4.6.3 Condition 3:~~ A resolution agreeing to the terms and conditions of the guarantee and signed by the guarantor's board of directors shall be attached to the guarantee.
- ~~4.1.11.2.4.6.4 Condition 4:~~ The guarantor must be the direct or higher tier parent company of the owner or operator, or a firm whose parent corporation is also the parent corporation of the owner or operator.
- ~~4.1.11.2.4.6.5 Condition 5:~~ The guarantor must have a tangible net worth equal to the sum of the costs they seek to assure through a financial test, plus \$10 million. The costs that the guarantor seeks to assure are equal to the current cost estimates for closure, post-closure care, corrective action, and any other environmental obligation assured by a financial test ~~and/or corporate guarantee or corporate guarantee, or both~~ by the guarantor (including other landfills or solid waste facilities; PCB storage facilities; underground storage tanks; hazardous waste treatment, storage, disposal facilities; or underground injection control program facilities).
- ~~4.1.11.2.4.6.6 Condition 6:~~ Guarantors must meet ~~one 1~~ of the following ~~three 3~~ financial tests:
- ~~4.1.11.2.4.6.6.1 a)~~ A most recent bond rating no lower than Baa as issued by Moody's or BBB as issued by Standard and Poor's.
- ~~4.1.11.2.4.6.6.2 b)~~ A leverage ratio of less than 1.5 based on the ratio of total liabilities to tangible net worth.
- ~~4.1.11.2.4.6.6.3 c)~~ A profitability ratio of greater than 0.10 based on the sum of the net income plus depreciation, depletion and amortization, minus \$10 million, to total liabilities.
- ~~4.1.11.2.4.6.7 Condition 7:~~ Guarantors must have assets in the United States at least equal to the costs they seek to assure through a financial test (costs include those reported for Condition 5).
- ~~4.1.11.2.4.6.8 Condition 8:~~ The Chief Financial Officer must include a letter demonstrating that the guarantor has complied with ~~Conditions 4, 5, 6, and 7, subsections 4.1.11.2.4.6.4 through 4.1.11.2.4.6.7.~~ The CFO letter shall be submitted to the

Department as part of the initial financial assurance package and annually no later than 90 days after the close of the guarantor's fiscal year.

4.1.11.2.4.6.9 ~~Condition 9:~~ A Certified Public Accountant's opinion of the guarantor's financial statements for the most recent fiscal year must also be included in the initial financial assurance package and annually no later than 90 days after the close of the guarantor's fiscal year. The opinion must be unqualified (not modified by conditions or reservations) and demonstrate that the firm has prepared its financial statements in accordance with generally accepted accounting principles for corporations.

4.1.11.2.4.6.10 ~~Condition 10:~~ In the event that the CFO does not use financial test figures directly from the annual statements provided to the Securities and Exchange Commission, then a special report from an independent accountant shall be required. In the report, the Certified Public Accountant must confirm that the data used in the CFO letter was appropriately derived from the audited, year-end financial statements.

4.1.11.2.4.6.11 ~~Condition 11:~~ The guarantor shall notify the Secretary of the Department and the ~~Solid and Hazardous Waste Management~~ Division of Waste and Hazardous Substances' Compliance and Permitting Section by certified mail or nationally recognized overnight courier service of the commencement of a voluntary or involuntary proceeding under Title 11 Bankruptcy, USC, naming the guarantor, owner or operator of the facility as debtor, within 10 days after commencement of the proceeding.

4.1.11.2.4.6.12 ~~Condition 12:~~ If, at the end of any fiscal year, the guarantor fails to meet the financial test criteria required by ~~conditions 5, 6, or 7, subsections 4.1.11.2.4.6.5 through 4.1.11.2.4.6.7,~~ then the guarantor shall send, within 90 days, by certified mail, mail or nationally recognized overnight courier service, notice to the Secretary of the Department, to the ~~Solid and Hazardous Waste Management~~ Division of Waste and Hazardous Substances' Compliance and Permitting Section, and to the owner or operator, that guarantor intends to provide alternate financial assurance as required by ~~these regulations.~~ this regulation. Within 120 days of ~~such~~ the fiscal year, the guarantor shall establish ~~such~~ the financial assurance unless the owner or operator has done so.

4.1.11.2.4.6.13 ~~Condition 13:~~ Within 30 days of being notified by the Department that a determination has been made that the guarantor no longer meets the requirements stated in ~~Conditions 5, 6, or 7, subsections 4.1.11.2.4.6.5 through 4.1.11.2.4.6.7,~~ the guarantor shall establish alternate financial assurance in accordance with ~~these regulations.~~ this regulation.

4.1.11.2.4.6.14 ~~Condition 14:~~ The guarantee, approved by the Department, must be effective prior to the initial receipt of waste or in the case of an existing facility, prior to the cancellation of the existing financial assurance mechanism.

4.1.11.2.4.7 Department-Approved Mechanism.

4.1.11.2.4.8 State Assumption of Responsibility.

4.1.11.2.4.9 Use of Multiple Financial Mechanisms (any combination of the options listed above).

4.1.11.3 Cost Estimate for Closure

4.1.11.3.1 The owner or operator must submit to the Department a detailed written estimate, in current dollars, of the cost of closing the facility that is consistent with the closure plan developed in accordance with the closure requirements for that type of facility. The estimate must equal the maximum cost of closure at any time during the active life of the facility. The owner or operator shall also notify the Secretary in writing that the estimate has been placed in the facility records to be maintained at the facility. ~~maintained.~~

4.1.11.3.2 Until final closure of the facility, the owner or operator must annually adjust the closure cost estimate for inflation, facility expansions, and any other applicable requirements which impact the cost of closure.

4.1.11.3.3 The owner or operator must increase the cost estimate and the amount of financial assurance provided for closure if changes to the closure plan or facility conditions increase the maximum cost of closure at any time during the remaining active life.

4.1.11.3.4 The Department may approve reduction in the amount of financial assurance provided for closure if the latest cost estimate is significantly less than the maximum cost of the current closure plan. The owner or operator must submit to the Secretary in writing the justification for the reduction of the closure cost estimate and the amount of financial assurance. Any

changes in the amount of financial assurance must also be placed in the facility records to be ~~maintained at the facility.~~maintained.

4.1.11.4 Cost Estimate for Post-Closure Care

4.1.11.4.1 The owner or operator of a solid waste facility for which post-closure care is required must demonstrate financial assurance for the cost of ~~thirty (30)~~30 years of post-closure care. The owner or operator must submit to the Department a detailed written estimate, in current dollars, of the cost of hiring a third party to conduct post-closure care for the solid waste facility in compliance with the post-closure plan. This estimate must be based on the most expensive costs of post-closure care during the post-closure care period. The owner or operator must also notify the Department in writing that the estimate has been placed in the facility records to be ~~maintained at the facility.~~maintained.

4.1.11.4.2 During the active life of the solid waste facility and during the post-closure care period, the owner or operator must annually adjust the post-closure cost estimate for inflation and any other applicable factors.

4.1.11.4.3 The owner or operator must increase the post-closure care cost estimate and the amount of financial assurance provided if changes in the post-closure plan or solid waste facility conditions increase the maximum costs of post-closure care.

4.1.11.4.4 The Secretary may approve the reduction of the post-closure cost estimate and the amount of financial assurance provided if the latest cost estimate is significantly less than the maximum costs of post-closure care remaining over the post-closure care period. The owner or operator must submit to the Secretary in writing the justification for the reduction of the post-closure cost estimate. Any changes in the amount of financial assurance must also be placed in the facility records to be ~~maintained at the facility.~~maintained.

4.1.11.5 Cost Estimate for Corrective Action

4.1.11.5.1 An owner or operator of a solid waste facility required to undertake a corrective action program must submit to the Secretary in writing a detailed written estimate, in current dollars, of the cost of hiring a third party to perform the corrective action. The corrective action cost estimate must account for the total costs of corrective action activities as described in the corrective action plan for the entire corrective action period. The owner or operator must also notify the Secretary that the cost estimate has been placed in the facility records to be ~~maintained at the facility.~~maintained.

4.1.11.5.2 The owner or operator must annually adjust the estimate for inflation and any other applicable factors until the corrective action program is completed.

4.1.11.5.3 The owner or operator must increase the corrective action cost estimate and the amount of financial assurance provided if changes in the corrective action program or facility conditions increase the maximum costs of corrective action.

4.1.11.5.4 The Secretary may approve reduction of the amount of the corrective action cost estimate and the amount of financial assurance provided if the cost estimate exceeds the maximum remaining costs of corrective action. The owner or operator must submit to the Secretary in writing the justification for the reduction of the corrective action cost estimate. The owner or operator must also notify the Secretary in writing that the amended amount of financial assurance has been placed in the facility records to be ~~maintained at the facility.~~maintained.

4.2 Application Procedures ~~For~~ for Sanitary ~~And~~ and Industrial Landfills

4.2.1 Unless otherwise specified within ~~these regulations,~~this regulation, the following application procedures apply to all submissions received after ~~May 22, 2018.~~ **[INSERT DATE 21 DAYS AFTER PUBLICATION AS FINAL IN STATE REGISTER]**. The Department may, at its discretion, ~~afford permit applications under review prior to~~ **[INSERT DATE 21 DAYS AFTER PUBLICATION AS FINAL IN STATE REGISTER]** ~~the ability to continue the submission process under regulations in place at the time of the initial submission.~~

4.2.1—Application

~~Any person desiring to construct or operate a sanitary or industrial landfill or cell must submit a letter of intent to the Department. The letter should indicate the projected design and usage of the proposed facility. The letter of intent shall be followed by the submission, by the applicant, of the following additional information:~~

4.2.1.1—~~A Solid Waste Management Facility Application, provided by the Department. All information provided by the applicant is certified to be true, accurate, and complete by the applicant's signature on the provided application.~~

4.2.1.2—~~Proof of ownership of the property. If the applicant does not own the property, a copy of the lease agreement and the owner's permission to conduct the proposed activity on the property must also be submitted.~~

- ~~4.2.1.3 — A plan of operation. This report shall be prepared under the direction of and signed by a Professional Engineer or Professional Geologist registered in Delaware or other Department-approved person and shall include the following:~~
- ~~4.2.1.3.1 — A narrative description of the type of facility and of the solid waste handling and disposal procedures to be used;~~
 - ~~4.2.1.3.2 — A narrative explaining the methods and schedule for operation, modification, use, and maintenance of the various components of the facility;~~
 - ~~4.2.1.3.3 — A description of the proposed monitoring methods;~~
 - ~~4.2.1.3.4 — A description of the proposed methods for controlling noise, litter, odors, dust, insects, and rodents; and~~
 - ~~4.2.1.3.5 — A contingency plan to be implemented in case of emergency (e.g., a fire, explosion, or spill that threatens public health and safety or the environment).~~
- ~~4.2.1.4 — An engineering report. This report shall be prepared and signed by a Professional Engineer registered in Delaware and shall include the following:~~
- ~~4.2.1.4.1 — Descriptions and specifications of all proposed design features;~~
 - ~~4.2.1.4.2 — A description of the proposed installation methods and procedures;~~
 - ~~4.2.1.4.3 — A schedule of events for construction of the facility;~~
 - ~~4.2.1.4.4 — Proposed design capacity in both tons and cubic yards per day, and projected life expectancy of the facility; and~~
 - ~~4.2.1.4.5 — A construction quality assurance plan.~~
- ~~4.2.1.5 — A hydrogeological assessment. A hydrogeological investigation must be performed at the proposed site and approved by the Department before a construction permit will be issued. This investigation and report shall be prepared and signed by a Professional Geologist registered in Delaware. This investigation shall include a series of test borings and wells, constructed to a depth and in a number sufficient to identify:~~
- ~~4.2.1.5.1 — The occurrence and characteristics of the unconfined and first confined aquifers;~~
 - ~~4.2.1.5.2 — Groundwater flow directions;~~
 - ~~4.2.1.5.3 — Background groundwater quality using a minimum of eight (8) independent samples for each background and downgradient well;~~
 - ~~4.2.1.5.4 — Potential pathways of contaminants to points of groundwater discharge;~~
 - ~~4.2.1.5.5 — Approximate groundwater flow rates and travel times from the facility to points of discharge (including wells and/or surface water); and~~
 - ~~4.2.1.5.6 — A delineation of the anticipated maximum elevation of the seasonal high water table.~~
- ~~4.2.1.6 — An environmental assessment shall be performed to provide a detailed analysis of the potential impact of the proposed facility on the environment. This assessment shall be prepared under the direction of and signed by a Professional Engineer registered in Delaware. Factors to be considered include:~~

- ~~• Air quality.~~
- ~~• Water quality.~~
- ~~• Stream flow.~~
- ~~• Fish and wildlife.~~
- ~~• Plants.~~
- ~~• Threatened or endangered species.~~
- ~~• Water uses.~~
- ~~• Land use.~~
- ~~• Aesthetics.~~
- ~~• Traffic.~~
- ~~• Public health and safety.~~
- ~~• Cultural, recreational, and natural areas.~~
- ~~• Historic sites.~~
- ~~• Social and economic factors.~~
- ~~• Soil Quality.~~

~~If the applicant or the Department determines that the proposed facility may cause a threat to human health or the environment, the applicant must provide a written explanation of how he or she plans to mitigate the potential harm.~~

- ~~4.2.1.7 — Topographical and site location maps. This shall include a topographical map or series of maps on a scale satisfactory to the Department but in no case less than one inch equal to 400 feet, showing topographic elevations surveyed with reference to mean sea level, and any necessary narrative descriptions, including but not limited to the following:~~

- ~~4.2.1.7.1 The legal boundaries of the property as determined by a survey performed by a registered surveyor; the names of the present owners of the proposed site and of all adjacent lands; and a description of all title, deed, or usage restrictions affecting the proposed permit area.~~
- ~~4.2.1.7.2 The boundaries of the facility over the estimated total life of the proposed operation, including the boundaries of land that will be affected in each sequence of disposal activity.~~
- ~~4.2.1.7.3 The boundaries of land where solid waste will be stored at any time over the estimated total life of the proposed operation.~~
- ~~4.2.1.7.4 The locations and names of all water supply wells or surface water intakes within 1/4 mile of the disposal site boundaries.~~
- ~~4.2.1.8 Proof that all applicable zoning approvals and all appropriate federal, state, and local environmental permits have been obtained.~~
- ~~4.2.1.9 Closure plan as described in subsection 5.10.3 or 6.10.3, as appropriate.~~
- ~~4.2.1.10 Proof of financial responsibility for closure and post-closure care, as described in subsection 4.1.11.~~
- ~~4.2.1.11 Proof that the facility meets the siting criteria required by subsection 5.1 or 6.1.~~
- ~~4.2.1.12 A Stormwater Plan (SWP) (aka Stormwater Pollution and Prevention Plan (SWPPP)). The SWP/SWPPP shall describe stormwater management controls and practices in place or planned for the facility and shall identify potential sources of pollutants which may reasonably be expected to affect the quality of stormwater discharges from landfill operations and site maintenance. The SWP/SWPPP need not address construction activities regulated by a Sediment and Stormwater Plan Approval issued by the Department. SWP/SWPPP plans created under regulations other than DRGSW can be substituted for this requirement provided the plan meets the minimum requirements specified in subsection 5.6 or 6.6.~~
- ~~4.2.1.13 Any other related reports, data, maps, or information that the Department requires.~~
- 4.2.2 Application. Any person seeking to construct or operate a sanitary or industrial landfill or cell must submit a letter of intent to the Department and include the following additional information:
 - 4.2.2.1 A cover letter summarizing the application package.
 - 4.2.2.2 A Solid Waste Management Facility Application and checklist, provided by the Department. All information provided by the applicant is certified to be true, accurate, and complete by the applicant's signature on the provided application.
 - 4.2.2.3 Proof of ownership of the property. If the applicant does not own the property, a copy of the lease agreement and the owner's permission to conduct the proposed activity on the property must also be submitted.
 - 4.2.2.4 A Plan of Operation. The applicant shall submit a Plan of Operation in a format that includes a dated title page (title, name/location of facility, author, permittee name), a table of contents, numbered pages, labeled chapters and subsections, and numbered paragraphs. This plan shall be prepared under the direction of, and signed by, a Professional Engineer or Professional Geologist licensed in Delaware or other Department-approved person and shall include the following:
 - 4.2.2.4.1 A narrative description of the type of facility and of the solid waste handling and disposal procedures to be used;
 - 4.2.2.4.2 A narrative explaining the methods and schedule for operation, modification, use, and maintenance of the various components of the facility;
 - 4.2.2.4.3 A description of the proposed monitoring methods;
 - 4.2.2.4.4 A description of the proposed methods for controlling noise, litter, odors, insects, rodents, dust, and leachate;
 - 4.2.2.4.5 A contingency plan to be implemented in case of emergency (e.g., a fire, explosion, or spill that threatens public health and safety or the environment); and
 - 4.2.2.4.6 A description of the personnel training program, including training that will be provided to ensure compliance with subsections 5.9.2.9 and 5.9.2.11 or 6.9.2.6 and 6.9.2.8 of this regulation.
 - 4.2.2.5 An engineering report. This report shall be prepared and signed by a Professional Engineer licensed in Delaware and shall include the following:
 - 4.2.2.5.1 Descriptions, drawings, and specifications of all proposed design features;
 - 4.2.2.5.2 A description of the proposed installation methods and procedures;
 - 4.2.2.5.3 A schedule of events for construction of the facility;
 - 4.2.2.5.4 Proposed design capacity in both tons and cubic yards per day, and projected life expectancy of the facility; and
 - 4.2.2.5.5 A plan for third party quality assurance for the construction and installation of components of the facility that will be used in the processing, handling, and/or monitoring of solid waste.

- 4.2.2.6 A hydrogeological assessment. A hydrogeological investigation must be performed for the property of the proposed facility, and approved by the Department, before a construction permit will be issued. This investigation and report shall be prepared and signed by a Professional Geologist licensed in Delaware. This investigation shall include a series of test borings and wells, constructed to a depth and in a number sufficient to identify:
- 4.2.2.6.1 The occurrence and characteristics of the unconfined and first confined aquifers;
 - 4.2.2.6.2 Groundwater flow directions;
 - 4.2.2.6.3 Background groundwater quality, using a minimum of 8 independent samples for each background and downgradient well;
 - 4.2.2.6.4 Potential pathways of contaminants to points of groundwater discharge;
 - 4.2.2.6.5 Approximate groundwater flow rates and travel times from the facility to points of discharge (including any wells, surface water, or both); and
 - 4.2.2.6.6 A delineation of the anticipated maximum elevation of the seasonal high-water table.
- 4.2.2.7 An environmental assessment shall be performed to provide a detailed analysis of the potential impact of the proposed facility on the environment. If the applicant or the Department determines that the proposed facility may cause a threat to human health or the environment, the applicant must provide a written explanation of how they plan to mitigate the potential harm. This assessment shall be prepared under the direction of, and signed by, a Professional Engineer licensed in Delaware. Factors to be considered include, but are not limited to:
- Aesthetics.
 - Air quality.
 - Cultural, recreational, and natural areas.
 - Fish and wildlife.
 - Historic sites.
 - Land use.
 - Plants.
 - Public health and safety.
 - Social and economic factors.
 - Soil Quality.
 - Stream flow.
 - Threatened or endangered species.
 - Traffic.
 - Water quality.
 - Water uses.
- 4.2.2.8 Topographical and facility location maps. This shall include a topographical map or series of maps on a scale satisfactory to the Department but in no case less than 1 inch equal to 400 feet, showing topographic elevations surveyed with reference to the Delaware State Plane Coordinate System, and any necessary narrative descriptions, including, but not limited to, the following:
- 4.2.2.8.1 The legal boundaries of the property as determined by a survey performed by a surveyor licensed in Delaware; the names of the present owners of the proposed facility and of all adjacent lands; and a description of all title, deed, or usage restrictions and all easements affecting the proposed permit area.
 - 4.2.2.8.2 The boundaries of the facility over the estimated total life of the proposed operation, including the boundaries of land that will be affected in each sequence of disposal activity.
 - 4.2.2.8.3 The boundaries of land where solid waste will be stored at any time over the estimated total life of the proposed operation.
 - 4.2.2.8.4 The locations and names of all water supply wells or surface water intakes within 1/4 mile of the disposal facility boundaries.
- 4.2.2.9 Proof that all applicable zoning approvals have been obtained and that application has been made for all other appropriate federal, state, and local environmental permits.
- 4.2.2.10 A conceptual closure plan. This shall address the items listed in subsection 5.10.3 or 6.10.3 of this regulation, as appropriate and to the extent possible, at the time of initial permit application and shall be revised and updated as necessary to reflect changes in plans that will affect the cost of closure.
- 4.2.2.11 Proof of financial responsibility for closure and post-closure care, as described in subsection 4.1.11.
- 4.2.2.12 Proof that the facility meets the siting criteria required by subsection 5.1 or 6.1 of this regulation.
- 4.2.2.13 A Stormwater Plan (SWP) (also known as Stormwater Pollution and Prevention Plan (SWPPP)). The SWP/SWPPP shall describe stormwater management controls and practices in place or planned for the facility and shall identify potential sources of pollutants which may reasonably be expected to affect the quality of stormwater discharges from landfill operations and facility

maintenance. The SWP/SWPP need not address construction activities regulated by a Sediment and Stormwater Plan Approval issued by the Department. SWP/SWPPP plans created under regulations other than this regulation can be substituted for this requirement provided the plan meets the minimum requirements specified in subsection 5.6 or 6.6 of this regulation.

4.2.2.14 Any other related reports, data, maps, or information that the Department requires.

4.2.24.3.2 Construction and Operation

4.3.2.14.2.2.1 The applicant shall not commence construction of the landfill or cell a landfill or landfill cell or operate an existing landfill until the Department has issued the solid waste permit required by these regulations. a Solid Waste Permit in accordance with this regulation.

4.3.2.24.2.2.2 After the construction of a landfill or landfill cell has been completed completed, and prior to the placement of solid waste, the permittee shall submit a final report for the Department's approval. The final report shall certify that the construction of the landfill or cell was completed in accordance with the engineering report to include the Construction Quality Assurance Plan, construction and material specifications, and design drawings. The final report shall be certified correct by the construction quality assurance engineer, who must be a Professional Engineer registered licensed in Delaware. The permittee shall not place solid waste into the newly constructed landfill or cell until the Department has provided its written notification that the construction and the final report meet the requirements of the permit and the Delaware Regulations Governing Solid Waste. this regulation.

4.3.34.2.3 Closure

4.3.3.14.2.3.1 Any person wishing seeking to modify their current permit to allow closure of a facility or part thereof must submit the following to the Department must, at least 180 days prior to the projected date when wastes will no longer be accepted: accepted, submit the following to the Department:

4.3.3.1.14.2.3.1.1 Notification of Written notification of the intent to close;

4.3.3.1.24.2.3.1.2 Closure An updated closure plan as described in subsection 5.10.3 or 6.10.3, 6.10.3 of this regulation, as appropriate; and

4.3.3.1.3 A closure schedule; and

4.2.3.1.34.3.3.1.4 Post-closure care plan describing how the requirements of subsection 5.11 or 6.12 5.12 or 6.12 of this regulation (as appropriate) will be met.

4.3.3.24.2.3.2 If the Department determines that the closure plan and supporting documents are sufficient to ensure closure, it will modify the permit to allow closure to be performed. The owner or operator of the landfill shall not commence closure of the landfill or cell without first obtaining the necessary permit modifications.

4.3.3.34.2.3.3 After closure has been completed, the permittee shall submit a final report for the Department's approval. The final report shall certify that the closure of the landfill or cell was completed in accordance with the closure plan to include the Construction Quality Assurance Plan, construction and material specifications, and design drawings. The final report shall be certified correct by the construction quality assurance engineer, who must be a Professional Engineer registered licensed in Delaware. The landfill or cell shall not be considered closed until the Department has provided its written notification that the closure has been accomplished in accordance with the solid waste permit and these regulations. Solid Waste Permit and this regulation.

4.3.3.44.2.3.4 Facilities entering the Post-closure post-closure period will be issued a post-closure permit based upon the approved post-closure plan, monitoring requirements, gas and leachate control, maintenance, and corrective actions (if required).

4.3 This Paragraph Reserved (formerly Application Procedures for Dry Waste Disposal Facilities)

4.4 Application Procedures For for Resource Recovery Facilities

4.4.1 Unless otherwise specified within this regulation, the following application procedures apply to all submissions received after [INSERT 21 DAYS AFTER PUBLICATION AS FINAL IN STATE REGISTER]. The Department may, at its discretion, afford permit applications under review prior to [INSERT DATE 21 DAYS AFTER PUBLICATION AS FINAL IN STATE REGISTER] the ability to continue the submission process under regulations in place at the time of the initial submission. 4.4.1

Application Any person desiring to construct or operate a resource recovery facility must submit a letter of intent to the Department. The letter should indicate the projected design and usage of the proposed facility. The letter of intent shall be followed by the submission, by the applicant, of the following additional information: 4.4.1.1 A Solid Waste Management Facility Application, provided by the Department. All information provided by the applicant is certified to be true, accurate, and complete by the applicant's signature on the provided application. 4.4.1.2 Proof of ownership of the property. If the applicant does not own the property, a copy of the lease agreement and the owner's permission to conduct the proposed activity on the property must also be submitted. 4.4.1.3 A plan of operation.

This shall include the following:

- 4.4.1.3.1 A narrative description of the type of facility and of the solid waste handling and disposal procedures to be used.
- 4.4.1.3.2 A narrative explaining the methods and schedule for operation, modification, use, and maintenance of the various components of the facility. This shall include a description of the procedures for facility start up and for scheduled and unscheduled shut down operations.
- 4.4.1.3.3 A description of the solid wastes that will be accepted at the facility, the manner in which recyclable components will be removed from the solid waste stream, the markets for these recyclable materials, and the proposed disposition of the nonrecyclable components and residuals.
- 4.4.1.3.4 A description of the proposed monitoring methods.
- 4.4.1.3.5 A description of the measures that will be used to ensure that unauthorized and unwanted solid wastes are prevented from entering the facility.
- 4.4.1.3.6 A description of the personnel training program, including training that will be provided to ensure compliance with subsections 9.4.2.5 and 9.4.2.7 of these regulations.
- 4.4.1.3.7 A description of the proposed methods for controlling noise, litter, odors, insects, rodents, dust, fires, and explosions.
- 4.4.1.3.8 A detailed contingency plan to be implemented in case of an emergency such as a spill, accident, or explosion.
- 4.4.1.4 An engineering report. This report shall be prepared and signed by a Professional Engineer registered in Delaware and shall include the following:
 - 4.4.1.4.1 A drawing or drawings showing the complete layout of the proposed facility.
 - 4.4.1.4.2 Mass and energy balances, including calculations and pertinent facts relating to the development of these balances.
 - 4.4.1.4.3 Descriptions and specifications of all proposed design features that the engineer has provided to the owner of the facility.
 - 4.4.1.4.4 A description of the proposed installation methods and procedures.
 - 4.4.1.4.5 A plan for third party quality assurance for the construction and installation of components of the facility that will be used in the processing, handling, and/or monitoring of solid waste.
 - 4.4.1.4.6 A schedule of events for construction of the facility.
 - 4.4.1.4.7 Proposed design capacity per day, and life expectancy of the facility.
 - 4.4.1.4.8 A description of potential safety hazards and methods of control.
 - 4.4.1.4.9 An analysis of the concept of the facility's expansion at a later date, if and when deemed necessary by the Department.
 - 4.4.1.4.10 An identification of possible groundwater and surface water discharges.
- 4.4.1.5 A recycling analysis. This analysis shall consist of the following:
 - 4.4.1.5.1 Identification of available and potential markets for recovered recyclable.
 - 4.4.1.5.2 An evaluation of the impact that alternative source separation/recyclables recovery programs could have on the facility. If a thermal recovery facility is the subject of the application, this shall include an engineering analysis of the BTU value of the solid waste before and after recyclables recovery for the proposed life of the project to determine if increases in recycling activities will necessitate changes in facility size and capacity.
- 4.4.1.6 A plan for sampling, analysis, and disposition of the ash generated by the facility (for thermal recovery facilities only). The plan shall include a strategy for ash testing during the test burn phase of construction. Testing shall be in accordance with Delaware's Regulations Governing Hazardous Waste or other testing protocol acceptable to the Department. The plan also shall include a proposal for treatment and/or disposal of the ash. The proposed methods for treatment and/or disposal shall conform to all applicable state and federal regulations.
- 4.4.1.7 A hydrogeological assessment, if deemed necessary by the Department. A hydrogeological investigation of the proposed site may be required before the Department will issue a permit. The report resulting from this investigation shall be signed by a Professional Geologist registered in Delaware.
- 4.4.1.8 The environmental assessment shall provide a detailed analysis of the potential impact of the proposed facility on the environment. Factors to be considered include, but are not necessarily limited to:
 - Aesthetics.
 - Air quality.
 - Cultural, recreational, and natural areas.
 - Fish and wildlife.
 - Historic Sites.
 - Land use.
 - Plants.
 - Public health and safety.
 - Social and economic factors.
 - Soil Quality.
 - Stream flow.
 - Threatened or endangered species.
 - Traffic.
 - Water quality.
 - Water uses.If the applicant or the Department determines that the proposed facility may cause a threat to human health or the environment, the applicant must provide a written explanation of how he or she plans to mitigate the potential harm.
- 4.4.1.9 Topographical and site location maps. This shall include a topographical map or series of maps on a scale satisfactory to the Department, but in no case less than one inch equal to 400 feet, showing topographic elevations surveyed with reference to mean sea level, and any necessary narrative descriptions, including but not limited to the following:
 - 4.4.1.9.1 The legal boundaries of the property as determined by a survey performed by a registered surveyor; the names of the present owners of the proposed site and of all adjacent lands; and a description of all title, deed, or usage restrictions and all easements affecting the proposed permit area.
 - 4.4.1.9.2 The boundaries of land where solid waste will be stored at any time over the estimated total life of the proposed operation.
 - 4.4.1.9.3 The locations and names of all water supply wells or surface water intakes within 1/4 mile of the site boundaries.
- 4.4.1.10 Proof that all applicable zoning approvals have been obtained and application has been made for all appropriate federal, state, and local environmental permits.
- 4.4.1.11 A conceptual closure plan. This shall address the items listed in subsection 9.5.3 to the extent possible at the time of initial permit application and shall be revised and updated as necessary to reflect changes in plans that will affect the cost of closure.
- 4.4.1.12 Proof of financial responsibility

~~for closure, as described in subsection 4.1.11.2.4.4.1.13 Proof that the facility meets the siting criteria required by subsection 9.2.4.4.1.14 Any other related reports, data, maps, or information that the Department requires.~~

~~4.4.2 Application. Any person seeking to construct or operate a resource recovery facility must submit a letter of intent to the Department and include the following additional information:~~

~~4.4.2.1 A cover letter summarizing the application package.~~

~~4.4.2.2 A Solid Waste Management Facility Application and checklist, provided by the Department. All information provided by the applicant is certified to be true, accurate, and complete by the applicant's signature on the provided application.~~

~~4.4.2.3 Proof of ownership of the property. If the applicant does not own the property, a copy of the lease agreement and the owner's permission to conduct the proposed activity on the property must also be submitted.~~

~~4.4.2.4 A Plan of Operation. The applicant shall submit a Plan of Operation in a format that includes a date title page (title, name/location of facility, author, permittee name), a table of contents, numbered pages, labeled chapters and subsections, and numbered paragraphs. This plan shall be prepared under the direction of, and signed by, a Professional Engineer or Professional Geologist licensed in Delaware or other Department-approved person and shall include the following:~~

~~4.4.2.4.1 A narrative description of the type of facility and of the solid waste handling and disposal procedures to be used.~~

~~4.4.2.4.2 A narrative explaining the methods and schedule for operation, modification, use, and maintenance of the various components of the facility. This shall include a description of the procedures for facility start up and for scheduled and unscheduled shut down operations.~~

~~4.4.2.4.3 A description of the proposed monitoring methods.~~

~~4.4.2.4.4 A description of the proposed methods for controlling noise, litter, odors, insects, rodents, dust, and leachate.~~

~~4.4.2.4.5 A contingency plan to be implemented in case of emergency (e.g., a fire, explosion, or spill that threatens public health and safety or the environment).~~

~~4.4.2.4.6 A description of the solid waste that will be accepted at the facility, the manner in which recyclable components will be removed from the solid waste stream, the markets for these recyclable materials, and the proposed disposition of the non-recyclable components and residuals.~~

~~4.4.2.4.7 A description of the measures that will be used to ensure that unauthorized and unwanted solid wastes are prevented from entering the facility.~~

~~4.4.2.4.8 A description of the personnel training program, including training that will be provided to ensure compliance with subsections 9.6.2.5 and 9.6.2.6 of this regulation.~~

~~4.4.2.5 An engineering report. This report shall be prepared and signed by a Professional Engineer licensed in Delaware and shall include the following:~~

~~4.4.2.5.1 Descriptions, drawings, and specifications of all proposed design features that the engineer has provided to the owner of the facility. One of the drawings shall illustrate the complete layout of the proposed facility.~~

~~4.4.2.5.2 A description of the proposed installation methods and procedures.~~

~~4.4.2.5.3 A schedule of events for the construction of the facility.~~

~~4.4.2.5.4 Proposed design capacity per day and the life expectancy of the facility.~~

~~4.4.2.5.5 A plan for third party quality assurance for the construction and installation of components of the facility that will be used in the processing, handling, and/or monitoring of solid waste.~~

~~4.4.2.5.6 Mass and energy balances, including calculations and pertinent factors and information relating to the development of these balances.~~

~~4.4.2.5.7 A description of potential safety hazards and methods of control.~~

~~4.4.2.5.7 An analysis of the concept of the facility's expansion at a later date, if and when deemed necessary by the Department.~~

~~4.4.2.6 A recycling analysis. This analysis shall consist of the following:~~

~~4.4.2.6.1 Identification of available and potential markets for recovered recyclable.~~

~~4.4.2.6.2 An evaluation of the impact that alternative source separation/recyclables recovery programs could have on the facility. If a thermal recovery facility is the subject of the application, this shall include an engineering analysis of the BTU value of the solid waste before and after recyclables recovery for the proposed life of the project to determine if increases in recycling activities will necessitate changes in facility size and capacity.~~

~~4.4.2.7 A plan for sampling, analysis, and disposition of the ash generated by the facility (for thermal recovery facilities only). The plan shall include a strategy for ash testing during the test burn phase of construction. Testing shall be in accordance with Delaware's Regulations Governing~~

Hazardous Waste or other testing protocol acceptable to the Department. The plan also shall include a proposal for treatment and/or disposal of the ash. The proposed methods for treatment and/or disposal shall conform to all applicable state and federal regulations.

4.4.2.8 A hydrogeological assessment, if deemed necessary by the Department. A hydrogeological investigation may be required for the property of the proposed facility, and approved by the Department, before a construction permit will be issued. This investigation and report shall be prepared and signed by a Professional Geologist licensed in Delaware. This investigation shall include a series of test borings and wells, constructed to a depth and in a number sufficient to identify:

4.4.2.8.1 The occurrence and characteristics of the unconfined and first confined aquifers.

4.4.2.8.2 Groundwater flow directions.

4.4.2.8.3 Background groundwater quality, using a minimum of 8 independent samples for each background and downgradient well.

4.4.2.8.4 Potential pathways of contaminants to points of groundwater discharge.

4.4.2.8.5 Approximate groundwater flow rates and travel times from the facility to points of discharge (including any wells and/or surface water).

4.4.2.8.6 A delineation of the anticipated maximum elevation of the seasonal high-water table.

4.4.2.8.7 The Department may, at its discretion, reduce the requirements of the hydrogeological assessment based on the proposed activities for a resource recovery facility.

4.4.2.9 The environmental assessment shall be performed to provide a detailed analysis of the potential impact of the proposed facility on the environment. If the applicant or the Department determines that the proposed facility may cause a threat to human health or the environment, the applicant must provide a written explanation of how they plan to mitigate the potential harm. This assessment shall be prepared under the direction of, and signed by, a Professional Engineer licensed in Delaware. Factors to be considered include, but are not limited to:

- Aesthetics.
- Air quality.
- Cultural, recreational, and natural areas.
- Fish and wildlife.
- Historic Sites.
- Land use.
- Plants.
- Public health and safety.
- Social and economic factors.
- Soil Quality.
- Stream flow.
- Threatened or endangered species.
- Traffic.
- Water quality.
- Water uses.

4.4.2.10 Topographical and facility location maps. This shall include a topographical map or series of maps on a scale satisfactory to the Department, but in no case less than 1 inch equal to 400 feet, showing topographic elevations surveyed with reference to the Delaware State Plane Coordinate System, and any necessary narrative descriptions, including, but not limited to, the following:

4.4.2.10.1 The legal boundaries of the property as determined by a survey performed by a surveyor licensed in Delaware; the names of the present owners of the proposed facility and of all adjacent lands; and a description of all title, deed, or usage restrictions and all easements affecting the proposed permit area.

4.4.2.10.2 The boundaries of land where solid waste will be stored at any time over the estimated total life of the proposed operation.

4.4.2.10.3 The locations and names of all water supply wells or surface water intakes within 1/4 mile of the facility boundaries.

4.4.2.11 Proof that all applicable zoning approvals have been obtained and that application has been made for all appropriate federal, state, and local environmental permits.

4.4.2.12 A conceptual closure plan. This shall address the items listed in subsection 9.7.3 of this regulation to the extent possible at the time of initial permit application and shall be revised and updated as necessary to reflect changes in plans that will affect the cost of closure.

4.4.2.13 Proof of financial responsibility for closure and post-closure care, as described in subsection 4.1.11.

4.4.2.14 Proof that the facility meets the siting criteria required by subsection 9.2 of this regulation.

4.4.2.15 Any other related reports, data, maps, or information that the Department requires.

4.4.24.4.3 Construction and operation

4.4.2.14.4.3.1 The applicant shall not commence construction of a new resource recovery facility or operate an existing resource recovery facility until the applicant has received a permit from the Department in accordance with these regulations, has issued a Solid Waste Permit in accordance with this regulation.

4.4.2.24.4.3.2 After the construction of a new resource recovery facility has been completed, and prior to the receipt of solid waste or materials for processing, the permittee shall submit a final report for the Department's approval. The final report shall certify that the construction of the resource recovery facility was completed in accordance with the engineering report to include the quality assurance plan, Construction Quality Assurance Plan, construction and material specifications, and design drawings. The final report shall be certified correct by the third-party construction quality assurance engineer, who must be a Professional Engineer registered-licensed in Delaware. The permittee shall not commence operations, store, or receive solid waste or materials to be processed until the Department has provided its written notification that the construction and the final report meet the requirements of the permit and Delaware's Regulations Governing Solid Waste, this regulation.

4.4.34.4.4 Closure. Closure Any person desiring to close a resource recovery facility shall, at least 180 days before the date on which the facility will stop accepting solid waste, submit the following to the Department:
4.4.3.1 Written notification of intent to close.
4.4.3.2 Updated closure plan.
4.4.3.3 Closure schedule.
4.4.3.4 An evaluation of the impact that closing the facility will have on the flow of solid waste in the region serviced by the facility, and a plan for minimizing any disruption in the flow. If the Department approves the closure plan and closure schedule, it will modify the facility's permit to allow closure to take place.

4.4.4.1 Any person seeking to modify their current permit to allow closure of a resource recovery facility must, at least 180 days prior to the projected date on which the facility will stop accepting solid waste, submit the following to the Department:

4.4.4.1.1 Written notification of the intent to close.

4.4.4.1.2 An updated closure plan as described in subsection 9.7.3 of this regulation.

4.4.4.1.3 A closure schedule.

4.4.4.1.4 A post-closure care plan, if deemed necessary by the Department.

4.4.4.1.5 An evaluation of the impact that closing the facility will have on the flow of solid waste in the region serviced by the facility, and a plan for minimizing any disruption in the flow.

4.4.4.2 If the Department determines that the closure plan and supporting documents are sufficient to ensure closure, it will modify the permit to allow closure to be performed. The owner or operator of a resource recovery facility shall not commence closure with first obtaining the necessary permit modifications.

4.4.4.3 After closure has been completed the permittee shall submit a final report for the Department's approval. The final report shall certify that the closure of the resource recovery facility was completed in accordance with the closure plan. The final report shall be certified correct by the construction quality assurance engineer, who must be a Professional Engineer licensed in Delaware. The resource recovery facility shall not be considered closed until the Department has provided its written notification that the closure has been accomplished in accordance with the Solid Waste Permit and this regulation.

4.4.4.4 Facilities entering the post-closure period will be issued a post-closure permit based upon the approved post-closure plan, monitoring requirements, maintenance, and/or corrective actions (if required).

4.5 Application Procedures For for Transfer Stations

4.5.1 Unless otherwise specified within this regulation, the following application procedures apply to all submissions received after **[INSERT DATE 21 DAYS AFTER PUBLICATION AS FINAL IN STATE REGISTER]**. The Department may, at its discretion, afford permit applications under review prior to **[INSERT DATE 21 DAYS AFTER PUBLICATION AS FINAL IN STATE REGISTER]** the ability to continue the submission process under regulations in place at the time of the initial submission.

4.5.1 Application

Any person desiring to construct or operate a transfer station must submit a letter of intent to the Department. For proposed facilities, the letter shall narrate the projected design and usage of the facility; provide a tentative schedule for construction and startup, and summarize the applicant's experience and training with transfer station operations. For existing facilities, the letter shall state the reason for the application submittal and include a narration about design, usage, and schedule only if new construction is proposed. After submitting the Letter of Intent, the applicant shall submit the following:

- 4.5.1.1 ~~— A Solid Waste Management Facility Application, provided by the Department. All information provided by the applicant is certified to be true, accurate, and complete by the applicant's signature on the provided application.~~
- 4.5.1.2 ~~— Proof of ownership of the property. If the applicant does not own the property, a copy of the lease agreement and the owner's permission to conduct the proposed activity on the property must be submitted.~~
- 4.5.1.3 ~~— A plan of operation. The applicant shall submit a plan of operation in a format that includes a dated title page (title, name/location of facility, author, permittee name), a table of contents, numbered pages, labeled chapters and subsections, and numbered paragraphs. Content of the plan shall include the following:

 - 4.5.1.3.1 ~~— A narrative description of the type of facility and of the solid waste handling procedures to be used.~~
 - 4.5.1.3.2 ~~— A narrative explaining the methods and schedule for operation, modification, use, and maintenance of the various components of the facility.~~
 - 4.5.1.3.3 ~~— A description of the proposed methods for controlling noise, litter, odors, insects, rodents, dust, leachate, and facility washdown water.~~
 - 4.5.1.3.4 ~~— A description of the methods that will be used to prevent unauthorized wastes from being accepted at the facility.~~
 - 4.5.1.3.5 ~~— A contingency plan to be implemented in case of emergency (e.g., a fire, explosion, or spill that threatens public health and safety or the environment.)~~~~
- 4.5.1.4 ~~— An engineering report. This report shall be prepared and signed by a Professional Engineer registered in Delaware and shall include the following:

 - 4.5.1.4.1 ~~— Descriptions, plans, and specifications of all proposed design features.~~
 - 4.5.1.4.2 ~~— A description of the proposed installation methods and procedures.~~
 - 4.5.1.4.3 ~~— A schedule of events for construction of the facility.~~
 - 4.5.1.4.4 ~~— Proposed design capacity in both tons and cubic yards per day.~~~~
- 4.5.1.5 ~~— A hydrogeological assessment, if deemed necessary by the Department. A hydrogeological investigation of the proposed site may be required before the Department will issue a permit. This investigation and report shall be signed by a Professional Geologist registered in Delaware. This investigation shall include a series of test borings and wells, constructed to a depth and in a number sufficient to identify:

 - 4.5.1.5.1 ~~— The occurrence and characteristics of the water table aquifer.~~
 - 4.5.1.5.2 ~~— Groundwater flow directions.~~
 - 4.5.1.5.3 ~~— Background groundwater quality.~~
 - 4.5.1.5.4 ~~— Potential pathways of contaminants to points of groundwater discharge.~~~~
- 4.5.1.6 ~~— The environmental assessment shall provide a detailed analysis of the potential impact of the proposed facility on the environment. Factors to be considered include:~~

- ~~• Aesthetics.~~
- ~~• Air quality~~
- ~~• Cultural, recreational, and natural areas.~~
- ~~• Fish and wildlife.~~
- ~~• Historic sites.~~
- ~~• Land use.~~
- ~~• Plants.~~
- ~~• Public health and safety.~~
- ~~• Social and economic factors.~~
- ~~• Soil Quality.~~
- ~~• Stream flow.~~
- ~~• Threatened or endangered species.~~
- ~~• Traffic.~~
- ~~• Water quality.~~
- ~~• Water uses.~~

~~If the applicant or the Department determines that the proposed facility may cause a threat to human health or the environment, the applicant must provide a written explanation of how he or she plans to mitigate the potential harm.~~

- 4.5.1.7 ~~— Topographical and site maps. This shall include a topographical map or series of maps on a scale satisfactory to the Department but in no case less than one inch equal to 400 feet, showing topographic elevations surveyed with reference to mean sea level, and any necessary narrative descriptions, including but not limited to the following:

 - 4.5.1.7.1 ~~— The legal boundaries of the property as determined by a survey performed by a surveyor registered in Delaware; the names of the present owners of the proposed site and of all~~~~

- adjacent lands; and a description of all title, deed, or usage restrictions and all easements affecting the proposed permit area.
- 4.5.1.7.2 ~~The boundaries of land where solid waste will be stored at any time over the estimated total life of the proposed operation.~~
 - 4.5.1.7.3 ~~The locations and names of all water supply wells or surface water intakes within 1/4 mile of the handling site boundaries.~~
 - 4.5.1.7.4 ~~Proximity to airport runways.~~
 - 4.5.1.8 ~~Proof that all applicable zoning approvals have been obtained and that application has been made for all other appropriate federal, state, and local environmental permits.~~
 - 4.5.1.9 ~~A conceptual closure plan. This shall address the items listed in subsection 10.6.3 to the extent possible at the time of initial permit application and shall be revised and updated as necessary to reflect changes in plans that will affect the cost of closure.~~
 - 4.5.1.10 ~~Proof of financial responsibility for closure, as described in subsection 4.1.11.2.~~
 - 4.5.1.11 ~~Proof that the facility meets the siting criteria required by subsection 10.2.~~
 - 4.5.1.12 ~~Any other related reports, data, maps, or information that the Department reasonably requires.~~
- 4.5.2 ~~Application. Any person seeking to construct or operate a transfer station must submit a letter of intent to the Department and include the following additional information:~~
- 4.5.2.1 ~~A cover letter summarizing the application package.~~
 - 4.5.2.2 ~~A Solid Waste Management Facility Application and checklist, provided by the Department. All information provided by the applicant is certified to be true, accurate, and complete by the applicant's signature on the provided application.~~
 - 4.5.2.3 ~~Proof of ownership of the property. If the applicant does not own the property, a copy of the lease agreement and the owner's permission to conduct the proposed activity on the property must also be submitted.~~
 - 4.5.2.4 ~~A Plan of Operation. The applicant shall submit a Plan of Operation in a format that includes a dated title page (title, name/location of facility, author, permittee name), a table of contents, numbered pages, labeled chapters and subsections, and numbered paragraphs. This plan shall be prepared under the direction of, and signed by, a Professional Engineer or Professional Geologist licensed in Delaware or other Department-approved person and, if deemed necessary by the Department, shall include the following:~~
 - 4.5.2.4.1 ~~A narrative description of the type of facility and of the solid waste handling and disposal procedures to be used.~~
 - 4.5.2.4.2 ~~A narrative explaining the methods and schedule for operation, modification, use, and maintenance of the various components of the facility.~~
 - 4.5.2.4.3 ~~A description of the proposed methods for controlling noise, litter, odors, insects, rodents, dust, leachate, and facility washdown water.~~
 - 4.5.2.4.4 ~~A description of the proposed monitoring methods.~~
 - 4.5.2.4.5 ~~A contingency plan to be implemented in case of emergency (e.g., a fire, explosion, or spill that threatens public health and safety or the environment).~~
 - 4.5.2.4.6 ~~A description of the methods that will be used to prevent unauthorized wastes from being accepted at the facility.~~
 - 4.5.2.4.7 ~~A description of the personnel training program, including training that will be provided to ensure compliance with subsections 10.7.2.5 and 10.7.2.6 of this regulation.~~
 - 4.5.2.5 ~~An engineering report. This report shall be prepared and signed by a Professional Engineer licensed in Delaware and shall include the following, if deemed necessary by the Department:~~
 - 4.5.2.5.1 ~~Descriptions, drawings, plans, and specifications of all proposed design features that the engineer has provided to the owner of the facility. One of the drawings shall illustrate the complete layout of the proposed facility.~~
 - 4.5.2.5.2 ~~A description of the proposed installation methods and procedures.~~
 - 4.5.2.5.3 ~~A schedule of events for construction of the facility.~~
 - 4.5.2.5.4 ~~Proposed design capacity in both tons and cubic yards per day.~~
 - 4.5.2.5.5 ~~A plan for third-party quality assurance for the construction and installation of components of the facility that will be used in the processing, handling, and/or monitoring of solid waste.~~
 - 4.5.2.6 ~~A hydrogeological assessment, if deemed necessary by the Department. A hydrogeological investigation for the property of the proposed facility may be required, and approved by the Department, before a construction permit will be issued. This investigation and report shall be prepared and signed by a Professional Geologist licensed in Delaware. This investigation shall include a series of test borings and wells, constructed to a depth and in a number sufficient to identify:~~
 - 4.5.2.6.1 ~~The occurrence and characteristics of the unconfined and first confined aquifers.~~
 - 4.5.2.6.2 ~~Groundwater flow directions.~~

- 4.5.2.6.3 Background groundwater quality, using a minimum of 8 independent samples for each background and downgradient well.
- 4.5.2.6.4 Potential pathways of contaminants to points of groundwater discharge.
- 4.5.2.6.5 Approximate groundwater flow rates and travel times from the facility to point of discharge (including any wells and/or surface water); and
- 4.5.2.6.6 A delineation of the anticipated maximum elevation of the seasonal high-water table.
- 4.5.2.6.7 The Department may, at its discretion, reduce the requirements of the hydrogeological assessment based on the proposed activities for a transfer station.
- 4.5.2.7 An environmental assessment shall be performed to provide a detailed analysis of the potential impact of the proposed facility on the environment. If the applicant or the Department determines that the proposed facility may cause a threat to human health or the environment, the applicant must provide a written explanation of how he or she plans to mitigate the potential harm. This assessment shall be prepared under the direction of, and signed by, a Professional Engineer licensed in Delaware. Factors to be considered include, but are not limited to:
- Aesthetics.
 - Air quality.
 - Cultural, recreational, and natural areas.
 - Fish and wildlife.
 - Historic sites.
 - Land use.
 - Plants.
 - Public health and safety.
 - Social and economic factors.
 - Soil Quality.
 - Stream flow.
 - Threatened or endangered species.
 - Traffic.
 - Water quality.
 - Water uses.
- 4.5.2.8 Topographical and facility location maps. This shall include a topographical map or series of maps on a scale satisfactory to the Department but in no case less than 1 inch equal to 400 feet, showing topographic elevations surveyed with reference to the Delaware State Plane Coordinate System, and any necessary narrative descriptions, including, but not limited to, the following:
- 4.5.2.8.1 The legal boundaries of the property as determined by a survey performed by a surveyor licensed in Delaware; the names of the present owners of the proposed facility and of all adjacent lands; and a description of all title, deed, or usage restrictions and all easements affecting the proposed permit area.
- 4.5.2.8.2 The boundaries of land where solid waste will be stored at any time over the estimated total life of the proposed operation.
- 4.5.2.8.3 The locations and names of all water supply wells or surface water intakes within 1/4 mile of the handling facility boundaries.
- 4.5.2.8.4 Proximity to airport runways.
- 4.5.2.9 Proof that all applicable zoning approvals have been obtained and that application has been made for all other appropriate federal, state, and local environmental permits.
- 4.5.2.10 A conceptual closure plan. This shall address the items listed in subsection 10.8.3 of this regulation to the extent possible at the time of initial permit application and shall be revised and updated as necessary to reflect changes in plans that will affect the cost of closure.
- 4.5.2.11 Proof of financial responsibility for closure and post-closure care, as described in subsection 4.1.11.
- 4.5.2.12 Proof that the facility meets the siting criteria required by subsection 10.2 of this regulation.
- 4.5.2.13 Any other related reports, data, maps, or information that the Department requires.
- 4.5.2.14.5.3 Construction and operation
- 4.5.2.14.5.3.1 The applicant shall not commence construction of a new transfer station or operate an existing transfer station until the applicant has received a permit from the Department in accordance with these regulations. Department has issued a Solid Waste Permit in accordance with this regulation.
- 4.5.2.14.5.3.2 After the construction of a new transfer station has been completed, and prior to the receipt of solid waste, the permittee shall submit a final report for the Department's approval. The final report shall certify that the construction of the transfer station was completed in accordance with the permit requirements. Engineering Report to include the Construction Quality Assurance

Plan, construction and material specifications, and design drawings. The final report shall be certified correct by the construction quality assurance engineer, who must be a Professional Engineer registered-licensed in Delaware. The permittee shall not commence operations, store, or receive solid waste until the Department has provided its written notification that the construction and the final report meet the requirements of the permit and the Delaware Regulations Governing Solid Waste-this regulation.

4.5.4 Closure

4.5.4.1 Any person seeking to modify their current permit to allow closure of a transfer station must, at least 180 days prior to the projected date on which the facility will stop accepting solid waste, submit the following to the Department:

4.5.4.1.1 Written notification of the intent to close.

4.5.4.1.2 Updated closure plan as described in subsection 10.8.3 of this regulation.

4.5.4.1.3 Closure schedule.

4.5.4.1.4 Post-closure care plan, if deemed necessary by the Department.

4.5.4.2 If the Department determines that the closure plan and supporting documents are sufficient to ensure closure, it will modify the permit to allow closure to be performed. The owner or operator of a transfer station shall not commence closure without first obtaining the necessary permit modifications.

4.5.4.3 After closure has been completed, the permittee shall submit a final report for the Department's approval. The final report shall certify that the closure of the transfer station was completed in accordance with the closure plan. The final report shall be certified correct by the construction quality assurance engineer, who must be a Professional Engineer licensed in Delaware. The transfer station shall not be considered closed until the Department has provided its written notification that the closure has been accomplished in accordance with the Solid Waste Permit and this regulation.

4.5.4.4 Facilities entering the post-closure period will be issued a post-closure permit based upon the approved post-closure plan, monitoring requirements, maintenance, and/or corrective actions (if required).

4.6 Application Procedures For for Infectious Waste Management Facility

4.6.1 Unless otherwise specified within this regulation, the following application procedures apply to all submissions received after **[INSERT DATE 21 DAYS AFTER PUBLICATION AS FINAL IN STATE REGISTER]**. The Department may, at its discretion, afford permit applications under review prior to **[INSERT DATE 21 DAYS AFTER PUBLICATION AS FINAL IN STATE REGISTER]** the ability to continue the submission process under regulations in place at the time of the initial submission.

4.6.1 Application

Any person desiring to construct or operate an infectious waste management facility must submit a letter of intent to the Department. The letter should indicate the projected design and usage of the proposed facility. The letter of intent shall be followed by submission, by the applicant, of the following additional information:

4.6.1.1 A Solid Waste Management Facility Application, provided by the Department. All information provided by the applicant is certified to be true, accurate, and complete by the applicant's signature on the provided application.

4.6.1.2 Proof of ownership of the property. If the applicant does not own the property, a copy of the lease agreement and the owner's permission to conduct the proposed activity on the property must also be submitted.

4.6.1.3 A plan of operation. This plan shall include the following:

4.6.1.3.1 The source(s) of the infectious waste (generator names and locations);

4.6.1.3.2 A description of the origin and content of the waste, its containerization and the expected volume and frequency of waste disposal at the facility;

4.6.1.3.3 A description of the facility where the waste will be rendered non-infectious, including the name and the exact location of the facility;

4.6.1.3.4 A narrative explaining the methods and schedule for operation, modification, use, and maintenance of the various components of the facility;

4.6.1.3.5 A description of the processing methods to be used for each type of waste, including schematic drawings (e.g., blueprints, etc.);

4.6.1.3.6 A description showing that the facility has developed a validation program which demonstrates the effectiveness of the treatment method by performing an Initial Efficacy Test and Periodic Verification Tests(s);

4.6.1.3.7 A description of the measures that will be used to ensure that unauthorized and unwanted wastes are prevented from entering the facility;

4.6.1.3.8 A description of the containers to be used for the storage during the collection and during the movement within the facility, including the total length of time of storage;

- 4.6.1.3.9 — A description of the alternatives to be used if the processing equipment is inoperable, and the procedures to be used for the management of the waste if it cannot be promptly processed;
- 4.6.1.3.10 — A description of the handling and safety measures that will be employed for each type of waste, including personal protection and safety as well as modifications to the operational safety plan that are required;
- 4.6.1.3.11 — A description of the proposed methods for controlling noise, litter, odors, vectors, dust, fires, and explosions; and
- 4.6.1.3.12 — A contingency plan to be implemented in case of emergency. In addition, if the proposed facility is an incinerator, the Plan of Operation shall include a plan for sampling, analysis, and disposition of the ash generated in the incinerator. The plan shall include a strategy for ash testing during the test burn phase of construction. Testing shall be in accordance with Delaware's Regulations Governing Hazardous Waste. The plan also shall include a strategy for treating and/or disposing of the ash if it is found to exhibit hazardous waste characteristics. A sanitary landfill in Delaware will not be considered an acceptable disposal facility for ash that exhibits hazardous waste characteristics.
- 4.6.1.4 — An engineering report. This report shall be prepared and signed by a Professional Engineer registered in Delaware and shall include the following:
- 4.6.1.4.1 — Descriptions and specifications of all proposed design features.
- 4.6.1.4.2 — A description of the proposed installation methods and construction procedures.
- 4.6.1.4.3 — A schedule of events for construction of the facility, if deemed necessary by the Department.
- 4.6.1.4.4 — Proposed design capacity in both tons and cubic yards per day, and life expectancy of the facility.
- 4.6.1.4.5 — Materials and energy balance of the facility.
- 4.6.1.5 — A hydrogeological assessment, if deemed necessary by the Department. A hydrogeological investigation may be required at the proposed site and approved by the Department before a construction permit will be issued. This investigation and report shall be signed by a Professional Geologist registered in Delaware. This investigation shall include a series of test borings and wells, constructed to a depth and in a number sufficient to identify:
- 4.6.1.5.1 — The occurrence and characteristics of the unconfined and first confined aquifers;
- 4.6.1.5.2 — Groundwater flow directions;
- 4.6.1.5.3 — Background groundwater quality;
- 4.6.1.5.4 — Potential pathways of contaminants to points of groundwater discharge; and
- 4.6.1.5.5 — A delineation of the anticipated maximum elevation of the seasonal high water table.
- 4.6.1.6 — An environmental assessment shall be performed to provide a detailed analysis of the potential impact of the proposed facility on the environment. Factors to be considered include:

- Aesthetics.
- Air quality.
- Cultural, recreational, and natural areas.
- Fish and wildlife.
- Historic sites.
- Land use.
- Plants.
- Public health and safety.
- Social and economic factors.
- Soil Quality.
- Stream flow.
- Threatened or endangered species.
- Traffic.
- Water quality.
- Water uses.

If the applicant or the Department determines that the proposed facility may cause a threat to human health or the environment, the applicant must provide a written explanation of how he or she plans to mitigate the potential harm.

- 4.6.1.7 — Topographical and site location maps, if deemed necessary by the Department. This shall include a topographical map or series of maps on a scale satisfactory to the Department but in no case less than one inch equal to 400 feet, showing topographic elevations surveyed with reference to mean sea level, and any necessary narrative descriptions, including, but not limited to, the following:
- 4.6.1.7.1 — The legal boundaries of the property as determined by a survey performed by a registered surveyor; the names of the present owners of the proposed site and of all adjacent lands; and a description of all title, deed, or usage restrictions affecting the proposed permit area.

- ~~4.6.1.7.2 The boundaries of the facility over the estimated total life of the proposed operation, including the boundaries of land that will be affected in each sequence of disposal activity.~~
- ~~4.6.1.7.3 The boundaries of land where solid waste will be stored at any time over the estimated total life of the proposed operation.~~
- ~~4.6.1.7.4 The locations and names of all water supply wells or surface water intakes within 1/4 mile of the disposal site boundaries.~~
- ~~4.6.1.8 Proof that all applicable zoning approvals and all appropriate federal, state, and local environmental permits have been obtained.~~
- ~~4.6.1.9 Closure plan that conforms with Section 11.0 – Special Wastes Management, Part 1 – Infectious Waste, subsection 11.8, as appropriate.~~
- ~~4.6.1.10 Proof of financial responsibility for closure as described in subsections 4.1.11.2 and 4.1.11.4.~~
- ~~4.6.1.11 Proof that the facility meets the siting criteria required by Section 11.0 – Special Wastes Management, Part 1 – Infectious Waste, subsection 11.1.2.~~
- ~~4.6.1.12 Any other related reports, data, maps, or information that the Department requires.~~
- 4.6.2 Application. Any person seeking to construct or operate an infectious waste management facility must submit a letter of intent to the Department and include the following additional information:
 - 4.6.2.1 A cover letter summarizing the application package.
 - 4.6.2.2 A Solid Waste Management Facility Application and checklist, provided by the Department. All information provided by the applicant is certified to be true, accurate, and complete by the applicant's signature on the provided application.
 - 4.6.2.3 Proof of ownership of the property. If the applicant does not own the property, a copy of the lease agreement and the owner's permission to conduct the proposed activity on the property must also be submitted.
 - 4.6.2.4 A Plan of Operation. The applicant shall submit a Plan of Operation in a format that includes a dated title page (title, name/location of facility, author, permittee name), a table of contents, numbered pages, labeled chapters and subsections, and numbered paragraphs. This plan shall be prepared under the direction of, and signed by, a Professional Engineer licensed in Delaware or other Department-approved person and shall include the following:
 - 4.6.2.4.1 The source or sources of the infectious waste (generator names and locations);
 - 4.6.2.4.2 A description of the origin and content of the waste, its containerization, and the expected volume and frequency of waste to be accepted at the facility;
 - 4.6.2.4.3 A description of the facility where the waste will be rendered non-infectious, including the name and the exact location of the facility;
 - 4.6.2.4.4 A narrative explaining the methods and schedule for operation, modification, use, and maintenance of the various components of the facility;
 - 4.6.2.4.5 A description of the processing methods to be used for each type of waste, including schematic drawings (e.g., blueprints, etc.);
 - 4.6.2.4.6 A description showing that the facility has developed a validation program which demonstrates the effectiveness of the treatment method by performing an Initial Efficacy Test and Periodic Verification Testing;
 - 4.6.2.4.7 A description of the measures that will be used to ensure that unauthorized and unwanted wastes are prevented from entering the facility;
 - 4.6.2.4.8 A description of the containers to be used for the storage during the collection and during the movement within the facility, including the total length of time of storage;
 - 4.6.2.4.9 A description of the alternatives to be used if the processing equipment is inoperable, and the procedures to be used for the management of the waste if it cannot be promptly processed;
 - 4.6.2.4.10 A description of the handling and safety measures that will be employed for each type of waste, including personal protection and safety as well as modifications to the operational safety plan that are required;
 - 4.6.2.4.11 A description of the proposed methods for controlling noise, litter, odors, vectors, dust, fires, and explosions; and
 - 4.6.2.4.12 A contingency plan to be implemented in case of emergency. In addition, if the proposed facility is an incinerator, the Plan of Operation shall include a plan for sampling, analysis, and disposition of the ash generated in the incinerator. The plan shall include a strategy for ash testing during the test burn phase of construction. Testing shall be in accordance with Delaware's Regulations Governing Hazardous Waste. The plan also shall include a strategy for treating and/or disposing of the ash if it is found to exhibit hazardous waste characteristics. A sanitary landfill in Delaware will not be considered an acceptable disposal facility for ash that exhibits hazardous waste characteristics.
- 4.6.2.5 An engineering report. This report shall be prepared and signed by a Professional Engineer licensed in Delaware and shall include the following:

- 4.6.2.5.1 Descriptions, drawings, and specifications of all proposed design features that the engineer has provided to the owner of the facility. One of the drawings shall illustrate the complete layout of the proposed facility.
- 4.6.2.5.2 A description of the proposed installation methods and construction procedures.
- 4.6.2.5.3 A schedule of events for construction of the facility, if deemed necessary by the Department.
- 4.6.2.5.4 Proposed design capacity in both tons and cubic yards per day, and life expectancy of the facility.
- 4.6.2.5.5 Materials and energy balance of the facility, including calculations and pertinent factors and information relating to the development of these balances.
- 4.6.2.5.6 A description of potential safety hazards and methods of control.
- 4.6.2.6 A hydrogeological assessment, if deemed necessary by the Department. A hydrogeological investigation may be required at the property of the proposed facility, and approved by the Department, before a construction permit will be issued. This investigation and report shall be signed by a Professional Geologist licensed in Delaware. This investigation shall include a series of test borings and wells, constructed to a depth and in a number sufficient to identify:
 - 4.6.2.6.1 The occurrence and characteristics of the unconfined and first confined aquifers;
 - 4.6.2.6.2 Groundwater flow directions;
 - 4.6.2.6.3 Background groundwater quality;
 - 4.6.2.6.4 Potential pathways of contaminants to points of groundwater discharge; and
 - 4.6.2.6.5 A delineation of the anticipated maximum elevation of the seasonal high-water table.
- 4.6.2.7 An environmental assessment shall be performed to provide a detailed analysis of the potential impact of the proposed facility on the environment. If the applicant or the Department determines that the proposed facility may cause a threat to human health or the environment, the applicant must provide a written explanation of how he or she plans to mitigate the potential harm. Factors to be considered include, but are not limited to:
 - Aesthetics.
 - Air quality.
 - Cultural, recreational, and natural areas.
 - Fish and wildlife.
 - Historic sites.
 - Land use.
 - Plants.
 - Public health and safety.
 - Social and economic factors.
 - Soil Quality.
 - Stream flow.
 - Threatened or endangered species.
 - Traffic.
 - Water quality.
 - Water uses.
- 4.6.2.8 Topographical and facility location maps, if deemed necessary by the Department. This shall include a topographical map or series of maps on a scale satisfactory to the Department but in no case less than 1 inch equal to 400 feet, showing topographic elevations surveyed with reference to the Delaware State Plane Coordinate System, and any necessary narrative descriptions, including, but not limited to, the following:
 - 4.6.2.8.1 The legal boundaries of the property as determined by a survey performed by a surveyor licensed in Delaware; the names of the present owners of the proposed facility and of all adjacent lands; and a description of all title, deed, or usage restrictions affecting the proposed permit area.
 - 4.6.2.8.2 The boundaries of the facility over the estimated total life of the proposed operation, including the boundaries of land that will be affected in each sequence of disposal activity.
 - 4.6.2.8.3 The boundaries of land where solid waste will be stored at any time over the estimated total life of the proposed operation.
 - 4.6.2.8.4 The locations and names of all water supply wells or surface water intakes within 1/4 mile of the disposal facility boundaries.
- 4.6.2.9 Proof that all applicable zoning approvals and all appropriate federal, state, and local environmental permits have been obtained.
- 4.6.2.10 Closure plan that conforms with Section 11.0 - Special Wastes Management, Part 1 - Infectious Waste, subsection 11.10 of this regulation, as appropriate.

4.6.2.11 Proof of financial responsibility for closure and post-closure care, as described in subsection 4.1.11.

4.6.2.12 Proof that the facility meets the siting criteria required by Section 11.0 - Special Wastes Management, Part 1 - Infectious Waste, subsection 11.2 of this regulation.

4.6.2.13 Any other related reports, data, maps, or information that the Department requires.

4.6.24.6.3 Construction and operation

4.6.2.14.6.3.1 The applicant shall not commence construction of a new infectious waste facility or operate an existing infectious waste facility until the applicant has received a permit from the Department in accordance with ~~these regulations~~ this regulation.

4.6.2.24.6.3.2 After the construction of a new infectious waste facility has been completed, and prior to the receipt of solid waste or materials for processing, the permittee shall submit a final report for the Department's approval. The final report shall certify that the construction of the facility was completed in accordance with the engineering report. The permittee shall not commence operations or store or receive solid waste or materials to be processed until the Department has provided its written notification that the construction and the final report meet the requirements of the permit and ~~the Delaware Regulations Governing Solid Waste~~ this regulation.

4.6.34.6.4 Closure. Any person wishing ~~seeking~~ to close an infectious waste facility must submit the following to the Department:

4.6.3.14.6.4.1 Notification of intent to close.

4.6.3.24.6.4.2 A detailed plan for closing the facility so as to achieve the objectives described in Section 11.0 - Special Wastes Management, Part 1 - Infectious Waste, subsection ~~11.10~~ 11.10 of this regulation.

4.6.3.34.6.4.3 If the Department approves the closure plan, it will modify the facility's permit to allow closure to take place.

4.7 Application Procedures ~~For~~ for Solid Waste Transporters

4.7.1 Any person required to obtain a permit to transport solid waste must submit a completed application to the Department. The application shall be accompanied by all applicable supporting documentation and appropriate application fees as required by ~~these regulations~~ this regulation. All information provided by the applicant shall be certified to be true, accurate, and complete by the applicant's signature on the provided application.

4.8 Application Procedures ~~For~~ for Scrap Tire Facilities

4.8.1 The application procedures shall be in accordance with those specified in Section ~~12.0~~ 12.0 of this regulation.

[8 DE Reg. 354 \(08/01/04\)](#)

[11 DE Reg. 807 \(12/01/07\)](#)

[13 DE Reg. 1093 \(02/01/10\)](#)

[19 DE Reg. 418 \(11/01/15\)](#)

[19 DE Reg. 422 \(11/01/15\)](#)

[21 DE Reg. 893 \(05/01/18\)](#)

[24 DE Reg. 603 \(12/01/20\)](#)

5.0 Sanitary Landfills

(NOTE: This section applies only to landfills that accept household waste.)

5.1 ~~SITING~~ Siting

5.1.1 Sanitary landfill facilities shall be located only in areas where the potential for degradation of the quality of air, land, and water is minimal.

5.1.2 All sanitary landfill facilities shall be constructed to at least minimum design requirements as contained in subsection 5.2. More stringent designs will be required where deemed necessary by the Department for the protection of ~~ground water~~ groundwater resources.

5.1.3 The owner or operator of any proposed sanitary landfill within a ~~5-mile~~ 5-mile radius of any airport runway must notify the airport and the Federal Aviation Administration (and provide proof of notification to the Department).

5.1.4 No new cell of a sanitary landfill shall be located:

5.1.4.1 Within the 100-year ~~flood plain~~ floodplain as delineated by the Federal Emergency Management Agency.

5.1.4.2 In an area that may cause or contribute to the degradation of any state or federally regulated wetlands unless the owner or operator can demonstrate to the satisfaction of the appropriate wetlands regulatory agency that:

5.1.4.2.1 ~~there~~ There is no impact to any regulated wetlands on the ~~site~~ facility or

5.1.4.2.2 ~~any~~ Any impact will be mitigated as required.

- 5.1.4.3 Within ~~one~~1 mile of any state or federal wildlife refuge, wildlife area, or park, unless specifically exempted from this requirement by the Department.
- 5.1.4.4 Within 10,000 feet of any airport runway currently used by turbojet aircraft or 5,000 feet of any airport runway currently used by piston-type aircraft, unless a waiver is granted by the Federal Aviation Administration.
- 5.1.4.5 So as to be in conflict with any locally adopted land use plan or zoning requirement.
- 5.1.4.6 Within the wellhead protection area of a public water supply well or well ~~field~~field, or a formally designated aquifer resource protection area.
- 5.1.4.7 Within 200 feet of a fault that has had displacement during Holocene time (~~unless~~unless it can be demonstrated that a lesser setback distance would prevent damage to the structural integrity of the landfill unit and be protective of human health and the ~~environment~~environment).
- 5.1.4.8 Within a seismic impact zone unless it can be demonstrated that all containment structures, including liners, leachate collection systems and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the ~~site~~facility. For the purposes of this section:
 - 5.1.4.8.1 Seismic impact zone means an area with a ~~ten percent~~2.0% or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10g in 250-50 years.
 - 5.1.4.8.2 Maximum horizontal acceleration in lithified earth material means the maximum expected horizontal acceleration depicted on a seismic hazard map, with a ~~90 percent~~98% or greater probability that the acceleration will not be exceeded in 250 years, or the maximum expected horizontal acceleration based on a ~~site~~facility-specific seismic risk assessment.
 - 5.1.4.8.3 Lithified earth material means all rock, including all naturally occurring and naturally formed aggregates or masses of minerals or small particles of older rock that formed by crystallization of magma or by induration of loose sediments. This term does not include man-made materials, such as fill, concrete and asphalt or unconsolidated earth materials, soil or regolith lying at or near the earth surface.
- 5.1.4.9 In unstable areas, unless engineering measures have been incorporated in the design to ~~insure~~ensure the integrity of the structural components of the waste facility (including liners, leachate collection systems, run-on/runoff control, capping and anything affecting the containment and/or possible release of ~~contaminants~~contaminants). Unstable areas include those ~~of~~of: (1) poor foundation conditions (possible ~~subsidence~~subsidence); (2) susceptibility to mass ~~movement~~movement; or (3) ~~Karst~~karst terrane.
- 5.1.4.10 In areas where valuable aquifers would be threatened by contaminant ~~releases~~releases unless viable alternatives have been dismissed and stringent design measures have been incorporated to minimize the possibility and magnitude of releases.
- 5.1.4.11 Within 200 feet of the facility ~~property~~ boundary unless otherwise approved by the Department.
- 5.1.4.12 In an area that is environmentally unique or valuable, unless approved by the Department in consultation with any other applicable federal, state, or local agencies.

5.2 Design

5.2.1 General provisions.

Sanitary landfills shall be planned and designed by a Professional Engineer ~~registered~~licensed in Delaware. Planning and design of these facilities shall be consistent with the declared purpose and ~~intent~~intent, and in accordance ~~with~~with, the provisions of ~~this regulation~~this regulation and based on empirically derived data and state of the art technology.

5.2.2 Minimum ~~design requirements~~Design Requirements

- 5.2.2.1 All sanitary landfills shall be designed to minimize contaminant releases and to prevent significant adverse impacts on human health or the environment and to achieve the following performance standards:
 - 5.2.2.1.1 Ensure that the contaminant concentrations do not prevent appropriate use of the ~~ground~~groundwater in the uppermost aquifer at the relevant point of compliance (examples are water supply, potability, stream flow maintenance, etc., as appropriate).
 - 5.2.2.1.1.1 The point of compliance shall be specified by the ~~Department~~Department, and shall be no more than 150 meters from the landfill cell ~~boundary~~boundary, and shall be located on property owned by the owner of the landfill.
 - 5.2.2.1.1.2 In determining the relevant point of compliance, the Department shall consider at least the following factors:
 - 5.2.2.1.1.2.1 The hydrogeologic characteristics of the landfill and surrounding land;
 - 5.2.2.1.1.2.2 The volume and physical and chemical characteristics of the leachate;
 - 5.2.2.1.1.2.3 The quantity, quality, ~~availability~~availability, and direction of flow of ~~ground~~groundwater;

- 5.2.2.1.1.2.4 ~~The proximity and withdrawal rate of ground water~~groundwater users;
- 5.2.2.1.1.2.5 The availability of alternate drinking water supplies;
- 5.2.2.1.1.2.6 ~~The existing quality of ground water,~~groundwater, including other sources of contamination and their cumulative impacts on ~~ground water,~~groundwater, and whether the ~~ground water is currently used or~~groundwater is currently used, or is reasonably expected to be used for drinking water;
- 5.2.2.1.1.2.7 ~~Public health, safety~~Any public health, safety, and welfare effects; and
- 5.2.2.1.1.2.8 ~~Practical~~The practical capability of the landfill owner or operator.
- 5.2.2.1.2 Ensure that surface water quality standards will not be violated (except within designated mixing zones) as a result of contaminant discharges from the landfill.
- 5.2.2.2 All sanitary landfills shall be designed to have:
 - 5.2.2.2.1 ~~A liner and internal leachate collection system which meet the requirements of subsections 5.3 and 5.4 of these regulations respectively,~~A liner that meets the requirements of subsection 5.3;
 - 5.2.2.2.2 A setback area, including a buffer zone with appropriate ~~screening,~~screening;
 - 5.2.2.2.3 A gas control system that meets the requirements of ~~subsection 5.5,~~subsection 5.5;
 - 5.2.2.2.4 A surface water management system that meets the requirements of ~~subsection 5.6,~~subsection 5.6;
 - 5.2.2.2.5 A ground water monitoring system that meets the requirements of ~~subsection 5.7,~~and subsection 5.7;
 - 5.2.2.2.6 A capping system that meets the requirements of ~~subsection 5.8.~~subsection 5.8; and
 - 5.2.2.2.7 A leachate collection system that meets the requirements of subsection 5.4.

5.3 Liner

5.3.1 General provisionsProvisions

- 5.3.1.1 An impermeable liner shall be provided at every sanitary landfill to restrict the migration of leachate from the landfill and to prevent contamination of the underlying ~~ground water,~~groundwater.
- 5.3.1.2 The Department reserves the right to set a more stringent liner requirement when it determines that a composite liner is not sufficient to protect human health and the environment.
- 5.3.1.3 The bottom of the liner (or the secondary liner, in a double liner system) ~~shall be at least five (5) feet above the seasonal high water table as measured in the uppermost aquifer beneath the landfill. This 5-foot requirement may be reduced for a more stringent liner system design which provides enhanced protection of ground water, meet the requirements of either subsection 5.3.1.3.1 or 5.3.1.3.2 of this regulation. Existing landfills or lateral expansions that have physically commenced construction before [INSERT DATE 21 DAYS AFTER PUBLICATION AS FINAL IN STATE REGISTER] may continue to operate or construct lateral expansions under previous Department approvals.~~
 - 5.3.1.3.1 Be at least 5 feet above the seasonal high-water table as measured in the uppermost aquifer beneath the landfill; or
 - 5.3.1.3.2 It must be demonstrated to the satisfaction of the Department that there will not be an intermittent, recurring, or sustained hydraulic connection between any portion of the liner system and the uppermost aquifer due to typical fluctuations in groundwater elevations (including the seasonal high-water table). At a minimum, the following items must be addressed within the demonstration:
 - 5.3.1.3.2.1 Demonstration that the post-settlement bottom elevation of the liner system will not have a hydraulic connection to the uppermost aquifer.
 - 5.3.1.3.2.2 Demonstration that sea level rise has been included as factor when evaluating the potential for a hydraulic connection to the uppermost aquifer.
- 5.3.1.4 All liners shall be prepared, constructed, and installed in accordance with a quality assurance plan included in the engineering report ~~[4.2.1.4]~~(see subsection 4.2.1.5 of this regulation) and approved by the Department. For synthetic liners, the plan shall incorporate the manufacturer's recommendations.
- 5.3.1.5 Qualifications of the construction quality assurance staff (CQA) and the geosynthetics installer, including master seamers, on-site supervisor, and construction quality control (CQC) personnel, shall meet the requirements of the approved Quality Assurance plan and be submitted to the Department for review prior to their performing these duties ~~on-site.~~on-site.
- 5.3.1.6 All conformance and destructive samples taken as part of the construction quality assurance plan shall be tested at an independent laboratory which is accredited by the Geosynthetics Institute's Laboratory Accreditation Program ~~(by for the applicable test method)~~method or other accreditation program acceptable to the Department.

5.3.2 Liner characteristicsCharacteristics

- 5.3.2.1 Composite liner. A composite liner must have, ~~as at~~ a minimum:
- 5.3.2.1.1 A primary (upper) liner which meets the following:
- 5.3.2.1.1.1 ~~Is at least 45 mils thick.~~millimeters thick. Geomembrane liner components consisting of high-density polyethylene (HDPE) must be at least 60 millimeters thick for all new cells that begin physical construction after [INSERT DATE 21 DAYS AFTER PUBLICATION AS FINAL IN STATE REGISTER].
- 5.3.2.1.1.2 ~~Is constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeological forces), physical contact with the leachate to which it is exposed, climatic conditions, the stresses of installation, and the stresses of daily operation.~~
- 5.3.2.1.1.3 ~~Is made of synthetic material that meets minimum requirements of the National Sanitation Foundation's publication, "Standard Number 54-1993, Flexible Membrane Liners" for membrane materials covered by this standard, or of other materials of equal or better performance as approved by the Department. Is manufactured in accordance with formal Manufacturing Quality Control (MQC) and Manufacturing Quality Assurance (MQA) processes designed to produce geosynthetic material, which meet or exceed project specifications when tested in accordance with Geosynthetic Research Institute test methods or other nationally recognized standards approved by the Department.~~
- 5.3.2.1.1.4 ~~Is chemically resistant to the waste and leachate managed at the facility.~~facility, as demonstrated by applicable ASTM standards or other nationally recognized test methods approved by the Department. The EPA Test Method 9090 shall be performed using a solid waste leachate (a synthetic leachate mix approved by the Department may be substituted if existing leachate is not available). The specified physical parameters shall be tested before and after liner exposure. Any significant change in test properties shall be considered to be indicative of incompatibility.
- 5.3.2.1.1.5 ~~Is compounded from first quality virgin materials. No reground or reprocessed materials containing encapsulated scrim shall be used in the manufacturing of the liner.~~
- 5.3.2.1.1.6 ~~Is free of pinholes, blisters, holes, and contaminants, which include, but are not limited to, wood, paper, metal.~~metal, and nondispersed ingredients.
- 5.3.2.1.2 A secondary (lower) liner composed of:
- 5.3.2.1.2.1 ~~Compacted clay at least two~~2 feet thick with a hydraulic conductivity no greater than 1×10^{-7} ~~cm/sec,~~cm/sec; or
- 5.3.2.1.2.2 ~~An equivalent material or combination of materials acceptable to the Department.~~
- 5.3.2.2 Natural liner
- 5.3.2.2.1 Use of natural material for liners is restricted to those areas where:
- 5.3.2.2.1.1 ~~Underlying ground water~~groundwater is not used and is not reasonably expected to be used for water ~~supplies,~~supplies; and
- 5.3.2.2.1.2 ~~The landfill subbase is subject to compaction and settlement such that~~where a synthetic membrane would not be feasible.
- 5.3.2.2.2 A natural liner must meet the following requirements as a minimum:
- 5.3.2.2.2.1 ~~It shall consist of compacted clay or equivalent material having a hydraulic conductivity no greater than 4×10^{-7}~~ 1×10^{-7} cm/sec.
- 5.3.2.2.2.2 ~~The material shall be at least five (5)~~5 feet thick, and thicker if ~~necessary~~necessary so as, to prevent any leachate from migrating through the liner at any time during the active life and through the ~~post-closure~~post-closure care period of the facility.
- 5.3.2.2.2.3 ~~The material proposed for use shall be tested by ASTM or equivalent methods and all data shall be submitted to the Department prior to construction. Material shall be tested for the following:~~
- ~~Grain size~~Classification~~Compaction~~Specific gravity~~Hydraulic conductivity~~Porosity~~pH~~Cation exchange capacity~~Pinhole test (if required)~~Mineralogy (if required)~~All data shall be submitted to the Department prior to construction.~~
- 5.3.2.2.2.3.1 Cation exchange capacity.
- 5.3.2.2.2.3.2 Classification.
- 5.3.2.2.2.3.3 Compaction.
- 5.3.2.2.2.3.4 Grain size.
- 5.3.2.2.2.3.5 Hydraulic conductivity.
- 5.3.2.2.2.3.6 Mineralogy (if required).
- 5.3.2.2.2.3.7 pH.

5.3.2.2.2.3.8 Pinhole test (if required).

5.3.2.2.2.3.9 Porosity.

5.3.2.2.2.3.10 Specific gravity.

5.3.2.2.2.4 Testing of the saturated hydraulic conductivity and the effect of leachate on soil hydraulic conductivity shall be performed in accordance with test methods described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846 [Third Edition (November 1986), as amended by Updates I (dated July 1992), II (dated September 1994), IIA (dated August 1993), IIB (dated January 1995), III (dated December 1996), and IIIA (dated April 1998)], SW-846, Third Edition, Final Updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), and V (2015) or other tests approved in writing by the Department.

5.3.2.2.2.5 If ~~onsite~~on-site soils are to be used as a natural liner, the uppermost ~~five (5)~~5 feet of soil shall be excavated and recompacted to ensure homogeneity of the liner, provided, however, that with respect to dredge spoil soils, the excavation and recompaction requirement shall not apply if the applicant can demonstrate that the dredge spoil soils have acceptable characteristics as indicated ~~above~~in subsection 5.3.2.2.2.3.

5.3.2.3 Double liner system

5.3.2.3.1 A double liner system shall meet the following requirements:

5.3.2.3.1.1 It shall consist of ~~two~~2 single liners separated by a drainage layer containing a leak detection system.

5.3.2.3.1.2 The primary (upper) liner shall be a synthetic liner which is at least 30 ~~mils~~millimeters thick and which meets the requirements of subsections 5.3.2.1.1.2 through

5.3.2.3.1.3 The secondary (lower) liner may be either synthetic or natural. If synthetic, it must be at least ~~30 mils~~45 millimeters thick and must meet the requirements of ~~subsection 5.3.2.1.1.2.6~~subsections 5.3.2.1.1.2 through 5.3.2.1.1.6. If natural, it must meet the requirements of subsection

5.3.2.3.1.4 The drainage layer separating the ~~two~~2 liners shall consist of at least 12 inches of soil having a hydraulic conductivity greater than 1×10^2 cm/sec based on laboratory and field testing.

Alternate material may be used for the drainage layer with prior written approval of the Department.

5.3.2.3.1.5 The leak detection system shall be capable of detecting and intercepting liquid within the drainage layer and conveying the liquid to a collection sump or monitoring point where the quantity of flow can be measured and the liquid can be sampled. The operator or designer shall calculate the Action Leakage Rate. The proposed Action Leakage Rate and a response plan if the Action Leakage Rate is exceeded shall be submitted to the Department as part of the application package. The system shall be designed to operate without clogging through the ~~postclosure~~post-closure care period of the facility.

~~Alternate liner designs may be used with prior written approval of the Department.~~ 5.3.2.3.1.6 The upper synthetic liner membrane shall be underlain by either a geosynthetic clay or 2 feet of natural material with a permeability no greater than ~~40^7~~ 1×10^{-7} cm/sec.

5.3.2.3.1.7 Alternate liner designs may be used with prior written approval of the Department.

5.3.2.3.2 A double liner system will be required where landfills are underlain by aquifers which are reasonably expected sources of water supply and/or capable of significant contaminant transport to adjacent surface waters.

5.3.3 Liner construction

5.3.3.1 Construction/installation of composite liner

5.3.3.1.1 At least 15 working days prior to installation of the liner, the owner or operator shall notify the Department of the installation date.

5.3.3.1.2 The liner shall be installed upon a subbase which meets the following requirements:

5.3.3.1.2.1 It shall be capable of supporting the loads and withstanding the stresses that will be imposed on it through the active life and ~~postclosure~~post-closure care period of the facility ~~and of resisting the pressure gradient above and below the liner caused by settlement, compression, or uplift.~~facility.

5.3.3.1.2.2 It shall be capable of resisting the pressure gradient above and below the liner caused by settlement, compression, or uplift.

~~5.3.3.1.2.2.3~~5.3.3.1.2.3 It shall have a smooth surface that is free of all rocks, stones, roots, sharp objects, or debris of any kind.

- ~~5.3.3.1.2-35.3.3.1.2.4~~ It shall be certified in writing by the liner installer as an acceptable subbase for the liner. Written certification of acceptability shall be submitted to the Department prior to installation of the liner. However, submittal of written acceptance may proceed incrementally according to installation schedule.
- 5.3.3.1.3 The minimum post-loading slopes of the liner shall either be:
- 5.3.3.1.3.1 ~~two (2)~~Two percent on controlling slopes and ~~one-half (0.5) percent~~0.5% on remaining slopes;slopes; or
- 5.3.3.1.3.2 ~~the~~The controlling and remaining slopes shall be designed to prevent the head on the liner, excluding sump areas, from exceeding a depth of ~~twelve (12)~~12 inches including post settlement conditions.
- 5.3.3.1.4 The landfill shall be designed to minimize penetrations through the liner. If a penetration is essential, a liquid-tight seal ~~must be accomplished~~ between the penetrating structure and the synthetic membrane.membrane must be accomplished. Compaction of areas adjacent to the penetrating structure shall be to the same density as the surrounding soil to minimize differential settlement. Sharp edges on the penetrating structure must not come in contact with the synthetic material.
- 5.3.3.1.5 Bridging or stressed conditions in the liner shall be avoided with proper slack allowances for shrinkage of the liner during installation and before the placement of a protective soil layer.
- 5.3.3.1.6 Synthetic liners shall have factory and field seams that equal or exceed the strength requirements ~~defined by the National Sanitation Foundation's "Standard Number 54-1993" for that liner material stipulated in the project specification.~~ Strength requirements shall be demonstrated in accordance with applicable Geosynthetic Research Institute and ASTM test methods in accordance with the Construction Quality Assurance Plan for the project. All seams must be visually inspected and tested along their entire length for seam continuity using suitable nondestructive techniques. ~~Seams shall also be tested for strength, at a frequency specified in the quality assurance plan.~~ Other nationally recognized standards may be used with prior approval from the Department. In addition, field seams shall meet the following requirements:
- 5.3.3.1.6.1 Field seaming shall provide a dry sealing surface.
- 5.3.3.1.6.2 Seaming shall not be done when ~~wind~~windy conditions prevail.
- 5.3.3.1.6.3 Seams shall be made and bonded in accordance with the supplier's recommended procedures.
- 5.3.3.1.7 Proper equipment shall be used in placing drainage material over the synthetic liner to avoid stress.
- 5.3.3.1.8 The synthetic membrane shall be protected from the waste by at least ~~two (2)~~2 feet of drainage material incorporating the leachate collection system.
- 5.3.3.1.9 The synthetic membrane must be underlain by a secondary liner as described in subsection
- 5.3.3.2 Construction of natural liner
- 5.3.3.2.1 All lenses, cracks, channels, root holes, or other structural ~~non-uniformities~~nonuniformities that can increase the saturated hydraulic conductivity above ~~4 x 10⁻⁷~~1x10⁻⁷ cm/sec shall be removed.
- 5.3.3.2.2 Natural liners shall be constructed in lifts not exceeding ~~six (6)~~6 inches after compaction to maximize the effectiveness of the compaction throughout the lift thickness. Each lift shall be properly interfaced by scarification between lifts to ensure the bonding.
- 5.3.3.2.3 Clods shall be broken up and the material shall be homogenized before compaction of each lift using mixing devices such as pug mills or rotary tillers.
- 5.3.3.2.4 The maximum slope of the sidewalls shall not be so great as to preclude effective compaction.
- 5.3.3.3 Construction/installation of double liner
- 5.3.3.3.1 The secondary liner shall be constructed in accordance with subsection 5.3.3.2 (if it is a natural liner) or ~~subsection 5.3.3.1.7 (if it is synthetic).~~subsections 5.3.3.1.1 through 5.3.3.1.7 (if it is a synthetic liner).
- 5.3.3.3.2 The primary liner shall be constructed in accordance with subsections 5.3.3.1.1 and ~~5.3.3.1.3-8-5.3.3.1.3.9.~~
- 5.4 Leachate Collection, Treatment, Disposal, ~~And~~and Monitoring
- 5.4.1 General provisions
- 5.4.1.1 All sanitary landfills shall be designed and constructed to include a leachate collection system, a leachate treatment and disposal system, and a leachate monitoring system. Existing landfills or lateral expansions that have physically commenced construction before [INSERT DATE 21 DAYS AFTER PUBLICATION AS FINAL IN STATE REGISTER] may continue to operate or construct lateral expansions under previous Department approvals.

- 5.4.1.2 The leachate systems shall be constructed, installed, and maintained in accordance with a Department approved quality assurance plan.
- 5.4.1.3 The owner or operator shall keep and maintain documentation for the quality assurance procedures through the ~~post-closure~~-post-closure care period of the facility.

5.4.2 Leachate collection

5.4.2.1 Minimum design specifications

- 5.4.2.1.1 The leachate collection system shall be designed and constructed to operate without clogging through the ~~post-closure~~-post-closure care period of the facility.
- 5.4.2.1.2 All elements of the system (pipes, sumps, pumps, etc.) shall be sized according to water balance calculations and shall be capable of handling peak flows.
- 5.4.2.1.3 Collection pipes shall be sized and spaced to efficiently remove leachate from the bottom of the waste and the side walls of the cell. The capacity of the mains shall be at least equal to the sum of the capacities of the laterals.
- 5.4.2.1.4 The pipes shall be designed to withstand the weight, stresses, and disturbances from the overlying wastes, waste cover materials, equipment operation, and vehicular traffic.
- 5.4.2.1.5 The collection pipes shall be designed to drain by gravity to a sump system. Sumps must function automatically and shall contain a conveyance system for the removal of leachate.
- 5.4.2.1.6 Manholes or cleanout risers shall be located along the perimeter of the leachate collection system. The number and spacing of the manholes shall be sufficient to ~~insure~~-ensure proper maintenance of the system by water jet flushing or an equivalent method.
- 5.4.2.1.7 Innovative leachate collection systems incorporating alternative designs may be used, after approval by the Department, if they are shown to be equivalent to or more effective than the specified design.
- 5.4.2.1.8 The leachate collection system must be designed to prevent the leachate head on the liner from exceeding a depth of 12 inches.

5.4.2.2 Construction standards

- 5.4.2.2.1 The leachate collection system shall be installed immediately above an impermeable liner and at the bottom of a drainage layer. The drainage layer shall be at least 12 inches thick with a hydraulic conductivity not less than 1×10^{-2} cm/sec and a minimum controlling slope of ~~two (2) percent~~-2%.

Alternate materials may be used for the drainage layer with prior written approval of the Department.

- 5.4.2.2.2 The following tests shall be performed on the ~~soil materials~~ proposed for use in the drainage layer, and all data shall be submitted to the Department prior to construction of the drainage layer. These tests shall be performed in accordance with current ASTM, AASHTO, or equivalent methods:

- Classification
- Porosity
- Relative density or compaction
- Specific gravity
- Hydraulic conductivity

- 5.4.2.2.2.1 Classification.
- 5.4.2.2.2.2 Porosity.
- 5.4.2.2.2.3 Relative density or compaction.
- 5.4.2.2.2.4 Specific gravity.
- 5.4.2.2.2.5 Hydraulic conductivity.

- 5.4.2.2.3 The leachate collection system and manholes or cleanout risers shall be constructed of materials that can withstand the chemical attack that results from leachates.

5.4.2.3 Operational procedures

- 5.4.2.3.1 The leachate collection system shall operate automatically, whenever leachate is present in the sump, to remove accumulated leachate.
- 5.4.2.3.2 Inspections shall be conducted weekly to verify proper functioning of the leachate collection system and to detect the presence of leachate in the removal sump.

The owner or operator shall keep records on the system to provide sufficient information that the leachate collection system is functional and operating properly. The amount of leachate collected from each cell shall be recorded on a weekly basis.

- 5.4.2.3.3 Collection lines shall be cleaned according to a Department approved scheduled maintenance program and more frequently if ~~required~~-necessary or required by the Department.
- 5.4.2.3.4 Owners or operators of sanitary landfills shall inspect for leachate seeps at least once each operating day and shall maintain records of the results of these inspections and of any

response actions taken that were necessary to prevent leachate from contaminating surface water.

5.4.3 Leachate treatment and disposal

The permittee must maintain all necessary permits and approvals for leachate storage and discharge activities.

5.4.3.1 The leachate treatment and disposal system shall be designed in accordance with ~~09E-1~~ of the following options:

- 5.4.3.1.1 Complete treatment ~~onsite~~ on-site with or without direct discharge to surface water, ~~water~~;
- 5.4.3.1.2 Pretreatment ~~onsite~~ on-site with discharge to an ~~offsite~~ off-site treatment works for final ~~treatment~~, treatment;
- 5.4.3.1.3 Storage ~~onsite~~ on-site with discharge to an ~~offsite~~ off-site treatment works for complete ~~treatment~~, treatment;
- 5.4.3.1.4 Direct discharge to an ~~offsite~~ off-site treatment works, ~~works~~; or
- 5.4.3.1.5 Pretreatment ~~on-site~~ on-site with discharge ~~on-site~~ on-site.

5.4.3.2 Leachate storage prior to treatment shall be within tanks constructed and installed in accordance with the following standards:

- 5.4.3.2.1 The tank shall be placed above ground.
- 5.4.3.2.2 The storage tank shall be designed in accordance with American Petroleum Institute (API), Underwriters Laboratory (UL), or an equivalent standard appropriate to the material being used, and shall be constructed of or lined with material which has a demonstrated chemical resistance to the leachate.
- 5.4.3.2.3 The storage tank area shall have a liner capable of preventing any leachate which may escape from the tank from coming into contact with the underlying soil.
- 5.4.3.2.4 ~~The storage tank area shall be surrounded by a berm, and the bermed area shall have a capacity at least ten percent greater than the capacity of the tank.~~ Secondary containment shall be required for all leachate storage tanks and the outer containment wall shall be compatible with, and capable of containing, the leachate stored. If not roofed or otherwise protected from the accumulation of precipitation, the secondary containment area shall have a capacity of at least 10% greater than the capacity of the tank and shall be equipped with a manually-controlled pump, or gravity drain, to remove precipitation. A double-walled leachate storage tank may be used to fulfill the requirements for secondary containment if the tank is installed with over-fill prevention and leak detection devices that are continuously monitored.
- 5.4.3.2.5 All storage tanks shall be equipped with a venting system.
- 5.4.3.2.6 All storage tanks shall be equipped with a high liquid level alarm or warning device. The alarm system shall be wired to the location where assistance will be available to respond to the emergency.

5.4.3.3 ~~Onsite~~ On-site complete treatment or pretreatment facilities shall be designed and constructed in accordance with the following:

- 5.4.3.3.1 The ~~onsite~~ on-site treatment unit shall be designed based on the results of a treatability study, the results of the operations of a pilot plant, or written information documenting the performance of an equivalent leachate treatment system.
- 5.4.3.3.2 ~~Onsite~~ On-site treatment units shall be designed and constructed by staging of the units to allow for online modification of the treatment system to account for variability of the leachate quality and quantity.

5.4.3.4 For all leachate discharges planned for publicly owned treatment works (POTW), the owner or operator of the landfill shall notify the receiving POTW of intent to discharge leachate into the collection system and shall provide the POTW with analysis of the leachate as required by the POTW.

5.4.3.5 All leachate treatment and disposal systems shall be designed and constructed to control odors.

5.4.3.6 Residuals from the ~~onsite~~ on-site treatment and disposal systems shall be sampled and analyzed for hazardous waste characteristics in accordance with ~~the Delaware~~ Delaware's Regulations Governing Hazardous Waste.

5.4.3.7 Recirculation of leachate may be allowed, subject to approval by the Department, to accelerate decomposition of the waste. At new facilities and expansions of existing facilities, recirculation will be allowed only in areas constructed with a composite liner system or a double liner system. The method of recirculation at all facilities must be approved by the Department in advance and annually so long as the recirculation continues. Records of leachate collected and recirculated must be kept and reported and any resultant problems reported to the Department and remedied as soon as practicable and included in the annual report.

5.4.4 Leachate monitoring

5.4.4.1 The leachate monitoring system shall be capable of measuring the quantity of the flow and sampling the leachate from each landfill cell. The volume of leachate collected from each cell shall be determined at least ~~monthly~~weekly and reported quarterly.

5.4.4.2 Leachate monitoring shall be performed according to a Department approved plan which includes quality control and quality assurance procedures.

5.4.4.3 In addition to the requirement in ~~subsection 5.4.4.2 above~~, subsection 5.4.4.2, samples of leachate shall be collected and analyzed from each waste cell as follows:

5.4.4.3.1 ~~monthly, during the active life of a cell, and at an interval specified by the Department after closure of the cell, for the following parameters: During the operating life of each cell, up to, and including closure, and during the post-closure care period, the owner or operator shall monitor for the parameters listed in DRGSW Table 5-1. Unless otherwise approved by the Department, monitoring from active cells shall be performed monthly. Leachate monitoring of landfill cells in post-closure care shall be performed in accordance with the post-closure care plan.~~

- Alkalinity (Alk)
- Biochemical Oxygen Demand (BOD)
- Chemical Oxygen Demand (COD)
- Chloride (Cl)
- Nitrate (NO₃-N), Nitrite (NO₂-N), and Ammonia (NH₃-N)
- pH
- Specific Conductance (SpC)
- Sulfate (SO₄), and
- Total Dissolved Solids (TDS)
- Total Iron (Fe)
- Total Manganese (Mn)
- Total Organic Carbon (TOC)

DRGSW Table 5-1 – Leachate Indicator Parameters

Alkalinity (Alk)	pH
Biochemical Oxygen Demand (BOD)	Specific Conductance (SpC)
Chemical Oxygen Demand (COD)	Sulfate (SO ₄)
Chloride (Cl)	Total Dissolved Solids (TDS)
Nitrate Nitrogen (NO ₃ -N)	Total Iron (Fe)
Nitrite Nitrogen (NO ₂ -N)	Total Manganese (Mn)
Ammonia Nitrogen (NH ₃ -N)	Total Organic Carbon (TOC)

5.4.4.3.2 ~~at an interval specified by the Department for additional parameters specified by the Department.~~Additional parameters at an interval specified by the Department.

5.4.4.4 Leachate monitoring results shall be submitted to the Department as part of the annual monitoring report or more frequently as directed by the Department.

5.4.4.5 For a double liner system, if the Action Leakage Rate of the leak detection system is exceeded, the owner or operator of the landfill shall notify the Department within ~~five (5)~~5 working days. The owner or operator shall also sample and analyze the liquid in the leak detection system for the same parameters listed in subsection 5.4.4.3.1 and any additional parameters as required by the Department.

5.4.4.6 ~~Test methods used to determine the parameters of subsection 5.4.4.3.1 shall be performed in accordance with test methods described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846, Third Edition, Final Updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), and V (2015) or other tests approved in writing by the Department.~~

5.4.4.7 ~~The Department may observe, and may request advance notice of, the leachate sampling conducted by the permittee or their designee and may request split samples for analysis. The Department reserves the right to initiate its own sampling event.~~

5.5 Gas Control

5.5.1 General provisions

5.5.1.1 ~~Gas~~A gas control system or systems shall be installed at all sanitary landfills.

5.5.1.2 The gas control system shall be designed and constructed to:

5.5.1.2.1 Evacuate gas from within the waste to prevent the accumulation of gas on-site or off-site.

5.5.1.2.2 Prevent and control damage to vegetation.

5.5.1.2.3 Prevent odors from the facility being detectable at the facility ~~property~~boundary line in sufficient quantities to cause or create a condition of air pollution.

5.5.1.3 The concentration of landfill gas in facility structures (except gas recovery system components) ~~and at the facility boundary~~ shall not exceed 25% of the Lower Explosive Limit (LEL). The concentration of landfill gas at the facility boundary line shall not exceed the LEL.

5.5.2 Design and construction standards

5.5.2.1 The owner or operator of a sanitary landfill shall consider both active and passive gas control systems and shall provide an evaluation of the proposed system for Department approval.

5.5.2.2 The owner or operator shall perform an analysis to establish the required spacing of gas control vents to provide an effective system.

5.5.2.3 The gas control system shall be designed to evacuate gas from all levels within the waste.

5.5.2.4 The system shall not interfere with or cause failure of with, nor cause the failure of, the liner or leachate systems.

5.5.3 Monitoring

5.5.3.1 A sufficient number of gas monitoring wells shall be installed to evaluate gas production rates in the landfill.

5.5.3.2 The owner or operator shall sample the gas monitoring wells at least quarterly and provide analytical results ~~as~~as required by conditions specified in the facility ~~permit~~permit as part of the annual report.

5.5.3.3 At sanitary landfills utilizing natural liners, gas monitoring probes must be installed in the soil outside the lined area to evaluate any lateral migration of landfill gas.

5.5.3.4 Emissions from active and passive gas control systems may require a permit from the ~~Air Resources Section of the Division of Air and Waste Management~~Division of Air Quality.

5.5.3.5 The Department may observe, and may request advance notice of, the gas sampling conducted by the permittee or their designee and may request split samples for analysis. The Department reserves the right to initiate its own sampling event.

5.5.4 Response Actions

5.5.4.1 If methane gas levels exceeding the limits specified in subsection 5.5.1.3 are detected, the owner or operator must:

5.5.4.1.1 Immediately take all necessary steps to ensure protection of human health and notify the Department.

5.5.4.1.2 Within ~~seven~~7 days of detection, place in the operating record the methane gas levels detected and a description of the steps taken to protect human health.

5.5.4.1.3 Within 60 days of detection, implement a remediation plan for the methane gas releases, place a copy of the plan in the operating record, and notify the Department that the plan has been implemented. The plan shall describe the nature and extent of the problem and the proposed remedy.

5.5.4.2 For purposes of this section, lower explosive limit means the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at ~~25 degrees C~~25°C and atmospheric pressure.

5.6 Surface Water Management

5.6.1 General provision. An owner or operator of a sanitary landfill shall design, construct, and maintain a surface water management system to:

5.6.1.1 Prevent erosion of the waste and ~~cover~~cover;

5.6.1.2 Prevent the collection of standing ~~water~~water; and

5.6.1.3 Minimize surface water runoff onto and into the waste.

5.6.2 Design requirements

An owner or operator of a sanitary landfill shall include:

5.6.2.1 A run-on control system to prevent flow onto the active portion of the landfill during the peak discharge from a ~~24-hour, 25-year~~24-hour, 25-year storm.

5.6.2.2 A runoff control system from the active portion of the landfill to collect and control at least the water volume resulting from a ~~24-hour, 25-year~~24-hour, 25-year storm. The system shall be designed to include:

5.6.2.2.1 Detention basins to provide temporary storage of the expected runoff from the design storm with sufficient reserve capacity to contain accumulated precipitation and sediment prior to ~~discharge~~discharge;

5.6.2.2.2 Diversion structures designed to prevent runoff generated within the active areas from moving ~~off-site~~off-site of the lined ~~areas~~areas; or

5.6.2.2.3 Any other control systems approved by the Department. ~~5.6.3 Channeling of runoff~~5.6.3.1 Runoff from the active areas within the active cell(s) must be channeled to the leachate treatment and disposal system. ~~5.6.3.2 Runoff from the unused portion of the active cell(s) that has not been in contact with waste shall be channeled to the detention basins or other approved sedimentation control devices.~~ ~~5.6.3.3 Until vegetative~~

~~cover has been established, runoff from closed cells will be directed to the detention basins or other approved sedimentation control devices. 5.6.4 Discharge from the detention basins shall be in compliance with all applicable federal and state regulations.~~

5.6.3 Surface water monitoring

5.6.3.1 The surface water monitoring frequency and parameters to be analyzed shall depend upon the characteristics of the waste and shall be specified by the Department. The Department reserves the right to substitute surface water monitoring required under regulations other than this regulation for this requirement.

5.6.3.2 The Department may observe, and may request advance notice of, the surface water sampling conducted by the permittee or their designee and may request split samples for analysis. The Department reserves the right to initiate its own sampling event.

5.6.4 Channeling of runoff

5.6.4.1 Runoff from the active areas within the active cell or cells must be channeled to the leachate treatment and disposal system.

5.6.4.2 Runoff from the unused portion of the active cell or cells that has not been in contact with waste shall be channeled to the detention basins or other Department approved sedimentation control devices.

5.6.4.3 Until vegetative cover has been established, runoff from closed cells will be directed to the detention basins or other Department approved sedimentation control devices.

5.6.5 Discharge. The construction of and discharge from the detention basins and other surface water management systems shall be in compliance with all applicable federal and state regulations.

5.6.6 Stormwater Plan. Owners or operators of all sanitary landfills shall develop and maintain a Stormwater Plan (SWP) (also known as a Stormwater Pollution and Prevention Plan (SWPPP)) for areas associated with the landfill facility. The SWP/SWPPP shall describe stormwater management controls and practices in-place or planned for the facility and shall identify potential sources of pollutants which may reasonably be expected to affect the quality of stormwater discharges from landfill operations and facility maintenance. The SWP/SWPPP need not address construction activities regulated by a Sediment and Stormwater Plan Approval issued by the Department. An initial plan shall be submitted to the Department no later than **[INSERT DATE 180 DAYS AFTER PUBLICATION AS FINAL IN THE STATE REGISTER]**. SWP/SWPPP plans created under regulations other than this regulation can be substituted for this requirement provided the plan includes the following:

5.6.6.1 Facility identification, including the name, business address, and contact information for the person responsible for development, implementation, maintenance, and revision of the SWP/SWPPP.

5.6.6.2 Facility assessment, including a facility description and narrative describing all activities and potential sources of pollutants that may reasonably be expected to add pollutants to stormwater discharges. Examples include the following activities and potential sources when they are exposed to stormwater: Loading and unloading areas, outdoor storage or processing areas, vehicle/equipment maintenance areas, fueling areas, and liquid storage tanks (including secondary containment areas). The facility assessment shall also identify discharge points from these activities and potential sources of pollutants.

5.6.6.3 Facility map. All markings and delineations on the map shall be clearly identifiable. The map shall identify all areas where solid wastes are stored or disposed, all buildings, areas where sanitary materials are stored, the drainage areas associated with each stormwater discharge from the facility, all stormwater related drainage and discharge structures including all conveyances and appurtenances, any structural stormwater controls (i.e. basins, secondary containments, and stormwater diversions), all surface waters that receive stormwater discharges from the facility, and directions of stormwater flow. The map shall also include locations of the following activities if the activities are exposed to precipitation: fueling stations, vehicle and equipment maintenance or cleaning areas, liquid storage tanks and areas where leachate can be transferred into vehicles for off-site disposal. If contaminated runoff from adjacent activities or facilities is suspected, that should also be included on the map.

5.6.6.4 Stormwater management at the facility. The SWP/SWPPP shall describe stormwater management controls and practices appropriate to control potential pollutants identified in the facility assessment. The SWP/SWPPP must describe the location and use of structural controls (both existing and planned), as well as non-structural controls such as best management practices, industrial material management, spill prevention/response, erosion control, and periodic inspections.

5.6.7 Maintenance on surface water management systems shall be done in accordance with any post-construction requirement from the Division of Watershed Stewardship and conditions specified within the Solid Waste Permit.

5.6.8 An initial periodic report for all completed surface water management systems shall be prepared and signed by a Professional Engineer licensed in Delaware no later than [INSERT DATE 12 MONTHS AFTER PUBLICATION AS FINAL IN STATE REGISTER]. Subsequent periodic reports shall be submitted every 5 years. Modifications to a surface water management system or part of a surface water management system may require approval from other state or federal agencies. The report shall at a minimum include:

5.6.8.1 A description of currently installed surface water management systems;

5.6.8.2 Maps depicting the locations of surface water management systems and surface water flow through the facility to the point of discharge; and

5.6.8.3 Recommendations for continued operations and maintenance.

5.7 Ground Water Monitoring And Corrective ActionGroundwater Monitoring and Corrective Action

5.7.1 General provisionprovision.

Owners or operators of all sanitary landfill facilities shall ~~install maintain~~install, maintain, and operate a ground watergroundwater monitoring program to evaluate facility impact upon ground watergroundwater quality.

5.7.2 Design and construction of monitoring system

5.7.2.1 The ground watergroundwater monitoring system shall be designed by, constructed under the direction of, and attested to by, a Professional Geologist ~~registered~~licensed in Delaware.

5.7.2.2 The groundwater monitoring system shall consist of a sufficient number of wells, installed at appropriate locations and depths, to define the ground watergroundwater flow system and shall be developed in accordance with Departmental requirements to yield ground watergroundwater samples that are representative of the aquifer water quality, both unaffected by (background) and potentially impacted by downgradient contaminant leakage from the facility. The downgradient monitor wells (which are points of compliance for ground watergroundwater performance standards) must be no further than 150 meters from the edge of the sanitary landfill cell, and on the ~~waste~~ facility property.

5.7.2.3 The number, spacing, location, depth, and screened interval of the monitoring wells shall be approved by the Department prior to installation.

5.7.2.4 All monitoring wells shall be constructed in accordance with the Regulations Governing the Construction of Water and Use of Wells and any subsequently approved guidelines. Variation from the existing guidelines must be approved by the Department in writing prior to construction.

5.7.2.5 Monitoring of surface water, into which ground watergroundwater flowing from beneath the landfill discharges, may also be required as part of the ground watergroundwater monitoring program. Parameter analysis may include all those required for the ground watergroundwater sampling plus any additional parameters or tests the Department deems necessary.

5.7.3 ~~Ground water~~Groundwater sampling and analyses

5.7.3.1 The owner or operator shall submit a ground watergroundwater sampling plan to the Department at the time of permit application. The sampling plan must include procedures and techniques for:

5.7.3.1.1 Sample collection, preservation, and ~~transport~~transport;

5.7.3.1.1.1 Samples will be collected at low flow rates (< 1 l/min)liter/min) to minimize turbidity of the samples.

5.7.3.1.1.2 Samples will be field filtered only when turbidity exceeds 10 NTU. Repeated sampling of any well where turbidity exceeds 10 NTU is not permitted without Department approval. Approval will only be granted in cases where turbidity cannot be controlled by careful well construction, ~~development~~development, and sampling.

5.7.3.1.2 Analytical procedures and quality assurance,assurance, and

5.7.3.1.3 Chain of custody ~~control~~control.

5.7.3.2 Sample parameters

5.7.3.2.1 Water levels will be measured prior to sample .

5.7.3.2.2 ~~Ground water~~Groundwater samples will be analyzed for the following list of parameters:

Alkalinity (Alk)

Chemical Oxygen Demand (COD)

Chloride (Cl)

Dissolved Oxygen (DO)

Iron (Fe)

Manganese (Mn)

Nitrate (NO₃N) and Ammonia (NH₃N)

Oxidation-Reduction Potential (ORP) or Eh

pH

Specific Conductance (SpC)

Sulfate (SO₄)

Total Dissolved Solids (TDS)

Total Organic Carbon (TOC)

The parameters listed in Table I when requested by the Department.

Any additional parameters specified by the Department.

5.7.3.2.2.1 All parameters listed in DRGSW Table 5-2.

5.7.3.2.2.2 Parameters listed in DRGSW Table 5-3 when requested by the Department.

5.7.3.2.2.3 Any additional parameters specified by the Department.

DRGSW Table 5-2 – Groundwater Detention Monitoring Parameters

Alkalinity (Alk)	Ammonia Nitrogen (NH ₃ -N)
Chemical Oxygen Demand (COD)	Oxidation Reduction Potential (ORP) or Eh
Chloride (Cl ⁻)	pH
Dissolved Oxygen (DO)	Specific Conductance (SpC)
Iron (Fe)	Sulfate (SO ₄)
Manganese (Mn)	Total Dissolved Solids (TDS)
Nitrate Nitrogen (NO ₃ -N)	Total Organic Carbon (TOC)

DRGSW Table 5-3 – Supplemental Groundwater Detection Monitoring Parameters*

Antimony	trans-1,4-Dichloro-2-butene (110-57-6)
Arsenic	1,1-Dichloroethane; Ethylidene chloride (75-34-3)
Barium	1,2-Dichloroethane; Ethylene dichloride (107-06-2)
Beryllium	1,1-Dichloroethylene; 1,1-Dichloroethene (75-35-4)
Cadmium	cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene (156-59-2)
Chromium	trans-1,2-Dichloroethylene (156-60-5)
Cobalt	1,2-Dichloropropane; Propylene dichloride (78-87-5)
Copper	cis-1,3-Dichloropropene (10061-01-5)
Lead	trans-1,3-Dichloropropene (10061-02-6)
Nickel	Ethylbenzene (100-41-4)
Selenium	2-Hexanone; Methyl butyl ketone (591-78-6)
Silver	Methyl bromide; Bromomethane (74-83-9)
Thallium	Methyl chloride; Chloromethane (74-87-3)
Vanadium	Methylene bromide; Dibromomethane (74-95-3)
Zinc	Methylene chloride; Dichloromethane (75-09-2)
Acetone (67-64-1)	Methyl ethyl ketone; MEK; 2-Butanone (78-93-3)
Acrylonitrile (107-13-1)	Methyl iodide; Iodomethane; (74-88-4)
Benzene (71-43-2)	4-Methyl-2-pentanone; Methyl isobutyl ketone (108-10-1)
Bromochloromethane (74-97-5)	Styrene (100-42-5)
Bromodichloromethane (75-27-4)	1,1,1,2-Tetrachloroethane (630-20-6)
Bromoform; Tribromomethane (75-25-2)	1,1,2,2-Tetrachloroethane (79-34-5)
Carbon disulfide (75-15-0)	Tetrachloroethylene; Tetrachloroethene (127-18-4)
Carbon tetrachloride (56-23-5)	Toluene (108-88-3)
Chlorobenzene (108-90-7)	1,1,1-Trichloroethane; Methylchloroform (71-55-6)
Chloroethane; Ethyl chloride (75-00-3)	1,1,2-Trichloroethane (79-00-5)
Chloroform; Trichloromethane (67-66-3)	Trichloroethylene; Trichloroethene (79-01-6)
Dibromochloromethane; Chlorodibromomethane (124-48-1)	Trichlorofluoromethane; CFC-11 (75-69-4)
1,2-Dibromo-3-chloropropane; DBCP (96-12-8)	1,2,3-Trichloropropane (96-18-4)
1,2-Dibromoethane; Ethylene dibromide; EDB(106-93-4)	Vinyl acetate (108-05-4)
o-Dichlorobenzene; 1,2-Dichlorobenzene (95-50-1)	Vinyl chloride (75-01-4)
p-Dichlorobenzene; 1,4-Dichlorobenzene (106-46-7)	Xylenes (1330-20-7)

*Chemical Abstract Service registry numbers (CAS RNs) are in ().

5.7.3.2.3 The Department may delete the requirement for any constituents required by subsection 5.7.3.2.2 where appropriate. Such ~~deletions~~Deletions will be based on:

5.7.3.2.3.1 The results of leachate monitoring (constituent is not a significant constituent of the leachate);leachate);

5.7.3.2.3.2 Local geochemical considerations (immobility in subsurface);subsurface); and

5.7.3.2.3.3 Other relevant factors.

Table 4

Antimony	trans-1,4-Dichloro-2-butene
Arsenic	1,1-Dichloroethane; Ethylidene chloride
Barium	1,2-Dichloroethane; Ethylene dichloride
Beryllium	1,1-Dichloroethylene; 1,1-Dichloroethene
Cadmium	cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene
Chromium	trans-1,2-Dichloroethylene
Cobalt	1,2-Dichloropropane
Copper	cis-1,3-Dichloropropene
Lead	trans-1,3-Dichloropropene
Nickel	Ethylbenzene
Selenium	2-Hexanone; Methyl butyl ketone
Silver	Methyl bromide; Bromomethane
Thallium	Methyl chloride; Chloromethane
Vanadium	Methylene bromide; Dibromomethane
Zinc	Methylene chloride; Dichloromethane
Acetone	Methyl ethyl ketone; MEK
Nitrification	Methyl iodide; Methadone
Benzene	4-Methyl-2-pentanone; Methyl isobutyl ketone
Bromochloromethane	Styrene
Bromodichloromethane	1,1,1,2-Tetrachloroethane
Bromoform; Tribromomethane	1,1,2,2-Tetrachloroethane
Carbon disulfide	Tetrachloroethylene; Tetrachloroethene

Carbon tetrachloride	Toluene
Chlorobenzene	1,1,1-Trichloroethane; Methylchloroform
Chloroethane; Ethyl chloride	1,1,2-Trichloroethane
Chloroform; Trichloromethane	Trichloroethylene
Dibromochloromethane; Chlorodibromomethane	Trichlorofluoromethane; CFC-11
1,2-Dibromo-3-chloropropane; DBCP	1,2,3-Trichloropropane
1,2-Dibromoethane; Ethylene dibromide; EDB	Vinyl acetate
o-Dichlorobenzene; 1,2-Dichlorobenzene	Vinyl chloride
p-Dichlorobenzene; 1,4-Dichlorobenzene	Xylenes

~~5.7.3.2~~5.7.3.2.4 Test methods used to determine the parameters of subsection 5.7.3.2.2 shall be those described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846 [Third Edition (November 1986), as amended by Updates I (dated July 1992), II (dated September 1994), IIA (dated August 1993), IIB (dated January 1995), III (dated December 1996), and IIIA (dated April 1998)], SW-846, Third Edition, Final Updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), and V (2015) or other tests approved in writing by the Department.

5.7.3.3 Monitoring frequency will be at least semiannual. An alternate frequency may be specified by the Department based on consideration of the following conditions:

5.7.3.3.1 Lithology of the aquifer and unsaturated ~~zone~~zone;

5.7.3.3.2 Hydraulic conductivity of the aquifer and unsaturated ~~zone~~zone;

5.7.3.3.3 ~~Ground water~~Groundwater flow rates;rates;

5.7.3.3.4 Distance and travel time between the waste ~~unit(s)~~unit or units and the downgradient monitor wells and possible points of exposure to any landfill derived contaminants in wells or receiving surface ~~waters~~waters; and

5.7.3.3.5 Resource value of the aquifer.

5.7.3.4 The Department may ~~observe the ground water~~observe, and may request advance notice of, groundwater sampling conducted by the permittee or ~~his/her~~the permittee's designee and may request split samples for analysis. The Department reserves the right to initiate its own sampling event.

5.7.3.5 If the Department determines that the groundwater monitoring data indicates that a groundwater contamination has occurred, the Department may require a remedial action program.

5.7.4 Data evaluation

5.7.4.1 The owner or operator must establish the background quality for each sampling parameter or constituent. The background quality is that which would be expected with no impact by contaminant releases from the waste cells.

5.7.4.2 Methods of Data Evaluation. The owner or operator must specify in the operating record the methods to be used for statistical evaluation of the monitoring data. These may include:

5.7.4.2.1 A parametric analysis of variance followed by multiple comparison procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent.

5.7.4.2.2 An analysis of variance based on ranks followed by multiple comparison procedures to identify statistically significant evidence of contamination. The method must include

estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent.

~~5.7.4.2.15.7.4.2.3~~ A tolerance or prediction interval procedure in which a range for each constituent is established from the distribution of the background data and the level of each constituent in each compliance (downgradient) monitor well is compared to the upper tolerance or prediction ~~limit,~~limit.

~~5.7.4.2.25.7.4.2.4~~ A control chart approach that plots concentrations of each constituent versus the background ~~range,~~or range.

~~5.7.4.2.35.7.4.2.5~~ Any other statistical method chosen ~~to meet~~that meets the following requirements and is approved by the Department:

~~5.7.4.2.3.15.7.4.2.5.1~~ Appropriate in distribution and number of available data to meet the requirements of the statistical test chosen; and

~~5.7.4.2.3.25.7.4.2.5.2~~ Capable of limiting individual constituent comparisons to Type I error levels less than 0.01 or multiple constituent comparisons to Type I error levels less than 0.05, for each testing period. (This requirement does not apply to tolerance intervals, prediction intervals, or control charts.)

5.7.4.3 If necessary, the statistical analysis method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

5.7.4.4 The owner or operator must determine whether or not there is a statistically significant increase over background values for each parameter or constituent required in the monitoring program by comparisons using the chosen method of evaluation. This evaluation must be performed within a reasonable period of sampling and ~~analysis normally~~analysis. Under normal conditions performing the evaluation within 30 days of obtaining sampling ~~results.~~results shall be considered within a reasonable period.

5.7.4.5 If any statistically significant increase occurs, the permittee must:

5.7.4.5.1 ~~notify~~Notify the Department and place the result in the operating record within ~~14 days,~~7 days; and

5.7.4.5.2 ~~assess~~Access the probable accuracy and possible risk associated with the finding in the annual report.

5.7.4.6 Performance standards will be established at each site~~facility~~ which are intended to provide adequate protection for human health and the environment. The performance standards may be proposed by the permittee, but must be approved by the Department, and shall be incorporated in the facility permit. In general, performance standards will be the maximum contaminant levels (MCLs) for public drinking water. However, the Department may specify performance levels which are more stringent to protect adjacent surface water ~~(and~~and prevent violation of surface water quality ~~standards)~~standards. Or, the Department may specify performance levels which are less stringent (where ground water when groundwater at the site~~facility~~ will not threaten existing or reasonably expected sources of drinking water or cause violation of surface water quality ~~standards)~~standards, as appropriate.

5.7.4.7 The points of compliance at which performance standards must be met must be no more than 150 meters from the edge of the furthest downgradient waste cell and must be on the ~~waste management~~ facility property.

5.7.4.8 If any release of contaminants from the landfill to the groundwater is detected, either by exceedance of background concentrations or violation of a performance standard in the downgradient wells (points of compliance), the owner or operator must:

5.7.4.8.1 Notify the Department and place the result in the operating record within ~~14 days,~~7 days;

5.7.4.8.2 Resample to confirm the result and/or demonstrate that the result was an error or that the increase was due to a source other than the permitted waste facility within ~~90 days,~~days;

5.7.4.8.3 Notify the Department of the result of confirmation within 14 days of availability of the ~~result,~~result; and

5.7.4.8.4 If a release is confirmed, perform an assessment of corrective measure as described in subsection 5.7.6.

5.7.5 Reporting

5.7.5.1 The owner or operator will compile and evaluate all ~~ground water~~groundwater data within a reasonable period of time following sampling and analysis. A tabulation of water elevations and quality will be submitted to the Department within 60 days of each sampling event. Reports of any statistically significant increases in downgradient wells or violation of performance standards in wells or streams must be reported to the Department within ~~14 days as noted above.~~7 days as specified in subsection 5.7.4.

5.7.5.2 An annual monitoring report must be submitted by the ~~permittee to the Department which includes the following:~~permittee to the Department. The report shall include, unless the

Department in its sole discretion substitutes a submission or submissions received during the reporting year for an item below, the following:

- 5.7.5.2.1 Maps showing the locations of sampling points, water elevations, and ground ~~water~~groundwater flow directions and approximate rates for each sampling period;
- 5.7.5.2.2 Tabulation of all ~~ground water~~groundwater levels and elevations, leachate volumes collected and ~~treated~~treated, and leachate and water quality data;
- 5.7.5.2.3 Presentation of statistical results and graphs depicting water quality parameter concentrations with time;
- 5.7.5.2.4 Identification of any statistically significant increases in compliance wells and/or exceedances of performance standards;
- 5.7.5.2.5 Confirmation results and conclusions related to the accuracy of these results and/or reasonable explanation for the results;
- 5.7.5.2.6 Recommendations for any changes in the monitoring program including changes in the ~~number,~~number or location of sampling points, sampling frequency, ~~parameters~~parameters, or procedures;
- 5.7.5.2.7 An evaluation of the significance of the results including whether they indicate a contaminant release has occurred and any recommendations for corrective measures, if ~~appropriate~~appropriate;
- 5.7.5.2.8 Groundwater monitoring well activities (e.g., well maintenance, well decommissioning, etc.); and
- 5.7.5.2.9 Any additional hydrogeologic reporting requirements as specified in the Solid Waste Permit.
- 5.7.5.3 In addition to paper copies of reports, the Department may require all or part of any required report to be submitted on ~~machine-readable media~~electronically in a format mutually acceptable to the Department and the permittee. With the approval of the Department, reports submitted on ~~machine-readable media~~electronically may be substituted for paper reports.
- 5.7.6 Assessment of Corrective Measures
 - 5.7.6.1 An assessment (~~reassessment~~)or reassessment of corrective measures by the owner or operator is required (~~within 90 days~~)within 90 days of confirmation of a contaminant release or an exceedance of a performance standard. The owner or operator must perform this assessment which must include:
 - 5.7.6.1.1 Identification of the nature and extent of the release (which may require construction and sampling of additional wells, analysis for additional constituents including those required for leachate, geophysical surveys and/or other measures);
 - 5.7.6.1.2 Reassessment of contaminant fate and potential contaminant ~~receptors (wells and/or receiving streams);~~receptors, which may include wells and receiving streams;
 - 5.7.6.1.3 Evaluation of feasible corrective measures to:
 - 5.7.6.1.3.1 Prevent exposure to potentially harmful levels of contaminants (exceeding performance standards);
 - 5.7.6.1.3.2 Reduce, ~~minimize~~minimize, or prevent further contaminant releases;
 - 5.7.6.1.3.3 Reduce, ~~minimize~~minimize, or prevent the offsite migration of contaminants.
 - 5.7.6.1.4 The implementability (and time to implement) and costs of the feasible alternatives;
 - 5.7.6.1.5 Recommendations for remedial action.
 - 5.7.6.2 The owner or operator must present the results of the corrective measures assessment, including a proposed remedy, (with a schedule for initiation and completion) for public comment at a public meeting.
- 5.7.7 Selection of Remedy
 - 5.7.7.1 Based on the results of the corrective measures assessment and public meeting, the owner/operator will select a remedial action.
 - 5.7.7.2 Remedies must:
 - 5.7.7.2.1 Be protective of human health and the environment;
 - 5.7.7.2.2 Control ~~source(s)~~source or sources of contaminant releases so as to reduce or eliminate (~~to the maximum extent practicable~~)practicable, further releases of contaminants that pose a threat to human health or the environment;
 - 5.7.7.2.3 Comply with the ~~site~~facility performance standards at the points of compliance (~~to the extent feasible~~)and to the maximum extent practicable;
 - 5.7.7.2.4 Remove from the environment as much of the contaminated material that was released from the facility to the maximum extent practicable, taking into account factors such as avoiding inappropriate disturbance of sensitive ecosystems and avoiding harm to human health and the environment; and
 - 5.7.7.2.45.7.7.2.5 Comply with standards for the management of wastes.

5.7.7.3 The Department may determine that remediation of a contaminant release is not necessary if the permittee can demonstrate to the satisfaction of the Department ~~(or Department, or the Department certifies that it is satisfied)~~ satisfied that the ~~ground-water~~ groundwater is not currently or reasonably expected to be a source of drinking water, will not migrate so as to threaten a source of drinking water ~~or water and~~, will not cause violation of surface water quality standards, (i.e., does not represent a significant threat to human health or the environment).

5.7.8 Implementation of Corrective Action

5.7.8.1 Within 90 days of selecting a remedy under subsection 5.7.7, the owner or operator must initiate remedial activities. Based on the schedule established under subsection 5.7.6.2 for initiation of remedial activities, the owner or operator must:

5.7.8.1.1 ~~implement~~ Implement the corrective action remedy;

5.7.8.1.2 Take any interim measures necessary to ensure protection of human health and the environment ~~(such as which may include replacement of contaminated or imminently threatened water supplies);~~ supplies; and

5.7.8.1.3 ~~Perform ground-water and/or groundwater monitoring,~~ surface water monitoring, or both to demonstrate the effectiveness of the remedy including whether or not compliance is achieved with the performance standards.

5.7.8.2 If the owner or operator determines, based on information obtained after implementation of the remedy has begun or other information that compliance with remediation objectives (including achievement of performance standards) cannot be practically achieved with the remedy selected, the owner or operator must notify the Department and request authorization to proceed with another feasible method consistent with the overall objective of the remedy.

5.7.8.3 If the permittee determines that compliance with remedial action objectives contained in ~~(subsection 5.7.7)~~ subsection 5.7.7 cannot be practically achieved, the permittee must notify the ~~Department~~ Department, and implement alternate methods to control exposure of humans ~~or~~ and the environment to residual contamination and implement alternative control measures.

5.7.8.4 Remedies selected shall be considered complete when:

5.7.8.4.1 All actions required to implement the remedy have been achieved; and

5.7.8.4.2 The ~~ground-water~~ groundwater protection standards or alternate requirements agreed upon have been achieved for a period of ~~three~~ 3 years or alternate period approved by the Department.

5.7.8.5 Upon completion of the remedy, the owner or operator must notify the Department that a certification of the remedy has been completed in compliance with the requirement and placed in the operating records. This certification must be signed by a Professional Geologist ~~registered~~ licensed in Delaware.

5.7.8.6 Upon completion of the remedy, the owner or operator will continue ~~ground-water~~ groundwater monitoring as required by provisions of subsection 5.7.3 and approved by the Department.

5.8 Capping System

5.8.1 Requirement for a capping system

5.8.1.1 Upon closure of the landfill or landfill cell the permittee shall install a capping system that will control the emission of gas, promote the establishment of vegetative cover, and minimize infiltration and percolation of water into, and prevent erosion of, the waste throughout the ~~postclosure~~ post-closure care period.

5.8.1.2 The capping system shall be in place 180 days following final waste disposal activity unless the Department approves a longer period of time.

5.8.1.3 The capping system shall extend beyond the edge of the lined area.

5.8.1.4 The proposed design of the capping system must be approved by the Department prior to installation.

5.8.2 Composition of the capping system. The capping system shall consist of at least the following components:

5.8.2.1 A final grading layer on the waste, consisting of at least ~~twelve~~ 12 inches of soil, to attain the final slope and provide a stable base for subsequent system components. Daily and intermediate cover may be used for this purpose.

5.8.2.2 A low permeability layer to minimize infiltration, that has a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present. This infiltration control layer must consist of at least the following:

5.8.2.2.1 A 30 mil synthetic geomembrane underlain by a ~~geotextile~~ geotextile; or

5.8.2.2.2 ~~24~~ Twenty-four inches of fine textured soil with a hydraulic conductivity no greater than 1×10^{-7} cm/sec. 10^{-7} cm/sec or depth of equivalent material having a hydraulic conductivity no greater than 1×10^{-7} cm/sec. The depth to be determined is based on the hydraulic conductivity of 24 inches of clay at a hydraulic conductivity of 1×10^{-7} cm/sec.

~~If the landfill has a synthetic liner system, it must have a synthetic infiltration control layer. Alternative materials that achieve an equivalent performance may be used for the infiltration control layer with prior written approval of the Department.~~

5.8.2.2.3 If the landfill has a synthetic liner system, it must have a synthetic infiltration control layer.

5.8.2.2.4 Alternative materials that achieve an equivalent performance may be used for the infiltration control layer with prior written approval of the Department.

5.8.2.3 Final Cover. The permittee shall propose a suitable vegetation dependent upon the quality and characteristics of the topsoil and compatible with the intended final use of the facility. Maintenance schedules and application rates for fertilizer and mulch shall also be submitted for approval. A final cover shall be designed to provide plant rooting and prevent erosion consisting of:

5.8.2.3.1 Eighteen (18) inches of soil to provide rooting depth and moisture for plant growth; and

5.8.2.3.2 Six (6) inches of topsoil or other material approved by the Department to support the proposed vegetation; or

5.8.2.3.3 A suitable layer of alternative material or combination thereof to assure adequate rooting and moisture retention to support the proposed vegetation.

5.8.2.3.4 Alternate materials may be used for the final cover with prior written approval of the Department.

~~The permittee shall propose a suitable vegetation dependent upon the quality and characteristics of the topsoil and compatible with the intended final use of the facility. Maintenance schedules and application rates for fertilizer and mulch shall also be submitted for approval.~~

5.8.3 Final slopes

5.8.3.1 The grades of the final slope shall be constructed in accordance with the following minimum standards:

5.8.3.1.1 The final grade of the top slope, after allowing for settlement and subsidence, shall be designed to promote runoff; and

5.8.3.1.2 The final ~~grades~~ grade of the side slopes shall be, at a maximum, ~~three~~ 3 horizontal to ~~one~~ 1 vertical (3:1).

5.8.3.2 The top and side slopes shall be maintained to prevent erosion of the capping system and to ~~insure~~ ensure complete vegetation cover.

5.9 Landfill Operation ~~And~~ and Maintenance Standards

5.9.1 General

5.9.1.1 Sanitary landfills and landfill cells closed in accordance with this regulation shall conduct maintenance, recordkeeping, and reporting activities in accordance with subsections 5.10 through 5.12 and the Solid Waste Permit.

~~5.9.1.15~~ 5.9.1.2 Sanitary landfills shall be operated so as to create an aesthetically desirable environment and to prevent degradation of land, air, surface water, or ~~ground water~~ groundwater.

~~5.9.1.25~~ 5.9.1.3 Sanitary landfills shall be maintained and operated to conform with the approved Plan of Operation.

5.9.2 Details of operation and maintenance

5.9.2.1 Spreading and compacting. The working face shall be confined to the smallest practical area, as is consistent with the proper operation of trucks and equipment. The waste shall be spread in layers and compacted by repeated passes of the compacting equipment to obtain the degree of compaction specified in the Solid Waste ~~permit~~ Permit

5.9.2.2 Lift depth. The lift depth shall not exceed the limit specified in the Solid Waste ~~permit~~ Permit

5.9.2.3 Cover

5.9.2.3.1 Daily cover shall be placed over all solid waste by the end of the working day or, at more frequent intervals if necessary.

5.9.2.3.1.1 Daily cover shall control odors, disease vector breeding, animal attraction, blowing litter, scavenging, and reduce the potential for fires.

5.9.2.3.1.2 Daily cover shall consist of ~~six~~ 6 inches of earthen material or an alternate material or thickness approved by the Department in accordance with ~~subsection 5.9.2.3.4 of these regulations~~ subsection 5.9.2.3.4.

5.9.2.3.1.3 The daily cover layer which remains in place under waste shall not preclude leachate flow downwards towards the leachate collection system.

5.9.2.3.1.4 Exposed daily cover which remains in place for more than ~~two~~ 2 days shall be inspected at least weekly and shall be maintained as necessary to control odors, disease vector breeding, animal attraction, blowing litter, scavenging, and fires.

5.9.2.3.2 Intermediate cover shall be placed over any area that received daily cover and did not receive additional solid waste within 180 days. Intermediate cover may be required more or less frequently if deemed necessary by the Department.

- 5.9.2.3.2.1 Intermediate cover shall control odors, disease vector breeding, animal attraction, blowing litter, scavenging, and reduce the potential for fires. Intermediate cover shall prevent leachate from entering storm water management systems or surface waters.
- 5.9.2.3.2.2 Intermediate cover shall consist of 12 inches of earthen material, which may include daily cover. Intermediate cover consisting of alternate materials or thickness may be used as approved by the Department in accordance with ~~subsection 5.9.2.3.4 of these regulations.~~subsection 5.9.2.3.4.
- 5.9.2.3.2.3 Intermediate cover placement and maintenance shall be consistent with the operations plan and leachate control design of the landfill. If the intermediate cover has been placed to reduce infiltration of water into the landfill, it must be removed or otherwise modified to allow leachate to move downwards towards the leachate collection system prior to placement of additional solid waste.
- 5.9.2.3.2.4 Intermediate cover shall be inspected at least weekly and shall be maintained as necessary to control odors, disease vector breeding, animal attraction, blowing litter, scavenging, fires, and to prevent leachate from entering storm water management systems or surface waters.
- 5.9.2.3.3 Daily or intermediate cover shall not contain putrescible materials or large objects.
- 5.9.2.3.4 Alternate cover materials. The Department may approve alternate materials or material thickness as daily and intermediate cover once the owner or operator:
 - 5.9.2.3.4.1 ~~provides~~Provides written request to the ~~Department,~~Department demonstrating that the material and supporting operations meet the performance criteria for daily and intermediate covers specified in ~~these regulations~~this regulation without presenting an increased threat to human health or the environment.
 - 5.9.2.3.4.2 ~~prescribes~~Prescribes in the operations ~~plan,~~plan any unique requirements for placement, maintenance, and inspection of the alternate material and for any additional conditions, equipment, or staff required.
- 5.9.2.4 Control of nuisances and hazards
 - 5.9.2.4.1 Odor: The operation of the landfill shall not result in odors associated with solid waste being detected ~~off-site.~~off-site.
 - 5.9.2.4.2 Litter: The scattering of refuse and windblown litter shall be controlled by the use of portable fences, natural barriers, or other suitable methods. No refuse or litter shall be allowed to migrate ~~off-site.~~off-site.
 - 5.9.2.4.3 Vectors, dust, fires: The operation of the landfill shall be conducted in a manner which eliminates to the extent possible insect and rodent breeding, dust problems, and fires. Sanitary Landfills must develop and implement a dust control plan in accordance with the Solid Waste Permit.
- 5.9.2.5 Bulky waste. Adequate provision shall be made for the handling and compaction of bulky wastes when ~~such~~the wastes are not excluded from the ~~site.~~facility. Tires in quantities greater than ~~ten~~10 per truckload shall be sliced or shredded before being landfilled.
- 5.9.2.6 Special solid wastes. The permittee may make provision for the limited disposal of specified special solid wastes. Disposal of these wastes shall be conducted pursuant ~~to~~to, a plan submitted to and approved ~~by~~by, the Department.
- 5.9.2.7 Access. Access roads to the point of waste discharge shall be designed, constructed, and maintained so that traffic will flow smoothly and will not be interrupted by inclement weather. Access to the ~~site~~facility shall be limited to those times when an attendant is on duty and to those persons authorized to use the ~~site~~facility for the disposal of solid waste. This ~~section~~subsection shall not be construed to limit right of entry pursuant to 7 Del.C. §6024. Access to the ~~site~~facility by unauthorized persons shall be prevented by the use of barriers, fences and gates, or other suitable means.
- 5.9.2.8 Salvaging. Salvaging operations shall be so organized that they will not interfere with the proper disposal of any solid waste. No salvage operation shall be allowed which creates unsightliness, nuisances, health hazards, or potential safety hazards.
- 5.9.2.9 Personnel. ~~Sufficient numbers and types of personnel shall be available at the site to insure capability for operation in accordance with these regulations.~~Sufficient types and numbers of trained personnel shall be available at the facility to ensure capability for operation in accordance with this regulation. The facility shall be operated under the close supervision of an individual who is thoroughly familiar with the requirements and operational procedures of the facility and is experienced in the matter of solid waste management.
- 5.9.2.10 Equipment. Adequate numbers and types of equipment commensurate with the size of the operation shall be available at the ~~site to insure~~facility to ensure operation of the landfill in accordance with the provisions of ~~these regulations and the plan of operation.~~this regulation and

the Plan of Operation. Substitute equipment shall be obtained when maintenance or breakdown renders normal operating equipment inoperative for more than 24 hours. All refuse moving equipment shall be cleaned routinely and maintained according to the manufacturer's recommendations.

5.9.2.11 Employee health and safety. Employees at the site/facility shall work under all appropriate health and safety guidelines established by the Occupational Safety and Health Administration. The owner or operator of the landfill shall provide suitable shelter, sanitary facilities, and safe drinking water for personnel at the site/facility. A reliable telephone or radio communication system shall be provided for site/facility personnel. First aid equipment shall be available at the site/facility.

5.9.2.12 Procedures for excluding the receipt of hazardous waste

5.9.2.12.1 Owners or operators of all sanitary landfill cells must implement a program at the facility for detecting and preventing the disposal of regulated hazardous wastes and polychlorinated biphenyls (PCB) wastes. This program must include, at a minimum:

5.9.2.12.1.1 Random inspections of incoming loads unless the owner or operator takes other steps to ensure that incoming loads do not contain regulated hazardous wastes or PCB wastes;

5.9.2.12.1.2 Records of any inspections;

5.9.2.12.1.3 Training of facility personnel to recognize regulated hazardous waste and PCB wastes; and

5.9.2.12.1.4 Notification of Notifying the Department if a regulated hazardous waste or PCB waste is discovered at the facility.

5.9.2.13 Procedures for excluding the receipt of radioactive material

5.9.2.13.1 Owners or operators of all sanitary landfill cells must implement a program at the facility for detecting and preventing the disposal of radioactive materials, as defined by this regulation.

This program must include, at a minimum:

5.9.2.13.1.1 Method to be used to inspect incoming loads;

5.9.2.13.1.2 Method or methods to be used to manage radioactive materials discovered at the facility;

5.9.2.13.1.3 Training of facility personnel; and

5.9.2.13.1.4 Notifying the Department if a regulated radioactive material is discovered at the facility.

5.9.2.14 Weekly Inspections. No later than **[INSERT DATE 30 DAYS AFTER PUBLICATION AS FINAL IN THE STATE REGISTER]**, weekly inspections shall be conducted by a Qualified Person at intervals not to exceed 7 days. At a minimum, weekly inspections shall include visual observations for any appearance of actual or potential structural weakness and other conditions that can disrupt the operation or safety of the sanitary landfill. Results of the weekly inspections shall be maintained per subsection 5.9.3. If the operator cannot conduct an inspection within a particular week, the Department shall be notified as to the reason for missing the weekly inspection before the end of that week. Additionally, the missed weekly inspection shall be conducted at the earliest possible time the following week but will not count as that week's inspection.

5.9.2.15 Annual Inspection. An annual landfill inspection shall be conducted by a Professional Engineer licensed in Delaware to evaluate whether the landfill design, construction, operation, and maintenance is consistent with recognized and generally accepted good engineering standards. Reports are to be submitted annually as part of the reporting requirements of subsection 5.9.4.

5.9.2.15.1 Inspections. At a minimum, the inspection must include a review of available information regarding the status and condition of the landfill (e.g., inspections within the operating record) and a visual inspection of the landfill to identify signs of distress or malfunction of the landfill.

5.9.2.15.2 Inspection Report. At a minimum, the inspection report must document any changes in geometry of the structure since the previous inspection, any appearances of an actual or potential structural weakness of the landfill, any conditions that are disrupting or have the potential to disrupt the operations and safety of the landfill, and any other changes which may have affected the stability or operation of the landfill since the last inspection.

5.9.2.15.3 Deficiencies and Releases. If a deficiency or release is identified during the inspection, the owner or operator must remedy the deficiency or release as soon as feasible and prepare documentation detailing the corrective measure. Deficiencies or releases must also be reported in accordance with the Solid Waste Permit, as applicable.

5.9.3 Recordkeeping. Records must be made available for inspection, with reasonable notice, by representatives of the Department. The following information must be recorded, as it becomes available, and retained by the owner or operator of any new or existing sanitary landfill until the end of the ~~postclosure~~ post-closure care period of the landfill:

- 5.9.3.1 Records demonstrating that liners, leachate control systems, gas control systems, ~~cap-ping~~capping systems, surface water management systems, and all monitoring systems are constructed or installed in accordance with the design criteria required in ~~Section 5, Subsections 3, 4, 5, 6, 7 and 8,~~subsections 5.3 through 5.8.
- 5.9.3.2 Monitoring, testing, or analytical data where required by ~~Section 5, Subsections 4, 5, 6, 7, and 8,~~subsections 5.4 through 5.8.
- 5.9.3.3 Volume and/or weight of wastes received quarterly.
- 5.9.3.4 Types of waste received quarterly (industrial waste, asbestos-containing waste, and other wastes which require Department approval prior to being landfilled).
- 5.9.3.5 Location of any monofilled waste.
- 5.9.3.6 Any report required to be submitted by the Solid Waste Permit.
- ~~5.9.3.65~~5.9.3.7 Any additional records specified by the Department.
- 5.9.4 Reporting. The permittee shall submit to the Department on an annual basis a report summarizing facility operations for the preceding calendar year. The report shall describe and summarize all solid waste disposal, environmental monitoring, and construction activities conducted within the year covered by the report. The report shall be prepared under the direction of, and signed by, the Facility Manager. In addition to paper copies of reports, the Department may require documents to be submitted electronically in a format mutually acceptable to the Department and the permittee. With approval of the Department, reports submitted electronically may be submitted in lieu of paper reports. The report shall include, but not necessarily be limited to, the following:
 - 5.9.4.1 The volume or tonnage of solid waste landfilled at the facility;
 - 5.9.4.2 The estimated remaining capacity of the facility, in both tonnage and years;
 - 5.9.4.3 The volumes ~~(or tonnages)~~or tonnages and types of specified special solid wastes landfilled at the facility;
 - 5.9.4.4 Leachate quantity and quality data as required in ~~subsection 5.4.4,~~subsection 5.4.4 and as specified in the Solid Waste permit;~~Permit;~~
 - 5.9.4.5 Gas monitoring data as required in ~~and~~ as specified in the Solid Waste ~~permit;~~Permit;
 - 5.9.4.6 An updated estimate of the cost of closure and ~~postclosure~~post-closure care of the facility, as required in ~~subsection 5.10.3.4;~~subsection 5.10.3.5;
 - 5.9.4.7 Any intentional or accidental deviations from the approved Plan of Operation, and any unusual situations encountered during the year;
 - 5.9.4.8 All construction or corrective work conducted ~~on the site~~at the facility in accordance with approved plans or to achieve compliance with ~~these regulations.~~ The permittee must also submit any additional reports specified in the Solid Waste permit, this regulation; and
 - 5.9.4.9 Any additional reports as specified in the Solid Waste Permit.
- 5.9.5 Prohibitions
 - 5.9.5.1 The owner or operator of a sanitary landfill shall not knowingly accept for disposal any hazardous waste.
 - 5.9.5.2 Open burning of any solid waste is prohibited within the active portion of the sanitary landfill.
 - 5.9.5.3 Sanitary landfills are prohibited from accepting bulk or noncontainerized liquid waste unless the waste is a household waste other than septic waste.
 - 5.9.5.4 Scavenging is prohibited on any landfill ~~site.~~facility.
 - 5.9.5.5 No wastes other than those specified in the Solid Waste Permit may be disposed at the facility unless otherwise approved by the Department.
- 5.10 Closure
 - 5.10.1 General. The owner or operator of a sanitary landfill must close the completed landfill or landfill cell in a manner that:
 - 5.10.1.1 Minimizes the need for further ~~maintenance,~~maintenance; and
 - 5.10.1.2 Minimizes the ~~postclosure~~post-closure escape of solid waste constituents, leachate, and landfill gases to the surface water, ~~ground water,~~groundwater, or atmosphere.
 - 5.10.2 Required submittals; ~~notification~~notification.
 - 5.10.2.1 An owner or operator of a new sanitary landfill must submit a conceptual closure plan for the facility at the time of initial (i.e., construction) permit application.
 - 5.10.2.2 At least 180 days prior to the projected date when wastes will no longer be accepted at the landfill or cell, the landfill owner or operator shall submit to the Department written notification of intent to close the facility or cell, a closure plan, and a closure schedule.
 - 5.10.2.3 If the Department determines that the closure plan and closure schedule are sufficient to ensure closure in accordance with the performance standards described in ~~subsection 5.10.1,~~subsection 5.10.1, it will modify the ~~solid waste permit~~Solid Waste Permit to allow closure to take place.
 - 5.10.2.4 The owner or operator shall not commence closure activities before receiving the necessary modifications to the ~~solid waste permit.~~Solid Waste Permit.

- 5.10.2.5 A copy of the closure plan must be maintained at the facility or at some other location designated by the owner or operator through the ~~postclosure~~ post-closure care period of the facility.
- 5.10.3 ~~Closure plans for sanitary landfills must include, as a minimum, the following:~~ Closure plan contents. The closure plan must be certified by a Professional Engineer licensed in Delaware. The closure plan for a sanitary landfill or cell must include, at a minimum, the following:
- 5.10.3.1 A description of the methods, procedures, and processes that will be used to close a landfill and each individual cell thereof in accordance with the closure performance standard in subsection 5.10.1.
- 5.10.3.2 A description of the capping system required under subsection 5.8. This shall include a description of the system design, the type of material to be used, and a discussion of how the capping system will achieve the objectives of ~~subsection 5.10.1, above~~ subsection 5.10.1.
- 5.10.3.3 A description of other activities necessary to satisfy the closure performance standard including, but not limited to, the removal or disposal of all ~~nonlandfilled~~ non-landfilled wastes located ~~on site~~ on-site (e.g., wastes from landfill runoff collection ponds).
- 5.10.3.4 An estimate of the maximum inventory of waste on-site over the active life of the landfill.
- ~~5.10.3.45.~~ 10.3.5 An estimate of the cost of closing the facility or ~~cell~~ cell, and of the cost of ~~postclosure~~ post-closure monitoring and maintenance throughout the ~~postclosure~~ post-closure care period. These estimates shall be updated yearly and submitted to the Department as part of the annual report described in subsection 5.9.4.
- ~~5.10.3.55.~~ 10.3.6 A plan for ~~postclosure~~ post-closure care of the facility sufficient to ensure that the standards described in subsection 5.10.1 will be met. This will include:
- 5.10.3.6.1 10.3.6.1 A description of the monitoring and maintenance activities required and the frequency at which these activities will be performed.
- 5.10.3.6.2 10.3.6.2 The name, address, and telephone number of the person or office to contact about the facility during the ~~postclosure~~ post-closure period.
- 5.10.3.6.3 10.3.6.3 A description of the planned uses of the property during the ~~postclosure~~ post-closure period.
- ~~5.10.3.65.~~ 10.3.7 A plan for control and/or recovery of landfill gases.
- 5.10.3.8 A topographical map of the site showing the proposed post-closure elevation with reference to the Delaware State Plan Coordinate System.
- ~~5.10.3.75.~~ 10.3.9 A closure construction quality assurance plan.
- 5.10.4 Minimum closure requirements
- 5.10.4.1 The permittee shall notify the Department at least 30 working days prior to commencing closure activities. The Department shall inspect the ~~site~~ facility, and the permittee shall perform any corrective work which the Department deems necessary.
- 5.10.4.2 Finished portions of the landfill shall receive a capping system which meets the requirements of subsection 5.8.
- 5.10.4.3 Finished portions of the landfill shall be planted with appropriate vegetation to promote stabilization of the cover.
- 5.10.4.4 The closure shall be carried out in accordance with the approved closure plan and according to the approved closure schedule. Any significant deviation or deviations from the plan or the schedule must be approved by the Department prior to being initiated.
- 5.10.4.5 Upon closure of an entire landfill, all ~~nonlandfilled~~ non-landfilled wastes located ~~on site~~ on-site shall be removed or disposed of in a manner approved by the Department.
- 5.10.4.6 After closure of the facility, the ~~site~~ facility shall be returned to an acceptable appearance consistent with the surrounding area and the intended use of the land.
- 5.10.4.7 ~~When closure is completed,~~ Within 120 days of completion of closure activities of the landfill or a landfill cell, the owner or operator shall submit a final report for the Department's approval. The final report shall certify that the closure of the landfill or cell was completed in accordance with the closure plan to include the construction quality assurance plan, construction and material specifications, and design drawings. The final report shall be certified correct by the construction quality assurance engineer, who must be a Professional Engineer ~~registered~~ licensed in Delaware. The landfill or cell will not be considered closed until the Department has provided its written notification that the closure construction and the final report meet the requirements of the ~~solid waste permit and these regulations.~~ Solid Waste Permit and this regulation. The Department will inspect the cell or facility and will either:
- 5.10.4.7.1 Issue a letter of approval to certify that the ~~site~~ facility has been closed in accordance with the ~~solid waste permit,~~ Solid Waste Permit, the closure plan, and all applicable regulations; or
- 5.10.4.7.2 Determine that the ~~site~~ facility is not in compliance with the ~~solid waste permit,~~ Solid Waste Permit, the closure plan, or applicable regulations; identify the areas of deficiency; and

require the owner or operator to take the necessary actions to bring the site/facility into compliance.

~~5.10.4.8 Facilities entering the post-closure period will be issued a post-closure permit based upon the approved post-closure plan, monitoring requirements, gas and leachate control, maintenance, and corrective actions (if required).~~

~~5.11 Postclosure Care~~
~~5.11.1 General~~
~~5.11.1.1 The owner or operator of a sanitary landfill must continue postclosure care for 30 years after the completion of closure.~~
~~5.11.1.2 At any time during the postclosure care period the Department may remove one or more of the postclosure care requirements described in subsection 5.11.2 below if it determines that the requirement(s) is/are no longer necessary for the protection of human health and the environment.~~
~~5.11.1.3 At any time after the first five years of the postclosure care period, the Department may reduce the length of the postclosure care period or terminate postclosure care if it determines that such care is no longer necessary.~~
~~5.11.1.4 Prior to the time that the postclosure care period is due to expire, the Department may extend the postclosure care period if it determines that the extended period is necessary to protect human health and the environment.~~
~~5.11.1.5 If at any time during the postclosure care period there is evidence of a contaminant release from the landfill that presents a significant threat to human health or the environment, action to mitigate the threat will be required of the owner or operator of the facility.~~
~~5.11.2 Minimum postclosure care requirements. Postclosure care shall be in accordance with the post-closure permit and must consist of at least the following:~~
~~5.11.2.1 Maintaining the integrity and effectiveness of the capping system, including making repairs as necessary to correct the effects of settling, subsidence, erosion, or other events, and preventing runoff and runoff from eroding or otherwise damaging the cap.~~
~~5.11.2.2 Reseeding the cover if insufficient vegetation exists to stabilize the surface.~~
~~5.11.2.3 Maintaining and operating the leachate collection and treatment systems until the Department determines that the leachate no longer poses a threat to human health or the environment. The permittee shall submit leachate quantity and quality data to the Department for those parameters and at such frequencies as specified by the Department.~~
~~5.11.2.4 Maintaining and operating the ground water monitoring system in accordance with subsection 5.7. The permittee shall submit ground water quality data as specified by the Department.~~
~~5.11.2.5 Maintaining and monitoring the gas control and/or recovery system in accordance with subsection 5.5 and the closure plan. The permittee shall submit gas data as specified by the Department.~~
~~5.11.2.6 Maintaining and monitoring the surface water management system in accordance with subsection 5.6.~~
~~5.11.3 Prohibitions~~
~~5.11.3.1 Standing water shall not be allowed on the closed landfill.~~
~~5.11.3.2 Open burning shall not be allowed on the closed landfill.~~
~~5.11.3.3 Unless approved in advance by the Department, no activity shall be conducted on a closed landfill.~~
~~5.11.3.4 Access to the closed landfill shall be limited to those persons who are engaging in activities which are compatible with the intended postclosure use of the site.~~
~~5.11.4 Postclosure land use. The owner or operator shall implement the postclosure land use plan approved by the Department.~~
~~5.11.5 Notice in Deed to Property~~
~~5.11.5.1 The owner of the property on which a sanitary landfill is located must record an environmental covenant, per **Delaware Code** Title 7, Chapter 79, Subchapter II, with the deed to the facility property that will in perpetuity notify any potential purchaser of the property:~~
~~5.11.5.1.1 The land has been used as a solid waste disposal site, and~~
~~5.11.5.1.2 The use of the land is restricted under this regulation.~~
~~5.11.5.2 Included with the notation shall be a map or description clearly specifying the area that was used for disposal.~~

5.10.4.8 A facility with a cell or portion of the landfill entering the interim-closure period will be issued a modified permit based upon the approved closure plan, monitoring requirements, gas and leachate control, maintenance, and any required corrective actions.

5.10.4.9 A facility entering the post-closure period will be issued a post-closure permit based upon the approved post-closure plan, monitoring requirements, gas and leachate control, maintenance, and any required corrective actions.

5.11 Interim-Closure Care

5.11.1 General provisions

5.11.1.1 The owner or operator of a sanitary landfill must continue interim-closure care from the time a cell or portion of the sanitary landfill is closed in accordance with subsections 5.8 and 5.10 until the time when the Department issues a Closure/Post-Closure Care Permit or a Post-Closure Care Permit.

5.11.1.2 There is no minimum or maximum length of time in which a cell or portion of a sanitary landfill can be in interim-closure.

5.11.1.3 At any time during the interim-closure care period the Department may remove one or more of the interim-closure care requirements described in subsection 5.11.

5.11.1.4 If at any time during the interim-closure care period there is evidence of a contaminant release from the landfill that presents a significant threat to human health or the environment, action to mitigate the threat will be required of the owner or operator of the facility.

5.11.2 Minimum interim-closure care requirements. Interim-closure care shall be in accordance with the Solid Waste Permit and shall consist of at least the following:

5.11.2.1 Maintaining the integrity and effectiveness of the capping system, including making repairs as necessary to correct the effects of settling, subsidence, erosion, or other events, and preventing run-on and runoff from eroding or otherwise damaging the cap.

5.11.2.2 Reseeding the cover if insufficient vegetation exists to stabilize the surface.

5.11.2.3 Maintaining and operating the leachate collection and treatment systems, if applicable, until the Department determines that the leachate no longer poses a threat to human health and the environment. The permittee shall submit leachate quantity and quality data to the Department for those parameters and at a frequency specified by the Department.

5.11.2.4 Maintaining and monitoring the gas control system in accordance with subsection 5.5 and the Solid Waste Permit. The permittee shall submit gas data as specified by the Department.

5.11.2.5 Maintaining and monitoring the surface water management system in accordance with subsection 5.6 and the Solid Waste Permit. The permittee shall submit surface water quality data as specified by the Department.

5.11.2.6 Maintaining and operating the groundwater monitoring system in accordance with subsection 5.7 and the Solid Waste Permit. The permittee shall submit groundwater quality data as specified by the Department.

5.11.2.7 Any other interim-closure care requirement as specified in the Solid Waste Permit.

5.11.3 Prohibitions

5.11.3.1 Standing water shall not be allowed on closed portions of the landfill. If standing water is observed at the same location for more than 24 hours after a rain event for 2 or more non-consecutive rain events, the owner or operator shall remedy the situation in a timely manner.

5.11.3.2 Open burning shall not be allowed on closed portions of the landfill.

5.11.3.3 Unless approved in advance by the Department, no activity shall be conducted on a closed portion of the landfill which may disturb the integrity of the capping system, liner, containment system, or monitoring systems.

5.11.3.4 Access to the closed landfill by unauthorized persons shall be prevented by the use of barriers, fences and gates, or other suitable means.

5.12 Post-closure Care

5.12.1 General provisions

5.12.1.1 The owner or operator of a sanitary landfill must continue post-closure care for 30 years after the completion of closure or until the Department approves the termination of post-closure care.

5.12.1.2 At any time during the post-closure care period the Department may remove one or more of the post-closure care requirements described in subsection 5.12.2 if it determines that the requirement or requirements are no longer necessary for the protection of human health and the environment. A Professional Geologist licensed in Delaware, or other Department-approved person, must certify that any modifications to the monitoring plan submitted at the time of the application, and all later revisions to the monitoring plan, do not cause increased risks to human health or the environment.

5.12.1.3 At any time after the first 5 years of the post-closure care period, the Department may reduce the length of the post-closure care period or terminate post-closure care if it determines that the post-closure care is no longer necessary.

5.12.1.4 Prior to the time that the post-closure care period is due to expire, the Department may extend the post-closure care period if it determines that the extended period is necessary to protect human health and the environment.

5.12.1.5 If at any time during the post-closure care period there is evidence of a contaminant release from the landfill that presents a significant threat to human health or the environment, action to mitigate the threat will be required of the owner or operator of the facility.

5.12.1.6 A Professional Engineer licensed in Delaware must certify that the post-closure care of the landfill has been completed in accordance with the post-closure care plan as part of reducing or ending the post-closure care period.

5.12.2 Minimum post-closure care requirements. Post-closure care shall be in accordance with the post-closure permit and must consist of at least the following:

- 5.12.2.1 Maintaining the integrity and effectiveness of the capping system, including making repairs as necessary to correct the effects of settling, subsidence, erosion, or other events, and preventing run-on and runoff from eroding or otherwise damaging the cap.
- 5.12.2.2 Reseeding the cover if insufficient vegetation exists to stabilize the surface.
- 5.12.2.3 Maintaining and operating the leachate collection and treatment systems, if applicable, until the Department determines that the leachate no longer poses a threat to human health or the environment. The permittee shall submit leachate quantity and quality data to the Department for those parameters and at a frequency specified by the Department.
- 5.12.2.4 Maintaining and operating the groundwater monitoring system in accordance with subsection 5.7 and the post-closure care plan. The permittee shall submit groundwater quality data as specified by the Department.
- 5.12.2.5 Maintaining and monitoring the gas control system, if applicable, in accordance with subsection 5.5 and the post-closure care plan. The permittee shall submit gas data as specified by the Department.
- 5.12.2.6 Maintaining and monitoring the surface water management system in accordance with subsection 5.6 and the post-closure care plan. The permittee shall submit surface water quality data as specified by the Department.
- 5.12.2.7 Any other post-closure care requirements as specified in the Solid Waste Permit.
- 5.12.3 Prohibitions
 - 5.12.3.1 Standing water shall not be allowed on closed portions of the landfill. If standing water is observed at the same location for more than 24 hours after a rain event for 2 or more non-consecutive rain events, the owner or operator shall remedy the situation in a timely manner.
 - 5.12.3.2 Open burning shall not be allowed on the closed landfill.
 - 5.12.3.3 Unless approved in advance by the Department, no activity shall be conducted on a closed landfill which may disturb the integrity of the capping system, liner, containment system, or monitoring systems.
 - 5.12.3.4 Access to the closed landfill shall be limited to those persons who are engaging in activities which are compatible with the intended post-closure use of the facility.
- 5.12.4 Post-closure land use. The owner or operator shall implement the post-closure land use plan approved by the Department.
- 5.12.5 Notice in Deed to Property
 - 5.12.5.1 The owner of the property on which a sanitary landfill is located must record an environmental covenant, per 7 **Del.C.** Ch. 79, Subchapter II, with the deed or deeds of the property in which the facility is located that will in perpetuity notify any potential purchaser of the property:
 - 5.12.5.1.1 The land has been used as a solid waste disposal facility; and
 - 5.12.5.1.2 The use of the land is restricted under this regulation.
 - 5.12.5.2 Included with the notation shall be a map or description clearly specifying the area that was used for disposal.
 - 5.12.5.3 The Department must be notified in writing that a notation has been recorded on the deed within 30 days of recording.

8 DE Reg. 354 (08/01/04)

11 DE Reg. 807 (12/01/07)

6.0 Industrial Landfills

(NOTE: This section applies to those landfills that dispose of only industrial and/or dry waste. Additional requirements for landfills and surface impoundments containing coal combustion residuals are located in *Section 11.0 - Special Wastes Management, Part 3 - Coal Combustion Residuals*.) Residuals of this regulation.

6.1 Siting

- 6.1.1 Industrial landfill facilities shall be located only in areas where the potential for degradation of the quality of air, land, and water is minimal.
- 6.1.2 All industrial landfill facilities shall be constructed to at least minimum design requirements as contained in More stringent designs will be required where deemed necessary by the Department for the protection of groundwater resources.
- 6.1.3 No new cell of an industrial landfill shall be located in an area ~~such that~~ where solid waste would at any time be deposited:
 - 6.1.3.1 Within the ~~400-year flood plain~~ 100-year floodplain as delineated by the Federal Emergency Management Agency.
 - 6.1.3.2 In an area that may cause or contribute to the degradation of any state or federally regulated wetlands unless the owner or operator can demonstrate to the satisfaction of the appropriate wetlands regulatory agency that:
 - 6.1.3.2.1 There is no impact to any regulated wetlands on the ~~site~~ facility; or

- 6.1.3.2.2 Any impact will be mitigated as required.
- 6.1.3.3 Within ~~one~~1 mile of any state or federal wildlife refuge, wildlife area, or park, unless specifically exempted from this requirement by the Department.
- 6.1.3.4 So as to be in conflict with any locally adopted land use plan or zoning requirement.
- 6.1.3.5 Within the wellhead protection area of a public water supply well or well ~~field~~field, or a formally designated aquifer resource protection area.
- 6.1.3.6 Within 200 feet of a fault that has had displacement during Holocene time (~~unless~~unless it can be demonstrated that a lesser setback distance would prevent damage to the structural integrity of the landfill unit and be protective of human health and the ~~environment~~environment).
- 6.1.3.7 Within a seismic impact zone unless it can be demonstrated that all containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the ~~site~~facility. For the purposes of this section:
 - 6.1.3.7.1 Seismic impact zone means an area with a ~~two (2) percent~~2% or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10g in 50 years.
 - 6.1.3.7.2 Maximum horizontal acceleration in lithified earth material means the maximum expected horizontal acceleration depicted on a seismic hazard map, with a ~~98 percent~~98% or greater probability that the acceleration will not be exceeded in 50 years, or the maximum expected horizontal acceleration based on a ~~site~~facility-specific seismic risk assessment.
 - 6.1.3.7.3 Lithified earth material means all rock, including all naturally occurring and naturally formed aggregates or masses of minerals or small particles of older rock that formed by crystallization of magma or by induration of loose sediments. This term does not include man-made materials, such as fill, concrete and asphalt or unconsolidated earth materials, soil or regolith lying at or near the earth surface.
- 6.1.3.8 In unstable areas, unless engineering measures have been incorporated in the design to ~~insure~~ensure the integrity of the structural components of the waste facility (including liners, leachate collection systems, run-on/runoff control, capping and anything affecting the containment and/or possible release of contaminants). Unstable areas include those of (1) poor foundation conditions (possible subsidence), (2) susceptibility to mass movement, or (3) karst terrain.
- 6.1.3.9 In areas where valuable aquifers would be threatened by contaminant ~~releases~~releases unless viable alternatives have been dismissed and stringent design measures have been incorporated to minimize the possibility and magnitude of releases.
- 6.1.3.10 Within 200 feet of the facility ~~property~~ boundary unless otherwise approved by the Department.
- 6.1.3.11 In an area that is environmentally unique or ~~valuable~~valuable, ~~unless approved by the Department in consultation with any other applicable federal, state, or local agencies.~~

6.2 Design

- 6.2.1 General provisions. Industrial landfills shall be planned and designed by a Professional Engineer ~~registered~~licensed in Delaware. Planning and design of these facilities shall be consistent with the declared purpose and ~~intent~~intent, and in accordance ~~with~~with, the provisions of this regulation and based on empirically derived data and state of the art technology.
- 6.2.2 Minimum design requirements. All industrial landfill shall be designed to minimize contaminant releases and to prevent significant adverse impacts on human health or the environment and include at least the following:
~~All industrial landfills shall be designed to minimize contaminant releases and to prevent significant adverse impacts on human health or the environment and include at least the following:~~
 - 6.2.2.1 A setback area, including a buffer zone with appropriate screening, if deemed necessary by the Department.
 - 6.2.2.2 A liner that meets the requirements of subsection 6.3.
 - 6.2.2.3 Leachate collection, treatment and disposal, and monitoring systems that meet the requirements of subsection 6.4.
 - 6.2.2.4 A gas control system, if deemed necessary by the Department. This system shall meet the requirements of subsection 6.5.
 - 6.2.2.5 A surface water management system that meets the requirements of subsection 6.6.
 - 6.2.2.6 A groundwater monitoring system that meets the requirements of subsection 6.7.
 - 6.2.2.7 A capping system that meets the requirements of subsection 6.8.

6.3 Liner

- 6.3.1 General provisions
 - 6.3.1.1 An impermeable liner shall be provided at all industrial landfills to restrict the migration of leachate from the landfill and to prevent contamination of the underlying groundwater.

- 6.3.1.2 The Department reserves the right to set a more stringent liner requirement when it determines that a composite liner is not sufficient to protect human health and the environment.
- 6.3.1.3 The bottom of the liner (of the secondary liner, in a double liner system) shall be at least ~~five (5)~~5 feet above the seasonal ~~high water~~high-water table, as measured in the uppermost aquifer beneath the ~~landfill~~landfill or it must be demonstrated to the satisfaction of the Department that there will not be an intermittent, recurring, or sustained hydraulic connection between any portion of the liner system and the uppermost aquifer due to normal fluctuations in groundwater elevations (including the seasonal high-water table). Existing landfills or lateral expansions that have physically commenced construction before May 22, 2018 may continue to operate or construct lateral expansions under previous Department approvals.
- 6.3.1.4 All liners shall be prepared, constructed, and installed in accordance with a quality assurance plan included in the engineering report [~~subsection 4.2.1.4~~](see subsection 4.2.1.5 of this regulation) and approved by the Department. For synthetic liners, the plan shall incorporate the manufacturer's recommendations.
- 6.3.1.5 Qualifications of the construction quality assurance staff (CQA) and the geosynthetics installer, including master seamers, on-site supervisor, and construction quality control (CQC) personnel, shall be submitted to the Department for review prior to their performing these duties ~~on-site~~on-site.
- 6.3.1.6 All conformance and destructive samples taken as part of the construction quality assurance plan shall be tested at an independent laboratory which is accredited by the Geosynthetics Institute's Laboratory Accreditation Program (~~by applicable test method~~)for the applicable test method, or other accreditation program acceptable to the Department.
- 6.3.2 Liner characteristics
- 6.3.2.1 Composite liner. A composite liner must have, ~~as at~~ a minimum:
- 6.3.2.1.1 A primary (upper) liner which meets the following:
- 6.3.2.1.1.1 Is at least ~~45 mils~~45 millimeters thick. Geomembrane liner components consisting of ~~high density~~high-density polyethylene (HDPE) must be at least ~~60 mils~~60 millimeters thick for all new cells that begin physical construction after May 22, 2018.
- 6.3.2.1.1.2 Is constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeological forces), physical contact with the leachate to which it is exposed, climatic conditions, the stresses of installation, and the stresses of daily operation.
- 6.3.2.1.1.3 Is manufactured in accordance with formal Manufacturing Quality Control (MQC) and Manufacturing Quality Assurance (MQA) processes designed to produce geosynthetic material which meet or exceed project specifications when tested in accordance with Geosynthetic Research Institute test methods or other nationally recognized standards approved by the Department.
- 6.3.2.1.1.4 Is chemically resistant to the waste and leachate managed at the facility, as demonstrated by applicable ASTM standards or other nationally recognized test methods approved by the Department.
- 6.3.2.1.1.5 Is compounded from first quality virgin materials. No reground or reprocessed materials containing encapsulated scrim shall be used in the manufacturing of the liner.
- 6.3.2.1.1.6 Is free of pinholes, blisters, holes, and contaminants, which include, but are not limited to, wood, paper, metal, and ~~non-dispersed~~non-dispersed ingredients.
- 6.3.2.1.2 A secondary (lower) liner composed of:
- 6.3.2.1.2.1 Compacted clay at least ~~two~~2 feet thick with a hydraulic conductivity no greater than 1×10^{-7} cm/sec, or
- 6.3.2.1.2.2 An equivalent material or combination of materials acceptable to the Department.
- 6.3.2.2 Natural liner
- 6.3.2.2.1 Use of natural material for liners is restricted to those areas where:
- 6.3.2.2.1.1 Underlying groundwater is not used and is not reasonably expected to be used for water supplies, and
- 6.3.2.2.1.2 The landfill subbase is subject to compaction and settlement ~~such that~~where a synthetic membrane would not be feasible.
- 6.3.2.2.2 A natural liner must meet the following requirements as a minimum:
- 6.3.2.2.2.1 It shall consist of compacted clay or equivalent material having a hydraulic conductivity no greater than 1×10^{-7} cm/sec.

- 6.3.2.2.2.2 The material shall be at least ~~five (5)~~5 feet thick, and thicker if ~~necessary~~; necessary so as to prevent any leachate from migrating through the liner at any time during the active life and through the post-closure care period of the facility.
- 6.3.2.2.2.3 The material proposed for use shall be tested by ASTM or equivalent ~~methods~~. All methods and all data shall be submitted to the Department prior to construction. Material shall be tested for the following:
- 6.3.2.2.2.3.1 Cation exchange capacity.
 - 6.3.2.2.2.3.2 Classification.
 - 6.3.2.2.2.3.3 Compaction.
 - 6.3.2.2.2.3.4 Grain size.
 - 6.3.2.2.2.3.5 Hydraulic conductivity.
 - 6.3.2.2.2.3.6 Mineralogy (if required).
 - 6.3.2.2.2.3.7 pH.
 - 6.3.2.2.2.3.8 Pinhole test (if required).
 - 6.3.2.2.2.3.9 Porosity.
 - 6.3.2.2.2.3.10 Specific gravity.
- 6.3.2.2.2.4 Testing of the saturated hydraulic conductivity and the effect of leachate on soil hydraulic conductivity shall be performed in accordance with test methods described in ~~the most current version of~~ "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846 SW-846, Third Edition, Final Updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), and V (2015) or other tests approved in writing by the Department.
- 6.3.2.2.2.5 If on-site soils are to be used as a natural liner, the uppermost ~~five (5)~~5 feet of soil shall be excavated and recompacted to ensure homogeneity of the liner, provided, however, that with respect to dredge spoil soils, the excavation and recompaction requirement shall not apply if the applicant can demonstrate that the dredge spoil soils have acceptable characteristics as indicated ~~above~~ in subsection 6.3.2.2.2.3.
- 6.3.2.3 Double liner system. A double liner system shall meet the following requirements:
- 6.3.2.3.1 It shall consist of ~~two~~2 single liners separated by a drainage layer containing a leak detection system.
 - 6.3.2.3.2 The primary (~~top~~)(upper) liner shall be a synthetic liner which is at least 45 ~~mils~~-millimeters thick and which meets the requirements of subsections 6.3.2.1.1.1 through 6.3.2.1.1.6.
 - 6.3.2.3.3 The secondary (~~bottom~~)(lower) liner may be either synthetic or natural. If synthetic, it must be at least 45 ~~mils~~-millimeters thick and must meet the requirements of subsections 6.3.2.1.1.1 through 6.3.2.1.1.6. If natural, it must meet the requirements of subsection 6.3.2.2.
 - 6.3.2.3.4 The drainage layer separating the ~~two~~2 liners shall consist of at least 12 inches of soil having a hydraulic conductivity greater than 1×10^{-2} cm/sec based on laboratory and field testing. Alternate material may be used for the drainage layer with prior written approval of the Department.
 - 6.3.2.3.5 The leak detection system shall be capable of detecting and intercepting liquid within the drainage layer and conveying the liquid to a collection sump or monitoring point where the quantity of flow can be measured and the liquid can be sampled. The operator or designer shall calculate the Action Leakage Rate. The proposed Action Leakage Rate and a response plan if the Action Leakage Rate is exceeded shall be submitted to the Department for approval before construction of the liner is permitted. The system shall be designed to operate without clogging through the post-closure care period of the facility.
 - 6.3.2.3.6 The upper synthetic liner membrane shall be underlain by either a geosynthetic clay or 2 feet of natural material with a permeability no greater than 1×10^{-7} cm/sec.
 - 6.3.2.3.7 Alternate liner designs may be used with prior written approval of the Department.
- 6.3.3 Liner construction
- 6.3.3.1 Construction/installation of composite liner
 - 6.3.3.1.1 At least 15 working days prior to installation of the liner, the owner or operator shall notify the Department of the installation date.
 - 6.3.3.1.2 The liner shall be installed upon a subbase which meets the following requirements:
 - 6.3.3.1.2.1 It shall be capable of supporting the loads and withstanding the stresses that will be imposed on it through the active life and post-closure care period of the facility facility, and of resisting the pressure gradient above and below the liner caused by settlement, compression, or uplift.
 - 6.3.3.1.2.2 It shall be capable of resisting the pressure gradient above and below the liner caused by settlement, compression, or uplift.

- ~~6.3.3.1.2-26.3.3.1.2.3~~ It shall have a smooth surface that is free of all rocks, stones, roots, sharp objects, or debris of any kind.
- ~~6.3.3.1.2-36.3.3.1.2.4~~ It shall be certified in writing by the liner installer as an acceptable subbase for the liner. Written certification of acceptability shall be submitted to the Department prior to installation of the liner. However, submittal of written acceptance may proceed incrementally according to installation schedule.
- 6.3.3.1.3 The minimum post-loading slopes of the liner shall either be:
 - 6.3.3.1.3.1 Two ~~(2)~~ percent on controlling slopes and ~~one-half (0.5) percent~~ 0.5% on remaining slopes, ~~OR slopes; or~~
 - 6.3.3.1.3.2 The controlling and remaining slopes shall be designed to prevent the head on the liner, excluding sump areas, from exceeding a depth of ~~twelve (12)~~ 12 inches, including post settlement conditions.
- 6.3.3.1.4 The landfill shall be designed to minimize penetrations through the liner. If a penetration is essential, a liquid-tight seal ~~must be accomplished~~ between the penetrating structure and the synthetic membrane. membrane must be accomplished. Compaction of areas adjacent to the penetrating structure shall be to the same density as the surrounding soil to minimize differential settlement. Sharp edges on the penetrating structure must not come in contact with the synthetic material.
- 6.3.3.1.5 Bridging or stressed conditions in the liner shall be avoided with proper slack allowances for shrinkage of the liner during installation and before the placement of a protective soil layer.
- 6.3.3.1.6 Synthetic liners shall have factory and field seams that equal or exceed the strength requirements stipulated in the project specification. Strength requirements shall be demonstrated in accordance with applicable Geosynthetic Research Institute and ASTM test methods in accordance with the Construction Quality Assurance Plan for the ~~project and all project.~~ All seams must be visually inspected and tested along their entire length for seam continuity using suitable nondestructive techniques. Other nationally recognized standards may be used with prior approval from the Department. In addition, field seams shall meet the following requirements:
 - 6.3.3.1.6.1 Field seaming shall provide a dry sealing surface.
 - 6.3.3.1.6.2 Seaming shall not be done when windy conditions prevail.
 - 6.3.3.1.6.3 Seams shall be made and bonded in accordance with the supplier's recommended procedures.
- 6.3.3.1.7 Proper equipment shall be used in placing drainage material over the synthetic liner to avoid stress.
- 6.3.3.1.8 The synthetic membrane shall be protected from the waste by at least ~~two (2)~~ 2 feet of drainage material incorporating the leachate collection system.
- 6.3.3.1.9 The synthetic membrane must be underlain by a secondary liner as described in subsection 6.3.2.1.2.
- 6.3.3.2 Construction of natural liner
 - 6.3.3.2.1 All lenses, cracks, channels, root holes, or other structural nonuniformities that can increase the saturated hydraulic conductivity above 1×10^{-7} cm/sec shall be removed.
 - 6.3.3.2.2 Natural liners shall be constructed in lifts not exceeding ~~six (6)~~ 6 inches after compaction to maximize the effectiveness of the compaction throughout the lift thickness. Each lift shall be properly interfaced by scarification between lifts to ensure the bonding.
 - 6.3.3.2.3 Clods shall be broken up and the material shall be homogenized before compaction of each lift using mixing devices such as pug mills or rotary tillers.
 - 6.3.3.2.4 The maximum slope of the sidewalls shall not be so great as to preclude effective compaction.
- 6.3.3.3 Construction/installation of double liner
 - 6.3.3.3.1 The secondary liner shall be constructed in accordance with subsection 6.3.3.2 (if it is a natural liner) or subsections 6.3.3.1.1 through 6.3.3.1.7 (if it is ~~synthetic~~) a synthetic liner.
 - 6.3.3.3.2 The primary liner shall be constructed in accordance with ~~subsections 6.3.3.1.1 and 6.3.3.1.3 through 6.3.3.1.8.~~ subsections 6.3.3.1.1 through 6.3.3.1.9.
- 6.4 Leachate Collection, Treatment, Disposal, ~~And~~ and Monitoring
 - 6.4.1 General provisions
 - 6.4.1.1 All industrial landfills shall be designed and constructed to include a leachate collection system, a leachate treatment and disposal system, and a leachate monitoring system. Existing landfills or lateral expansions that have physically commenced construction before May 22, 2018 may continue to operate or construct lateral expansions under previous Department approvals.
 - 6.4.1.2 The leachate systems shall be constructed, installed, and maintained in accordance with the Department approved quality assurance plan.

- 6.4.1.3 The owner or operator shall keep and maintain documentation for the quality assurance procedures through the post-closure care period of the facility.
- 6.4.2 Leachate collection
- 6.4.2.1 Minimum design specifications
- 6.4.2.1.1 The leachate collection system shall be designed and constructed to operate without clogging through the post-closure care period of the facility.
- 6.4.2.1.2 All elements of the system (pipes, sumps, pumps, etc.) shall be sized according to water balance calculations and shall be capable of handling peak flows.
- 6.4.2.1.3 Collection pipes shall be sized and spaced to efficiently remove leachate from the bottom of the waste and the side walls of the cell. The capacity of the mains shall be at least equal to the sum of the capacities of the laterals.
- 6.4.2.1.4 The pipes shall be designed to withstand the weight, stresses, and disturbances from the overlying wastes, waste cover materials, equipment operation, and vehicular traffic.
- 6.4.2.1.5 The collection pipes shall be designed to drain by gravity to a sump system. Sumps must function automatically and shall contain a conveyance system for the removal of leachate.
- 6.4.2.1.6 Manholes or cleanout risers shall be located along the perimeter of the leachate collection system. The number and spacing of the manholes shall be sufficient to ~~insure~~ ensure proper maintenance of the system by water jet flushing or an equivalent method.
- 6.4.2.1.7 Innovative leachate collection systems incorporating alternative designs may be used, after approval by the Department, if they are shown to be equivalent to or more effective than the specified design.
- 6.4.2.1.8 The leachate collection system must be designed and operated to prevent the leachate head on the liner from exceeding a depth of 12 inches.
- 6.4.2.2 Construction standards
- 6.4.2.2.1 The leachate collection system shall be installed immediately above an impermeable liner and at the bottom of a drainage layer. The drainage layer shall be at least 12 inches thick with a hydraulic conductivity not less than 1×10^{-2} cm/sec and a minimum post-loading controlling slope of ~~two (2) percent~~ 2%. Alternate materials may be used for the drainage layer, with prior written approval of the Department.
- 6.4.2.2.2 The following tests shall be performed on the ~~soil~~ materials proposed for use in the drainage layer, and all data shall be submitted to the Department prior to construction of the drainage layer. These tests shall be performed in accordance with current ASTM, AASHTO, or equivalent methods.
- 6.4.2.2.2.1 ~~Classification~~ Classification.
- 6.4.2.2.2.2 ~~Porosity~~ Porosity.
- 6.4.2.2.2.3 Relative density or ~~compaction~~ compaction.
- 6.4.2.2.2.4 Specific ~~gravity~~ gravity.
- 6.4.2.2.2.5 Hydraulic ~~conductivity~~ conductivity.
- 6.4.2.2.3 The leachate collection system and manholes or cleanout risers shall be constructed of materials that can withstand the chemical attack that results from leachates.
- 6.4.2.3 Operational procedures
- 6.4.2.3.1 The leachate collection system shall operate automatically whenever leachate is present in the sump to remove accumulated leachate.
- 6.4.2.3.2 Inspections shall be conducted weekly to verify proper functioning of the leachate collection system and to detect the presence of leachate in the removal sump. The owner or operator shall keep records on the system to provide sufficient information that the leachate collection system is functional and operating properly. The amount of leachate collected from each cell shall be recorded on a weekly basis.
- 6.4.2.3.3 Collection lines shall be cleaned according to a Department approved scheduled maintenance program and more frequently if ~~required~~ necessary or required by the Department.
- 6.4.2.3.4 Owners or operators of industrial landfills shall inspect for leachate seeps at least once each operating day and shall maintain records of the results of these inspections and of any response actions taken that were necessary to prevent leachate from contaminating surface water.
- 6.4.3 Leachate treatment and disposal. The permittee must maintain all necessary permits and approvals for leachate storage and discharge activities.
- 6.4.3.1 The leachate treatment and disposal system shall be designed in accordance with ~~one~~ 1 of the following options:
- 6.4.3.1.1 Complete treatment on-site with or without direct discharge to surface water;
- 6.4.3.1.2 Pretreatment on-site with discharge to an off-site treatment works for final treatment;

- 6.4.3.1.3 Storage on-site with discharge to an off-site treatment works for complete treatment;
- 6.4.3.1.4 Direct discharge to an off-site treatment works; or
- 6.4.3.1.5 Pretreatment ~~on-site~~on-site with discharge ~~on-site~~on-site.
- 6.4.3.2 Leachate storage prior to treatment shall be within tanks constructed and installed in accordance with the following standards:
 - 6.4.3.2.1 The tank shall be placed above ground.
 - 6.4.3.2.2 The storage tank shall be designed in accordance with American Petroleum Institute (API), Underwriters Laboratory (UL), or an equivalent standard appropriate to the material being used, and shall be constructed of or lined with material which has a demonstrated chemical resistance to the leachate.
 - 6.4.3.2.3 The storage tank area shall have a liner capable of preventing any leachate which may escape from the tank from coming into contact with the underlying soil.
 - 6.4.3.2.4 Secondary containment shall be required for all leachate storage tanks and the outer containment wall shall be compatible with, and capable of containing, the leachate stored. If not roofed or otherwise protected from the accumulation of precipitation, the secondary containment area shall have a capacity at least ~~ten percent~~10% greater than the capacity of the tank, and shall be equipped with a manually-controlled pump, or gravity drain, to remove precipitation. A double-walled leachate storage tank may be used to fulfill the requirements for secondary containment if the tank is installed with over-fill prevention and leak detection devices that are continuously monitored.
 - 6.4.3.2.5 All storage tanks shall be equipped with a venting system.
 - 6.4.3.2.6 All storage tanks shall be equipped with a high liquid level alarm or warning device. The alarm system shall be wired to the location where assistance will be available to respond to the emergency.
- 6.4.3.3 On-site complete treatment or pretreatment facilities shall be designed and constructed in accordance with the following:
 - 6.4.3.3.1 On-site treatment units shall be designed based on the results of a treatability study, the results of the operations of a pilot plant, or written information documenting the performance of an equivalent leachate treatment system.
 - 6.4.3.3.2 On-site treatment units shall be designed and constructed by staging of the units to allow for online modification of the treatment system to account for variability of the leachate quality and quantity.
- 6.4.3.4 For all leachate discharges planned for publicly owned treatment works (POTW), the owner or operator of the landfill shall notify the receiving POTW of intent to discharge leachate into the collection system and shall provide the POTW with analysis of the leachate as required by the POTW.
- 6.4.3.5 All leachate treatment and disposal systems shall be designed and constructed to control odors.
- 6.4.3.6 Residuals from the on-site treatment and disposal systems shall be sampled and analyzed for hazardous waste characteristics in accordance with Delaware's Regulations Governing Hazardous Waste.
- 6.4.3.7 Recirculation of leachate may be allowed, subject to approval by the Department, to accelerate decomposition of the waste. At new facilities and expansions of existing facilities, recirculation will be allowed only in areas constructed with a composite liner system or a double liner system. The method of recirculation must be approved by the Department in advance and annually so long as the recirculation continues. Records of leachate collected and recirculated must be kept and reported and any resultant problems reported to the Department and remedied as soon as practicable and included in the annual report.
- 6.4.4 Leachate monitoring
 - 6.4.4.1 The leachate monitoring system shall be capable of measuring the quantity of the flow and sampling the leachate from each landfill cell. The volume of leachate collected from each cell shall be determined at least ~~monthly~~weekly and reported quarterly.
 - 6.4.4.2 Leachate monitoring of the influent and effluent of the treatment and disposal system shall be performed according to a Department approved plan which includes quality control and quality assurance procedures.
 - 6.4.4.3 Samples of leachate effluent and influent shall be analyzed as specified by the Department. The parameters to be analyzed will depend on the characteristics of the waste.
 - 6.4.4.4 Leachate monitoring results shall be submitted to the Department as required.
 - 6.4.4.5 For a double liner system, if the Action Leakage Rate of the leak detection system is exceeded, the owner or operator of the landfill shall notify the Department within ~~five (5)~~5 working days. The owner or operator shall also sample and analyze the liquid in the leak detection system for parameters required by the Department.

6.4.4.6 Test methods used to determine the parameters of subsection 6.4.4.3 shall be those described in ~~the most current version of~~ "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, Third Edition, Final Updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), and V (2015) or other tests approved in writing by the Department.

6.4.4.7 The Department may observe, and may request advance notice of, the leachate sampling conducted by the permittee or their designee and may request split samples for analysis. The Department reserves the right to initiate its own sampling event.

6.5 Gas Control

6.5.1 General provisions

6.5.1.1 Gas control systems shall be installed at industrial landfills where the materials landfilled would be expected to produce gas through biological activity or reaction.

6.5.1.2 The gas control system shall be designed and constructed to:

6.5.1.2.1 Evacuate gas from within the waste to prevent the accumulation of gas on-site or off-site;

6.5.1.2.2 Prevent and control damage to vegetation; and

6.5.1.2.3 Prevent odors from the facility being detectable at the facility ~~property~~ boundary line in sufficient quantities to cause or create a condition of air pollution.

6.5.1.3 The concentration of landfill gas in facility structures (except gas recovery system components) shall not exceed 25% of the lower explosive limit (LEL). The concentration of landfill gas at the facility boundary line shall not exceed the LEL.

6.5.2 Design and construction standards

6.5.2.1 The owner or operator of an industrial landfill shall consider both active and passive gas control systems and shall provide an evaluation of the proposed system for Department approval.

6.5.2.2 The owner or operator shall perform an analysis to establish the required spacing of gas control vents to provide an effective system.

6.5.2.3 The gas control system shall be designed to evacuate gas from all levels within the waste.

6.5.2.4 The system shall not interfere with ~~or cause failure of~~ with, nor cause the failure of, the liner or leachate systems.

6.5.3 Monitoring

6.5.3.1 A sufficient number of gas monitoring wells shall be installed to evaluate gas production rates in the landfill.

6.5.3.2 The owner or operator shall sample the gas monitoring wells and provide analytical results as required by conditions specified in the facility permit.

6.5.3.3 At industrial landfills utilizing natural liners, gas monitoring probes must be installed in the soil outside the lined area to evaluate any lateral migration of landfill gas.

6.5.3.4 Emissions from active and passive gas control systems may require a permit from the Division of Air Quality.

6.5.3.5 The Department may observe, and may request advance notice of, the gas sampling conducted by the permittee or their designee and may request split samples for analysis. The Department reserves the right to initiate its own sampling event.

6.6 Surface Water Management

6.6.1 General provisions. An owner or operator of an industrial landfill shall design, construct, and maintain a surface water management system to:

6.6.1.1 Prevent erosion of the waste and cover;

6.6.1.2 Prevent the collection of standing water; and

6.6.1.3 Minimize surface water runoff onto and into the waste.

6.6.2 Design requirements. An owner or operator of an industrial landfill shall include:

6.6.2.1 A run-on control system to prevent flow onto the active portion of the landfill during the peak discharge from a 24-hour, 25-year storm.

6.6.2.2 ~~The surface water management system~~ runoff control system from the active portion of the landfill shall be designed to collect and control, at a minimum, the runoff from the discharge of a 24-hr, 25-year storm. The system shall be designed to include:

6.6.2.2.1 Detention basins to provide temporary storage of the expected runoff from the design storm with sufficient reserve capacity to contain accumulated precipitation and sediment prior to ~~discharge~~ discharge;

6.6.2.2.2 Diversion structures designed to prevent runoff generated within the active cells from moving ~~off-site~~ off-site of the lined ~~areas~~ areas; and

6.6.2.2.3 Any other control systems approved by the Department.

6.6.3 ~~Surface water monitoring~~ monitoring ~~The surface water monitoring frequency and parameters to be analyzed shall depend upon the characteristics of the waste and shall be specified by the Department.~~

The Department reserves the right to substitute surface water monitoring required under regulations other than DRGSW for this requirement.

- 6.6.3.1 The surface water monitoring frequency and parameters to be analyzed shall depend upon the characteristics of the waste and shall be specified by the Department. The Department reserves the right to substitute surface water monitoring required under regulations other than this regulation for this requirement.
- 6.6.3.2 The Department may observe, and may request advance notice of, the surface water sampling conducted by the permittee or their designee and may request split samples for analysis. The Department reserves the right to initiate its own sampling event.
- 6.6.4 Channeling of runoff
 - 6.6.4.1 Runoff from the active ~~cell(s)~~cell or cells must be channeled to the leachate treatment and disposal system.
 - 6.6.4.2 Runoff from the unused portion of the active ~~cell(s)~~cell or cells that has not been in contact with waste can be channeled to the detention basins or other approved sedimentation control device with prior written approval from the Department.
 - 6.6.4.3 Runoff from closed cells will be directed to the detention basins or other approved sedimentation control systems.
- 6.6.5 Discharge. The construction of and discharge from detention basins and other surface water management systems shall be in compliance with all applicable federal and state regulations.
- 6.6.6 Stormwater Plan. Owners or operators of all industrial landfills shall develop and maintain a Stormwater Plan (SWP) (also known as a Stormwater Pollution and Prevention Plan (SWPPP)) for areas associated with the landfill facility. The SWP/SWPPP shall describe stormwater management controls and practices in-place or planned for the facility and shall identify potential sources of pollutants which may reasonably be expected to affect the quality of stormwater discharges from landfill operations and ~~site~~facility maintenance. The SWP/SWPPP need not address construction activities regulated by a Sediment and Stormwater Plan Approval issued by the Department. An initial plan shall be submitted to the Department no later than October 28, 2018. SWP/SWPPP plans created under regulations other than DRGSW ~~this regulation~~ can be substituted for this requirement provided the plan includes the following:
 - 6.6.6.1 Facility identification, including the name, business address, and contact information for the person responsible for development, implementation, maintenance, and revision of the SWP/SWPPP.
 - 6.6.6.2 Facility assessment, including a facility description and narrative describing all activities and potential sources of pollutants that may reasonably be expected to add pollutants to stormwater discharges. Examples include the following activities and potential sources when they are exposed to stormwater: Loading and unloading areas, outdoor storage or processing areas, vehicle/equipment maintenance areas, fueling areas, and liquid storage tanks (including secondary containment areas). The facility assessment shall also identify discharge points from these activities and potential sources of pollutants.
 - 6.6.6.3 Facility map. All markings and delineations on the map shall be clearly identifiable. The map shall identify all areas where solid wastes are stored or disposed, all buildings, areas where industrial materials are stored, the drainage areas associated with each stormwater discharge from the facility, all stormwater related drainage and discharge structures including all conveyances and appurtenances, any structural stormwater controls (i.e. basins, secondary containments, and stormwater diversions), all surface waters that receive stormwater discharges from the facility, and directions of stormwater flow. The map shall also include locations of the following activities if ~~such~~ the activities are exposed to precipitation: fueling stations, vehicle and equipment maintenance or cleaning areas, liquid storage tanks and areas where leachate can be transferred into vehicles for off-site disposal. If contaminated runoff from adjacent activities or facilities is suspected, that should also be included on the map.
 - 6.6.6.4 Stormwater management at the facility. The SWP/SWPPP shall describe stormwater management controls and practices appropriate to control potential pollutants identified in the facility assessment. The SWP/SWPPP must describe the location and use of structural controls (both existing and planned), as well as non-structural controls such as best management practices, industrial material management, spill prevention/response, erosion control, and periodic inspections.
- 6.6.7 Maintenance on surface water management systems shall be done in accordance with any post-construction requirement from the Division of Watershed Stewardship and conditions specified within the Solid Waste Permit.
- 6.6.8 An initial periodic report for all completed surface water management systems shall be prepared and signed by a Professional Engineer ~~registered~~ licensed in Delaware no later than May 1, 2019. Subsequent periodic reports shall be submitted every ~~five (5)~~ 5 years. Modifications to a surface water

management system or part of a surface water management system may require approval from other state or federal agencies. The report shall at a minimum include:

- 6.6.8.1 A description of currently installed surface water management systems;
- 6.6.8.2 Maps depicting the locations of surface water management systems and surface water flow through the facility to the point of discharge; and
- 6.6.8.3 Recommendations for continued operations and maintenance.

6.7 Groundwater Monitoring ~~And~~ and Corrective Action

6.7.1 General provision. Owners or operators of all industrial landfill facilities shall maintain and operate a groundwater monitoring program to evaluate facility impact upon groundwater quality.

6.7.2 Design and construction of monitoring ~~system~~ system.

6.7.2.1 The groundwater monitoring system shall be designed by, constructed under the direction of, and attested to by, a Professional Geologist ~~registered~~ licensed in Delaware.

6.7.2.2 The groundwater monitoring system shall consist of a sufficient number of wells, installed at appropriate locations and depths, to define the groundwater flow system and shall be developed in accordance with Departmental requirements to yield groundwater samples that are representative of the aquifer water quality, both unaffected by (background), and potentially impacted by, downgradient contaminant leakage from the facility. The downgradient monitor wells (which are points of compliance for groundwater performance standards) must be no further than 150 meters from the edge of the industrial landfill cell, and on the site property.

6.7.2.3 The number, spacing, location, depth, and screened interval of the monitoring wells shall be approved by the Department prior to installation.

6.7.2.4 All monitoring wells shall be constructed in accordance with the Regulations Governing the Construction and Use of Wells and any subsequently approved guidelines. Variation from the existing guidelines must be approved by the Department in writing prior to construction.

6.7.3 Groundwater sampling

6.7.3.1 The permittee shall submit a groundwater sampling plan to the Department at the time of permit application. The sampling plan submitted at the time of the application, and all revisions to the sampling plan, must be certified by a Professional Engineer or Professional Geologist registered licensed in Delaware, that the modifications do not cause increased risks to human health or the environment. The Department reserves the right to allow in its discretion may waive the a variance to this requirement of a Professional Engineer or Professional Geologist certification for modifications deemed minor. The sampling plan must include procedures and techniques for:

6.7.3.1.1 Sample collection, preservation, and transport:

6.7.3.1.1.1 Samples will be collected at low flow rates (< 1 l/min) to minimize turbidity of the samples.

6.7.3.1.1.2 Samples will be field filtered only when turbidity exceeds 10 NTU. Repeated sampling of any well where turbidity exceeds 10 NTU is not permitted without Department approval. Approval will only be granted in cases where turbidity cannot be controlled by careful well construction, development, and sampling.

6.7.3.1.2 Analytical procedures and quality assurance; and

6.7.3.1.3 Chain of custody control.

6.7.3.2 Sample constituents

6.7.3.2.1 The parameters to be analyzed shall depend upon the characteristics of the waste and shall be specified by the Department.

6.7.3.2.2 Test methods used to determine the parameters of subsection 6.7.3.2.1 shall be those described in ~~the most current version of~~ "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication Number SW-846 SW-846, Third Edition, Final Updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), and V (2015) or other tests approved in writing by the Department.

6.7.3.2.3 Water levels will be measured prior to sample collection.

6.7.3.3 The Department may observe, and may request advance notice of, the groundwater sampling conducted by the permittee or ~~his/her~~ the permittee's designee and may request split samples for analysis. The Department reserves the right to initiate its own sampling event.

6.7.3.4 If the Department determines that the groundwater monitoring data ~~indicate~~ indicates that groundwater contamination has occurred, the Department may require a remedial action program may be required program.

6.7.4 Data evaluation

6.7.4.1 The owner or operator must establish the background quality for each sampling parameter or constituent. The background quality is that which would be expected with no impact by contaminant releases from the waste cells.

6.7.4.2 Methods for Data Evaluation

- 6.7.4.2.1 The owner or operator must specify in the operating record the methods to be used for statistical evaluation of the monitoring data. These may include:
- 6.7.4.2.1.1 A parametric analysis of variance followed by multiple comparison procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent.
 - 6.7.4.2.1.2 An analysis of variance based on ranks followed by multiple comparison procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent.
 - 6.7.4.2.1.3 A tolerance or prediction interval procedure in which a range for each constituent is established from the distribution of the background data and the level of each constituent in each compliance (downgradient) monitor well is compared to the upper tolerance or prediction ~~limit, limit.~~
 - 6.7.4.2.1.4 A control chart approach that plots concentrations of each constituent versus the background ~~range, or range.~~
 - 6.7.4.2.1.5 Any other statistical method chosen to ~~meet~~that meets the following requirements and is approved by the Department:
 - 6.7.4.2.1.5.1 Appropriate in distribution and number of available data to meet the requirements of the statistical test chosen; and
 - 6.7.4.2.1.5.2 Capable of limiting individual constituent comparisons to Type I error levels less than 0.01 or multiple constituent comparisons to Type I error levels less than 0.05, for each testing period. (This requirement does not apply to tolerance intervals, prediction intervals, or control charts.)
- 6.7.4.2.2 Alternate methods may be used with prior written approval from the Department.
- 6.7.4.3 If necessary, the statistical analysis method shall include procedures to control or correct for seasonal and spatial variability, as well as temporal correlation in the data.
- 6.7.4.4 The owner or operator must determine whether or not there is a statistically significant increase over background values for each parameter or constituent required in the monitoring program by comparisons using the chosen method of evaluation. This evaluation must be performed within a reasonable period of sampling and ~~analysis—normally—analysis. Under normal conditions performing the evaluation within 30 days of obtaining sampling results.~~results shall be considered within a reasonable period.
- 6.7.4.5 If any statistically significant increase occurs, the permittee must:
- 6.7.4.5.1 Notify the Department and place the result in the operating record within 14 ~~days, days;~~ and
 - 6.7.4.5.2 Assess the probable accuracy and possible risk associated with the finding in the annual report.
- 6.7.4.6 Performance standards will be established at each ~~site~~facility which are intended to provide adequate protection for human health and the environment. The performance standards may be proposed by the permittee, but must be approved by the Department, and shall be incorporated in the facility permit. In general, performance standards will be the maximum contaminant levels (MCLs) for public drinking water. However, the Department may specify performance levels which are more stringent to protect adjacent surface water ~~(and and prevent violation of surface water quality standards) or standards. Or, the Department may specify performance levels with are less stringent (where when groundwater at the site facility will not threaten existing or reasonably expected sources of drinking water or cause violation of surface water quality standards) standards,~~ as appropriate.
- 6.7.4.7 If any release of contaminants from the landfill to the groundwater is detected, either by exceedance of background concentrations or violation of a performance standard in the downgradient wells (points of compliance), the owner or operator must:
- 6.7.4.7.1 Notify the Department and place the result in the operating record within 14 ~~days, days;~~ and
 - 6.7.4.7.2 Resample to confirm the result and/or demonstrate that the result was an error or that the increase was due to a source other than the permitted waste facility within 90 ~~days, days;~~ and
 - 6.7.4.7.3 Notify the Department of the result of confirmation within 14 days of availability of the ~~result, result;~~ and
 - 6.7.4.7.4 If a release is confirmed, perform an assessment of corrective measure as described in subsection 6.7.6.
- 6.7.5 Reporting
- 6.7.5.1 All groundwater, leachate, and gas monitoring shall be conducted on a schedule to be determined by the Department and the results submitted within 60 days of sampling. Reports of any statistically significant increases in downgradient wells or violation of performance standards

in wells or streams must be reported to the Department within 14 days as ~~noted above~~ specified in subsection 6.7.4.5.

- 6.7.5.2 An annual hydrogeologic monitoring report will be prepared and signed by a Professional Geologist ~~registered in Delaware, and shall include:~~ licensed in Delaware. The report shall include, unless the Department in its sole discretion substitutes a submission or submissions received during the reporting year for an item below, the following:
- 6.7.5.2.1 Tabulation of all leachate flow and quality and groundwater quality data from current and preceding years;
 - 6.7.5.2.2 Graphical presentation of leachate flow and quality and groundwater quality data from current and preceding years as required in the operating permit;
 - 6.7.5.2.3 Maps showing groundwater flow patterns at each time of groundwater sampling and groundwater monitoring well locations;
 - 6.7.5.2.4 A discussion of the groundwater monitoring results;
 - 6.7.5.2.5 Identification of any statistically significant increases in wells and/or exceedances of performance standards;
 - 6.7.5.2.6 Confirmation results and conclusions related to the accuracy of these results and/or reasonable explanation for the results;
 - 6.7.5.2.7 An evaluation of the significance of the results including whether they indicate a contaminant release has occurred and any recommendations for corrective measures, if appropriate;
 - 6.7.5.2.8 Groundwater monitoring well activities (e.g., well maintenance, well decommissioning, etc.);
 - 6.7.5.2.9 Recommendations for any changes in the monitoring program including changes in the number or location of sampling points, sampling frequency, and parameters or procedures; and
 - 6.7.5.2.10 Any additional hydrogeologic reporting requirements specified in the Solid Waste Permit.
- 6.7.5.3 In addition to paper copies of reports, the Department may require all, or part of, any required report to be submitted ~~on machine-readable media~~ electronically in a format mutually acceptable to the Department and the permittee. With the approval of the Department, reports submitted ~~on machine-readable media~~ electronically may be substituted for paper reports.
- 6.7.6 Assessment of Corrective Measures
- 6.7.6.1 An assessment (~~reassessment~~) or reassessment of corrective measures by the owner or operator is required (~~within 90 days~~) within 90 days of confirmation of a contaminant release or an exceedance of a performance standard. The owner or operator must perform this assessment which must include:
- 6.7.6.1.1 Identification of the nature and extent of the release (which may require construction and sampling of additional wells, analysis for additional constituents including those required for leachate, geophysical surveys, and/or other measures);
 - 6.7.6.1.2 Reassessment of contaminant fate and potential contaminant ~~receptors (wells and/or receiving streams);~~ receptors, which may include wells and receiving streams;
 - 6.7.6.1.3 Evaluation of feasible corrective measures to:
 - 6.7.6.1.3.1 Prevent exposure to potentially harmful levels of contaminants (exceeding performance standards);
 - 6.7.6.1.3.2 Reduce, minimize, or prevent further contaminant releases; and
 - 6.7.6.1.3.3 Reduce, minimize, or prevent the off-site migration of contaminants.
 - 6.7.6.1.4 The ~~implementability (and time to implement)~~ feasibility, time to implement, and costs of the feasible alternatives; and
 - 6.7.6.1.5 Recommendations for remedial action.
- 6.7.6.2 The owner or operator must present the results of the corrective measures assessment, including a proposed remedy, (with a schedule for initiation and completion) for public comment at a public meeting.
- 6.7.7 Selection of Remedy
- 6.7.7.1 Based on the results of the corrective measures assessment and public meeting, the owner/operator will select a remedial action.
- 6.7.7.2 Remedies must:
- 6.7.7.2.1 Be protective of human health and the environment;
 - 6.7.7.2.2 Control ~~source(s)~~ source or sources of contaminant releases so as to reduce or eliminate (~~to the maximum extent practicable~~) practicable further releases of contaminants that pose a threat to human health or the environment;
 - 6.7.7.2.3 Comply with the ~~site~~ facility performance standards at the points of compliance (~~to the extent feasible~~); (to the maximum extent practicable);
 - 6.7.7.2.4 Remove from the environment as much of the contaminated material that was released from the facility ~~as is feasible;~~ to the maximum extent practicable, taking into account factors such

as avoiding inappropriate disturbance of sensitive ~~ecosystems~~; and ecosystems and avoiding harm to human health and the environment; and

6.7.7.2.5 Comply with standards for the management of wastes.

6.7.7.3 The Department may determine that remediation of a contaminant release is not necessary if the permittee can demonstrate to the satisfaction of the ~~Department~~ Department, or the Department certifies that it is ~~satisfied~~ satisfied, that the groundwater is not currently or reasonably expected to be a source of drinking water, will not migrate so as to threaten a source of drinking water, ~~and~~ will not cause violation of surface water quality standards (i.e. does not represent a significant threat to human health or the environment).

6.7.8 Implementation of Corrective Action

6.7.8.1 Within 90 days of selecting a remedy under subsection 6.7.7, the owner or operator must initiate remedial activities. Based on the schedule established under subsection 6.7.6.2 for initiation and remediation of remedial activities, the owner or operator must:

6.7.8.1.1 Implement the corrective action remedy;

6.7.8.1.2 Take any interim measures necessary to ensure protection of human health and the environment ~~(such as which may include the replacement of contaminated or imminently threatened water supplies)~~; supplies; and

6.7.8.1.3 Perform groundwater and/or surface water monitoring to demonstrate the effectiveness of the remedy including whether or not compliance is achieved with the performance standards.

6.7.8.2 If the owner or operator determines, based on information obtained after implementation of the remedy has begun or other information, that compliance with remediation objectives (including achievement of performance standards) cannot be practically achieved with the remedy selected, the owner or operator must notify the Department and request authorization to proceed with another feasible method consistent with the overall objective of the remedy.

6.7.8.3 If the permittee determines that compliance with remedial action objectives ~~(subsection 6.7.8)~~ contained in subsection 6.7.8 cannot be practically achieved, the permittee must notify the ~~Department and~~ Department, implement alternate methods to control exposure of humans ~~or~~ and the environment to residual contamination and implement alternative control measures.

6.7.8.4 Remedies selected shall be considered complete when:

6.7.8.4.1 All actions required to implement the remedy have been achieved; and

6.7.8.4.2 The groundwater protection standards or alternate requirements agreed upon have been achieved for a period of ~~three~~ 3 years or alternate period approved by the Department.

6.7.8.5 Upon completion of the remedy, the owner or operator must notify the Department that a certification of the remedy has been completed in compliance with the requirement and placed in the operating records. This certification must be signed by a Professional Geologist ~~registered~~ licensed in Delaware.

6.7.8.6 Upon completion of the remedy, the owner or operator will continue groundwater monitoring as required by provisions of subsection 6.7.3 and approved by the Department.

6.8 Capping System

6.8.1 Requirement for a capping system

6.8.1.1 Upon closure of the landfill or landfill cell, the permittee shall install a capping system that will control the emission of gas (if applicable), promote the establishment of vegetative cover, and minimize infiltration and percolation of water into, and prevent erosion of, the waste throughout the post-closure care period.

6.8.1.2 The capping system shall be in place 180 days following final waste disposal activity unless the Department approves a longer period of time.

6.8.1.3 The capping system shall extend beyond the edge of the lined area.

6.8.1.4 The proposed design of the capping system must be approved by the Department prior to installation.

6.8.2 Composition of the capping system. The capping system shall consist of at least the following components:

6.8.2.1 A final grading layer on the waste, consisting of at least ~~six (6)~~ 12 inches of soil or equivalent material, to attain the final slope and provide a stable base for subsequent system components. Daily and intermediate cover may be used for this purpose. Alternative materials may be used for the grading layer with prior written approval by the Department.

6.8.2.2 ~~An impermeable layer, consisting of at least:~~ A low permeability layer to minimize infiltration, that has a permeability less than or equal to the permeability of any bottom liner system. This infiltration control layer must consist of at least the following:

6.8.2.2.1 A 30 mil geomembrane underlain by a ~~geotextile~~, geotextile; or

6.8.2.2.2 ~~24~~ Twenty-four inches of clay at a hydraulic conductivity of ~~less~~ less ~~or~~ less ~~greater~~ greater than 1×10^{-7} cm/sec or depth of equivalent material having a hydraulic conductivity ~~less~~ less ~~or~~ less ~~greater~~ greater than

~~1 x 10⁻⁷ cm/sec, such cm/sec.~~ The depth to be determined based on the hydraulic conductivity of 24 inches of clay at a hydraulic conductivity of 1 x 10⁻⁷ cm/sec.

6.8.2.2.3 Alternative materials may be used for the impermeable layer with prior written approval of the Department.

6.8.2.3 Final cover. The permittee shall propose a suitable vegetation dependent upon the quality and characteristics of the topsoil and compatible with the intended final use of the facility. Maintenance schedules and application rates for fertilizer and mulch shall also be submitted for approval. ~~The final cover to provide plant rooting and prevent erosion consisting of erosion, and shall consist of:~~

6.8.2.3.1 Eighteen (~~18~~) inches of soil to provide rooting depth and moisture for plant ~~growth, growth;~~ and

6.8.2.3.2 Six (~~6~~) inches of topsoil or other material approved by the Department to support the proposed vegetation; or

6.8.2.3.3 A suitable layer of alternative material or combination thereof to assure adequate rooting and moisture retention to support the proposed vegetation.

6.8.2.3.4 Alternate materials may be used for the final cover with prior written approval of the Department.

6.8.3 Final slopes

6.8.3.1 The grades of the final slope shall be constructed in accordance with the following minimum standards:

6.8.3.1.1 The final grade of the top slope, after allowing for settlement and subsidence, shall be designed to promote runoff; and

6.8.3.1.2 The final grades of the side slopes shall be, at a maximum, ~~three-3~~ horizontal to ~~one-1~~ vertical (3:1).

6.8.3.2 The top and side slopes shall be maintained to prevent erosion of the capping system and to ~~insure-ensure~~ complete vegetation cover.

6.9 Landfill Operation ~~And~~ and Maintenance Standards

6.9.1 General provisions

6.9.1.1 Landfills and landfill cells closed in accordance with ~~DRGSW~~this regulation shall conduct maintenance, recordkeeping, and reporting activities in accordance with subsections 6.10 through 6.12 and the Solid Waste Permit.

6.9.1.2 Industrial landfills shall be operated so as to create an aesthetically desirable environment and to preclude degradation of land, air, surface water, ~~or~~and groundwater.

6.9.1.3 Industrial landfills shall be maintained and operated to conform with the approved Plan of Operation.

6.9.2 Details of operation and maintenance

6.9.2.1 Spreading and compacting. The working face shall be confined to the smallest practical area, as is consistent with the proper operation of trucks and equipment. The waste shall be spread in layers and compacted by repeated passes of the compacting equipment to obtain the degree of compaction specified in the Solid Waste Permit.

6.9.2.2 Cover. Approved cover material shall be applied at a frequency and thickness specified by the Department.

6.9.2.3 Control of nuisances and hazards.

6.9.2.3.1 Odor: The operation of the landfill shall not result in odors associated with solid waste being detected ~~off-site-off-site.~~

6.9.2.3.2 Litter: The scattering of refuse and wind-blown litter shall be controlled by the use of portable fences, natural barriers, or other suitable methods. No refuse or litter shall be allowed to migrate ~~off-site-off-site.~~

6.9.2.3.3 Dust, fires: The landfill shall be operated in a manner which eliminates, to the extent possible, dust problems and fires. Industrial Landfills must develop and implement a dust control plan in accordance with the Solid Waste Permit.

6.9.2.4 Access. Access to the ~~site~~facility shall be limited to those persons authorized to use the ~~site~~facility for the disposal of solid waste and to those hours when an attendant is on duty. This ~~section subsection~~ shall not be construed to limit right of entry pursuant to 7 **Del.C. 6024. §6024**. Access to the ~~site~~facility by unauthorized persons shall be prevented by the use of barriers, fences and gates, or other suitable means.

6.9.2.5 Salvaging. Salvaging operations shall be so organized that they will not interfere with the proper disposal of any solid waste. No salvage operation shall be allowed which creates unsightliness, nuisances, health hazards, or potential safety hazards.

6.9.2.6 Personnel. ~~Sufficient numbers and types of personnel shall be available at the site to insure capability for operation in accordance with these regulations.~~ Sufficient types and numbers of

trained personnel shall be available at the facility in ensure capability for operation in accordance with this regulation. The facility shall be operated under the close supervision of an individual who is thoroughly familiar with the requirements of facility and is experienced in matters of solid waste management.

- 6.9.2.7 Equipment. Adequate numbers and types of equipment commensurate with the size of the operation shall be available at the sitefacility to ensure operation of the landfill in accordance with the provisions of these regulations and the plan of operation.this regulation and the Plan of Operation. Substitute equipment shall be obtained when maintenance or breakdown renders normal operating equipment inoperative for more than 24 hours. Waste handling equipment shall be cleaned routinely and maintained in accordance with the manufacturer's recommendations.
- 6.9.2.8 Employee health and safety. Employees at the sitefacility shall work under all appropriate health and safety guidelines established by the Occupational Safety and Health Administration. The owner or operator of the landfill shall provide suitable shelter, sanitary facilities, and safe drinking water for personnel at the sitefacility. A reliable telephone or radio communication system shall be provided for sitefacility personnel. First aid equipment shall be available at the sitefacility.
- 6.9.2.9 Procedures for excluding the receipt of hazardous waste
- 6.9.2.9.1 Owners or operators of all industrial landfill cells must implement a program at the facility for detecting and preventing the disposal of regulated hazardous wastes and polychlorinated biphenyls (PCB) wastes. This program must include, at a minimum:
- 6.9.2.9.1.1 Random inspections of incoming loads unless the owner or operator takes other steps to ensure that incoming loads do not contain regulated hazardous wastes or PCB wastes;
- 6.9.2.9.1.2 Records of any inspections;
- 6.9.2.9.1.3 Training of facility personnel to recognize regulated hazardous waste and PCB wastes; and
- 6.9.2.9.1.4 Notifying the Department if a regulated hazardous waste or PCB waste is discovered at the facility.
- 6.9.2.10 Procedures for excluding the receipt of radioactive material
- 6.9.2.10.1 Owners or operators of all industrial landfill cells must implement a program at the facility for detecting and preventing the disposal of regulated radioactive materials, as defined by this regulation. This program must include, at a minimum:
- 6.9.2.10.1.1 Method to be used to inspect incoming loads;
- 6.9.2.10.1.2 Method or methods to be used to manage radioactive materials discovered at the facility;
- 6.9.2.10.1.3 Training of facility personnel; and
- 6.9.2.10.1.4 Notifying the Department if a regulated radioactive material is discovered at the facility.
- ~~6.9.2.96~~6.9.2.11 Weekly Inspections. No later than May 31, 2018, weekly inspections shall be conducted by a Qualified Person at intervals not to exceed seven (7) days. At a minimum, weekly inspections shall include visual observations for any appearance of actual or potential structural weakness and other conditions that can disrupt the operation or safety of the industrial waste landfill. Results of the weekly inspections shall be maintained per subsection 6.9.3. If the operator cannot comply with conductingconduct an inspection within a particular week, the Department shall be notified as to the reason for missing the weekly inspection BEFORE the end of that week. Additionally, the missed weekly inspection shall, nonetheless,shall be conducted at the earliest possible time the following week. This "post" weekly inspection week but will not count as that week's inspection.
- ~~6.9.2.106~~6.9.2.12 Annual Inspection. An annual landfill inspection shall be conducted by a Professional Engineer registered-licensed in Delaware to evaluate whether the landfill design, construction, operation, and maintenance is consistent with recognized and generally accepted good engineering standards. Reports are to be submitted annually as part of the reporting requirements of subsection 6.9.4.
- 6.9.2.10.16.9.2.12.1 Inspections. At a minimum, the inspection must include a review of available information regarding the status and condition of the landfill (e.g., inspections within the operating record) and a visual inspection of the landfill to identify signs of distress or malfunction of the landfill.
- 6.9.2.10.26.9.2.12.2 Inspection Report. At a minimum, the inspection report must document any changes in geometry of the structure since the previous inspection, any appearances of an actual or potential structural weakness of the landfill, any conditions that are disrupting or have the potential to disrupt the operations and safety of the landfill, and any other changes which may have affected the stability or operation of the landfill since the last inspection.

- ~~6.9.2.10.36.9.2.12.3~~ Deficiencies and Releases. If a deficiency or release is identified during the inspection, the owner or operator must remedy the deficiency or release as soon as feasible and prepare documentation detailing the corrective measure. Deficiencies or release releases must also be reported in accordance with the Solid Waste Permit, as applicable.
- 6.9.3 Recordkeeping. Records must be made available for inspection, with reasonable notice, by representatives of the Department. The following information must be recorded, as it becomes available, and retained by the owner or operator ~~at their facility in a format acceptable to the Department and Permittee, for~~ any new or existing industrial landfill until the end of the post-closure care period of the landfill.
- 6.9.3.1 Records demonstrating that liners, leachate control systems, gas control systems, capping system, surface water management systems, and all monitoring systems are constructed or installed in accordance with the design criteria required in subsections 6.3 through 6.8.
- 6.9.3.2 Monitoring, testing, or analytical data where required by subsections 6.4 through 6.8.
- 6.9.3.3 Volume and/or weight of wastes received.
- 6.9.3.4 Any report required to be submitted by the Solid Waste Permit.
- 6.9.3.5 Any additional records specified by the Department.
- 6.9.4 Reporting. The permittee shall submit to the Department on an annual basis a report summarizing facility operations for the preceding calendar year. The report shall describe and summarize all solid waste disposal, environmental monitoring, and construction activities conducted within the year covered by the report. The report shall be prepared under the direction ~~of of,~~ and signed ~~by by,~~ the Facility Manager. In addition to paper copies of reports, the Department may require documents to be submitted ~~on machine-readable media~~ electronically in a format mutually acceptable to the Department and the permittee. With approval of the Department, reports submitted ~~on machine-readable media~~ electronically may be submitted in lieu of paper reports. The report shall include, but not necessarily be limited to, the following:
- 6.9.4.1 The volume or tonnage of solid waste landfilled at the facility;
- 6.9.4.2 The estimated total volume of solid waste currently landfilled at the facility;
- 6.9.4.3 The estimated remaining capacity of the facility, in both tonnage and years;
- 6.9.4.4 Leachate quantity and quality data as required in subsection 6.4.4, and as specified in the Solid Waste Permit;
- 6.9.4.5 Gas monitoring data as required in subsection 6.5.3, and as specified in the Solid Waste Permit;
- 6.9.4.6 An updated estimate of the cost of closure and post-closure care for the facility, as required in subsection 6.10.3.5;
- 6.9.4.7 Any intentional or accidental deviations from the approved Plan of Operation, and any unusual situations encountered during the year;
- 6.9.4.8 All construction or corrective work conducted on the ~~site~~ facility in accordance with approved plans or to achieve compliance with ~~these regulations; and this regulation; and~~
- 6.9.4.9 The permittee must also submit any additional reports as specified in the Solid Waste Permit.
- 6.9.5 Prohibitions
- 6.9.5.1 The owner or operator of an industrial landfill shall not knowingly accept for disposal any hazardous waste.
- 6.9.5.2 Open burning of any solid waste is prohibited within the active portion of the industrial landfill.
- 6.9.5.3 Scavenging is prohibited on any landfill ~~site~~ facility.
- 6.9.5.4 No wastes other than those specified in the permit may be disposed of at the facility.
- 6.10 Closure
- 6.10.1 General provisions. The owner or operator of an industrial landfill must close the completed landfill or landfill cell in a manner that:
- 6.10.1.1 Minimizes the need for further ~~maintenance;~~ maintenance; and
- 6.10.1.2 Minimizes the post-closure escape of solid waste constituents, leachate, and landfill gases to the surface water, groundwater, or atmosphere.
- 6.10.2 Required submittals; notification
- 6.10.2.1 An owner or operator of a new industrial landfill must submit a conceptual closure plan for the facility at the time of initial (i.e., construction) permit application.
- 6.10.2.2 At least 180 days prior to the projected date when wastes will no longer be accepted at the landfill or cell, the landfill owner or operator shall submit to the Department written notification of intent to close the facility or cell, a closure plan, and a closure schedule.
- 6.10.2.3 If the Department determines that the closure plan and closure schedule are sufficient to ensure closure in accordance with the performance standards described in subsection 6.10.1, it will modify the Solid Waste Permit to allow closure to take place.
- 6.10.2.4 The owner or operator shall not commence closure activities before receiving the necessary modifications to the Solid Waste Permit.

- 6.10.2.5 A copy of the closure plan must be maintained at the facility or at some other location designated by the owner or operator through the post-closure care period of the facility.
- 6.10.3 Closure plan contents. The closure plan must be certified by a Professional Engineer ~~registered~~licensed in Delaware. The closure plan for an industrial landfill or cell must include, at a minimum, the following:
- 6.10.3.1 A description of the methods, procedures, and processes that will be used to close a landfill and each individual cell thereof in accordance with the closure performance standard in subsection 6.10.1.
- 6.10.3.2 A description of the capping system required under subsection 6.8. This shall include a description of the system design, the type of cover to be used, and a discussion of how the capping system will achieve the objectives of subsection 6.10.1.
- 6.10.3.3 A description of other activities necessary to satisfy the closure performance standard, including, but not limited to, the removal or disposal of all non-landfilled wastes located ~~on-site~~on-site (e.g., wastes from landfill runoff collection ponds).
- 6.10.3.4 An estimate of the maximum inventory of waste on-site over the active life of the landfill.
- 6.10.3.5 An estimate of the cost of closing the facility or ~~cell~~cell, and of the cost of post-closure monitoring and maintenance throughout the post-closure care period. These estimates shall be updated yearly and submitted to the Department as part of the annual report described in subsection 6.9.4.
- 6.10.3.6 A plan for post-closure care of the facility sufficient to ensure that the standards described in subsection 6.10.1 will be met. This will include:
- 6.10.3.6.1 A description of the monitoring and maintenance activities required and the frequency at which these activities will be performed.
- 6.10.3.6.2 The name, address, telephone number, and email address of the person or office to contact about the facility during the post-closure period.
- 6.10.3.6.3 A description of the planned uses of the property during the post-closure period.
- 6.10.3.7 A plan for control and/or recovery of landfill gases, if appropriate.
- 6.10.3.8 A topographical map of the ~~site~~facility showing the proposed post-closure elevation with reference to ~~mean sea level,~~the Delaware State Plane Coordinate System.
- 6.10.3.9 A closure construction quality assurance plan.
- 6.10.4 Minimum closure requirements
- 6.10.4.1 The permittee shall notify the Department at least 30 working days prior to commencing closure activities. The Department shall inspect the ~~site~~facility, and the permittee shall perform any corrective work which the Department deems necessary.
- 6.10.4.2 Finished portions of the landfill shall receive a capping system which meets the requirements of subsection 6.8.
- 6.10.4.3 Finished portions of the landfill shall be planted with appropriate vegetation to promote stabilization of the cover.
- 6.10.4.4 The closure shall be carried out in accordance with the approved closure plan and according to the approved closure schedule. Any significant deviation or deviations from the plan or the schedule must be approved by the Department prior to being initiated.
- 6.10.4.5 Upon closure of an entire landfill, all non-landfilled wastes located ~~on-site~~on-site shall be removed or disposed of in a manner approved by the Department.
- 6.10.4.6 After closure of the facility, the ~~site~~facility shall be returned to an acceptable appearance consistent with the surrounding area and the intended use of the land.
- 6.10.4.7 Within 30 days of completion of closure of the landfill or a landfill cell, the owner or operator shall submit a final report for the Department's approval, unless the Department approves a longer period of time. The final report shall certify that the closure of the landfill or cell was completed in accordance with the closure plan to include the construction quality assurance plan, construction and material specifications, and design drawings. The final report shall be certified correct by the construction quality assurance engineer, who must be a Professional Engineer ~~registered~~licensed in Delaware. The landfill or cell will not be considered closed until the Department has provided its written notification that the closure construction and the final report meet the requirements of the Solid Waste Permit and ~~these regulations.~~this regulation. The Department will inspect the cell or facility and will either:
- 6.10.4.7.1 Issue a letter of approval to certify that the ~~site~~facility has been closed in accordance with the Solid Waste Permit, the closure plan, and all applicable regulations; or
- 6.10.4.7.2 Determine that the ~~site~~facility is not in compliance with the Solid Waste Permit, the closure plan, or applicable regulations; identify the areas of deficiency; and require the owner or operator to take the necessary actions to bring the ~~site~~facility into compliance.

~~6.10.4.8~~ Facilities entering the post-closure period will be issued a post-closure permit based upon the approved post-closure plan, monitoring requirements, gas and leachate control, maintenance, and corrective actions (if required).

6.10.4.8 A facility with a cell or portion of the landfill entering the interim-closure period will be issued a modified permit based upon the approved closure plan, monitoring requirements, gas and leachate control, maintenance, and any required corrective actions.

6.10.4.9 A facility entering the post-closure period will be issued a post-closure permit based upon the approved post-closure plan, monitoring requirements, gas and leachate control, maintenance, and any required corrective actions.

6.11 Interim-Closure Care

6.11.1 General provisions

6.11.1.1 The owner or operator of an industrial landfill must continue interim-closure care from the time a cell or portion of the industrial landfill is closed in accordance with subsections 6.8 and 6.10 until ~~such the~~ time when the Department issues a Closure/Post-Closure Care Permit or a Post-Closure Care Permit.

6.11.1.2 There is no minimum or maximum length of time in which a cell or portion of an industrial landfill can be in interim-closure.

6.11.1.3 At any time during the interim-closure care ~~period, period~~ the Department may remove ~~one~~ 1 or more of the interim-closure care requirements described in subsection 6.11 and Section 11.0, Part 3 - Coal Combustion ~~Residuals~~. Residuals of this regulation.

6.11.1.4 If at any time during the interim-closure care ~~period, period~~ there is evidence of a contaminant release from the landfill that presents a significant threat to human health ~~or~~ and the environment, action to mitigate the threat will be required of the owner or operator of the facility.

6.11.2 Minimum interim-closure care requirements. Interim-closure care shall be in accordance with the Solid Waste Permit and shall consist of at least the following:

6.11.2.1 Maintaining the integrity and effectiveness of the capping system, including making repairs as necessary to correct the effects of settling, subsidence, erosion, or other events, and preventing run-on and runoff from eroding or otherwise damaging the cap.

6.11.2.2 Reseeding the cover if insufficient vegetation exists to stabilize the surface.

6.11.2.3 Maintaining and operating the leachate collection and treatment systems, if applicable, until the Department determines that the leachate no longer poses a threat to human health or the environment. The permittee shall submit leachate quantity and quality data to the Department for those parameters and at ~~such frequencies as a~~ frequency specified by the Department.

6.11.2.4 Maintaining and monitoring the gas control system in accordance with subsection 6.5 and the Solid Waste Permit. The permittee shall submit gas data as specified by the Department.

6.11.2.5 Maintaining and monitoring the surface water management system in accordance with subsection 6.6 and the Solid Waste Permit. The permittee shall submit surface water data as specified by the Department.

6.11.2.6 Maintaining and operating the groundwater monitoring system in accordance with subsection 6.7 and the Solid Waste Permit. The permittee shall submit groundwater quality data as specified by the Department.

6.11.2.7 Any other interim-closure care requirement as specified in the Solid Waste Permit.

6.11.3 Prohibitions

~~6.11.3.1 Standing water shall not be allowed on closed portions of the landfill for more than 24 hours after a rain event. If standing water reoccurs at the same location after two (2) or more non-consecutive rain events, the owner or operator shall remedy the situation in a timely manner.~~ 6.11.3.1 Standing water shall not be allowed on closed portions of the landfill. If standing water is observed at the same location for more than 24 hours after a rain event for 2 or more non-consecutive rain events, the owner or operator shall remedy the situation in a timely manner.

6.11.3.2 Open burning shall not be allowed on closed portions of the landfill.

6.11.3.3 Unless approved in advance by the Department, no activity shall be conducted on a closed portion of the landfill which ~~will~~ may disturb the integrity of the capping system, liner, containment system, or monitoring systems.

6.11.3.4 Access to the closed landfill by unauthorized persons shall be prevented by the use of barriers, fences and gates, or other suitable means.

6.12 Post-closure Care

6.12.1 General ~~provisions~~ provisions

6.12.1.1 The owner or operator of an industrial landfill must continue post-closure care for 30 years after the completion of ~~closure~~ closure or until the Department approves the termination of post-closure care.

- 6.12.1.2 At any time during the post-closure care period, the Department may remove ~~one~~¹ or more of the post-closure care requirements described in ~~subsection 12.2 below~~subsection 6.12.2 if it determines that the ~~requirement(s) is/are~~requirement or requirements are no longer necessary for the protection of human health and the environment. ~~Modifications to the monitoring plan submitted at the time of the application, and all revisions to the monitoring plan, must be certified by a Professional Geologist registered in Delaware or other Department-approved person that the modifications do not cause increased risks to human health or the environment. A Professional Geologist licensed in Delaware, or other Department-approved person, must certify that any modifications to the monitoring plan submitted at the time of the application, and all later revisions to the monitoring plan, do not cause increased risks to human health or the environment.~~
- 6.12.1.3 At any time after the first ~~five~~⁵ years of the post-closure care period, the Department may reduce the length of the post-closure care period or terminate post-closure care if it determines that ~~such~~the post-closure care is no longer necessary.
- 6.12.1.4 Prior to the time that the post-closure care period is due to expire, the Department may extend the post-closure care period if it determines that the extended period is necessary to protect human health and the environment.
- 6.12.1.5 If at any time during the post-closure care period, there is evidence of a contaminant release from the landfill that presents a significant threat to human health or the environment, action to mitigate the threat will be required of the owner or operator of the facility.
- 6.12.1.6 A Professional Engineer ~~registered~~licensed in Delaware must certify that the post-closure care of the landfill has been completed in accordance with the post-closure care plan as part of reducing or ending the post-closure care period.
- 6.12.2 Minimum post-closure care requirements. Post-closure care shall be in accordance with the post-closure permit and shall consist of at least the following:
- 6.12.2.1 Maintaining the integrity and effectiveness of the capping system, including making repairs as necessary to correct the effects of settling, subsidence, erosion, or other events, and preventing run-on and runoff from eroding or otherwise damaging the cap.
- 6.12.2.2 Reseeding the cover if insufficient vegetation exists to stabilize the surface.
- 6.12.2.3 Maintaining and operating the leachate collection and treatment systems, if applicable, until the Department determines that the leachate no longer poses a threat to human health or the environment. The permittee shall submit leachate quantity and quality data to the Department for those parameters and at ~~such frequencies as a~~frequency specified by the Department.
- 6.12.2.4 Maintaining and operating the groundwater monitoring system in accordance with subsection 6.7 of this regulation and the post-closure care plan. The permittee shall submit groundwater quality data as specified by the Department.
- 6.12.2.5 Maintaining and monitoring the gas control system, if applicable, in accordance with subsection 6.5 and the post-closure care plan. The permittee shall submit gas data as specified by the Department.
- 6.12.2.6 Maintaining and monitoring the surface water management system in accordance with subsection 6.6 and the post-closure care plan. The permittee shall submit surface water data as specified by the Department.
- 6.12.2.7 ~~Other~~Any other post-closure care requirements as specified in the Solid Waste Permit.
- 6.12.3 Prohibitions
- 6.12.3.1 ~~Standing water shall not be allowed on the closed landfill for more than 24 hours after a rain event. If standing water reoccurs at the same location after two (2) or more non-consecutive rain events, the owner or operator shall remedy the situation in a timely manner. Standing water shall not be allowed on closed portions of the landfill. If standing water is observed at the same location for more than 24 hours after a rain event for 2 or more non-consecutive rain events, the owner or operator shall remedy the situation in a timely manner.~~
- 6.12.3.2 Open burning shall not be allowed on the closed landfill.
- 6.12.3.3 Unless approved in advance by the Department, no activity shall be conducted on a closed landfill which ~~will~~may disturb the integrity of the capping system, liner, containment system, or monitoring systems.
- 6.12.3.4 Access to the closed landfill shall be limited to those persons who are engaging in activities which are compatible with the intended post-closure use of the site facility.
- 6.12.4 Post-closure land use. The owner or operator shall implement the post-closure land use plan approved by the Department.
- 6.12.5 Notice in Deed to Property
- 6.12.5.1 ~~The owner of the property on which an industrial landfill is located must record an environmental covenant, per Delaware Code Title 7, Chapter 79, Subchapter II, with the deed to the facility property that will in perpetuity notify any potential purchaser of the property. The owner of the~~

property on which an industrial landfill is located must record an environmental covenant, per 7 Del.C. Ch. 79, Subchapter II, with the deed or deeds of the property in which the facility is located that will in perpetuity notify any potential purchaser of the property:

- 6.11.5.1.16.12.5.1.1 The land has been used as a solid waste disposal site,~~facility,~~ and
- 6.11.5.1.26.12.5.1.2 The use of land is restricted under this regulation.
- 6.12.5.2 Included with the notation shall be a map or description clearly specifying the area that was used for disposal.
- 6.12.5.3 The Department must be notified in writing that a notation has been recorded on the deed within 30 days of recording a notation on the deed to the property.~~recording.~~

8 DE Reg. 354 (08/01/04)

11 DE Reg. 807 (12/01/07)

13 DE Reg. 1093 (02/01/10)

17 DE Reg. 545 (11/01/13)

21 DE Reg. 893 (05/01/18)

24 DE Reg. 603 (12/01/20)

7.0 Transporters

7.1 General Provisions (applicable to all persons transporting solid waste in Delaware)

- 7.1.1 No person shall transport solid waste, without first having obtained a permit from the Department, unless specifically exempted by ~~these Regulations. Refer to Section 4 of these Regulations, PERMIT REQUIREMENTS AND ADMINISTRATIVE PROCEDURES.~~this regulation. Refer to Section 4.0 of this regulation.
- 7.1.2 Any vehicle used to transport solid waste shall be so constructed or loaded as to prevent its contents from dropping, sifting, leaking, or otherwise escaping therefrom, in accordance with 21 ~~Del.C. 4371~~4371.
- 7.1.3 The transporter ~~will~~shall be responsible for all costs of cleaning up a discharge of solid waste from the vehicle.
- 7.1.4 Compliance with ~~these regulations~~this regulation does not release a transporter from the obligation of complying with any other applicable laws, ~~regulations~~regulations, or ordinances. Additional waste transporter regulations may apply to transporters of special wastes, e.g. infectious waste. ~~Refer to Section 11 of these Regulations, SPECIAL WASTES MANAGEMENT. Refer to Section 11.0 of this regulation.~~
- 7.1.5 Each vehicle used to transport solid waste and required to have a transporter's permit must carry a copy of the transporter's permit in the vehicle. The transporter's permit must be presented upon request to any law enforcement officer or any representative of the Department.
- 7.1.6 A written request to transfer a transporter's permit must be received 90 days prior to the date of the proposed transfer. For permit transfer procedures, refer to ~~Section 4.1.8 of these Regulations, PERMITTING.~~subsection 4.1.8 of this regulation.
- 7.1.7 Permitted solid waste transporters shall not use agents or subcontractors who do not hold permits for transporting solid waste.
- 7.1.8 Vehicles used for the transportation of solid waste must be owned by the permittee. Leased vehicles may be used provided the permittee submits to the Department a valid vehicle lease agreement with the vehicle owner and demonstrates that each leased vehicle operator is employed by the permit holder.
- 7.1.9 All solid waste transported by a Delaware solid waste transporter must be transported to an authorized treatment, storage, disposal, or recycling facility.

7.2 Provisions Applicable ~~To~~ Transporters Required ~~To~~ Have A ~~a~~ Solid Waste Transporter's Permit

- 7.2.1 Applicability. ~~Section 7.2~~Subsection 7.2 applies to all transportation activities in Delaware except the following:
 - 7.2.1.1 Transportation of household waste generated in a Delaware residence and transported by the generator of the household waste or transported in a non-commercial capacity, in a vehicle having a ~~gross vehicle weight less than or equal to 26,000 (twenty-six thousand) pounds.~~total registered vehicle weight less than or equal to 15,000 pounds.
 - 7.2.1.2 On-site transportation of solid waste (i.e., the point of generation and the point of treatment or disposal are on the same ~~site~~property and the vehicle transporting the solid waste will not at any time leave the ~~site~~property).
 - 7.2.1.3 Transportation of solid waste generated on a farm in Delaware and transported by the generator of the waste (this exclusion shall not apply to the transportation of infectious waste, petroleum-hydrocarbon contaminated soils, or waste containing asbestos).
 - 7.2.1.4 Transportation of non-hazardous solid waste in a business-owned vehicle having a total registered vehicle weight of less than or equal to 15,000 pounds that is clearly marked with the business name and primary business activity. The waste being transported must have been generated by the business while conducting its identified primary business activity. Waste

management cannot be the business's primary business activity to fall under this exception. The exclusion does not apply to the transportation of infectious waste, asbestos or asbestos-containing waste, scrap tires, or household waste other than that excluded in subsection 7.2.1.1.

- 7.2.2 Instruction and Training. All drivers of solid waste transportation vehicles, and all of the transporter's employees who may handle solid waste subject to ~~these regulations,~~this regulation, shall receive instruction in how to perform transportation duties in a way that ensures compliance with all applicable regulations and requirements. The instruction shall include, but not necessarily be limited to, the following:
- 7.2.2.1 Knowledge of current DOT Motor Carrier Safety Regulations.
 - 7.2.2.2 Safe vehicle operations to avoid creating hazards to human health, safety, welfare, or the environment.
 - 7.2.2.3 Knowledge of proper handling procedures for the type of solid waste being transported.
 - 7.2.2.4 Familiarity with the approved accidental discharge containment plan.
 - 7.2.2.5 Familiarity with the conditions of the solid waste transporter's permit. It shall be the responsibility of the transporter to ensure that all drivers and other employees that may handle solid waste receive instruction as described above as frequently as necessary to maintain a level of knowledge that will ensure safe operation of the vehicle during transportation of the solid waste and proper management of an accidental discharge. A description of the driver training program shall be included with the permit application.
- 7.2.3 Vehicle Requirements
- 7.2.3.1 All vehicles used in the transportation of solid waste shall be operated and maintained so as to be in compliance with all state and federal regulations and not present a hazard to human health or the environment through unsafe vehicle conditions. The permittee is responsible for the operation and maintenance of all vehicles including leased vehicles operated under ~~his/her~~ the permittee's permit.
 - 7.2.3.2 All vehicles must carry safety and emergency equipment in accordance with applicable DOT regulations to ensure protection of the public and the environment.
 - 7.2.3.3 All vehicles must carry spill containment materials appropriate to the type of solid waste being transported.
 - 7.2.3.4 Each vehicle engaged in the transportation of solid waste must be fully enclosed or covered to prevent the discharge or release of solid waste to the environment.
 - 7.2.3.5 The transporter's name shall be prominently displayed on both sides of the vehicle in figures at least ~~three-3~~ 3 inches ~~high-high~~, and of a color that contrasts with the color of the ~~vehicle-vehicle~~, and in a legible font.
 - 7.2.3.6 The transporters' permit number shall be prominently displayed on both sides and the rear of the vehicle in figures at least ~~three-3~~ 3 inches ~~high-high~~, and of a color that contrasts with the color of the ~~vehicle-vehicle~~, and in a legible font.
- 7.2.4 Proof of financial responsibility for sudden and accidental discharges shall be maintained by the transporter. This financial responsibility may be established by any ~~one-1~~ or a combination of the following:
- 7.2.4.1 Automobile liability insurance
 - 7.2.4.1.1 For-hire carriers in interstate commerce shall at all times maintain insurance coverage that is in compliance with 49 CFR Part 387 and shall submit a Certificate of Insurance with MCS-90 endorsement demonstrating compliance with this regulation.
 - 7.2.4.1.2 Transporters who transport bulk liquid or bulk gaseous industrial waste, shall at all times maintain commercial automobile liability insurance with a combined single limit of at least \$750,000 with MCS-90 endorsement and shall submit a Certificate of Insurance with MCS-90 endorsement demonstrating compliance with this regulation.
 - 7.2.4.1.3 Transporters who transport infectious waste in interstate commerce shall at all times maintain commercial automobile liability insurance with a combined single limit of at least \$1,000,000 with MCS-90 endorsement. Transporters who transport infectious waste in intrastate commerce shall at all times maintain commercial automobile liability insurance with a combined single limit of at least \$750,000 with MCS-90 endorsement. Infectious waste transporters shall submit a Certificate of Insurance with MCS-90 endorsement demonstrating compliance with this regulation.
 - 7.2.4.1.4 All other carriers shall at all times maintain commercial automobile liability insurance with a combined single limit of at least \$350,000 and shall submit a Certificate of Insurance demonstrating compliance with this regulation.
 - 7.2.4.2 Self insurance equal to or exceeding the above automobile liability insurance limits, and approved by the Department.
 - 7.2.4.3 Other proof of financial responsibility approved by the Department.

7.2.5 Management of Accidental Discharges

- 7.2.5.1 All applicants for a permit to transport solid waste shall submit to the Department a plan for the prevention, control, and cleanup of accidental discharges of the solid waste. No permit will be issued to a transporter until such a plan has been submitted to and approved by the Department.
- 7.2.5.2 A copy of the plan shall be maintained in each vehicle engaged in the transportation of solid waste.
- 7.2.5.3 All accidental discharges of solid waste from a vehicle shall be immediately and completely remediated. If the solid waste cannot be immediately and completely remediated, or if it has the potential to cause damage to the environment or to public health, the discharge shall be immediately reported to the Department. (Accidental discharges of infectious waste are regulated under ~~Section 11, Part 1~~ Section 11.0 – Special Waste Management, Part 1 of this regulation.)
- 7.2.5.4 The transporter will be responsible for all costs of remediating a discharge of solid waste from the vehicle.

7.2.6 Recordkeeping. The following records must be retained by the transporter for at least ~~three~~ 3 years:

- 7.2.6.1 The solid waste transporter's permit.
- 7.2.6.2 Documentation of the training provided to drivers.
- 7.2.6.3 Insurance documents sufficient to demonstrate compliance with ~~Section 7.2.4 of these regulations.~~ subsection 7.2.4.
- 7.2.6.4 Records of spills or releases of solid waste that exceed ~~five (5)~~ 5 pounds or ~~one (1)~~ 1 cubic foot that occur during the transportation of solid waste in Delaware, and descriptions of the remedial actions taken.
- 7.2.6.5 The transporter's annual report required under ~~Section 7.2.7.~~ subsection 7.2.7.

7.2.7 Reporting and Documentation

- 7.2.7.1 Each transporter that picks up and/or deposits solid waste in Delaware shall submit an annual report on a form provided by the Department, summarizing information from the preceding calendar year. This report shall be submitted to the Department by April 1 of the year following the year covered by the report. The information contained in the report shall include, but not be limited to, the following:
 - 7.2.7.1.1 Types and weights of solid waste transported in, into, or out of the ~~state.~~ State.
 - 7.2.7.1.2 Actual amounts of solid waste by weight and type delivered to each destination when transported to or from facilities equipped with truck scales. Amounts may be estimated only when truck scales are not available during the waste transportation process.
- 7.2.7.2 Any vehicle transporting solid waste through Delaware shall carry documentation indicating the ~~state~~ State in which the solid waste was picked up, the date on which it was picked up, and the ~~state~~ State in which it will be deposited.

8 DE Reg. 354 (08/01/04)

13 DE Reg. 1093 (02/01/10)

19 DE Reg. 422 (11/01/15)

8.0 Reserved (formerly Dry Waste Disposal Facilities)

9.0 Resource Recovery Facilities

9.1 ~~Applicability~~ Applicability. This section applies to:

~~This section applies to:~~

- 9.1.1 Materials recovery facilities, and
- 9.1.2 Thermal recovery facilities.

9.2 Siting

- 9.2.1 Resource recovery facilities shall be located only in areas where the potential for degradation of the quality of air, land, and water is minimal.
- 9.2.2 No new resource recovery facility shall be located in an area ~~such that~~ where solid waste would at any time be handled:
 - 9.2.2.1 ~~Within the 100-year flood plain.~~ 100-year floodplain.
 - 9.2.2.2 Within any state or federal wetland.
 - 9.2.2.3 Within ~~1000-~~ 1,000 feet of any state or federal wildlife refuge, wildlife area, or park.
 - 9.2.2.4 So as to be in conflict with any locally adopted land use plan or zoning requirement. In addition, any facility that processes municipal solid waste shall not be located within 10,000 feet of any airport currently used by turbojet aircraft or 5,000 feet of any airport runway currently used by piston-type aircraft, unless a waiver is granted by the Federal Aviation Administration.
 - 9.2.2.5 Within the wellhead protection area of a public water supply well or well field, or a formally designated aquifer resource protection area. The Department in its discretion may waive this

requirement if a facility adequately demonstrates that the permitted activity is unlikely to impact these areas.

9.3 Design And ~~and~~ Construction

- 9.3.1 Applicants wishing to construct and operate resource recovery facilities will be encouraged to design the facilities so that they are capable of removing and recycling those materials for which recycling is currently technically and economically feasible. The design should allow for future alteration or upgrading to accomplish removal of additional materials as recycling of these materials becomes feasible.
- 9.3.2 The plans and specifications for a proposed resource recovery facility shall be prepared and certified by a Professional Engineer ~~registered~~ licensed in Delaware and shall be submitted as a part of the Solid Waste Management Facility permit application.
- 9.3.3 Construction and installation activities for new facilities shall be carried out in accordance with a ~~third party~~ third-party quality assurance plan approved by the Department. Expansions or alterations of existing facilities shall be carried out in accordance with an approved third-party quality assurance plan if deemed necessary by the Department.
- 9.3.4 Minimum design requirements
 - 9.3.4.1 All new resource recovery facilities shall be designed to include the following features, ~~as~~ at a minimum:
 - 9.3.4.1.1 A setback area with appropriate screening.
 - 9.3.4.1.2 A means to detect explosion potential and equipment designed to minimize the impact of explosion (if the solid waste to be handled and the equipment to be used have the potential of causing explosion).
 - 9.3.4.1.3 A means for maintaining quality control of recovered materials.
 - 9.3.4.1.4 Storage capacity for a minimum of ~~three~~ 3 days of storage (at maximum anticipated loading rates) of incoming solid waste, facility process solid waste residues and effluents, and recovered materials. The storage areas must be within enclosed structures if deemed necessary by the Department.
 - 9.3.4.1.5 Tipping floors, sorting pads, and solid waste storage areas constructed of material capable of withstanding heavy vehicle usage and of reducing and controlling runoff.
 - 9.3.4.1.6 A completely enclosed unloading area, if deemed necessary by the Department.
 - 9.3.4.1.7 Adequate floor drains graded to facilitate washdown and to prevent standing water. Drains shall discharge to a sanitary sewer system, holding tank, or appropriate treatment facility.
 - 9.3.4.1.8 Surface water and erosion controls.
 - 9.3.4.1.9 An auxiliary power system sized to enable emergency shut down of the facility to occur without causing irreparable damage to the equipment.
 - 9.3.4.1.10 Control mechanisms to minimize and contain accidental spillage of reagents, lubricants, or other liquids used as well as residues generated.
 - 9.3.4.1.11 A fire detection and protection system capable of detecting, controlling, and extinguishing any fires that may occur as a result of facility operation.
 - 9.3.4.1.12 A fence or other security system that will prevent access to the site ~~facility~~ by unauthorized persons.
 - 9.3.4.1.13 A means for weighing or measuring all incoming solid waste, all recyclable materials recovered from the waste, and all residues generated at the facility.

~~9.4~~ 9.4 ~~Operation And Maintenance Standards~~

~~All new and existing resource recovery facilities shall comply with this section.~~

~~9.4.1~~ 9.4.1 ~~General~~

- ~~9.4.1.1~~ 9.4.1.1 ~~Facilities shall be operated in a manner that will preclude degradation of land, air, surface water, or ground water.~~
- ~~9.4.1.2~~ 9.4.1.2 ~~All facilities shall be operated and maintained to conform with the approved Plan of Operation submitted at the time of permit application and approved by the Department.~~

~~9.4.2~~ 9.4.2 ~~Details of operation and maintenance~~

- ~~9.4.2.1~~ 9.4.2.1 ~~Unloading of solid waste shall take place only at clearly marked unloading areas.~~
- ~~9.4.2.2~~ 9.4.2.2 ~~Storage and handling~~
 - ~~9.4.2.2.1~~ 9.4.2.2.1 ~~External storage of solid waste containing garbage is prohibited. No solid waste shall be stored in such a manner that the storage area or the solid waste becomes a nuisance or endangers human health or the environment.~~
 - ~~9.4.2.2.2~~ 9.4.2.2.2 ~~All solid waste passing through the facility must ultimately be recycled or be disposed of at a solid waste facility authorized to accept that type of solid waste.~~
 - ~~9.4.2.2.3~~ 9.4.2.2.3 ~~Solid waste delivered to the facility shall be processed within the time limit specified by the Department.~~

- ~~9.4.2.2.4 — Nonputrescible recyclable materials may be stored for up to 30 days. The storage period may be increased, with written approval of the Department, if all of the following conditions are met:~~
- ~~9.4.2.2.4.1 — there is a demonstrated need to do so (e.g., a market agreement with terms of receipt based on greater than 30 day intervals or volumes that may take longer than 30 days to acquire);~~
 - ~~9.4.2.2.4.2 — there is sufficient Department approved storage area;~~
 - ~~9.4.2.2.4.3 — an inventory methodology is used to ensure that the recyclables do not remain on the site for longer than the specified time period; and~~
 - ~~9.4.2.2.4.4 — the inventory methodology is provided to and approved by the Department before storage begins.~~
- ~~9.4.2.3 — Control of nuisances and hazards~~
- ~~9.4.2.3.1 — Litter: The permittee shall provide for routine maintenance and general cleanliness of the entire site, as well as litter removal along roads approaching the site.~~
 - ~~9.4.2.3.2 — Air Pollution: The operation of the facility shall comply with 7 Del.C. Ch. 60, and with the Regulations Governing the Control of Air Pollution.~~
 - ~~9.4.2.3.3 — Vectors: The permittee shall implement a vector control plan to prevent the establishment of habitats for nuisance organisms (e.g., flies, maggots, roaches, rodents, and similar vermin) and to mitigate nuisances and hazards to human health and the environment.~~
 - ~~9.4.2.3.4 — Fire: Equipment shall be available on site to control fires, and arrangements shall be made with the local fire protection agency to provide immediate services when needed. If deemed necessary by the Department, a separate area shall be provided for temporary placement of hot loads received at the facility. The hot load area shall be located away from trees, bushes, and structures, and loads shall be extinguished immediately upon unloading.~~
- ~~9.4.2.4 — Access roads to the point of solid waste discharge shall be designed, constructed, and maintained so that traffic will flow smoothly and will not be interrupted by inclement weather. Access to the site shall be limited to those times when an attendant is on duty and to those persons authorized to deliver solid waste to the site. This section shall not be construed to limit right of pursuant to 7 Del.C. 6024.~~
- ~~9.4.2.5 — Personnel. Sufficient types and numbers of trained personnel shall be available at the site to insure capability for operation in accordance with these regulations. The facility shall be operated under the close supervision of an individual who is thoroughly familiar with the requirements and operational procedures of the facility and is experienced in matters of solid waste management. All thermal recovery facilities shall be operated under the direct supervision of an individual who has successfully completed a training course on use of the specific equipment installed at the facility.~~
- ~~9.4.2.6 — Health and safety. Employees at the site shall work under all appropriate health and safety guidelines established by the Occupational Safety and Health Administration. First aid equipment shall be available at the site.~~
- ~~9.4.2.7 — Equipment. Adequate numbers and types of equipment commensurate with the size of the operation shall be available at the site to insure operation of the facility in accordance with the provisions of these regulations and the plan of operation. All solid waste handling equipment shall be cleaned routinely and maintained according to the manufacturer's recommendations. All processing equipment shall be operated by persons thoroughly trained in the proper operation of the equipment and shall be maintained in good working order.~~
- ~~9.4.2.8 — Disposal of process residues and of solid waste that cannot be processed by the facility~~
- ~~9.4.2.8.1 — Unless specified otherwise in writing by the Department, all residues generated by the operation of a facility shall, within three days of generation, be disposed of, used, or treated in a manner that is consistent with state and federal regulations.~~
 - ~~9.4.2.8.2 — Unless specified otherwise in writing by the Department, all solid waste that is delivered to the facility but that cannot be processed at the facility shall, within three days of receipt, be removed from the facility for disposal, use, or treatment in a manner that is consistent with state and federal regulations.~~
- ~~9.4.3 — Recordkeeping~~
- ~~The following information must be recorded in a timely manner and the records retained by the owner or operator for at least three years:~~
- ~~9.4.3.1 — Types and weight or volume of solid waste received.~~
 - ~~9.4.3.2 — Weight or volume of each material recycled or marketed.~~
 - ~~9.4.3.3 — A record of the commercial solid waste haulers (company name, address, and telephone number) using the facility, and the type and weight or volume of solid waste delivered by each hauler to the facility each day.~~

- 9.4.3.4 — Process monitoring data.
- 9.4.3.5 — Characterization testing of recyclable materials.
- 9.4.3.6 — Ultimate disposal of these materials.
- 9.4.3.7 — Characterization testing of process residues to determine the quality for possible marketing or BTU value.
- 9.4.3.8 — A record of fires, spills, and uncontrolled releases that occur at the facility, and of hot loads received.
- 9.4.3.9 — Documentation of training provided to employees.
- 9.4.3.10 — Fire and safety inspections.
- 9.4.3.11 — Major equipment maintenance.
- 9.4.3.12 — Any additional records specified by the Department.

9.4.4 — Reporting

- 9.4.4.1 — The permittee shall submit to the Department on an annual basis a report summarizing facility operations for the preceding calendar year. The report shall be on a form prescribed by the Department and shall describe and summarize all solid waste processing, environmental monitoring, and construction activities conducted within the year covered by the report. The report shall include, but not necessarily be limited to, the following:
 - 9.4.4.1.1 — Types and weight or volume of solid waste received.
 - 9.4.4.1.2 — Weight or volume of each material recycled or marketed, and identification of the markets.
 - 9.4.4.1.3 — Weight or volume of unprocessable solid wastes and of process residues, and location of ultimate disposal of these materials.
 - 9.4.4.1.4 — A complete list of commercial haulers that delivered solid waste to the facility during the year.
 - 9.4.4.1.5 — A discussion of the feasibility of recycling materials that are currently being received at the facility but are not being recycled.
 - 9.4.4.1.6 — Descriptions of any intentional or accidental deviations from the approved Plan of Operation.
 - 9.4.4.1.7 — Descriptions of all construction or corrective work conducted on the site in accordance with approved plans or to achieve compliance with these regulations.
 - 9.4.4.1.8 — Results of characterization testing of recyclable materials and process residues.
 - 9.4.4.1.9 — Any additional information specified by the Department.
- 9.4.4.2 — The permittee shall immediately notify the Department if any of the following occurs:
 - 9.4.4.2.1 — A shut down that results in solid waste being diverted from the facility.
 - 9.4.4.2.2 — A fire.
 - 9.4.4.2.3 — A spill or nonpermitted release.

9.5 — Closure

- 9.5.1 — General. When a resource recovery facility ceases accepting solid waste, all of the solid waste on site shall be removed and the facility shall be closed in a manner that will eliminate the need for further maintenance at the site.
- 9.5.2 — Required submittals; notification
 - 9.5.2.1 — An owner or operator of a resource recovery facility must submit a conceptual closure plan at the time of initial application for a Solid Waste Management Facility Permit.
 - 9.5.2.2 — At least 180 days prior to the projected date when solid waste will no longer be accepted at the facility, the owner or operator shall submit to the Department all of the items listed in Section 4.4.3. Closure activities shall not commence until the Department has given public notice regarding the closure activity and the opportunity for a public hearing as provided in 7 Del.C. Ch. 60, approved in writing an updated closure plan and closure schedule. For additional information on the public notice procedure see section 4.1.2 of these regulations.
 - 9.5.2.3 — A copy of the closure plan must be maintained at the facility or at some other location designated by the owner or operator until closure has been completed.
- 9.5.3 — Closure plan contents. The closure plan for a resource recovery facility must include, as a minimum, the following:
 - 9.5.3.1 — A description of the methods, procedures, and processes that will be used to close the facility, including provisions that will be made for the proper disposal of all solid waste that is on the site when operations cease.
 - 9.5.3.2 — An estimate of the cost of closing the facility. This estimate shall be updated yearly and submitted to the Department as a part of the annual report described in Section 9.4.4.
 - 9.5.3.3 — A description of the planned postclosure use of the property.
- 9.5.4 — Minimum closure requirements
 - 9.5.4.1 — Closure shall be carried out in accordance with the approved closure plan.
 - 9.5.4.2 — Closure must be complete within one year after the date on which the Department issued the approved closure plan and closure schedule.

- 9.5.4.3 ~~When closure is completed, the owner or operator must submit to the Department certification by a Professional Engineer registered in Delaware that the facility has been closed in accordance with the specifications in the approved closure plan.~~
- 9.5.4.4 ~~When closure has been completed to the satisfaction of the Department, the Department will issue a letter indicating that closure has occurred in accordance with the closure plan.~~
- 9.5.4.5 ~~After closure has been completed, the Department may require that the permittee conduct monitoring and/or maintenance activities at the site to prevent or detect and mitigate any adverse environmental or health impacts.~~

9.4 Surface Water Management

9.4.1 General provisions

- 9.4.1.1 The Department in its discretion may waive 1 or more requirements of subsection 9.4 if a facility adequately demonstrates that the permitted activity is unlikely to impact surface water in the area. Waiving a requirement of subsection 9.4 does not preclude the Department from reinstating the requirement in the future.
- 9.4.1.2 An owner or operator of a resource recovery facility shall design, construct, and maintain a surface water management system to:
 - 9.4.1.2.1 Prevent the collection of standing water within materials associated with the resource recovery process; and
 - 9.4.1.2.2 Minimize surface water runoff onto and into materials associated with the resource recovery process.

9.4.2 Design requirements. An owner or operator of a resource recovery facility shall include:

- 9.4.2.1 A run-on control system to prevent flow into materials associated with the resource recovery process during the peak discharge from a 24-hour, 25-year storm.
- 9.4.2.2 The surface water management system shall be designed to control, at a minimum, the runoff from the discharge of a 24-hr, 25-year storm. The system shall be designed to include:
 - 9.4.2.2.1 Detention basins to provide temporary storage of the expected runoff from the design storm with sufficient reserve capacity to contain accumulated precipitation and sediment prior to discharge;
 - 9.4.2.2.2 Diversion structures designed to prevent runoff generated within the active cells from moving off-site of the lined areas; or
 - 9.4.2.2.3 Any other control systems approved by the Department.

9.4.3 Surface water monitoring

- 9.4.3.1 The surface water monitoring frequency and parameters to be analyzed shall depend upon the characteristics of the materials at the resource recovery facility and shall be specified by the Department. The Department reserves the right to substitute surface water monitoring required under regulations other than this regulation for this requirement.
- 9.4.3.2 The Department may observe, and may request advance notice of, the surface water sampling conducted by the permittee or their designee and may request split samples for analysis. The Department reserves the right to initiate its own sampling event.

9.4.4 Channeling of runoff

- 9.4.4.1 Runoff from the active areas of a resource recovery facility must be managed in accordance with the Solid Waste Permit.
- 9.4.4.2 Runoff that has not been in contact with resource recovery materials can be channeled to the detention basins or other approved sedimentation control device with prior written approval from the Department.

9.4.5 Discharge. The construction of and discharge from detention basins and other surface water management systems shall be in compliance with all applicable federal and state regulations.

9.4.6 Stormwater Plan. Owners or operators of all resource recovery facilities shall develop and maintain a Stormwater Plan (SWP) (also known as a Stormwater Pollution and Prevention Plan (SWPPP)) for areas associated with resource recovery operations. The SWP/SWPPP shall describe stormwater management controls and practices in-place or planned for the facility and shall identify potential sources of pollutants which may reasonably be expected to affect the quality of stormwater discharges from facility operations and maintenance. The SWP/SWPPP need not address construction activities regulated by a Sediment and Stormwater Plan Approval issued by the Department. An initial plan shall be submitted to the Department no later than **INSERT DATE 180 DAYS AFTER PUBLICATION AS FINAL IN STATE REGISTER**. SWP/SWPPP plans created under regulations other than this regulation can be substituted for this requirement provided the plan includes the following:

- 9.4.6.1 Facility identification, including the name, business address, and contact information for the person responsible for development, implementation, maintenance, and revision of the SWP/SWPPP.

- 9.4.6.2 Facility assessment, including a facility description and narrative describing all activities and potential sources of pollutants that may reasonably be expected to add pollutants to stormwater discharges. Examples include the following activities and potential sources when they are exposed to stormwater: Loading and unloading areas, outdoor storage or processing areas, vehicle/equipment maintenance areas, fueling areas, and liquid storage tanks (including secondary containment areas). The facility assessment shall also identify discharge points from these activities and potential sources of pollutants.
- 9.4.6.3 Facility map. All markings and delineations on the map shall be clearly identifiable. The map shall identify all areas where solid wastes are stored or disposed, all buildings, areas where industrial materials are stored, the drainage areas associated with each stormwater discharge from the facility, all stormwater related drainage and discharge structures including all conveyances and appurtenances, any structural stormwater controls (i.e. basins, secondary containments, and stormwater diversions), all surface waters that receive stormwater discharges from the facility, and directions of stormwater flow. The map shall also include locations of the following activities if the activities are exposed to precipitation: fueling stations, vehicle and equipment maintenance or cleaning areas, liquid storage tanks and areas where leachate can be transferred into vehicles for off-site disposal. If contaminated runoff from adjacent activities or facilities is suspected, that should also be included on the map.
- 9.4.6.4 Stormwater management at the facility. The SWP/SWPPP shall describe stormwater management controls and practices appropriate to control potential pollutants identified in the facility assessment. The SWP/SWPPP must describe the location and use of structural controls (both existing and planned), as well as non-structural controls such as best management practices, industrial material management, spill prevention/response, erosion control, and periodic inspections.
- 9.4.7 Maintenance on surface water management systems shall be done in accordance with any post-construction requirement from the Division of Watershed Stewardship or Division of Water and conditions specified within the Solid Waste Permit.
- 9.4.8 An initial periodic report for all completed surface water management systems shall be prepared and signed by the facility owner no later than **[INSERT DATE 1 YEAR FROM PUBLICATION AS FINAL IN STATE REGISTER]**. Subsequent periodic reports shall be submitted every 5 years. Modifications to a surface water management system or part of a surface water management system may require approval from other state or federal agencies. The report shall at a minimum include:
- 9.4.8.1 A description of currently installed surface water management systems;
- 9.4.8.2 Maps depicting the locations of surface water management systems and surface water flow through the facility to the point of discharge; and
- 9.4.8.3 Recommendations for continued operations and maintenance.
- 9.5 Groundwater Monitoring and Corrective Action
- 9.5.1 General provision
- 9.5.1.1 The Department in its discretion may waive one or more requirements of subsection 9.5 if a facility adequately demonstrates that the permitted activity is unlikely to impact groundwater in the area. Waiving a requirement of subsection 9.5 does not preclude the Department from reinstating the requirement in the future.
- 9.5.1.2 Owners or operators of all resource recovery facilities shall maintain and operate a groundwater monitoring program to evaluate facility impact upon groundwater quality.
- 9.5.2 Design and construction of monitoring system
- 9.5.2.1 The groundwater monitoring system shall be designed by, constructed under the direction of, and attested to by, a Professional Geologist licensed in Delaware.
- 9.5.2.2 The system shall consist of a sufficient number of wells, installed at appropriate locations and depths, to define the groundwater flow system and shall be developed in accordance with Departmental requirements to yield groundwater samples that are representative of the aquifer water quality, both unaffected by (background), and potentially impacted by, downgradient contaminant leakage from the facility.
- 9.5.2.3 The number, spacing, location, depth, and screened interval of the monitoring wells shall be approved by the Department prior to installation.
- 9.5.2.4 All monitoring wells shall be constructed in accordance with the Regulations Governing the Construction and Use of Wells and any subsequently approved guidelines. Variation from the existing guidelines must be approved by the Department in writing prior to construction.
- 9.5.3 Groundwater sampling
- 9.5.3.1 The permittee shall submit a groundwater sampling plan to the Department at the time of permit application. The sampling plan must include procedures and techniques for:
- 9.5.3.1.1 Sample collection, preservation, and transport:

- 9.5.5.2.7 An evaluation of the significance of the results including whether they indicate a contaminant release has occurred and any recommendations for corrective measures, if appropriate;
- 9.5.5.2.8 Groundwater monitoring well activities (e.g., well maintenance, well decommissioning, etc.);
- 9.5.5.2.9 Recommendations for any changes in the monitoring program including changes in the number or location of sampling points, sampling frequency, and parameters or procedures; and
- 9.5.5.2.10 Any additional hydrogeologic reporting requirements as specified in the Solid Waste Permit.

9.5.5.3 In addition to paper copies of reports, the Department may require all, or part of, any required report to be submitted electronically in a format mutually acceptable to the Department and the permittee. With the approval of the Department, reports submitted electronically may be substituted for paper reports.

9.6 Operation and Maintenance Standards. All new and existing resource recovery facilities shall comply with this subsection.

9.6.1 General

9.6.1.1 Facilities shall be operated in a manner that will preclude degradation of land, air, surface water, and groundwater.

9.6.1.2 All facilities shall be operated and maintained to conform with the approved Plan of Operation submitted at the time of permit application and approved by the Department.

9.6.2 Details of operation and maintenance

9.6.2.1 Unloading of solid waste shall take place only at clearly marked unloading areas.

9.6.2.2 Storage and handling.

9.6.2.2.1 External storage of solid waste containing garbage is prohibited. No solid waste shall be stored in a manner where the storage area or the solid waste becomes a nuisance or endangers human health or the environment.

9.6.2.2.2 All solid waste passing through the facility must ultimately be recycled or be disposed of at a solid waste facility authorized to accept that type of solid waste. The total amount of solid waste to be disposed of should not exceed the diversion goals outlined in 7 Del.C. §6056.

9.6.2.2.3 Solid waste delivered to the facility shall be processed within the time limit specified by the Department.

9.6.2.2.4 Nonputrescible recyclable materials may be stored for up to 30 days. The storage period may be increased, with written approval of the Department, if all of the following conditions are met:

9.6.2.2.4.1 There is a demonstrated need to do so (e.g., a market agreement with terms of receipt based on greater than 30-day intervals or volumes that may take longer than 30 days to acquire);

9.6.2.2.4.2 There is sufficient Department approved storage area;

9.6.2.2.4.3 An inventory methodology is used to ensure that the recyclables do not remain on the facility for longer than the specified time period; and

9.6.2.2.4.4 The inventory methodology is provided to and approved by the Department before storage begins.

9.6.2.2.5 The amount of solid waste processed during each calendar quarter (commencing January 1, April 1, July 1, and October 1) shall be equal to at least 75% of the amount accumulated at the beginning of each quarter. The facility must be able to demonstrate the actual amount processed. Records must be maintained in accordance with this regulation and the Solid Waste Permit.

9.6.2.3 Control of nuisances and hazards

9.6.2.3.1 Odor: The operation of the resource recovery facility shall not result in odors associated with solid waste being detected off-site.

9.6.2.3.2 Litter: The permittee shall provide for routine maintenance and general cleanliness of the entire facility, as well as litter removal along roads approaching the facility.

9.6.2.3.3 Air Pollution: The operation of the facility shall comply with 7 Del.C. Ch. 60 and Delaware's Regulations Governing the Control of Air Pollution.

9.6.2.3.4 Vectors: The permittee shall implement a vector control plan to prevent the establishment of habitats for nuisance organisms (e.g., flies, maggots, roaches, rodents, and similar vermin) and to mitigate nuisances and hazards to human health and the environment.

9.6.2.3.5 Fire: Equipment shall be available on-site to control fires, and arrangements shall be made with the local fire protection agency to provide immediate services when needed. If deemed necessary by the Department, a separate area shall be provided for temporary placement of hot loads received at the facility. The hot load area shall be located away from trees, bushes, and structures, and loads shall be extinguished immediately upon unloading.

- 9.6.2.4 Access. Access roads to the point of solid waste discharge shall be designed, constructed, and maintained so that traffic will flow smoothly and will not be interrupted by inclement weather. Access to the facility shall be limited to those times when an attendant is on duty and to those persons authorized to deliver solid waste to the facility. This subsection shall not be construed to limit right of entry pursuant to 7 Del.C. §6024. Access to the facility by unauthorized persons shall be prevented by the use of barriers, fences, gates, or other suitable means.
- 9.6.2.5 Personnel. Sufficient types and numbers of trained personnel shall be available at the facility to ensure capability for operation in accordance with this regulation. The facility shall be operated under the close supervision of an individual who is thoroughly familiar with the requirements and operational procedures of the facility and is experienced in matters of solid waste management. All thermal recovery facilities shall be operated under the direct supervision of an individual who has successfully completed a training course on use of the specific equipment installed at the facility.
- 9.6.2.6 Health and safety. Employees at the facility shall work under all appropriate health and safety guidelines established by the Occupational Safety and Health Administration. First aid equipment shall be available at the facility.
- 9.6.2.7 Equipment. Adequate numbers and types of equipment commensurate with the size of the operation shall be available at the facility to ensure operation of the facility in accordance with the provisions of this regulation and the Plan of Operation. All solid waste handling equipment shall be cleaned routinely and maintained according to the manufacturer's recommendations. All processing equipment shall be operated by persons thoroughly trained in the proper operation of the equipment and shall be maintained in good working order.
- 9.6.2.8 Disposal of process residues and of solid waste that cannot be processed by the facility.
 - 9.6.2.8.1 Unless specified otherwise in writing by the Department, all residues generated by the operation of a facility shall, within 3 days of generation, be disposed of, used, or treated in a manner that is consistent with state and federal regulations.
 - 9.6.2.8.2 Unless specified otherwise in writing by the Department, all solid waste that is delivered to the facility but that cannot be processed at the facility shall, within 3 days of receipt, be removed from the facility for disposal, use, or treatment in a manner that is consistent with state and federal regulations.
- 9.6.3 Recordkeeping. The following information must be recorded in a timely manner and the records retained by the owner or operator for at least 3 years:
 - 9.6.3.1 Types and weight or volume of solid waste received;
 - 9.6.3.2 Weight or volume of each material recycled or marketed;
 - 9.6.3.3 A record of the commercial solid waste haulers or those requiring a Delaware Transporter Permit per Section 7.0 of this regulation (company name, address, and telephone number) using the facility, and the type and weight or volume of solid waste delivered by each hauler to the facility each day;
 - 9.6.3.4 Process monitoring data;
 - 9.6.3.5 Characterization testing of recyclable materials;
 - 9.6.3.6 Ultimate disposal of these materials;
 - 9.6.3.7 Characterization testing of process residues to determine the quality for possible marketing or BTU value;
 - 9.6.3.8 A record of fires, spills, uncontrolled releases that occur at the facility, and of hot loads received;
 - 9.6.3.9 Documentation of training provided to employees;
 - 9.6.3.10 Fire and safety inspections;
 - 9.6.3.11 Major equipment maintenance; and
 - 9.6.3.12 Any additional records specified by the Department.
- 9.6.4 Reporting
 - 9.6.4.1 The permittee shall submit to the Department on an annual basis a report summarizing facility operations for the preceding calendar year. The report shall be prepared under the direction of, and signed by, the Facility Manager. The report shall be on a form prescribed by the Department and shall describe and summarize all solid waste processing, environmental monitoring, and construction activities conducted within the year covered by the report. In addition to paper copies of reports, the Department may require documents to be submitted electronically in a format mutually acceptable to the Department and the permittee. With approval of the Department, reports submitted electronically may be submitted in lieu of paper reports. The report shall include, but not necessarily be limited to, the following:
 - 9.6.4.1.1 Types and weight or volume of solid waste received.
 - 9.6.4.1.2 Weight or volume of each material recycled or marketed, and identification of the markets.

- 9.6.4.1.3 Weight or volume of unprocessable solid wastes and of process residues, and location of ultimate disposal of these materials.
- 9.6.4.1.4 A complete list of commercial haulers or those requiring a Delaware Transporter Permit per Section 7.0 of this regulation that delivered solid waste to the facility during the year.
- 9.6.4.1.5 A discussion of the feasibility of recycling materials that are currently being received at the facility but are not being recycled.
- 9.6.4.1.6 Descriptions of any intentional or accidental deviations from the approved Plan of Operation.
- 9.6.4.1.7 Descriptions of all construction or corrective work conducted on the facility in accordance with approved plans or to achieve compliance with this regulation.
- 9.6.4.1.8 Results of characterization testing of recyclable materials and process residues.
- 9.6.4.1.9 Any additional information specified by the Department.
- 9.6.4.2 The permittee shall immediately notify the Department if any of the following occurs:
 - 9.6.4.2.1 A shut down that results in solid waste being diverted from the facility.
 - 9.6.4.2.2 A fire.
 - 9.6.4.2.3 A spill or nonpermitted release.
 - 9.6.4.2.4 Any other notification required by the Department and specified within the Solid Waste Permit.

9.7 Closure

- 9.7.1 General. When a resource recovery facility ceases accepting solid waste, all of the solid waste on-site shall be removed and the facility shall be closed in a manner that will eliminate the need for further maintenance at the facility.
- 9.7.2 Required submittals; notification
 - 9.7.2.1 An owner or operator of a resource recovery facility must submit a conceptual closure plan at the time of initial application for a Solid Waste Permit. Any person seeking to close a resource recovery facility shall, at least 90 days before the date on which the facility will stop accepting waste, submit the following to the Department:
 - 9.7.2.1.1 Written notification of intent to close;
 - 9.7.2.1.2 Updated closure plan; and
 - 9.7.2.1.3 Closure schedule.
 - 9.7.2.2 At least 180 days prior to the projected date when solid waste will no longer be accepted at the facility, the owner or operator shall submit to the Department all of the items listed in subsection 4.4.3 of this regulation. Closure activities shall not commence until the Department has given public notice regarding the closure activity and the opportunity for a public hearing as provided in 7 Del.C. Ch. 60, approved in writing an updated closure plan and closure schedule. For additional information on the public notice procedure see subsection 4.1.2 of this regulation.
 - 9.7.2.3 A copy of the closure plan must be maintained at the facility or at some other location designated by the owner or operator until closure has been completed.
- 9.7.3 Closure plan contents. The closure plan must be certified by a Professional Engineer licensed in Delaware. The closure plan for a resource recovery facility must include, at a minimum, the following:
 - 9.7.3.1 A description of the methods, procedures, and processes that will be used to close the facility, including provisions that will be made for the proper disposal of all solid waste that is on the facility when operations cease.
 - 9.7.3.2 An estimate of the cost of closing the facility. This estimate shall be updated yearly and submitted to the Department as a part of the annual report described in subsection 9.6.4.
 - 9.7.3.3 A plan for post-closure care of the facility if post-closure care would be necessary to protect human health and the environment.
 - 9.7.3.4 A description of the planned post-closure use of the property.
- 9.7.4 Minimum closure requirements
 - 9.7.4.1 Closure shall be carried out in accordance with the approved closure plan and the modified permit.
 - 9.7.4.2 Closure must be complete within 1 year after the date on which the Department issued the approved closure plan and closure schedule.
 - 9.7.4.3 Within 30 days of completion of closure, the owner or operator shall submit a final report for the Department's approval, unless the Department approves a longer period of time. The final report shall certify that the closure of the facility was completed in accordance with the closure plan. The final report shall be certified correct by the construction quality assurance engineer, who must be a Professional Engineer licensed in Delaware. The facility will not be considered closed until the Department has provided its written notification that the closure construction and the final report meet the requirements of the Solid Waste Permit and this regulation. The Department will inspect the facility and will either:

- 9.7.4.3.1 Issue a letter of approval to certify that the facility has been closed in accordance with the Solid Waste Permit, the closure plan, and all applicable regulations; or
- 9.7.4.3.2 Determine that the facility is not in compliance with the Solid Waste Permit, the closure plan, or applicable regulations; identify the areas of deficiency; and require the owner or operator to take the necessary actions to bring the facility into compliance.
- 9.7.4.4 After closure has been completed, the Department may require that the permittee conduct monitoring and/or maintenance activities at the facility to prevent or detect and mitigate any adverse environmental or health impacts.

8 DE Reg. 354 (08/01/04)

10.0 Transfer Stations

10.1 General Provisions

10.1.1 Applicability

- 10.1.1.1 This section applies to all solid waste transfer stations in Delaware. Additional requirements may apply to transfer stations handling special solid wastes, such as infectious waste.
- 10.1.1.2 Compliance with ~~these regulations~~this regulation does not release the owner or operator of a transfer station from the obligation of complying with any other applicable laws, regulations, or ordinances.

10.1.2 Exclusions. The following types of facilities are not considered to be transfer stations:

- 10.1.2.1 Facilities permitted as ~~materials resource~~ recovery facilities.
- 10.1.2.2 Small load collection areas located at permitted landfill ~~sites~~facilities.
- 10.1.2.3 Individual dumpsters used for waste generated ~~on-site~~on-site (e.g., at shopping centers, apartment complexes or commercial establishments).
- 10.1.2.4 Compaction equipment being used exclusively for solid waste generated ~~on-site~~on-site (e.g., in office or apartment complexes, industrial facilities, or shopping centers).
- 10.1.2.5 Temporary debris collection and reduction sites established by Delaware Emergency Management Agency (DEMA) as the result of a natural or man-made disaster event. The exclusion shall apply provided the sites are established in accordance with the applicable DEMA Debris Management ~~Plan~~Plan and meet the substantive requirements of this ~~section~~Section. The exclusion shall last no longer than ~~ninety (90)~~90 days from the start of accumulation of wastes at the temporary debris collection and reduction ~~site~~facility unless written approval for a longer period is granted by the Department. A written record shall be required to document accumulation of debris at each ~~site~~facility.

10.2 Siting

- 10.2.1 Transfer stations shall be located only in areas where the potential for degradation of the quality of air, land, and water is minimal.
- 10.2.2 Transfer stations shall be located adjacent to access roads capable of withstanding anticipated load limits.
- 10.2.3 No new transfer station shall be located in an area ~~such that~~where solid waste would at any time be handled:
 - 10.2.3.1 ~~Within the 100-year flood plain~~floodplain.
 - 10.2.3.2 Within any state or federal wetland.
 - 10.2.3.3 So as to be in conflict with any locally adopted land use plan or zoning requirement.
 - 10.2.3.4 Within the wellhead protection area of a public water supply well or well field, or a formally designated aquifer resource protection area.

10.3 Design

- 10.3.1 General. The plans and specifications for a proposed transfer station shall be prepared and certified by a Professional Engineer ~~registered~~licensed in Delaware and shall be submitted as a part of the ~~transfer station permit application~~Solid Waste Management Facility Application.
- 10.3.2 Minimum design requirements. ~~All~~The Department in its discretion may waive 1 or more requirements of this subsection if a facility adequately demonstrates that the requirement or requirements are not applicable to the permitted activity. Waiving a requirement of this subsection does not preclude the Department from reinstating the requirement in the future. Otherwise, all transfer stations shall be designed to include at least the ~~following~~following.
 - 10.3.2.1 A leachate collection and disposal system as described in ~~Section subsection~~ 10.4.
 - 10.3.2.2 A means for weighing or measuring all solid waste handled at the facility.
 - 10.3.2.3 Tipping and loading areas contained within structures capable of preventing the development of nuisance conditions (e.g., odors, litter, dust, rodents, insects) if these areas will be within 300 feet of a commercial, institutional, or residential structure that is designed for human occupancy and that is in existence at the time of initial permit application. If tipping and loading areas will not be within 300 feet of a structure designed for human occupancy, the permittee shall evaluate the

impact to the surrounding area of handling the solid waste in a ~~nonenclosed~~unenclosed facility. In addition, the permittee shall evaluate the need for exhaust systems in enclosed areas and shall install ~~such~~the systems if necessary for the protection of human health.

- 10.3.2.4 A means to prevent vehicles from backing into the pit while unloading.
- 10.3.2.5 ~~Onsite~~On-site roads designed to accommodate projected traffic flow in a safe and efficient manner.
- 10.3.2.6 Separate access for passenger vehicles, if both commercial and passenger vehicles are using the facility.
- 10.3.2.7 A fence or other security system that will prevent access to the ~~site~~facility by unauthorized persons.

10.4 Leachate Collection And Disposal

10.4.1 The Department in its discretion may waive 1 or more requirements of subsection 10.4 if a facility adequately demonstrates that the permitted activity is unlikely to generate the need for leachate collection and disposal. Waiving a requirement of subsection 10.4 does not preclude the Department from reinstating the requirement in the future.

~~10.4.1~~10.4.2 All transfer stations shall be designed and constructed to include a leachate collection and disposal system that will prevent leachate (including wastewater generated during normal operation such as washout and cleaning of equipment, trucks, and floors) from contaminating the soil, surface water, or ~~ground water.~~groundwater.

~~10.4.2~~10.4.3 The leachate collection and disposal system must be approved in advance by the Department and shall consist of ~~one,~~1, or a combination, of the following:

~~10.4.2.1~~10.4.3.1 Tipping, loading, and unloading areas constructed of impervious material and equipped with drains connected to either:

~~10.4.2.1.1~~10.4.3.1.1 ~~a~~A sanitary sewer ~~system,~~system; or

~~10.4.2.1.2~~10.4.3.1.2 ~~a~~A corrosion resistant holding tank ~~constructed of, or lined with, material which has a demonstrated chemical resistance to the leachate.~~ If the tipping, loading, and unloading areas are not enclosed, the piping and drains to the sewer system or holding tank shall be sized to handle, at a minimum, the runoff that would result from a 2-hour 10-year storm.

~~10.4.2.2~~10.4.3.2 Containers and compaction units constructed of durable impervious material and equipped with covers that will minimize the entrance of precipitation. Alternate designs may be used with prior written approval of the Department if the applicant can show that they will prevent leachate from contaminating the soil, surface water, and ~~ground water.~~groundwater.

~~10.5~~ Operation And Maintenance Standards

~~10.5.1~~ General

~~10.5.1.1~~ Transfer stations shall be operated in a manner that will preclude degradation of land, air, surface water, or ground water.

~~10.5.1.2~~ Transfer stations shall be maintained and operated to conform with the Plan of Operation submitted at the time of permit application and approved by the Department.

~~10.5.2~~ Details of operation and maintenance

~~10.5.2.1~~ Storage of solid waste. Solid waste shall not remain at the transfer station for more than 72 hours without the written approval of the Department. Any solid waste that is to be kept at the site overnight shall be stored in an impervious enclosed structure.

~~10.5.2.2~~ Disposition of solid waste leaving the facility. All solid waste accepted at the transfer station must, upon leaving the transfer station, be delivered to a processing or disposal facility authorized by the Department (or by the appropriate environmental agency, if outside of Delaware) to accept that type of waste.

~~10.5.2.3~~ Control of nuisances and hazards

~~10.5.2.3.1~~ Litter. The permittee shall provide for routine maintenance and general cleanliness of the entire site, as well as litter removal along roads approaching the site if accumulations of litter along the approach roads are clearly the result of the operation of the transfer station.

~~10.5.2.3.2~~ Vectors. The permittee shall implement a vector control plan to prevent the establishment of habitats for nuisance organisms (e.g., flies, maggots, roaches, rodents, and similar vermin) and to mitigate nuisances and hazards to human health and the environment.

~~10.5.2.3.3~~ Air Pollution. The operation of the transfer station shall comply with ~~7 Del.C.~~ Ch. 60 and the Regulations Governing the Control of Air Pollution.

~~10.5.2.3.4~~ Fire. Equipment shall be available on site to control fires, and arrangements shall be made with the local fire protection agency to provide immediate services when needed. If deemed necessary by the Department, a separate area shall be provided for temporary placement of hot loads received at the facility. The hot load area shall be located away from trees, bushes, and structures, and loads shall be extinguished immediately upon unloading.

- ~~10.5.2.4~~ Access to the site shall be limited to those times when an attendant is on duty and to those persons authorized to use the site for the disposal of solid waste. This section shall not be construed to limit right of entry pursuant to ~~7 Del.C. §6024~~.
- ~~10.5.2.5~~ Personnel. Sufficient numbers and types of personnel shall be available at the site to insure capability for operation in accordance with these regulations.
- ~~10.5.2.6~~ Health and safety. Employees at the site shall work under all appropriate health and safety guidelines established by the Occupational Safety and Health Administration. First-aid equipment shall be available at the site.
- ~~10.5.2.7~~ Equipment. Adequate numbers and types of equipment commensurate with the size of the operation shall be available at the site to insure operation of the facility in accordance with the provisions of these regulations and the plan of operation. All waste handling equipment shall be cleaned routinely and maintained according to the manufacturer's recommendations.
- ~~10.5.3~~ Recordkeeping. The following information must be recorded in a timely manner and the records retained by the owner or operator for at least three years:
 - ~~10.5.3.1~~ A record of the solid waste commercial haulers (company name, address, and telephone number) using the facility and the type and weight or volume of solid waste delivered by each hauler to the transfer station each day.
 - ~~10.5.3.2~~ A record of the type and weight or volume of solid waste delivered from the transfer station to its final destination each day.
 - ~~10.5.3.3~~ A record of fires, spills, and uncontrolled releases that occur at the facility, and of hot loads received.
 - ~~10.5.3.4~~ Fire and safety inspections.
 - ~~10.5.3.5~~ Major equipment maintenance.
 - ~~10.5.3.6~~ Destination of the solid waste.
- ~~10.5.4~~ Reporting
 - ~~10.5.4.1~~ The permittee shall submit to the Department on an annual basis a report summarizing facility operations for the preceding calendar year. The due date for this annual report will be specified in the facility's permit. The report shall be on a form acceptable to the Department and shall describe and summarize all environmental monitoring and construction activities conducted within the year covered by the report. The report shall include, but not necessarily be limited to, the following:
 - ~~10.5.4.1.1~~ Type and weight or volume of waste received.
 - ~~10.5.4.1.2~~ A complete list of commercial haulers that hauled waste to or from the facility during the year covered by the report.
 - ~~10.5.4.1.3~~ Destination of the solid waste and the type and weight or volume of waste delivered to the destination.
 - ~~10.5.4.1.4~~ Descriptions of any intentional or accidental deviations from the approved Plan of Operation.
 - ~~10.5.4.1.5~~ Descriptions of all construction or corrective work conducted on the site in accordance with approved plans or to achieve compliance with these regulations.
 - ~~10.5.4.1.6~~ An updated estimate of the cost of closing the facility.
 - ~~10.5.4.1.7~~ Any additional information specified by the Department.
 - ~~10.5.4.2~~ The owner or operator shall notify the Department immediately if either of the following occurs:
 - ~~10.5.4.2.1~~ A fire that requires the services of a fire protection agency.
 - ~~10.5.4.2.2~~ A spill or uncontrolled release that may endanger human health or the environment.
- ~~10.5.5~~ Prohibitions
 - ~~10.5.5.1~~ Solid Waste generated outside of the State of Delaware shall not be combined, commingled or aggregated with solid waste that was generated in Delaware and that is required, pursuant to regulations promulgated by the Delaware Solid Waste Authority (DSWA), to be disposed of at a DSWA facility
 - ~~10.5.5.2~~ No liquids, other than those used to disinfect, to suppress dust, or to absorb or cover odors from the solid waste, shall be added to the solid waste.
 - ~~10.5.5.3~~ Open burning is prohibited on any transfer station site.
 - ~~10.5.5.4~~ Scavenging is prohibited at any transfer station.
- ~~10.6~~ Cessation And Closure
 - ~~10.6.1~~ General. When a transfer station ceases accepting solid waste, all of the waste on site shall be removed and the facility shall be closed in a manner that will eliminate the need for further maintenance at the site.
 - ~~10.6.2~~ Required submittals; notification
 - ~~10.6.2.1~~ An owner or operator of a new transfer station must submit a conceptual closure plan at the time of initial permit application. Any person desiring to close a transfer station shall, at least 90 days before the date on which the facility will stop accepting waste, submit the following to the Department:

~~10.6.2.1.1 Written notification of intent to close~~

~~10.6.2.1.2 Updated closure plan, and~~

~~10.6.2.1.3 Closure schedule.~~

~~10.6.2.2 At least 90 days prior to the date when waste will no longer be accepted at the facility, the owner or operator shall submit to the Department all of the items listed in Section 10.6.2.1. Closure activities shall not commence until the Department has:~~

~~10.6.2.2.1 certified in writing that the closure plan and schedule are complete in accordance with the requirements of these regulations;~~

~~10.6.2.2.2 given public notice regarding the closure activity and the opportunity for a public hearing as provided in 7 Del.C. Ch. 60;~~

~~10.6.2.2.3 approved in writing an updated closure plan and closure schedule~~

~~10.6.2.2.4 if a hearing has been requested, considered any comments received concerning the closure plan;~~

~~10.6.2.2.5 modified the permit to allow closure to take place.~~

For additional information on the public notice procedure see section 4.1.2 of these regulations.

~~10.6.2.3 A copy of the approved closure plan must be maintained at the facility or at some other location designated by the owner or operator until closure has been completed.~~

~~10.6.3 Closure plan contents. The closure plan for a transfer station must include, as a minimum, the following:~~

~~10.6.3.1 A description of the methods, procedures, and processes that will be used to close the transfer station, including provisions that will be made for the proper disposal of all waste that is on the site when operations cease.~~

~~10.6.3.2 An estimate of the cost of closing the facility. This estimate shall be updated yearly and submitted to the Department as a part of the annual report described in Section 10.5.4.1.6.~~

~~10.6.3.3 A plan for postclosure care of the facility if such care would be necessary to protect human health and the environment.~~

~~10.6.3.4 A description of the planned postclosure use of the property.~~

~~10.6.3.5 A copy of the approved closure plan must be maintained at the facility or at some other location designated by the owner or operator until closure has been completed.~~

~~10.6.4 Minimum closure requirements~~

~~10.6.4.1 Closure shall be carried out in accordance with the approved closure plan and the modified permit.~~

~~10.6.4.2 Closure must be complete within six months after the date on which the Department issued the approved closure plan and closure schedule.~~

~~10.6.4.3 When closure has been completed to the satisfaction of the Department, the Department will issue a letter indicating that closure has occurred in accordance with the closure plan.~~

~~10.6.4.4 After closure has been completed, the Department may require that the permittee conduct monitoring and/or maintenance activities at the site to prevent or detect and mitigate any adverse environmental or health impacts.~~

10.5 Surface Water Management

10.5.1 General provisions

10.5.1.1 The Department in its discretion may waive 1 or more requirements of subsection 10.5 if a facility adequately demonstrates that the permitted activity is unlikely to impact surface water in the area. Waiving a requirement of subsection 10.5 does not preclude the Department from reinstating the requirement in the future.

10.5.1.2 An owner or operator of a transfer station shall design, construct, and maintain a surface water management system to:

10.5.1.2.1 Prevent the collection of standing water within materials associated with facility operations; and

10.5.1.2.2 Minimize surface water runoff onto and into materials associated with facility operations.

10.5.2 Design requirements. An owner or operator of a transfer station shall include:

10.5.2.1 A run-on control system to prevent flow into materials associated with the transfer station during the peak discharge from a 24-hour, 25-year storm.

10.5.2.2 The surface water management system shall be designed to control, at a minimum, the runoff from the discharge of a 24-hr, 25-year storm. The system shall be designed to include:

10.5.2.2.1 Detention basins to provide temporary storage of the expected runoff from the design storm with sufficient reserve capacity to contain accumulated precipitation and sediment prior to discharge;

10.5.2.2.2 Diversion structures designed to prevent runoff generated within the active areas from moving off-site; or

10.5.2.2.3 Any other control systems approved by the Department.

10.5.3 Surface water monitoring

- 10.5.3.1 The surface water monitoring frequency and parameters to be analyzed shall depend upon the characteristics of the materials at the transfer station and shall be specified by the Department. The Department reserves the right to substitute surface water monitoring required under regulations other than this regulation for this requirement.
- 10.5.3.2 The Department may observe, and may request advance notice of, the surface water sampling conducted by the permittee or their designee and may request split samples for analysis. The Department reserves the right to initiate its own sampling event.
- 10.5.4 Channeling of runoff
- 10.5.4.1 Runoff from the active areas of a transfer station must be managed in accordance with the Solid Waste Permit.
- 10.5.4.2 Runoff that has not been in contact with transfer station can be channeled to the detention basins or other approved sedimentation control device with prior written approval from the Department.
- 10.5.5 Discharge. The construction of and discharge from detention basins and other surface water management systems shall be in compliance with all applicable federal and state regulations.
- 10.5.6 Stormwater Plan. Owners or operators of all transfer stations shall develop and maintain a Stormwater Plan (SWP) (also known as a Stormwater Pollution and Prevention Plan (SWPPP)) for areas associated with transfer station operations. The SWP/SWPPP shall describe stormwater management controls and practices in-place or planned for the facility and shall identify potential sources of pollutants which may reasonably be expected to affect the quality of stormwater discharges from transfer station operations and facility maintenance. The SWP/SWPPP need not address construction activities regulated by a Sediment and Stormwater Plan Approval issued by the Department. An initial plan shall be submitted to the Department no later than **[INSERT DATE 180 DAYS AFTER PUBLICATION AS FINAL IN STATE REGISTER]**. SWP/SWPPP plans created under regulations other than this regulation can be substituted for this requirement provided the plan includes the following:
- 10.5.6.1 Facility identification, including the name, business address, and contact information for the person responsible for development, implementation, maintenance, and revision of the SWP/SWPPP.
- 10.5.6.2 Facility assessment, including a facility description and narrative describing all activities and potential sources of pollutants that may reasonably be expected to add pollutants to stormwater discharges. Examples include the following activities and potential sources when they are exposed to stormwater: Loading and unloading areas, outdoor storage or processing areas, vehicle/equipment maintenance areas, fueling areas, and liquid storage tanks (including secondary containment areas). The facility assessment shall also identify discharge points from these activities and potential sources of pollutants.
- 10.5.6.3 Facility map. All markings and delineations on the map shall be clearly identifiable. The map shall identify all areas where solid wastes are stored or disposed, all buildings, areas where industrial materials are stored, the drainage areas associated with each stormwater discharge from the facility, all stormwater related drainage and discharge structures including all conveyances and appurtenances, any structural stormwater controls (i.e. basins, secondary containments, and stormwater diversions), all surface waters that receive stormwater discharges from the facility, and directions of stormwater flow. The map shall also include locations of the following activities if the activities are exposed to precipitation: fueling stations, vehicle and equipment maintenance or cleaning areas, liquid storage tanks and areas where leachate can be transferred into vehicles for off-site disposal. If contaminated runoff from adjacent activities or facilities is suspected, that should also be included on the map.
- 10.5.6.4 Stormwater management at the facility. The SWP/SWPPP shall describe stormwater management controls and practices appropriate to control potential pollutants identified in the facility assessment. The SWP/SWPPP must describe the location and use of structural controls (both existing and planned), as well as non-structural controls such as best management practices, industrial material management, spill prevention/response, erosion control, and periodic inspections.
- 10.5.7 Maintenance on surface water management systems shall be done in accordance with any post-construction requirement from the Division of Watershed Stewardship or Division of Water and conditions specified within the Solid Waste Permit.
- 10.5.8 An initial periodic report for all completed surface water management systems shall be prepared and signed by the facility owner no later than **[INSERT DATE 1 YEAR FROM PUBLICATION AS FINAL IN STATE REGISTER]**. Subsequent periodic reports shall be submitted every 5 years. Modifications to a surface water management system or part of a surface water management system may require approval from other state or federal agencies. The report shall at a minimum include:
- 10.5.8.1 A description of currently installed surface water management systems;

10.5.8.2 Maps depicting the locations of surface water management systems and surface water flow through the facility to the point of discharge; and

10.5.8.3 Recommendations for continued operations and maintenance.

10.6 Groundwater Monitoring and Corrective Action

10.6.1 General provision

10.6.1.1 The Department in its discretion may waive 1 or more requirements of subsection 10.6 if a facility adequately demonstrates that the permitted activity is unlikely to impact groundwater in the area. Waiving a requirement of subsection 10.6 does not preclude the Department from reinstating the requirement or requirements in the future.

10.6.1.2 Owners or operators of all transfer stations shall maintain and operate a groundwater monitoring program to evaluate facility impact upon groundwater quality.

10.6.2 Design and construction of monitoring system

10.6.2.1 The groundwater monitoring system shall be designed by, constructed under the direction of, and attested to by, a Professional Geologist licensed in Delaware.

10.6.2.2 The system shall consist of a sufficient number of wells, installed at appropriate locations and depths, to define the groundwater flow system and shall be developed in accordance with Departmental requirements to yield groundwater samples that are representative of the aquifer water quality, both unaffected by (background), and potentially impacted by, downgradient contaminant leakage from the facility.

10.6.2.3 The number, spacing, location, depth, and screened interval of the monitoring wells shall be approved by the Department prior to installation.

10.6.2.4 All monitoring wells shall be constructed in accordance with the Regulations Governing the Construction and Use of Wells and any subsequently approved guidelines. Variation from the existing guidelines must be approved by the Department in writing prior to construction.

10.6.3 Groundwater sampling

10.6.3.1 The permittee shall submit a groundwater sampling plan to the Department at the time of permit application. The sampling plan must include procedures and techniques for:

10.6.3.1.1 Sample collection, preservation, and transport:

10.6.3.1.1.1 Samples will be collected at low flow rates (<1 l/min) to minimize turbidity of the samples.

10.6.3.1.1.2 Samples will be field filtered only when turbidity exceeds 10 NTU. Repeated sampling of any well where turbidity exceeds 10 NTU is not permitted without Department approval. Approval will only be granted in cases where turbidity cannot be controlled by careful well construction, development, and sampling.

10.6.3.1.2 Analytical procedures and quality assurance; and

10.6.3.1.3 Chain of custody control.

10.6.3.2 Sample parameters

10.6.3.2.1 The parameters to be analyzed shall depend upon the characteristics of the materials at the transfer station and shall be specified by the Department.

10.6.3.2.2 Test methods used to determine the parameters of subsection 10.6.3.2.1 shall be those described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication Number SW-846, Third Edition, Final Updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), and V (2015) or other tests approved in writing by the Department.

10.6.3.2.3 Water levels will be measured prior to sample collection.

10.6.3.3 The Department may observe, and may request advance notice of, the groundwater sampling conducted by the permittee or their designee and may request split samples for analysis. The Department reserves the right to initiate its own sampling event.

10.6.3.4 If the Department determines that the groundwater monitoring data indicates that groundwater contamination has occurred, the Department may require a remedial action program.

10.6.4 Data evaluation

10.6.4.1 The owner or operator must establish the background quality for each sampling parameter or constituent. The background quality is that which would be expected with no impact by contaminant releases from the waste cells.

10.6.4.2 The Department shall approve the method or methods used for data evaluation based on the characteristics of the resource recovery facility. If necessary, the statistical analysis method shall include procedures to control or correct for seasonal and spatial variability, as well as temporal correlation in the data.

10.6.4.3 The owner or operator must determine whether or not there is a statistically significant increase over background values for each parameter or constituent required in the monitoring program by comparisons using the chosen method of evaluation. This evaluation must be performed within a

reasonable period of sampling and analysis. Under normal conditions performing the evaluation within 30 days of obtaining sampling results shall be considered within a reasonable period.

10.6.4.4 If any statistically significant increase or release of contaminants occurs, the permittee must:

10.6.4.4.1 Notify the Department and place the result in the operating record within 7 days;

10.6.4.4.2 Assess the probable accuracy and possible risk associated with the finding in the annual report; and

10.6.4.4.3 If deemed necessary by the Department, perform an assessment of and implement corrective measures.

10.6.5 Reporting

10.6.5.1 All groundwater monitoring shall be conducted on a schedule to be determined by the Department and the results submitted within 60 days of sampling. Reports of any statistically significant increases in downgradient wells or violation of performance standards in wells or streams must be reported to the Department within 7 days as specified in subsection 10.6.4.4.

10.6.5.2 An annual hydrogeologic monitoring report will be prepared and signed by a Professional Geologist licensed in Delaware. The report shall include, unless the Department in its sole discretion substitutes a submission or submissions received during the reporting year for an item below, the following:

10.6.5.2.1 Tabulation of all groundwater quality data from current and preceding years as specified within the Solid Waste Permit;

10.6.5.2.2 Graphical presentation of groundwater quality data from current and preceding years as specified within the Solid Waste Permit;

10.6.5.2.3 Maps showing groundwater flow patterns at each time of groundwater sampling and groundwater monitoring well locations;

10.6.5.2.4 A discussion of the groundwater monitoring results;

10.6.5.2.5 Identification of any statistically significant increases in wells and/or exceedances of performance standards;

10.6.5.2.6 Confirmation results and conclusions related to the accuracy of these results and/or reasonable explanation for the results;

10.6.5.2.7 An evaluation of the significance of the results including whether they indicate a contaminant release has occurred and any recommendations for corrective measures, if appropriate;

10.6.5.2.8 Groundwater monitoring well activities (e.g., well maintenance, well decommissioning, etc.);

10.6.5.2.9 Recommendations for any changes in the monitoring program including changes in the number or location of sampling points, sampling frequency, and parameters or procedures; and

10.6.5.2.10 Any additional hydrogeologic reporting requirements as specified in the Solid Waste Permit.

10.6.5.3 In addition to paper copies of reports, the Department may require all, or part of, any required report to be submitted electronically in a format mutually acceptable to the Department and the permittee. With the approval of the Department, reports submitted electronically may be substituted for paper reports.

10.7 Operation and Maintenance Standards

10.7.1 General

10.7.1.1 Transfer stations shall be operated in a manner that will preclude degradation of land, air, surface water, and groundwater.

10.7.1.2 Transfer stations shall be maintained and operated to conform with the Plan of Operation submitted at the time of permit application and approved by the Department.

10.7.2 Details of operation and maintenance

10.7.2.1 Storage of solid waste. Solid waste shall not remain at the transfer station for more than 72 hours without the written approval of the Department. Any solid waste that is to be kept at the facility overnight shall be stored in an impervious enclosed structure.

10.7.2.2 Disposition of solid waste leaving the facility. All solid waste accepted at the transfer station must, upon leaving the transfer station, be delivered to a processing or disposal facility authorized by the Department (or by the appropriate environmental agency, if outside of Delaware) to accept that type of waste.

10.7.2.3 Control of nuisances and hazards

10.7.2.3.1 Odor. The operation of the transfer station shall not result in odors associated with solid waste being detected off-site.

10.7.2.3.2 Litter. The permittee shall provide for routine maintenance and general cleanliness of the entire facility, as well as litter removal along roads approaching the facility if accumulations of litter along the approach roads are clearly the result of the operation of the transfer station.

- 10.7.2.3.3 Vectors. The permittee shall implement a vector control plan to prevent the establishment of habitats for nuisance organisms (e.g., flies, maggots, roaches, rodents, and similar vermin) and to mitigate nuisances and hazards to human health and the environment.
- 10.7.2.3.4 Air Pollution. The operation of the transfer station shall comply with 7 Del.C. Ch. 60 and Delaware's Regulations Governing the Control of Air Pollution.
- 10.7.2.3.5 Fire. Equipment shall be available on-site to control fires, and arrangements shall be made with the local fire protection agency to provide immediate services when needed. If deemed necessary by the Department, a separate area shall be provided for temporary placement of hot loads received at the facility. The hot load area shall be located away from trees, bushes, and structures, and loads shall be extinguished immediately upon unloading.
- 10.7.2.4 Access to the facility shall be limited to those times when an attendant is on duty and to those persons authorized to use the facility for the disposal of solid waste. This subsection shall not be construed to limit right of entry pursuant to 7 Del.C. §6024.
- 10.7.2.5 Personnel. Sufficient numbers and types of personnel shall be available at the facility to ensure capability for operation in accordance with this regulation. The facility shall be operated under the close supervision of an individual who is thoroughly familiar with the requirements and operational procedures of the facility and is experienced in matters of solid waste management.
- 10.7.2.6 Health and safety. Employees at the facility shall work under all appropriate health and safety guidelines established by the Occupational Safety and Health Administration. First aid equipment shall be available at the facility.
- 10.7.2.7 Equipment. Adequate numbers and types of equipment commensurate with the size of the operation shall be available at the facility to ensure operation of the facility in accordance with the provisions of this regulation and the Plan of Operation. All waste handling equipment shall be cleaned routinely and maintained according to the manufacturer's recommendations.
- 10.7.2.8 Procedures for excluding the receipt of hazardous waste
 - 10.7.2.8.1 Owners or operators of a transfer station must implement a program at the facility for detecting and preventing the disposal of regulated hazardous wastes and polychlorinated biphenyls (PCB) wastes. This program must include, at a minimum:
 - 10.7.2.8.1.1 Random inspections of incoming loads unless the owner or operator takes other steps to ensure that incoming loads do not contain regulated hazardous wastes or PCB wastes;
 - 10.7.2.8.1.2 Records of any inspections;
 - 10.7.2.8.1.3 Training of facility personnel to recognize regulated hazardous waste and PCB wastes; and
 - 10.7.2.8.1.4 Notifying the Department if a regulated hazardous waste or PCB waste is discovered at the facility.
- 10.7.2.9 Procedures for excluding the receipt of radioactive material
 - 10.7.2.9.1 Owners or operators of a transfer station must implement a program at the facility for detecting and preventing the disposal of regulated radioactive materials, as defined by this regulation. This program must include, at a minimum:
 - 10.7.2.9.1.1 Method to be used to inspect incoming loads;
 - 10.7.2.9.1.2 Method or methods to be used to manage radioactive materials discovered at the facility;
 - 10.7.2.9.1.3 Training of facility personnel; and
 - 10.7.2.9.1.4 Notifying the Department if regulated radioactive material is discovered at the facility.
- 10.7.3 Recordkeeping. The following information must be recorded in a timely manner and the records retained by the owner or operator for at least 3 years:
 - 10.7.3.1 A record of the commercial haulers or those requiring a Delaware Transporter Permit per Section 7.0 of this regulation (company name, address, and telephone number) using the facility and the type and weight or volume of solid waste delivered by each hauler to the transfer station each day;
 - 10.7.3.2 A record of the type and weight or volume of solid waste delivered from the transfer station to its final destination each day;
 - 10.7.3.3 A record of fires, spills, uncontrolled releases that occur at the facility, and of hot loads received by the facility;
 - 10.7.3.4 Fire and safety inspections;
 - 10.7.3.5 Major equipment maintenance;
 - 10.7.3.6 Destination of the solid waste; and
 - 10.7.3.7 Any additional records specified by the Department.
- 10.7.4 Reporting

10.7.4.1 The permittee shall submit to the Department on an annual basis a report summarizing facility operations for the preceding calendar year. The due date for this annual report will be specified in the facility's permit. The report shall be on a form acceptable to the Department and shall describe and summarize all environmental monitoring and construction activities conducted within the year covered by the report. The report shall include, but not necessarily be limited to, the following:

10.7.4.1.1 Type and weight or volume of waste received.

10.7.4.1.2 A complete list of commercial haulers or those requiring a Delaware Transporter Permit per Section 7.0 of this regulation that hauled waste to or from the facility during the year covered by the report.

10.7.4.1.3 Destination of the solid waste and the type and weight or volume of waste delivered to the destination.

10.7.4.1.4 Descriptions of any intentional or accidental deviations from the approved Plan of Operation.

10.7.4.1.5 Descriptions of all construction or corrective work conducted on the facility in accordance with approved plans or to achieve compliance with this regulation.

10.7.4.1.6 An updated estimate of the cost of closing the facility.

10.7.4.1.7 Any additional information specified by the Department.

10.7.4.2 The owner or operator shall notify the Department immediately if either of the following occurs:

10.7.4.2.1 A fire that requires the services of a fire protection agency.

10.7.4.2.2 A spill or uncontrolled release that may endanger human health or the environment.

10.7.4.2.3 Any other Department required notification.

10.7.5 Prohibitions

10.7.5.1 Solid Waste generated outside of the State of Delaware shall not be combined, commingled or aggregated with solid waste that was generated in Delaware and that is required, pursuant to regulations promulgated by the Delaware Solid Waste Authority (DSWA), to be disposed of at a DSWA facility.

10.7.5.2 No liquids, other than those used to disinfect, to suppress dust, or to absorb or cover odors from the solid waste, shall be added to the solid waste.

10.7.5.3 Open burning is prohibited at any transfer station facility.

10.7.5.4 Scavenging is prohibited at any transfer station.

10.8 Cessation and Closure

10.8.1 General. When a transfer station ceases accepting solid waste, all of the solid waste on-site shall be removed and the facility shall be closed in a manner that will eliminate the need for further maintenance at the facility.

10.8.2 Required submittals; notification

10.8.2.1 Any person seeking to modify their current permit to allow closure of a transfer station shall, at least 180 days before the date on which the facility will stop accepting waste, submit the following to the Department:

10.8.2.1.1 Written notification of intent to close;

10.8.2.1.2 Updated closure plan as described in subsection 10.8.3; and

10.8.2.1.3 Closure schedule.

10.8.2.2 At least 180 days prior to the date when waste will no longer be accepted at the facility, the owner or operator shall submit to the Department all of the items listed in subsection 10.8.2.1. Closure activities shall not commence until the Department has:

10.8.2.2.1 Certified in writing that the closure plan and schedule are complete in accordance with the requirements of this regulation;

10.8.2.2.2 Given public notice regarding the closure activity and the opportunity for a public hearing as provided in 7 Del.C. Ch. 60 (For additional information on the public notice procedure see subsection 4.1.2 of this regulation.);

10.8.2.2.3 Approved in writing an updated closure plan and closure schedule;

10.8.2.2.4 If a hearing has been requested, considered any comments received concerning the closure plan; and

10.8.2.2.5 Modified the permit to allow closure to take place.

10.8.2.3 A copy of the approved closure plan must be maintained at the facility or at some other location designated by the owner or operator until closure has been completed.

10.8.3 Closure plan contents. The closure plan must be certified by a Professional Engineer licensed in Delaware. The closure plan for a transfer station must include, as a minimum, the following:

10.8.3.1 A description of the methods, procedures, and processes that will be used to close the transfer station, including provisions that will be made for the proper disposal of all waste that is at the facility when operations cease.

- 10.8.3.2 An estimate of the cost of closing the facility. This estimate shall be updated yearly and submitted to the Department as a part of the annual report described in subsection 10.7.4.1.6.
- 10.8.3.3 A plan for post-closure care of the facility if post-closure care would be necessary to protect human health and the environment.
- 10.8.3.4 A description of the planned post-closure use of the property.
- 10.8.4 Minimum closure requirements
 - 10.8.4.1 Closure shall be carried out in accordance with the approved closure plan and the modified permit.
 - 10.8.4.2 Closure must be complete within 6 months after the date on which the Department issued the approved closure plan and closure schedule.
 - 10.8.4.3 Within 30 days of completion of closure, the owner or operator shall submit a final report for the Department's approval, unless the Department approves a longer period of time. The final report shall certify that the closure of the facility was completed in accordance with the closure plan. The final report shall be certified correct by the construction quality assurance engineer, who must be a Professional Engineer licensed in Delaware. The facility will not be considered closed until the Department has provided its written notification that the closure construction and the final report meet the requirements of the Solid Waste Permit and this regulation. The Department will inspect the facility and will either:
 - 10.8.4.3.1 Issue a letter of approval to certify that the facility has been closed in accordance with the Solid Waste Permit, the closure plan, and all applicable regulations; or
 - 10.8.4.3.2 Determine that the facility is not in compliance with the Solid Waste Permit, the closure plan, or applicable regulations; identify the areas of deficiency; and require the owner or operator to take the necessary actions to bring the facility into compliance.
 - 10.8.4.4 After closure has been completed, the Department may require that the permittee conduct monitoring and/or maintenance activities at the facility to prevent or detect and mitigate any adverse environmental or health impacts.

8 DE Reg. 354 (08/01/04)

13 DE Reg. 1093 (02/01/10)

19 DE Reg. 422 (11/01/15)

11.0 Special Wastes Management Part 1- Infectious Waste

11.1 General Provisions

- 11.1.1 All generators of infectious waste shall obtain an Infectious Waste Identification Number for each ~~site~~facility or location that generates infectious waste. When more than ~~one~~1 person (i.e., physicians with separate medical practices) is located in the same building, each individual business entity shall be considered a separate generator for purpose of ~~these regulations.~~this regulation. Registration shall be submitted on a form provided by the Department.
- 11.1.2 No person shall engage in the construction, operation, material alteration, or closure of a facility to be used in the treatment, storage, or disposal of infectious wastes, unless specifically exempted from the regulations within ~~Section 2.3,~~subsection 2.3 of this regulation, without first having obtained the proper permits from the Department.
- 11.1.3 All infectious waste must be packaged in accordance with ~~these regulations.~~this regulation.

11.2 Siting

- 11.2.1 Infectious waste treatment facilities shall be located only in areas where the potential for degradation of the quality of air, land, and water is minimal.
- 11.2.2 Infectious waste treatment facilities shall be located adjacent to access roads capable of withstanding anticipated load limits.
- 11.2.3 No new infectious waste treatment facility shall be located in an area ~~such that~~where solid waste would at any time be handled:
 - 11.2.3.1 ~~Within the 400-year flood plain.~~100-year floodplain.
 - 11.2.3.2 Within any state or federal wetland.
 - 11.2.3.3 So as to be in conflict with any locally adopted land use plan or zoning requirement.

11.3 Definitions

In addition to the definitions in ~~Section 3 of these regulations,~~Section 3.0 of this regulation, the following definitions are specific to the management of infectious waste as used in this part.

"6-log Reduction" means a ~~6-decade~~6-decade reduction or a millionth (~~-000004~~)(0.000001) survival probability in a microbial population, i.e., a 99.9999% reduction.

"ATCC" means American Type Culture Collection.

"Autoclave Tape" means tape that demonstrates an evidentiary visible physical change when subjected to temperatures that will provide evidence of sterilization of materials during treatment in an autoclave or similar device.

"CFU" means colony-forming unit.

"**Challenge Loads**" means an infectious waste load that has been constructed by composition (i.e., organic content, moisture content, or other physical or chemical composition).

"**Class 4 Etiologic Agent**" means a pathogenic agent that is extremely hazardous to laboratory personnel or that may cause serious epidemic disease. Class 4 etiologic agents (now defined as Infectious Substance, Category A affecting humans of Infectious Substance, Category A affecting animals only) include the following viral agents and microbiological cultured materials:

- *Variola Variola major (Smallpox), Variola minor (Alastrim, Amass, Cottonpox, Milkpox, Monkey pox, Cuban Itch, and Whitepox) when used for transmission or animal inoculation experiments.
- *Hemorrhagic Hemorrhagic fever agents (including Nairovirus, Crimean hemorrhagic fever (Congo), Dengue virus (cultures only), Flexal virus, Junin virus, Lassa virus, Marburg virus, Guanarito virus, Sabia virus, Hantavirus, Puumalavirus, Dobrava virus, Seoul virus, Rift Valley Fever virus, Ebola virus, Machupo viruses, Hendra virus, emerging hemorrhagic viruses such as Nipah virus, Hantavirus, and others not yet defined).
- *Cultures Cultures of the following viruses: Herpesvirus simiae (Monkey B virus), Hepatitis B virus, Human immunodeficiency virus (HIV), Highly pathogenic avian influenza virus, poliovirus, and Rabies virus.
- *Tick-borne Tick-borne encephalitis virus complex (including Far Eastern encephalitis viruses such as Absettarov virus, Kyasanur forest disease, Louping ill virus, Negishi virus, Omsk hemorrhagic fever, Powassan virus, Russian spring-summer encephalitis, and Central European encephalitis viruses such as Hanzalova virus, HYPR virus, Kumlinge virus, Neudoerfl virus) viruses.
- *Mosquito-borne Mosquito-borne encephalitis virus cultures (Eastern equine encephalitis virus, Venezuelan equine encephalitis virus, Japanese encephalitis virus, and West Nile Virus (WNV), epidemic strains, when used for transmission or animal inoculation experiments) experiments.
- *Yellow Yellow fever virus (wild, when used for transmission or animal inoculation experiments) experiments.
- *Microbacteriological Microbacteriological or toxin cultures of highly pathogenic or with high potential for transmission and/or easily disseminated organisms: Bacillus anthracis (Anthrax), Brucella abortus (Brucellosis), Brucella melitensis, Brucella suis, Burkholderia mallei - Pseudomonas mallei (Glanders), Burkholderia pseudomallei - Pseudomonas pseudomallei (Meliodiosis), Chlamydia psittaci - avian strains, Clostridium botulinum (Botulism), Coccidioides immitis, Coxiella burnetii (Q-fever), Escherichia coli verotoxigenic, Francisella tularensis (Tularemia), Mycobacterium tuberculosis, Mycoplasma mycoides - Contagious bovine pleuropneumonia (animal only), Rickettsia prowazekii (Typhus fever), Rickettsia rickettsii, Shigella dysenteriae type 1, Yersinia pestis (plague) and others yet undefined.
- *Viral Viral cultures of highly pathogenic to animals or with high potential for transmission and/or easily disseminated organisms: Avian paramyxovirus Type 1 - Velogenic Newcastle disease virus, Classical swine fever virus, Foot and mouth disease virus, Goatpox virus, Lumpy skin disease virus, Peste des pestis ruminants virus, Rinderpest virus, Sheep-pox virus, Swine vesicular disease virus, Vesicular stomatitis virus and others not yet defined.

"**Container**" means any portable enclosure in which a material is stored, managed or transported.

"**Contamination**" means the degradation of naturally occurring water, air or soil quality either directly or indirectly as a result of the transfer of diseased organisms, blood or other matter that may contain disease organisms from one material or object to another.

"**Etiologic Agents**": "**Etiologic Agents**" means a viable microorganism, or its toxin, which causes or may cause disease in humans or animals, and includes any agent that causes or may cause severe, disabling, or fatal disease. The terms infectious substance and etiologic agent are synonymous.

"**Generator**" means any person whose act or process produces infectious waste as defined in these regulations, this regulation, or whose act first causes an infectious waste to become subject to regulation. The universe of infectious waste generators includes, but is not limited to, hospitals, physicians' offices, dental offices, veterinary practices, funeral homes, research or medical laboratories, and nursing homes.

"**Incinerator**" means any enclosed device used to destroy waste material by using controlled flame combustion.

"**Indicator Microorganism Spores**" means those microorganism spores listed in Appendix A, Table B of Section 11.0, Part 1.

"**Infectious Substance**" (formerly called "ETIOLOGIC AGENTS") means a viable microorganism, or its toxin, which causes or may cause disease in humans or animals, and includes any agent that causes or may cause severe, disabling, or fatal disease. The terms *infectious substance* and *etiologic agent* are synonymous.

"**Infectious Waste**" means those solid wastes which may cause human disease and may reasonably be suspected of harboring human pathogenic organisms, or may pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed. Types of solid wastes designated as infectious include but are not necessarily limited to the following:

(1) **Biological wastes:**

- (a) **Biological liquid wastes** means blood and blood products, excretions, exudates, secretions, suctionings and other body fluids including liquid wastes from renal dialysis.

- (b) **Pathological wastes** means all human tissues and anatomical remains, including human fetal remains, which emanate from surgery, obstetrical procedures, autopsy, and laboratory procedures.
- (c) **Cultures and stocks of etiologic agents and associated biological wastes** means, but is not limited to, specimen cultures, cultures and stocks of infectious substances, and wastes from production of biologicals and serums. Cultures are the result of a process by which pathogens are intentionally propagated.
- (d) **Laboratory wastes** means those wastes which have come in contact with pathogenic organisms or blood or body fluids. ~~Such~~The wastes include, but are not limited to, disposable materials, culture dishes, devices used to transfer, inoculate and mix cultures, paper and cloth which has come in contact with specimens or cultures which have not been sterilized or rendered noninfectious; or laboratory wastes, including cultures of infectious substances, which pose a substantial threat to health due to their volume and virulence.
- (e) **Animal tissue, bedding and other waste** from animals known or suspected to be infected with a pathogen which also causes human disease, provided that prevailing evidence indicates that ~~such~~the tissue, bedding or other waste may act as a vehicle of transmission to humans.
- (f) **Human dialysis waste materials** including blood lines and dialysate membranes.

- (2) **Sharps** means any discarded article that may cause puncture or cuts. ~~Such~~The wastes include, but are not limited to, needles, intravenous (IV) tubing with needles attached, scalpel blades, glassware and syringes that have been removed from their original sterile containers. For the purpose of ~~these regulations,~~this regulation, only sharps from human or animal health care facilities, human or animal research facilities or human or animal pharmaceutical manufacturing facilities shall be regulated as sharps.
- (3) **Discarded Biologicals** means serums and vaccines produced by pharmaceutical companies for human or veterinary use. These products may be discarded because of a bad manufacturing lot (i.e., ~~off-specification~~off-specification material that does not pass quality control or that is recalled), outdating or removal of the product from the market or other reasons. Because of the possible presence of infectious substances in these products, the discarded material constitutes infectious waste.
- (4) **Isolation Wastes** means discarded materials contaminated with blood, excretions, exudates and/or secretions from humans who are isolated to protect others from highly communicable diseases (those diseases identified as caused by Class 4 etiologic agents).
- (5) **Other infectious wastes** means any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill of any infectious waste.

"**Large Incinerator**" means an incinerator which has a capacity of greater than 1000 pounds per hour.

"**Large Quantity Generator**" means generators of infectious waste who generate 50 pounds or more of infectious waste per month.

"**Log Kill**" (L) means the difference between the logarithms of viable test microorganisms or indicator microorganism spores before and after treatment.

"**Manifest**" means a tracking document designed to record the movement of solid waste from the generator through its trip with a transporter to an approved off-site treatment or disposal facility.

"**Noninfectious**" means a state in which potentially harmful microorganisms are absent, free of pathogens.

"**Red Bag**" means an impermeable, 3-mil polyethylene bag or equivalent, red in color, for the collection, storage, and transport of infectious or regulated medical waste, which meets the following minimum performance requirements:

- ~~Appearance: opaque, red. Each bag must carry the words "INFECTIOUS WASTE" or "REGULATED MEDICAL WASTE" or "BIOHAZARD" in one-inch (minimum) letters and carry the Biological Hazard Symbol.~~
- ~~Dart Impact, F₅₀: 100 grams minimum.~~
- ~~Elmendorf Tear: 380 grams minimum (any direction).~~
- ~~Heavy metals: 100 ppm maximum combined total.~~

(1) Appearance: opaque, red. Each bag must carry the words "INFECTIOUS WASTE" or "REGULATED MEDICAL WASTE" or "BIOHAZARD" in 1-inch (minimum) letters and carry the Biological Hazard Symbol.

(2) Dart Impact, F₅₀: 100 grams minimum.

(3) Elmendorf Tear: 380 grams minimum (any direction).

(4) Heavy metals: 100 ppm maximum combined total.

"**Regulated Medical Waste**" means "**infectious waste**".

"**Shipment**" means that waste which is conveyed by a transporter between a generator and a designated facility or a subsequent transporter.

"**Small Incinerator**" means an incinerator which has a capacity equal to or less than 1000 pounds per hour.

"**Small Quantity Generator**" means generators of infectious waste who generate less than 50 pounds of infectious waste per month.

"**Storage Area**" means an area designated for the holding of waste for a temporary period, at the end of which time the waste is treated, disposed of, or stored elsewhere.

"Test Microorganisms" means those microorganisms listed in Appendix A, ~~Table B of Section 11, Part 1, Table A of Section 11.0, Part 1.~~

11.4 Exemptions

11.4.1 The following solid wastes are not to be managed as infectious wastes:

- 11.4.1.1 Soiled diapers and feminine hygiene items produced by a person not known to have an infectious disease;
- 11.4.1.2 Wastes contaminated only with organisms which are not pathogenic to humans, and which are managed in accordance with all applicable regulations of the U.S. Department of Agriculture and the Delaware Department of Agriculture and Consumer Services and all other regulations governing this type of waste stream;
- 11.4.1.3 Food wastes which are pathogenic to humans only through direct ingestion;
- 11.4.1.4 Any infectious waste contaminated by, ~~coincinerated~~ incinerated with, or mixed with hazardous, ~~radioactive~~ radioactive, or toxic waste becomes a hazardous, ~~radioactive~~ radioactive, or toxic waste and shall then be managed under the appropriate regulations governing those waste types (7 **Del.C.** Ch. 63, 7 **Del.C.** and any applicable federal regulations);
- 11.4.1.5 ~~Waste consisting of human anatomical remains, including human fetal remains, managed by a licensed funeral director;~~
- 11.4.1.6 ~~11.4.1.5~~ Bed linen, instruments, ~~equipment~~ equipment, and other reusable items are not wastes until they are discarded. ~~This part and these regulations~~ Section 11.0 Part 1 and this regulation apply only to wastes. The regulations do not include the sterilization for disinfection of items that are reused for their original purpose. Therefore, the method of sterilization or disinfection of items prior to reuse is not limited. When reusable items are no longer serviceable and are discarded, they become wastes and subject to ~~these regulations~~ this regulation at that time and must be sterilized by steam, incinerated, or otherwise rendered noninfectious;
- 11.4.1.7 ~~11.4.1.6~~ Waste generated by Delaware households;
- 11.4.1.8 ~~11.4.1.7~~ Ash from incineration of infectious waste once the incineration process has been completed;
- 11.4.1.9 ~~11.4.1.8~~ Residues from treatment and destruction processes of infectious waste once the waste has been both treated and destroyed;
- 11.4.1.10 ~~11.4.1.9~~ Samples of infectious waste transported off-site by EPA or State-designated enforcement personnel for enforcement purposes are excepted from the requirements of this part during the enforcement proceeding; and
- 11.4.1.11 ~~11.4.1.10~~ Biological liquid wastes which are directly discharged into a permitted wastewater treatment system.

11.5 Small Quantity Generator Requirements

- 11.5.1 It is the responsibility of the Small Quantity Generator to arrange for proper waste disposal. A Small Quantity Generator shall contract the services of a permitted transporter of infectious waste, or render the waste non-infectious and non-recognizable using a process or equipment approved by the Department, prior to disposal.
- 11.5.2 Requirements to submit manifest tracking documents shall apply to either the Small Quantity Generator or the transporter contracted by the generator for disposal of the infectious waste.
- 11.5.3 Small Quantity Generators are exempt from the storage time requirements in ~~Section 11.8.5.3 of this part~~ Section 11.0, Part 1, subsection 11.8.5.3 as long as not more than 50 pounds of infectious waste are stored and so long as storage is protective of human health and the environment.
- 11.5.4 Small Quantity Generators are exempt from the requirement to file an annual report to the Department. However, they are responsible for maintaining records of infectious waste disposal for a period of at least ~~three~~ 3 years. Documentation shall include:
 - 11.5.4.1 A description of how the waste was rendered non-infectious and ~~non-recognizable, non-recognizable~~; and
 - 11.5.4.2 Copies of receipts or manifests for wastes managed by a permitted transporter of infectious waste.

11.6 Permit Requirements

- 11.6.1 All application requirements found in ~~Section subsections~~ 4.1.2 through 4.1.11 of these regulations ~~this regulation~~ shall be performed unless specifically exempted within this part of the regulations.
- 11.6.2 Any person required to have a permit for activities that will occur in the management of infectious waste shall apply for a permit in accordance with ~~Section 4.6. of these regulations~~ subsection 4.6 of this regulation and the appropriate ~~sections of the Delaware~~ Sections of Delaware's Regulations Governing the Control of Air Pollution. No activity shall occur prior to receipt of all permits required by the Department.
- 11.6.3 A new or revised operation plan for treatment, storage and/or disposal of infectious waste shall be submitted to the Department whenever there is an increase of more than ~~45 percent~~ 15% over a ~~three~~ 3

calendar month average in the maximum quantity of infectious waste receiving treatment, storage or disposal per month by the facility or when changes are otherwise made in an existing operation plan.

11.7 Prohibitions

- 11.7.1 Infectious waste may not be disposed at a sanitary landfill unless the waste has been rendered noninfectious and nonrecognizable. (In the case of extracted teeth, sterilization followed by landfilling would be acceptable).
- 11.7.2 Compactors, ~~grinders-grinders~~, or similar devices may not be used by a generator to reduce the volume of infectious waste until after the waste has been rendered noninfectious, or unless the device is part of an approved treatment process which renders the waste noninfectious.
- 11.7.3 Infectious wastes shall not be sent to a recycling facility.
- 11.7.4 Waste consisting of human anatomical remains, including human fetal remains, may not be disposed of at sanitary landfills. The remains must be incinerated, cremated or interred in accordance with 24 **Del.C.** Ch. 31.
- 11.7.5 Transfer chutes shall not be used to transfer infectious waste between locations where it is contained.

11.8 Packaging, Labeling, And Storage Requirements for all Generators

- 11.8.1 Responsibility for packaging and labeling. The generator of infectious waste shall not submit for transport, storage, ~~treatment-treatment~~, or disposal any waste which is not packaged in ~~accord-accordance~~ with this part. As a bag or other container becomes full, it must be immediately sealed, packaged, ~~labeled-labeled~~, and managed as described in this part. Contractors or other agents may provide services to the generator, including packaging and labeling of infectious waste; however, no contract or other relationship shall relieve the generator of the responsibility for packaging and labeling the infectious waste as required by ~~these regulations-this regulation~~.
- 11.8.2 ~~Packaging Requirements~~ Requirements. All infectious waste shall be packaged as set forth below, unless an alternative packaging protocol has been approved in writing by the Department.

~~All infectious waste shall be packaged as set forth below, unless an alternative packaging protocol has been approved in writing by the Department.~~

11.8.2.1 All infectious wastes, other than sharps, shall be packaged as follows:

- 11.8.2.1.1 Waste shall be contained in ~~two-2~~ (~~one-1~~ bag inside the other) ~~RED BAGS-red bags~~. The bags shall be individually tied or sealed. As a bag or other container becomes full, it must be immediately sealed, packaged, ~~labeled-labeled~~, and managed as described in this part.
- 11.8.2.1.2 All bags containing infectious waste shall be red in color. Waste contained in red bags shall be considered infectious waste and managed as infectious waste.
- 11.8.2.1.3 Bags shall be sealed by lapping the gathered open end and binding with tape or closing device ~~such-so~~ that no liquid can leak.
- 11.8.2.1.4 In addition to the plastic bag containers described in this ~~section-subsection~~, all infectious wastes must be enclosed in a double-walled corrugated fiberboard box or equivalent rigid container before it is transported beyond the ~~site-facility~~ of generation.

11.8.2.2 Sharps shall be contained in leakproof, rigid, puncture resistant containers that are tightly lidded. As soon as the first sharp is placed in an empty container, the container shall be labeled with the word "SHARPS", and the Biological Hazard Symbol.

- 11.8.3 Labeling requirements. All infectious waste shall be labeled immediately after packaging. A label shall be securely attached to the outer layer of packaging and be clearly legible. The label may be a tag securely affixed to the package. Indelible ink shall be used to complete the information on the labels, and the labels shall be at least ~~three-3~~ inches by ~~five-5~~ inches in size. Labeling shall be performed as set forth below, unless an alternative labeling protocol has been approved in writing by the Department.

11.8.3.1 The following information shall be included on label ~~one-1~~:

- 11.8.3.1.1 The name, address and business telephone number of the ~~generator-generator~~;
- 11.8.3.1.2 "Infectious" or "Regulated Medical Waste" in large ~~print-print~~;
- 11.8.3.1.3 "Pathological Waste," if pathological waste is included in the ~~contents-contents~~; and
- 11.8.3.1.4 The name, ~~address-address~~, and business telephone number of the hauler or other persons to whose control the infectious waste will be transferred.

11.8.3.2 The following shall be included on label ~~two-2~~: the Biological Hazard Symbol. The label size and color shall meet the requirements set forth in 49 CFR 472-~~§172~~, Subpart E.

- 11.8.4 All infectious substances that are transported must be packaged as described in the most current edition of 49 CFR 473-~~§173~~, even when that transport is wholly within the boundaries of the State.

11.8.5 Storage of infectious waste

11.8.5.1 Infectious waste shall be stored in a manner that:

- 11.8.5.1.1 Affords protection from vectors, ~~rain-and-wind-rain, and wind~~;
- 11.8.5.1.2 Prevents the spread of infectious ~~agents-agents~~;
- 11.8.5.1.3 Does not provide a breeding place or food source for insects or ~~rodents-rodents~~; and
- 11.8.5.1.4 Prevents the leakage of waste from the storage bag or container.

- 11.8.5.2 Infectious waste shall be placed in separate containers from other waste at the point of origin in the producing facility.
- 11.8.5.3 Infectious waste may not be stored at the waste producing facility for more than the following periods of time:
- 11.8.5.3.1 Up to ~~fourteen~~ 14 days at room temperature (~~18 to 28 degrees Celsius, 65 to 82 degrees Fahrenheit~~) 18 to 28°C, 65 to 82°F or up to 45 days in a refrigerator (~~2 to 7 degrees Celsius, 36 to 44 degrees Fahrenheit~~) 2 to 7°C, 36 to 44°F for all types of infectious waste, so long as it does not produce conditions that are offensive or harmful to facility personnel or the public welfare.
- 11.8.5.3.2 Ninety days in a freezer (~~20 to 18 degrees Celsius, 4 to 1 degrees Fahrenheit~~) 20 to 18°C, 4 to 1°F not used for food or patient related items.
- 11.8.5.3.3 Sharps which are disposed in a container specifically designed for sharps and which is sealed so as to prevent leaks when it is full, are exempt from the time limit on storage.
- 11.8.5.4 A container used for the storage of infectious waste may not be reused unless ~~one~~ 1 of the following applies:
- 11.8.5.4.1 It has been decontaminated utilizing a Department-approved decontamination procedure; or
- 11.8.5.4.2 The surface of the container has been protected from direct contact with infectious waste.
- 11.8.5.5 Reusable containers for infectious waste shall be thoroughly washed and decontaminated by a method approved by the Department of Health and Social Services or the Department each time they are emptied, unless the surfaces of the containers have been completely protected from contamination by disposable liners, ~~bags~~ bags, or other devices removed with the waste. Approved methods of decontamination include, but are not limited to, agitation to remove visible soil combined with ~~one~~ 1 of the following procedures:
- 11.8.5.5.1 All parts of the container shall come in contact with hot water of at least ~~82 degrees C (180 degrees F)~~ 82°C (180°F) for a minimum of 15 seconds.
- 11.8.5.5.2 All parts of the container shall come in contact with chemical sanitizer by rinsing with or immersion in ~~one~~ 1 of the following for a minimum of 3 minutes:
- 11.8.5.5.2.1 Hypochlorite solution (500 ppm available ~~chlorine~~); chlorine);
- 11.8.5.5.2.2 Phenolic solution (500 ppm active ~~agent~~); agent);
- 11.8.5.5.2.3 Iodophor solution (100 ppm available ~~iodine~~); iodine);
- 11.8.5.5.2.4 Quaternary ammonium solution (400 ppm active ~~agent~~); agent); or
- 11.8.5.5.2.5 Vaporized hydrogen peroxide (30% active agent).
- 11.8.5.5.2.6 Autoclaving the container at a minimum of ~~121 degrees Celsius (250 degrees Fahrenheit)~~ 121°C (250°F) at 15 pounds per square inch of gauge pressure for 60 minutes or not less than ~~133 degrees Celsius (272 degrees Fahrenheit)~~ 133°C (272°F) at 27 pounds per square inch of gauge pressure for 30 minutes following the requirements in ~~Section 10.4 of this part~~ Section 11.0, Part 1, subsection 11.15.
- 11.8.5.5.3 Reusable pails, drums, ~~dumpsters~~ dumpsters, or bins used for containment of infectious waste shall not be used for containment of waste to be disposed of as noninfectious waste or for other purposes except after being decontaminated by procedures as described in this paragraph.
- 11.8.5.6 Containment of infectious waste shall be in an area separate from other wastes. Areas used for the containment of infectious waste shall be secured so as to deny access to unauthorized persons and shall be marked with prominent warning signs and the biohazard symbol on, or adjacent to, the exterior of entry doors, gates or lids. Wording of warning signs shall be in English, "CAUTION INFECTIOUS WASTE STORAGE AREA UNAUTHORIZED PERSONS KEEP OUT". Warning signs shall be readily legible during daylight from a distance of at least 25 feet.
- 11.9 Management Of Spills. Spill containment and cleanup kit. All infectious waste management facilities are required to keep a small containment and cleanup kit within ~~one hundred~~ 100 feet of any area where infectious wastes are managed. The facility shall maintain and implement a plan that provides the means of decontamination of any person having had bodily contact with infectious waste while transporting the waste to the treatment or disposal ~~site~~ facility or while handling ~~or disposing of~~ the waste at the ~~site~~ facility.
- 11.10 ~~CLOSURE REQUIREMENT~~ Closure Requirement. When a facility that has been used for infectious waste management is to cease operations involving infectious wastes, it shall be thoroughly cleaned and disinfected. All waste shall be disposed of in ~~accord with these regulations~~ accordance with this regulation, and items of equipment shall be disinfected. (Note: Due to the variability in the type of infectious waste facilities, the Department will specify individual closure requirements in the permit issued to the facility.)
- 11.11 ~~METHODS OF TREATMENT AND DISPOSAL~~ Methods of Treatment and Disposal.
- 11.11.1 All treatment of infectious waste must utilize a method that will render the waste noninfectious.
- 11.11.2 All pathological waste must be incinerated, ~~cremated~~ cremated, or interred in accordance with 24 **Del.C.** Ch. 31. Other disposal methods are not acceptable for this type of waste. This requirement does not

prohibit the disposal of certain specified wastes in a permitted wastewater treatment system (see ~~Section 11.4.11 of this part~~ Section 11.0, Part 1, subsection 11.4.1.10.

- 11.12 ~~RECORDKEEPING AND REPORTING REQUIREMENTS.~~ Recordkeeping and Reporting Requirements. All waste management or treatment facilities that manage infectious waste shall maintain, for a period of ~~three~~ 3 years, the following records and assure that they are accurate and current:
- 11.12.1 A list containing the names of all individuals responsible for the management of infection control for the facility, their address, their ~~phone number~~ telephone numbers, and the periods covering their assignment of this duty.
 - 11.12.2 The date, persons involved and short description of events in each spill of infectious wastes.
 - 11.12.3 A notebook or file containing the policies and procedures of the facilities for dealing with infectious wastes.
 - 11.12.4 A log of all special training received by persons involved in the management of infectious waste.
 - 11.12.5 A log of infectious waste generated at the ~~site~~ facility or received from ~~off-site~~ off-site, including the amount, the date of generation, receipt dates, and the date of shipment.
 - 11.12.6 Anyone that sterilizes or incinerates infectious waste shall maintain a log indicating the method of monitoring the waste as well as a verification that it has been rendered noninfectious.
 - 11.12.7 The operator of a facility that incinerates infectious waste shall submit to the Department, at least annually during the life of the facility, a chemical analysis of composite samples of the ash residue. Parameters that are to be monitored will be specified in the permit.
 - 11.12.8 Each generator of infectious waste shall submit an annual report on a form provided by the Department, summarizing the information from all manifests completed during the preceding calendar year. This report shall be submitted to the Department within ~~ninety~~ 90 days after the end of the calendar year. The information contained in the report shall include, but not be limited to, the following:
 - 11.12.8.1 A description of infectious waste generated and transported ~~off-site~~ off-site for treatment and disposal;
 - 11.12.8.2 The total weight of infectious waste generated and transported ~~off-site~~ off-site for treatment and disposal;
 - 11.12.8.3 The names and addresses of persons engaged by the generator to transport infectious waste ~~off-site~~ off-site; and
 - 11.12.8.4 The names and locations of the infectious waste management facilities with which the generator contracted for the treatment and/or disposal of infectious waste.
 - 11.12.9 Each transporter of infectious waste shall submit an annual report on a form provided by the Department, summarizing the information from all manifests completed during the preceding calendar year. This report shall be submitted to the Department by April 1 of the year following the year covered by the report. The information contained in the report shall include, but not be limited ~~to~~ to, the following:
 - 11.12.9.1 A description of infectious waste transported ~~off-site~~ off-site for treatment and disposal;
 - 11.12.9.2 The total weight of infectious waste transported ~~off-site~~ off-site for treatment and disposal;
 - 11.12.9.3 The names and addresses of generators contracting with the transporter to transport infectious waste ~~off-site~~ off-site; and
 - 11.12.9.4 The names and locations of the infectious waste management facilities where the transporter deposited the infectious waste for treatment ~~and/or disposal~~ , disposal, or both.
- 11.13 ~~Evidence Of~~ Effectiveness Of ~~Treatment~~
- 11.13.1 Treatment of infectious waste must be conducted in a manner which:
 - 11.13.1.1 Eliminates the infectious potential of the waste. A treatment process eliminates the infectious potential of infectious waste if the owner or operator of a treatment unit demonstrates that an Initial Efficacy Test and Periodic Verification ~~Test(s)~~ Test or Tests have been completed successfully.
 - 11.13.1.1.1 Successful completion of an Initial Efficacy Test is demonstrated by a 6-log reduction/kill of test microorganisms. For a thermal unit that maintains the integrity of container, a 6-log kill of indicator microorganism spores may be used as an alternative test.
 - 11.13.1.1.2 Successful completion of a Periodic Verification Test is demonstrated by:
 - 11.13.1.1.2.1 ~~a~~ A 6-log kill of test microorganisms or indicator microorganism spores as provided in ~~Subsection 11, Part 1, L.1.a; or~~ Section 11.0, Part 1, subsection 11.13.1.1.1; or
 - 11.13.1.1.2.2 ~~a~~ A minimum 3-log kill of indicator microorganism spores that have been correlated with a 6-log kill of test microorganism; or
 - 11.13.1.1.2.3 ~~an~~ An alternate method submitted to and approved by the Department.
 - 11.13.1.2 Disposes treatment residues in accordance with ~~these regulations~~ this regulation.
 - 11.13.1.3 Provides for quality assurance programs that must include, at a minimum, a written plan that:
 - 11.13.1.3.1 Designates responsibility to personnel.
 - 11.13.1.3.2 Describes parameters that must be monitored to ~~insure~~ ensure effectiveness of the treatment process.

- 11.13.1.3.3 Identifies monitoring devices.
- 11.13.1.3.4 Ensures that monitoring devices are operating properly.
- 11.13.1.3.5 Establishes appropriate ranges for operating parameters.
- 11.13.1.3.6 Identifies ~~person(s)~~the person or persons who shall collect and organize data for inclusion in operating records.
- 11.13.1.3.7 Identifies ~~person(s)~~the person or persons who shall evaluate any discrepancies or problems.
- 11.13.1.3.8 Identifies ~~person(s)~~the person or persons who shall propose actions to correct problems ~~identified, and identified.~~
- 11.13.1.3.9 Identifies ~~person(s)~~the person or persons who shall assess actions taken and document improvement.
- 11.13.1.4 Provides for periodic biological testing, where appropriate, that demonstrates proper treatment of the waste.
- 11.13.1.5 Provides for assurances that clearly demonstrate that infectious waste has been properly ~~treated;~~and treated.
- 11.13.1.6 Is in compliance with all federal, state and local laws and regulations pertaining to environmental protection.
- 11.13.2 Initial Efficacy Test
 - 11.13.2.1 The manufacturer, owner, or operator of a treatment unit shall conduct an Initial Efficacy Test, pursuant to Appendix A of ~~this Section, Section 11.0, Part 1,~~ for each model prior to its operation. If significant mechanical changes are made to a treatment unit, the Initial Efficacy Test must be repeated. The treatment units are considered to be the same model if they:
 - 11.13.2.1.1 Are manufactured by ~~same company, the company;~~
 - 11.13.2.1.2 Have the same company ~~name, name;~~ and
 - 11.13.2.1.3 Have no significant mechanical changes.
 - 11.13.2.2 The Initial Efficacy Test shall be conducted using option 1, ~~2-2,~~ or 3 as described in Appendix A of ~~this Section, Section 11.0, Part 1,~~ using the challenge loads listed in ~~Table C of Appendix A, Appendix A, Table C of Section 11.0, Part 1,~~ or by an equivalent procedure that meets the requirements of the Initial Efficacy Test and has been approved by the Department. If any of the challenge loads fails the Initial Efficacy Test, the operating conditions must be revised and the Initial Efficacy Test must be repeated for all challenge loads. The Initial Efficacy Test must also meet the requirements of this ~~Section.~~subsection.
 - 11.13.2.3 Composition of challenge loads
 - 11.13.2.3.1 For treatment units designed to treat all types of infectious wastes, all ~~three~~3 types of challenge loads must be used in conducting the Initial Efficacy Test. The ~~three (3)~~3 types of challenge loads represent infectious waste with a high moisture content, low moisture content and high organic content. The quantity of each challenge load must equal 100% of the maximum capacity of the treatment unit. ~~Each challenge load must consist of a minimum 5% (by weight) of each of the following categories: blood/broth cultures, fibers, metals, sharps, plastics, pathological waste, glass, non-woven fibers, and bottles of liquids. Table C of Appendix A contains the moisture and organic content requirements that must be met in each type of challenge load. Each challenge load must consist of a minimum 5.0% (by weight) of each of the following categories: blood/broth cultures, fibers, metals, sharps, plastics, pathological waste, glass, non-woven fibers, and bottles of liquids. Appendix A, Table C of Section 11.0, Part 1 contains the moisture and organic content requirements that must be met in each type of challenge load.~~
 - 11.13.2.3.2 For treatment units designed to treat select categories of infectious waste (e.g., sharps treatment unit), modification in the composition of the challenge ~~load(s)~~load or loads may be used if approved by the Department in writing.
 - 11.13.2.4 The Initial Efficacy Test must be conducted under the same operating conditions under which the treatment unit operates on a day-to-day basis. The feed rate for the treatment unit must remain constant throughout the Initial Efficacy Test. This feed rate must never be exceeded during the operation of the treatment unit.
 - 11.13.2.5 The Initial Efficacy Test must be performed so that:
 - 11.13.2.5.1 Each container of the test microorganisms and/or indicator microorganism spores is placed in the load to simulate the worst case scenario (i. e., that part of load that is the most difficult to treat). For example, the worst case scenario for an autoclave would be to place the ~~container(s)~~container or containers of test microorganisms and/or indicator microorganism spores within a sharps container that must in turn be deposited in a plastic biohazard bag that is then located centrally within the challenge loads.

- 11.13.2.5.2 Test microorganisms and/or indicator microorganisms must be cultured and enumerated in accordance with instructions provided by the supplier of micro-organisms and Standard Methods for the Examination of Water and Wastewater.
- 11.13.2.6 A Document of Initial Efficacy Test must be retained in the treatment facility, and made available during normal business hours for inspection and photocopying by an authorized representative of the Department. The Document of Initial Efficacy Test must include at the minimum:
- 11.13.2.6.1 A detailed description of the test procedures used, including all test data generated, with descriptions of data handling, and interpretation of final test results.
- 11.13.2.6.2 A detailed description and verification of the operating parameters (e.g., temperature, pressure, retention times, chemical concentrations, irradiation dose, and feed rates).
- 11.13.2.6.3 A description of quality assurance/quality control procedures and practices for the culture, storage and preparation of test and/or indicator microorganisms (including, but not limited to, organism history, source, stock culture maintenance, and enumeration procedures). The purity of the test microorganisms and/or indicator microorganism spores must be certified by a commercial or clinical laboratory.
- 11.13.3 Periodic Verification Test(s) Test or Tests
- 11.13.3.1 The effectiveness of the treatment unit shall be verified by conducting Periodic Verification Test(s) Test or Tests which must be carried out in accordance with this Subsection-subsection.
- 11.13.3.2 Periodic Verification Test(s) Test or Tests must be conducted quarterly or more frequently if required by the permit or recommended by the manufacturer.
- 11.13.3.3 The manufacturer, owner, or operator of a treatment unit must perform Periodic Verification Test(s) Test or Tests that satisfy at least ~~one (1)~~ 1 of the following:
- 11.13.3.3.1 ~~Passing the Initial Efficacy Test by using option 1, 2 or 3 of appendix A of this part 1, 2, or 3 of Appendix A of Section 11.0, Part 1 (whichever is applicable). The three-3 challenge loads described in Appendix A, Table C, Appendix A, Table C of Section 11.0, Part 1, do not need to be used. The test microorganism or indicator micro-organisms must be placed in a representative load in accordance with Subsection 11, Part 1, 11.13.2.5.1. Section 11.0, Part 1, subsection 11.13.2.5.1. For example, an autoclave may use option 3 (e.g., demonstrate at a minimum the destruction of one million 1,000,000 Bacillus stearothermophilus spores) to meet the Periodic Verification Test requirement. In the case of an incinerator a stainless steel pipe with threaded ends and removable caps lined with ceramic insulation may be used to contain a glass culture vial with a Bacillus subtilis spores strip. The pipe with the spore strips may be placed in the load of infectious waste for the Periodic Verification Test. After the treatment, the pipe with the spore strips may be recovered and the spores may be cultured to assess whether, at a minimum, one million 1,000,000 spores have been destroyed to meet the Periodic Verification Test(s) Test or Tests requirement.~~
- 11.13.3.3.2 ~~Correlating the log kill (L) of the test microorganisms in the Initial Efficacy Test to an equivalent log kill (T) of indicator microorganism spores in accordance with Appendix B-Appendix B of Section 11.0, Part 1. The equivalent log kill (T) of indicator microorganism spores must be used for all subsequent Periodic Verification Tests. The correlation must be done with three-3 challenge loads identified in Table C of Appendix A (See Subsection 11, Part 1, 11.13.3.4.3 below Appendix A, Table C of Section 11.0, Part 1 (see Section 11.0, Part 1, subsection 11.13.3.4.3 for further requirements).~~
- 11.13.3.3.3 ~~Submitting to and obtaining written approval by the Department for a procedure that is equivalent to Subsection 11, Part 1, 11.13.3.3.1 and 11.13.3.3.2. Section 11.0, Part 1, subsections 11.13.3.3.1 and 11.13.3.3.2. Examples of alternatives include, but are not limited to, use of another indicator microorganism, or measurement of disinfectant concentrations in the treated residue. For incinerators only, an example of an alternative is visually inspecting the ash from each load of treated infectious waste to ensure that all infectious waste within the load is completely combusted. The approval of an alternative by the Department may require more frequent testing and/or monitoring of the treatment unit.~~
- 11.13.3.4 If correlation is being used for the Periodic Verification Test, (i.e., the correlation of log kill (L) of the test microorganisms with equivalent log kill (T) of the indicator microorganism spores) the following procedures apply:
- 11.13.3.4.1 At a minimum, an initial population of ~~one million 1,000,000~~ indicator microorganism spores per gram of waste solids in each challenge load must be used.
- 11.13.3.4.2 The fraction of surviving indicator microorganism spores that correlates to a log kill (L) of ~~six (6)~~ 6 for each test microorganism must be used for future Periodic Verification Test(s) Test or Tests. ~~For (For example, if a log kill (L) of four (4)~~ 4 for the indicator microorganism spores per gram of waste solids is achieved during this demonstration, then a population of 10,000 of indicator microorganism spores must be used in future Periodic Verification Test(s) Test or

- Tests.) Challenge loads described in ~~Appendix A, Table C,~~Appendix A, Table C of Section 11.0, Part 1, do not need to be used. The test microorganism or indicator microorganism spores must be placed in a representative load in accordance with ~~Subsection 11, Part 1, 11.13.2.5.1.~~Section 11.0, Part 1, subsection 11.13.2.5.1.
- 11.13.3.4.3 An equivalent log kill (T) of at least ~~three (3)~~3 for the indicator microorganism spores must be achieved to ensure that all test microorganisms are destroyed.
 - 11.13.3.4.4 Test microorganisms and/or indicator microorganism spores must be cultured and enumerated in accordance with instructions provided by the supplier of the microorganisms and Standard Methods for the Examination of Water and Wastewater.
 - 11.13.3.4.5 The Periodic Verification Test and Initial Efficacy Test may be run concurrently to verify the correlation.
 - 11.13.3.5 If a load of infectious waste fails a Periodic Verification Test, the Periodic Verification ~~Test(s)~~Test or Tests must be repeated. The operator shall implement the quality assurance program and contact the manufacturer. If applicable, identify and correct the exact ~~problem(s)~~problem or problems until the unit can eliminate the infectious potential of the infectious waste. If the operating parameters are altered another Initial Efficacy Test must be performed to demonstrate the effectiveness of the unit and, if applicable, another Periodic Verification Test correlation, pursuant to ~~Subsection 11, Part 1, 11.13.3.3~~Section 11.0, Part 1, subsection 11.13.3.3 must be repeated. Loads of infectious waste that were processed prior to receiving the results showing a failure of Periodic Verification Test are considered treated. A second Periodic Verification Test must be run immediately after the first Periodic Verification Test indicates failure. The second Periodic Verification Test is to determine whether or not the treatment unit is eliminating the infectious potential of the waste. After the second Periodic Verification Test shows a failure of the treatment unit, any waste processed after the first detection of failure is considered infectious waste and must be managed accordingly.
 - 11.13.3.6 Results of the Periodic Verification ~~Test(s)~~Test or Tests must be received, verified and made available for inspection by the Department within 2 weeks of when the test was conducted. When a Periodic Verification Test is used to confirm the failure of a treatment unit, the results of the Periodic Verification ~~Test(s)~~Test or Tests must be made available in accordance with the requirements of ~~subsection h below.~~Section 11.0, Part 1, subsection 11.13.3.8.
 - 11.13.3.7 A Document of Correlating Periodic Verification Demonstration must be prepared by and retained for at least ~~three (3)~~3 years at the treatment facility during normal business hours for inspection by the Department. The Document of Periodic Verification Demonstration must include, at a minimum:
 - 11.13.3.7.1 A detailed description of the test procedures used and the correlation between the log kill (L) of the test microorganisms and the equivalent log kill (T) of the indicator microorganism spores. An evaluation of the test results must include all test data generated, a description of data handling, and a presentation and interpretation of test results.
 - 11.13.3.7.2 A detailed description and verification of the operating parameters (~~e. g.,~~(e.g., temperature, pressure, retention times, chemical concentrations, irradiation dose, and feed rates).
 - 11.13.3.7.3 A description of quality assurance/quality control procedures and practices for the culture, storage and preparation of test and/or indicator microorganisms (including, but not limited to, organism history, source, stock culture maintenance, and enumeration procedures). The purity of the test microorganisms and/or indicator microorganism spores must be certified by a commercial or clinical laboratory.
 - 11.13.3.8 Records of Periodic Verification ~~Test(s)~~Test or Tests must be prepared and retained for at least ~~three (3)~~3 years at the treatment facility, and made available at the treatment facility during normal business hours for inspection by the Department. These records will include, at the minimum:
 - 11.13.3.8.1 The ~~date(s)~~date or dates on which the Periodic Verification ~~Test(s)~~Test or Tests were performed.
 - 11.13.3.8.2 Operating parameters (e.g., temperature, pressure, retention times, chemical concentrations, irradiation dose and feed rates).
 - 11.13.3.8.3 Test protocols.
 - 11.13.3.8.4 Evaluation of test results.
 - 11.13.3.8.5 ~~The name(s), date, signature(s) and title(s) of Person(s) conducting the Periodic Verification Test(s).~~The name or names, date, signature or signatures, and title or titles of the person or persons conducting the Periodic Verification Test or Tests.
 - 11.13.3.9 Periodic Verification ~~Test(s)~~Test or Tests must be conducted under the same operating conditions under which the treatment unit operates on day-to-day basis. The feed rate for the treatment unit is the maximum feed rate at which the unit operates on day-to-day basis. The feed

rate must remain constant throughout the Periodic Verification ~~Test(s)~~Test or Tests. This feed rate must never be exceeded during the operation of the treatment unit.

- 11.14 Transporter Requirements. All transporters of infectious waste must be in compliance with all applicable federal and state regulations and codes. No person shall transport solid waste, including infectious waste, without first having obtained a permit from the Department, unless specifically exempted by ~~these Regulations. Refer to Section 7 of these Regulations, TRANSPORTERS.~~this regulation. Refer to Section 7.0 of this regulation. Exemption: The United States Postal Service (USPS) and the United Parcel Service (UPS) may transport solely sharps without obtaining a ~~solid waste transporter permit,~~Delaware Solid Waste Transporter Permit, provided that: the transporter follows, at a minimum, all Department of Transportation requirements; the sharps being transported are only generated by a Small Quantity Generator of infectious waste who has obtained prior written approval from the Department to utilize this exemption; the total shipment per generator does not exceed 35 pounds by weight; and the shipment is documented by a manifest or other shipping record illustrating receipt at an appropriate disposal facility.
- 11.14.1 Temperature Control and Storage ~~Period~~Period. ~~The transporter must deliver infectious waste to a disposal facility within 15 days from collection from the generation facility.~~
~~The transporter must deliver infectious waste to a disposal facility within 15 days from collection from the generation facility.~~
- 11.14.1.1 Infectious waste shall be transported in a manner that:
- 11.14.1.1.1 Affords protection from vectors, ~~rain and wind,~~rain, and wind;
 - 11.14.1.1.2 Prevents the spread of infectious ~~agents,~~agents;
 - 11.14.1.1.3 Does not provide a breeding place or food source for ~~vectors,~~vectors; and
 - 11.14.1.1.4 Prevents leakage of waste from the storage bags or other containers.
- 11.14.1.2 Infectious waste shall be transported to ~~offsite~~off-site processing or disposal facilities in a manner consistent with ~~these regulations.~~this regulation.
- 11.14.1.3 Motor Vehicles for transporting infectious waste shall be noncompaction type vehicles. Surfaces of vehicles that have been in direct physical contact with infectious waste, because of a leak in a container or because of some other reason, shall be decontaminated as soon as possible after unloading. Surfaces of vehicles that have not been in direct physical contact with infectious waste shall be decontaminated weekly.
- 11.14.2 Packaging, Labeling and Placards
- 11.14.2.1 No person shall transport or receive for transport any infectious waste that is not packaged and labeled in accord with ~~these regulations.~~this regulation.
- 11.14.2.2 Any vehicle holding infectious waste in transport shall have a warning sign in bold letters, a minimum of 4 inches in height and in a color that contrasts the color of the vehicle, that indicates the cargo is infectious waste.
- 11.14.2.3 Vehicle access door labeling:
- 11.14.2.3.1 Transporters in interstate commerce must comply with ~~one~~1 of the following labeling options:
 - 11.14.2.3.1.1 The access doors to the cargo area of the vehicle must meet the requirement for intrastate transporters of infectious waste, as described in ~~Section 11.14.2.3.2 of this part,~~Section 11.0, Part 1, subsection 11.14.2.3.2; or
 - 11.14.2.3.1.2 The access doors to the cargo area of the vehicle must comply with the labeling requirements of the state of origin of the infectious waste or the labeling requirements of the state of destination of the infectious waste. Examples of the labeling must be submitted to and approved by the Department prior to transport of the infectious waste through Delaware.
 - 11.14.2.3.2 Transporters in intrastate commerce: The access doors to the cargo area of the vehicle must bear a sign with the words INFECTIOUS WASTE in bold, ~~four-inch~~4-inch letters. ~~Such~~The sign must be easily readable from a distance of 25 feet. The access doors to the cargo area of the vehicle must additionally bear a sign with the universal biological hazard symbol with minimum symbol dimension of ~~six~~6 inches, and with the word BIOHAZARD in bold letters at least ~~one~~1 inch in height. The symbol must be easily recognizable from a distance of 25 feet.
- 11.14.3 Management of Spills of Infectious Waste
- 11.14.3.1 All infectious waste transportation vehicles are required to keep within the vehicle the containment and cleanup kit specified in the permit. The vehicle shall be equipped with a written plan, approved by the Department, that provides the means of decontamination of a release of infectious waste while transporting the waste to the treatment or disposal ~~site~~facility or while handling the waste at the ~~site~~facility. The driver shall be trained by the employer to implement this plan.
- 11.14.3.2 As required in 7 **Del.C.** Ch. 60, the Department is to be notified immediately of all spills.

11.14.4 Loading and Unloading. Persons manually loading or unloading containers of infectious waste on or from transport vehicles shall wear protective gloves or clothing, as appropriate.

11.15 Sterilization

11.15.1 All persons that steam sterilize infectious waste shall maintain the following level of operational performance at all times:

11.15.1.1 Whenever infectious wastes are treated in a steam sterilizer, all the waste shall be subjected to a temperature of not less than ~~250 degrees Fahrenheit~~ 250°F for 90 minutes at 15 pounds per square inch of gauge pressure or not less than ~~121 degrees Celsius (250 degrees Fahrenheit)~~ 121°C (250°F) for 90 minutes at 15 pounds per square inch of gauge pressure or not less than ~~133 degrees Celsius (272 degrees Fahrenheit)~~ 133°C (272°F) for 45 minutes at 27 pounds per square inch of gauge pressure. Other combinations of operational temperatures, pressure and time may be used if the installed equipment has been proved to achieve a reliable and complete kill of all microorganisms in waste at capacity. Complete and thorough testing shall be fully documented, including tests of the capacity of kill *B. stearothermophilus*.

11.15.1.2 Each package of waste to be steam sterilized shall have autoclave tape attached that will indicate if the sterilization temperature has been reached and waste will not be considered satisfactorily sterilized if the indicator fails to indicate that the temperature was reached during the process.

11.15.1.3 Steam sterilization units shall be evaluated for effectiveness with spores of *B. stearothermophilus* no less than once every 40 hours of operation or once per month, whichever is more often.

11.15.1.4 A log shall be kept at each sterilization unit that is complete for the proceeding ~~three~~ 3-year period. The log shall record the date, time, temperature, pressure, type of waste, type of ~~container(s), closure on container(s), container or containers, closure on container or containers,~~ pattern of loading, water content, operator of each usage; the type and approximate amount of waste treated; the post-sterilization reading of the temperature sensitive tape; the dates and results of calibration; and the results of effectiveness testing with *B. stearothermophilus*.

11.15.1.5 Infectious waste shall not be compacted or subjected to violent mechanical stress before sterilization; however, after it is fully sterilized it may be compacted in a closed container.

11.15.2 Compliance with Other Parts of these Regulations

~~Sterilizer facilities shall comply with all other parts of these regulations. The site of the sterilizer facility is a storage facility and must comply with those regulations. Spills or the opening in an emergency of any infectious waste package, shall comply with the regulations pertaining to spills, this regulation. Sterilizer facilities shall comply with all other parts of this regulation. The site of the sterilizer facility is a storage facility and must comply with those regulations. Spills or the opening in an emergency of any infectious waste package, shall comply with the regulations pertaining to spills.~~

11.15.3 OffSite Operations

~~Any person who operates offsite facilities for the sterilization of infectious waste shall operate those facilities in compliance with a plan approved by the Department. The plan shall address in detail practices, procedures and precautions in the unloading, preparation and sterilizer loading of the waste. Off-site Operations. Any person who operates off-site facilities for the sterilization of infectious waste shall operate those facilities in compliance with a plan approved by the Department. The plan shall address in detail practices, procedures and precautions in the unloading, preparation and sterilizer loading of the waste.~~

11.16 Manifest Requirements

11.16.1 A generator of infectious waste shall complete a manifest before shipping, or causing the shipment of, infectious waste ~~off site off-site~~. The manifest shall consist of a multicopy form provided by the Department or equivalent approved in writing by the Department.

11.16.2 No person shall accept custody of infectious waste unless the waste is packaged in accordance with the requirements of ~~Section 11.8 of this part~~ Section 11.0, Part 1, subsection 11.8 and is accompanied by a properly completed manifest which complies with the requirements of ~~Section 11.16 of this part~~ Section 11.0, Part 1 subsection 11.16. Upon accepting custody of infectious waste, the transporter shall sign and date the manifest. After the manifest has been signed and dated by both the generator and the transporter, the generator shall retain ~~one~~ 1 copy of the form. The transporter shall keep the remaining ~~four~~ 4 copies until the waste is delivered to the infectious waste facility.

11.16.3 The operator of an infectious waste management facility may accept custody of infectious waste only if the waste is accompanied by a manifest which complies with the requirements of ~~Section 11.16 of this part~~ Section 11.0, Part 1, subsection 11.16. Upon accepting the waste, the operator of the infectious waste management facility shall sign and date the manifest, give ~~one~~ 1 copy to the transporter, and keep the remaining ~~three~~ 3 copies. The operator shall:

11.16.3.1 Sign and date the remaining ~~three~~ 3 copies of the manifest certifying that the waste will be treated and/or handled in accordance with all applicable regulations and facility permits. When multiple consignments are received and disposed as a batch, a cover letter with a list of manifest

numbers, date received, date rendered non-infectious, certification of disposal, signature and date may be substituted for individual certification on each manifest. The cover letter must be mailed to the State with manifests attached. The generator copy of these manifests may use a date and signature stamp in lieu of original signature.

11.16.3.2 Send ~~one~~1 copy of the manifest to the generator no later than fifteen calendar days from the date on which the waste was treated or disposed of;

11.16.3.3 Send ~~one~~1 copy of the manifest to the Department; and

11.16.3.4 Keep the remaining copy.

11.16.4 Any generator of infectious waste who does not receive a copy of the manifest signed by the operator of the infectious waste management facility within ~~fifteen~~15 calendar days of the date of shipment shall immediately contact the transporter and the facility to determine the status of the shipment. If, within ~~twenty~~20 days of the date of shipment, the generator still has not received a signed copy of the manifest from the infectious waste management facility, the generator shall notify the Department in writing. The notification shall include a legible copy of the manifest as signed by the generator and transporter, a description of the efforts made by the generator to locate the shipment, and the results of those efforts.

11.16.5 Copies of the manifest shall be retained by all parties for at least ~~three~~3 years.

11.17 Large Quantity Generator Requirements

11.17.1 It is the responsibility of the Large Quantity Generator to arrange for proper waste disposal. A Large Quantity Generator shall contract the services of a permitted transporter of infectious waste, or render the waste non-infectious and non-recognizable using a process or equipment approved by the Department, prior to disposal.

11.17.2 Large Quantity Generators are responsible for the storage requirements in ~~Section 11.8.5 of this part.~~Section 11.0, Part 1 subsection 11.8.5.

11.17.3 Each generator of infectious waste shall submit an annual report on a form provided by the Department, summarizing the information from all manifests completed during the preceding calendar year. This report shall be submitted to the Department within ~~ninety~~90 days after the end of the calendar year. The information contained in the report shall include, but not be limited to, the following:

11.17.3.1 A description of infectious waste generated and transported ~~off-site~~off-site for treatment and disposal;

11.17.3.2 The total weight of infectious waste generated and transported ~~off-site~~off-site for treatment and disposal;

11.17.3.3 The names and addresses of persons engaged by the generator to transport infectious waste ~~off site;~~off-site;

11.17.3.4 The names and locations of the infectious waste management facilities with which the generator contracted for the treatment and/or disposal of infectious waste.

11.17.4 Large Quantity Generators are responsible for maintaining records of infectious waste disposal for a period of ~~three~~3 years. Documentation shall include: A description of how the waste was rendered non-infectious and non-recognizable, and copies of receipts or manifests for wastes managed by a permitted transporter of infectious waste.

11 DE Reg. 807 (12/01/07)

17 DE Reg. 545 (11/01/13)

19 DE Reg. 422 (11/01/15)

Section 11.0, Part 1 Appendix A Initial Efficiency Test Procedures

The manufacturer, owner, or operator of an infectious waste treatment unit must carry out an Initial Efficacy Test by using Option 1, 2, or, 3 below, as appropriate for the type of unit, or other procedures, if approved in advance by the Department.

1. Option 1

This option consists of ~~two~~(2) Phases:

a. Phase 1: Determining the dilution of each test microorganism from the treatment unit for each challenge load (Types A through C) identified in Appendix A, Table C of Section 11.0, Part 1.

(1.) Prepare and sterilize by autoclaving ~~two~~(2) challenge loads of Type A as identified in Table C. Reserve ~~one~~1 challenge load for Phase 2.

(2.) Process each test microorganism in separate runs through the treatment unit. Prior to each run, determine the number of viable test microorganisms in each container, in accordance with applicable manufacturer's recommendations and Standard Methods for the Examination of Water and Wastewater.

(3.) Process each challenge load within ~~thirty~~(30)30 minutes after introducing the container of test microorganism into the treatment unit. The container of test microorganisms and the challenge loads must be processed together without the physical and/or chemical agents designed to kill the test microorganisms. For example, in treatment units that use chemical ~~disinfectant(s), disinfectant or disinfectants,~~ an equal volume of liquid (e.g., sterile saline solution

(0.9%, volume/volume), phosphate buffer solution, or tap water) must be substituted in place of the chemical disinfectant(s). ~~disinfectant or disinfectants.~~

(4.) Obtain at least ~~five (5)~~ 5 representative grab samples from the processed residue of each challenge load in accordance with Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846). The number of viable test microorganisms in each grab sample must be determined in accordance with applicable manufacturer's recommendations and Standard Methods for the Examination of Water and Wastewater.

(5.) Calculate the effect of dilution for the treatment unit as follows:

$$SA = \text{Log } N_0A - \text{Log } N1A: \text{ where } \text{Log } N1A \geq 6$$

where: SA is the log of the number of viable test microorganisms (CFU/gram of waste solids) that were not recovered after processing challenge load Type A.

N_0A is the number of viable test microorganisms (CFU/gram of waste solids) introduced into the treatment unit for challenge load Type A.

$N1A$ is the number of viable test microorganisms (CFU/gram of waste solids) remaining in the processed residue for challenge load Type A.

If $\text{Log } N1A$ is less than 6, then the number of viable test microorganisms introduced into the treatment unit must be increased and steps (1) through (6) in Phase 1 must be repeated until $\text{Log } N1A$ is ≥ 6 . N_0A is the inoculum size for challenge load Type A in Phase 2 below.

(6.) Repeat steps (1) through (5) in Phase 1 for challenge loads of infectious waste for Type B and C identified in Table C of this Appendix to determine the effect of dilution (SB and SC respectively).

b. Phase 2: Determining the log kill of each test microorganism in each challenge load (Type A through C) identified in Table C of this Appendix.

(1.) Using the inoculum size (N_0A) determined in Phase 1 above, repeat Phase 1 steps (1) through (5) under the same operating parameters, except that the physical and/or chemical agents designed to kill the test microorganisms must be used.

(2.) Calculate the effectiveness of the treatment unit by subtracting the log of viable cells after the treatment from the log of the viable cells introduced into the treatment unit as inoculum, as follows:

$$LA = \text{Log } N_0A - SA - \text{Log } N2A \geq 6$$

where: LA is the log kill of the test microorganisms (CFU/gram of waste solids) after treatment in the challenge load Type A.

N_0A is the number of viable test microorganisms (CFU/gram of waste solids) introduced into the treatment unit as the inoculum for challenge load Type A as determined in Phase 1 above.

SA is the log of the number of viable test microorganisms (CFU/gram of waste solids) that were not recovered after processing challenge load Type A in Phase 1 above.

$N2A$ is the log of the number of viable test microorganisms (CFU/gram of waste solids) remaining in the treated residue for challenge load Type A.

(3.) Repeat steps (1) and (2) in Phase 2 for challenge loads Types B and C identified in Table C of this Appendix to determine the effectiveness of the treatment unit (LB and LC respectively).

2. Option 2:

a. Place ~~1×10^{-1}~~ 1 microbiological indicator assay containing ~~1×10^{-1}~~ 1 of the test microorganisms at numbers greater than ~~one million~~ 1,000,000 in a sealed container that remains intact during the treatment. The inside diameter of the container must be no larger than required to contain the assay ~~vial(s)-vial or vials~~. The ~~vial(s)-vial or vials~~ must contain the test microorganisms.

b. Place the container of test microorganisms within a Type A challenge load as identified in Table C of this Appendix.

c. Process the load.

d. Calculate the effectiveness of the treatment unit by subtracting the log of viable cells after treatment from log of viable cells introduced into the treatment unit as inoculum, as follows:

$$LA = \text{Log } N_0 - \text{Log } N2A \geq 6$$

where: LA is the log kill of the test microorganisms (CFU/gram of waste solids) after treatment in the challenge load Type A.

N_0 is the number of viable test microorganisms (CFU/gram of waste solids) introduced into the treatment unit as the inoculum.

$N2A$ is the log of the number of viable test microorganisms (CFU/gram of waste solids) remaining in the treated residue for challenge load Type A.

e. Repeat steps a through d in this option for challenge loads Types B and C identified in Table C of this Appendix to determine the effectiveness of the treatment unit (LB and LC respectively).

3. Option 3:

a. Place ~~one~~^{one} microbiological indicator assay containing at least ~~one million~~^{1,000,000} spores of ~~one~~^{one} of the indicator microorganisms listed in Table B of this Appendix, in a sealed container that remains intact during treatment. The inside diameter of the container must be no larger than required to contain the assay ~~vial(s)-vial or vials~~.

b. Place the container of the indicator microorganisms within a Type A challenge load as identified in Table C of this Appendix.

c. Process the load.

d. Calculate the effectiveness of the treatment unit by subtracting the log of viable cells after treatment from log of viable cells introduced into the treatment unit as inoculum, as follows:

$$LA = \text{Log } N_0 - \text{Log } N_{2A} \geq 6$$

where: LA is the log kill of the test microorganisms (CFU/gram of waste solids) after treatment in challenge load Type A.

N₀ is the number of viable indicator microorganisms (CFU/gram of waste solids) introduced into the treatment unit as the inoculum.

N_{2A} is the log of the number of viable test microorganisms (CFU/gram of waste solids) remaining in the treated residue for challenge load Type A.

e. Repeat steps a through d in this option for challenge loads Types B and C identified in Table C of this Appendix to determine the effectiveness of the treatment unit (LB and LC, respectively).

APPENDIX A: TABLES

TABLE A: Test Microorganisms

- a. Staphylococcus aureus (ATCC 6538)
- b. Pseudomonas aeruginosa (ATCC 15442)
- c. Candida albicans (ATCC 18804)
- d. Trichophyton mentagrophytes (ATCC 9533)
- e. MS-2 Bacteriophage (ATCC 15597-B1)
- f. Mycobacterium smegmatis (ATCC 14468)

TABLE B: Indicator Microorganisms

- a. Bacillus subtilis (ATCC 19659)
- b. Bacillus stearothermophilus (ATCC 7953)
- c. Bacillus pumilus (ATCC 27142)

TABLE C: Challenge Loads

This Table identifies the ~~three~~³ types of challenge loads of infectious waste that must be used as a part of Initial Efficacy Test and Periodic Verification ~~Test(s)-Test or Tests~~.

COMPOSITION OF CHALLENGE LOADS % (w/w)

Type	A	B	C
Moisture	≤5	≥50	-----
Organic	----	----	≥70

Section 11, Part 1, 11.0 Part 1 APPENDIX B Correlating Periodic Verification Procedures

1. Use a certified microbiological indicator assay containing the test microorganisms and indicator microorganism spores.

2. Place the test microorganisms and indicator microorganism spores into sealed containers that remain intact during treatment.

3. Place a container of the test microorganisms and indicator microorganism spores in each challenge load (as described in ~~Appendix A, Table C~~)Appendix A, Table C of Section 11.0, Part 1 to simulate the worst case scenario (i.e., that part of load that is the most difficult to treat). For example, the worst case scenario for an autoclave would be to place the container of test microorganisms and indicator microorganism spores within a sharp container that must in turn be deposited in a plastic biohazard bag that is then located centrally within the treatment unit.

4. Determine the effectiveness of the treatment unit by calculating the log kill (L) of the test microorganisms in accordance with Option 2 of ~~Appendix A~~Appendix A of Section 11.0, Part 1. The equivalent kill (T) of the indicator microorganism spores is calculated by subtracting the log of viable cells after treatment from the log of viable cells introduced into the treatment unit as inoculum as follows:

$$TA = \text{Log } N_0 - \text{Log } N_{2A} \geq 3$$

where: TA is the equivalent log kill of the viable indicator microorganisms (CFU/gram of waste solids) after treatment in the challenge load Type A.

N_0 is the number of viable indicator microorganism spores (CFU/gram of waste solids) introduced into the treatment unit as the inoculum (≥ 6).

N2A is the number of viable indicator microorganisms (CFU/gram of waste solids) remaining after treatment in challenge load Type A.

5. Repeat steps 1 through 4 for challenge loads Types B and C identified in ~~Table C of Appendix A~~ Appendix A, Table C of Section 11.0, Part 1 to determine the correlation between the log kill of the test microorganisms and equivalent kill of the indicator microorganism spores (LB and LC, respectively).

11 DE Reg. 807 (12/01/07)

11.0 Special Wastes Management Part 2 - Municipal Solid Waste Ash

11.1 General Provisions

11.1.1 Municipal solid waste (MSW) ash is considered a hazardous waste, as defined in the ~~Delaware~~ Delaware's Regulations Governing Hazardous Waste (DRGHW), unless the generator of the ash can demonstrate that the ash is not a hazardous waste. In order to make such a demonstration, the owner or operator of the generating facility must show that the ash does not exhibit the Toxicity Characteristic (TC) as described in ~~DRGHW~~ DRGHW §261.24. Any person desiring to make such a demonstration shall develop and implement a sampling and analysis plan designed to provide reliable information on the chemical properties of the ash. The plan shall be submitted to the ~~Solid and Hazardous Waste Management Section~~ Division of Waste and Hazardous Substances' Compliance and Permitting Section as a part of the facility's application for a Solid Waste Facility permit. The facility will not be permitted to operate until the Department has approved the plan.

11.1.2 The sampling and analysis plan shall include the following:

11.1.2.1 A detailed description of the sampling protocol (how and where samples will be collected, how many samples will be collected, how samples will be composited, how samples will be handled and stored, ~~etc.~~ etc.).

11.1.2.2 A description of the analyses that will be performed on the samples.

11.1.2.3 A description of the procedures that will be used to ensure the quality of the sampling and analysis data.

11.1.3 The owner or operator of a facility in Delaware desiring to process MSW ash generated in another state must first receive written approval from the Department to accept MSW ash from that generator. To receive such an approval a person must:

11.1.3.1 Demonstrate, to the Department's satisfaction, that the ash does not exceed the levels specified in the TC; and

11.1.3.2 Develop, and receive Department approval of, a plan for sampling and analysis of the incoming MSW ash.

11.2 Sampling

11.2.1 This subsection describes the minimum amount of sampling that the Department deems appropriate for MSW ash generated by facilities that meet the following ~~two~~ 2 assumptions:

11.2.1.1 The waste feed prior to incineration is not segregated by type of generator, and

11.2.1.2 The ash generated is not separated by size during storage or disposal. If either of these ~~two~~ 2 assumptions is not valid, then a facility-specific sampling and analysis program shall be designed by knowledgeable personnel and shall be implemented after receiving Department approval.

11.2.2 The sampling strategy shall be sufficient to enable the facility owner or operator to assess the properties of the ash and to ascertain its variability over time.

11.2.3 The sampling strategy shall provide for reassessment of the ash at least quarterly, in accordance with a Department-approved schedule. In determining how often to recharacterize the ash, the generator shall consider all facility-specific and external factors that could cause the ash properties to vary. These factors include:

11.2.3.1 Changes in the composition of the waste (e.g., new types of industries moving into the area, institution of recycling programs in the collection area, seasonal changes affecting population or waste composition).

11.2.3.2 Changes in plant design (e.g., addition of dry scrubber, addition of quench tank).

11.2.3.3 Significant changes in plant operating conditions (e.g., increase in combustion time or temperature, change in lime utilization rate).

11.2.4 The sampling strategy shall include the following steps:

11.2.4.1 Determine the most convenient location for sampling. In situations where the sampling can be conducted either from transport vehicles or from the waste conveyance device, the Department recommends sampling from the transport vehicle (i.e. dump truck, barge).

- 11.2.4.2 Construct a sampling device (trough, bucket, shovel, thief, etc.) to be used to gather a grab sample of the entire depth of the hopper, pile, or truck load, or the entire width of the belt conveyor, drag chain flight, or vibrating conveyor. ASTM standards for sampling unconsolidated waste materials from trucks may be used for guidance if the ash is to be sampled from trucks.
- 11.2.4.3 If a conveyor is to be the sample location, collect the entire width of the conveyor at a fixed point each hour for ~~eight (8)~~ 8 hours. If trucks are to be sampled, randomly select ~~eight~~ 8 trucks to sample during the ~~eight-hour~~ 8-hour period. In certain situations, where fewer than ~~eight~~ 8 truckloads are generated, a different schedule may be necessary (e.g., less than ~~one~~ 1 truck per hour). Composite all samples for the period into an ~~eight-hour~~ 8-hour composite. Containerize, label, and set aside for further processing.
- 11.2.4.4 Collect a second ~~eight-hour~~ 8-hour composite during the course of the work day. The second composite should be collected during a different shift from the first composite.
- 11.2.4.5 For an initial waste characterization, collect samples each day for a minimum of ~~one~~ 1 week's operation (i.e., ~~fourteen~~ 14 composite samples).

11.3 Analysis

- 11.3.1 Each composite sample shall be tested, using Method 1311 [Toxicity Characteristic Leaching Procedure (TCLP)], and the results analyzed, to determine whether the ash passes or fails the TC as defined in the ~~DRGHW, DRGHW~~ §261.24.
- 11.3.2 All testing shall be performed following the specific procedures described in "Test Methods for Evaluating Solid Waste" (SW-846).
- 11.3.3 The testing shall be performed by an independent laboratory.
- 11.3.4 In lieu of TCLP, testing for total concentration of constituents (i.e., the contaminants listed in ~~DRGHW, DRGHW~~ §261.24, Table 1) may be performed. If no constituent is present at a concentration exceeding the TC regulatory limit, the waste may be considered non-hazardous. However, if the concentration of any constituent exceeds the TC regulatory limit, TCLP must be performed to determine whether the waste is hazardous.
- 11.3.5 If it has been demonstrated that none of the organic constituents listed in ~~DRGHW, DRGHW~~ §261.24, Table 1, is present in the ash at a detectable level, the ash need not be routinely tested for the organics.

11.4 Quality Assurance ~~And~~ and Quality Control/Control. The sampling and analysis plan shall include:

~~The sampling and analysis plan shall include:~~

- 11.4.1 A detailed description of the steps that will be taken to ensure quality control, and
- 11.4.2 A provision for appointing a knowledgeable person to oversee the sampling and analysis program to ensure that all procedures are followed.

11.5 Data Evaluation:

~~The following approach shall be used in evaluating the data to determine whether the ash passes or fails the TC (see SW-846, Chapter Nine, Tables 9-1 and 9-2 for statistical formulas to use in making the calculations):~~ Evaluation. The following approach shall be used in evaluating the data to determine whether the ash passes or fails the TC (see SW-846, Chapter Nine, Tables 9-1 and 9-2 for statistical formulas to use in making the calculations)

- 11.5.1 Determine the mean TC concentration (x) of the ~~fourteen eight-hour~~ 14 8-hour composite samples for each regulated analyte (equation 2a of Table 9-1).
- 11.5.2 Determine the standard ~~deviation(s)~~ deviation or deviations of the data employed to calculate the mean (i.e., the individual composite results) (equation 3a and 4 of Table 9-1).
- 11.5.3 Determine the upper bound of the ~~90 percent (one-sided)~~ 90% (1-sided) confidence interval for the mean for each analyte (equation 6 of Table 9-1).

If the upper bound of the interval is below the applicable regulatory threshold for all analytes listed in ~~DRGHW, DRGHW~~ §261.24, then the waste passes the TC. If the upper bound of the interval is above the applicable regulatory threshold for any analyte listed in ~~DRGHW, DRGHW~~ §261.24, then the waste fails the TC.

11.0 Special Wastes Management Part 3 - Coal Combustion Residuals

(NOTE: This section applies to those units that contain coal combustion residuals (CCR). Additional requirements for landfills containing CCR and other industrial wastes are located in *Section 6.0 - Industrial is regulation.*)

11.1 General ~~provisions~~ provisions

- 11.1.1 Section 11.0, Part 3 applies to all landfills and surface impoundments in existence as of May 22, 2018, lateral expansions of existing landfills and surface impoundments, and new landfills and surface impoundments, containing Coal Combustion Residuals (CCR), unless otherwise specified.
- 11.1.2 CCR units that have completed closure in accordance with ~~DRGSW this regulation~~ this regulation prior to May 22, 2018 must comply with ~~Section 6.0~~ Section 6.0.
- 11.1.3 Inactive solid waste units containing CCR must complete closure in accordance with ~~DRGSW this regulation~~ this regulation by May 1, 2020. For the purpose of this section, an inactive unit is defined as a solid waste unit

that has not received CCR or is no longer removing CCR for the purpose of beneficial use since May 1, 2016 and has not initiated or completed closure in accordance with ~~DRGSW regulations~~. ~~The Department reserves the right to allow a variance to this closure requirement.~~ this regulation. ~~The Department in its discretion may modify this closure requirement timeline.~~

11.1.4 All surface impoundments within Delaware containing Coal Combustion Residuals must comply with 40 CFR §257.

11.2 Beneficial Use of ~~CCR~~CCR

11.2.1 Beneficial Use Criteria. CCR destined for beneficial use within Delaware shall meet the following conditions:

11.2.1.1 The CCR must provide a functional benefit;

11.2.1.2 The CCR must substitute for the use of virgin material, conserving natural resources that would otherwise need to be obtained through practices such as extraction;

11.2.1.3 The use of the CCR must meet relevant product specifications, regulatory standards, or design standards when available, and when such standards are not available, the CCR is not used in excess quantities; and

11.2.1.4 When unencapsulated use of CCR involving placement on the land of 12,400 tons or more in non-roadway applications, the user must demonstrate and keep records, and provide such documentation upon request, that environmental releases to groundwater, surface water, soil, and air are comparable to or lower than those from analogous products made without CCR, or that environmental releases to groundwater, surface water, soil, and air will be at or below relevant regulatory and health-based benchmarks for human and ecological receptors during use.

11.2.2 Permitting

11.2.2.1 No person shall engage in the beneficial use of CCR within Delaware without first having contacted the Department to determine whether a permit is required.

11.2.2.2 Transporters of CCR for beneficial use must have a valid Delaware Solid Waste Transporter permit. The transportation of CCR is subject to applicable requirements of Section 7.0 of ~~these regulations~~this regulation.

11.2.2.3 The Department can prohibit the beneficial use of CCR within Delaware to protect human health and the environment.

11.3 Additional CCR Landfill ~~Requirements~~Requirements

11.3.1 Liner System. CCR landfills must be designed constructed, operated, and maintained with a composite liner that meets the requirements of subsection 6.3 of this regulation or a double liner system meeting the requirements of ~~subsection 6.3~~subsection 6.3 of this regulation.

11.3.2 Fugitive Dust Control Plan. CCR landfills must obtain a certification from a Professional Engineer ~~registered~~licensed in Delaware that the initial fugitive dust control plan, or any subsequent amendments of it, meets the requirements of ~~DRGSW~~this regulation and the Solid Waste Permit.

11.3.3 Groundwater Monitoring System. CCR landfills must obtain a certification from a Professional Engineer ~~registered~~licensed in Delaware that the groundwater monitoring system has been designed and constructed to meet the requirements of ~~DRGSW~~this regulation.

11.3.4 Groundwater Data Evaluation. CCR landfills must obtain a certification from a Professional Engineer ~~registered~~licensed in Delaware that the statistical method for evaluating the groundwater monitoring data is appropriate. The certification must include a narrative description of the statistical method selected to evaluate the groundwater monitoring data.

11.3.5 Implementation of Corrective Action. Upon completion of the remedy, the owner or operator must notify the Department that a certification of the remedy has been completed in compliance with the requirements of ~~DRGSW~~this regulation and placed in the operating record. This certification must be signed by a Professional Engineer ~~registered~~licensed in Delaware.

11.4 Notification Requirements. Unless otherwise specified within ~~these regulations~~this regulation or the Solid Waste Permit, owners or operators of CCR facilities subject to 40 CFR §257 must provide the Department with all required notifications cited in 40 CFR §257.106 and the Solid Waste Permit.

11.4.1 Required notifications must be postmarked or sent by electronic mail (email) before the close of business on the day the notification is required to be completed.

11.4.2 Multiple notifications may be combined as long as the deadline requirement for each notification is satisfied.

11.4.3 Unless otherwise specified in 40 CFR §257.106, ~~these regulations~~this regulation, or the Solid Waste Permit, the notifications specified in 40 CFR §257.106 must be sent to the Department within ~~thirty (30)~~30 days of placing the information in the operating record. The ~~site~~facility shall include the required information pertaining to the following categories, as the information becomes available in the facility's operating record:

11.4.3.1 Location Restrictions.

11.4.3.2 Design Criteria.

- 11.4.3.3 Operating Criteria.
- 11.4.3.4 Groundwater Monitoring and Corrective Actions.
- 11.4.3.5 Closure Notifications.
- 11.4.3.6 Closure and Post-Closure Care.
- 11.4.3.7 Retrofit Criteria.

11.5 ~~Publicly~~ Publicly Accessible Internet Site

- 11.5.1 Owners or operators of CCR facilities subject to 40 CFR §257 must comply with the requirements cited in 40 CFR §257.107 and the Solid Waste Permit for a publicly accessible internet site titled "CCR Rule Compliance Data and Information".
- 11.5.2 Unless otherwise specified in 40 CFR §257.107, the information must be available to the public for at least ~~five (5)~~ five years following the date on which the information was posted to the CCR Website.
- 11.5.3 Unless otherwise required in 40 CFR §257.107, the information must be posted to the CCR Website within ~~thirty (30)~~ 30 days of placing the pertinent information in the operating record. The ~~site~~ facility shall include, at a minimum, the required information pertaining to the following categories and all subsequent modifications, as applicable, as the information becomes available in the facility's operating record:
 - 11.5.3.1 ~~Location Restrictions~~ restrictions.
 - 11.5.3.2 ~~Design Criteria~~ criteria.
 - 11.5.3.3 ~~Operating Criteria~~ criteria.
 - 11.5.3.4 ~~Groundwater Monitoring and Corrective Actions~~ monitoring and corrective actions.
 - 11.5.3.5 ~~Closure and Post-Closure Care~~ post-closure care.
 - 11.5.3.6 ~~Retrofit Criteria~~ criteria.

19 DE Reg. 422 (11/01/15)

21 DE Reg. 893 (05/01/18)

12.0 Scrap Tire Facilities

12.1 Scope and Applicability

- 12.1.1 This section applies to new and existing areas established for scrap tires that are associated with a qualifying business. A qualifying business is a business that generates and accumulates scrap tires but whose primary purpose is not to accumulate scrap tires. Examples of qualifying businesses may ~~include~~ include, but are not limited to: tire retreading businesses; automobile graveyards or junkyards; local and state governmental agencies and/or facilities such as county maintenance, police, and fire; military institutions and/or facilities; farmers; and other automotive businesses. This section does not apply to owner/operators who have a current and valid resource recovery facility permit (or other approval or permit issued pursuant to ~~these regulations~~ this regulation) that addresses scrap tire management. This section also does not apply to persons who are registered with, and actively participating in, the Scrap Tire Management Program, administered by the Department. All transporters of solid waste, including scrap tires, must comply with any applicable provisions in ~~Section 7.0~~ Section 7.0 of this regulation. All scrap tire facilities whose primary purpose is to accumulate scrap tires must comply with any applicable provisions in Sections 9.0 and 10.0, as applicable.

12.2 Scrap Tire Facility Categories

- 12.2.1 All scrap tire facilities must either fall into one of three groups, as defined below. A property may have only one scrap tire facility. All other scrap tires facilities are prohibited.
 - 12.2.1.1 Group 1: total volume for scrap tires will be no greater than 450.5 square feet by 10 feet high, with the height being measured from the lowest point on the lowest tire and the square footage measured using the furthest tires.
 - 12.2.1.2 Group 2: total volume for scrap tires will be no greater than 901 square feet by 10 feet high, with the height being measured from the lowest point on the lowest tire and the square footage measured using the furthest tires.
 - 12.2.1.3 Group 3: scrap tires enclosed by a trailer, not to exceed the use of ~~two (2)~~ 2 trailers, neither having dimensions greater than 53 feet x 8.5 feet x 10 feet.

12.3 Implementation Date

- 12.3.1 Scrap tire facilities in existence prior to the effective date of ~~these regulations~~ this regulation.
 - 12.3.1.1 Scrap tire facilities meeting the requirements of Group 1 must apply to the Department for a permit pursuant to ~~these regulations~~ this regulation no later than 90 days after the effective date of ~~these regulations~~ this regulation.
 - 12.3.1.2 Scrap tire facilities meeting the requirements of Group 2 must apply to the Department for a permit pursuant to ~~these regulations~~ this regulation no later than 180 days after the effective date of ~~these regulations~~ this regulation.
 - 12.3.1.3 Scrap tire facilities meeting the requirements of Group 3 may operate without a permit provided that no later than 90 days from the effective date of ~~these regulations~~ this regulation, the facility achieves compliance with the requirements of subsection 12.3.2.2.

- 12.3.2 Each scrap tire facility created after the effective date of ~~these regulations~~ must:
12.3.2.1 For Groups 1 and 2, prior to commencing operation, the scrap tire facility must comply with subsection 4.1.1.3 of ~~these regulations~~ this regulation.
12.3.2.2 For Group 3, prior to commencing operation, the scrap tire facility must:
12.3.2.2.1 Obtain a Site Identification Number by completing and submitting a notification to the Department. The form is available from the Department.
12.3.2.2.2 Maintain scrap tires in a facility enclosed by a ~~trailer(s)~~ trailer or trailers.
12.3.2.2.3 Maintain compliance with subsections 12.5, 12.6, 12.7, and 12.10.
12.3.2.2.4 Maintain compliance with the requirements of subsection 12.3.2.2 or within 30 days either:
12.3.2.2.4.1 Comply with subsection 4.1.1.3 of ~~these regulations~~ or this regulation; or
12.3.2.2.4.2 Comply with subsection 12.11.1.1 of ~~these regulations~~ this regulation.

12.4 Permit Application Requirements

- 12.4.1 At least 45 days for Group 1 and 90 days for Group 2 before commencement of any construction or operation of a new scrap tire facility, or for a preexisting scrap tire facility, subject to subsection 12.3, the owner/operator shall submit to the Department a complete permit application for a scrap tire facility and the following documentation:
12.4.1.1 Description
12.4.1.1.1 A description of the proposed scrap tire facility, including volume of proposed or existing tires, whichever is larger, and the type of qualifying business at which the scrap tire facility will occur.
12.4.1.2 Facility Diagram
12.4.1.2.1 An accurate facility diagram of the proposed scrap tire facility showing all siting requirements of subsection 12.5 and any other features connected to the construction and operation of the scrap tire facility.
12.4.1.3 GIS Image
12.4.1.3.1 A current GIS image of the property where the scrap tire facility is/will be located and the surrounding properties. On the image, delineate the property boundary and the scrap tire facility location. In addition, label the nature of the surrounding properties (e.g. business with type of business specified, residence, etc.).
12.4.1.4 Floodplain Map
12.4.1.4.1 The most recent Federal Emergency Management Agency's 100-year flood data of the area to demonstrate that the proposed facility will not be located in the 100-year floodplain, restrict the flow of a 100-year flood, or reduce the storage capacity of a floodplain.
12.4.1.5 Operations Manual
12.4.1.5.1 An Operations Manual prepared in accordance with subsection 12.7.2.
12.4.1.6 Proof that all applicable zoning approvals and all appropriate federal, state, and local environmental permits have been obtained.
12.4.1.7 Title, Right, or Interest
12.4.1.7.1 Evidence of an applicant's title, right, or interest in the property for the proposed facility location.
12.4.1.8 Certification
12.4.1.8.1 A statement signed by the applicant that all siting and design standards and operational requirements of this subsection will be met before commencement of any construction or operation of a scrap tire facility or prior to expiration of the transition provisions of subsection 12.3.
12.4.1.9 Financial Assurance (Required only for Group 2)
12.4.1.9.1 Evidence of financial assurance in accordance with subsection 12.8.

12.5 Siting and Design Standards

- 12.5.1 To qualify for a permit, the siting and design standards of this subsection must be met, with distances being measured using the closest tire to the setback object. In the instance where applicable zoning requirements are more stringent than the requirements in ~~these regulations~~ this regulation, then the more stringent requirements must be met.
12.5.1.1 Setbacks
12.5.1.1.1 The following setbacks must be maintained for Group 1:
12.5.1.1.1.1 A minimum 20 foot setback between the scrap tire facility and all public roads and property boundaries.
12.5.1.1.1.2 A minimum 50 foot setback between the scrap tire facility and residences in existence at the time the application is filed.
12.5.1.1.1.3 A minimum 100 foot setback between the scrap tire facility and off-site drinking water supply wells and water supply springs in existence at the time the application is filed.
12.5.1.1.2 The following setbacks must be maintained for Group 2:

- 12.5.1.1.2.1 A minimum 100 foot setback between the scrap tire facility and all public roads and property boundaries.
- 12.5.1.1.2.2 A minimum 300 foot setback between the scrap tire facility and residences in existence at the time the application is filed.
- 12.5.1.1.2.3 A minimum 300 foot setback between the scrap tire facility and off-site drinking water supply wells and water supply springs in existence at the time the application is filed.
- 12.5.1.1.3 The following setbacks must be maintained for Group 3:
 - 12.5.1.1.3.1 Owners/operators of ~~one (1)~~1 trailer must comply with the setbacks in subsection 12.5.1.1.1.
 - 12.5.1.1.3.2 Owners/operators of ~~two (2)~~2 trailers must comply with the setbacks in subsection 12.5.1.1.2.
- 12.5.1.2 Floodplain
 - 12.5.1.2.1 A new or existing scrap tire facility shall not be located within the 100-year floodplain, based on flood data generated by the Federal Emergency Management Agency, unless Department approved measures are taken to mitigate environmental impacts.
- 12.5.1.3 Natural Resources
 - 12.5.1.3.1 A scrap tire facility shall not be located:
 - 12.5.1.3.1.1 Within or around, at the Department's discretion and determination, important and/or sensitive habitat or habitats that support rare, threatened, or endangered species; or
 - 12.5.1.3.1.2 At a minimum, within 50 feet of:
 - 12.5.1.3.1.2.1 A state or federally regulated wetland, or
 - 12.5.1.3.1.2.2 A pond, river, or stream, except for artificial ponds or impoundments.
- 12.5.1.4 Fire Prevention Measures
 - 12.5.1.4.1 All grasses, weeds, brush, debris, and other combustible material must not be present in or on the scrap tire facility.
 - 12.5.1.4.2 No activities involving the use of open flames, blow torches, or highly flammable substances shall be conducted within the scrap tire facility or within the required fire break. Smoking is also prohibited within the scrap tire facility and within the required fire break.
 - 12.5.1.4.3 For Group 1, a 20 foot fire break consisting of either a mineral strip free of combustible materials or well maintained, regularly mowed grass must be constructed around the perimeter of the scrap tire facility.
 - 12.5.1.4.4 For Group 2, a 50 foot fire break consisting of either a mineral strip free of combustible materials or well maintained, regularly mowed grass must be constructed around the perimeter of the scrap tire facility.
 - 12.5.1.4.5 For Group 3, owners/operators of ~~one (1)~~1 trailer must maintain a 20 foot fire break around the perimeter of the trailer. Owners/operators of ~~two (2)~~2 trailers must maintain a 50 foot fire break around the perimeter of the trailers. The fire break shall consist of either a mineral strip free of combustible materials or well maintained, regularly mowed grass.
 - 12.5.1.4.6 The owner/operator must attempt to make arrangements with the local fire department to familiarize them with the layout of the facility and places where facility personnel would normally be working.
- 12.5.1.5 Stabilization
 - 12.5.1.5.1 The area under the scrap tire facility must be adequately stabilized to prevent any scrap tires from sinking below ground level and to prevent any significant unintended movement of the tires on the scrap tire facility.
- 12.5.1.6 Department Discretion
 - 12.5.1.6.1 The Department has the discretion to modify the Siting and Design Standards for a specific scrap tire facility upon request from an owner/operator.
- 12.6 Mosquito Control
 - 12.6.1 The owner/operator of a scrap tire facility must implement and maintain mosquito control by either:
 - 12.6.1.1 Removing any water held in scrap tires immediately prior to placement in the facility via hole punching, boring, or drilling throughout tires or other sufficient means, and storing scrap tires in such a way that water does not accumulate in the scrap tires or containers where scrap tires are held; or
 - 12.6.1.2 If any scrap tires hold water that is not removed within ~~24 hours~~24-hours of placement in the scrap tire facility or within ~~24 hours~~24-hours of a precipitation event, a larvicide that is registered for use for mosquito control by the U.S. Environmental Protection Agency must be effectively applied to the water-holding tires within ~~48 hours~~48-hours of placement in the scrap tire facility. The owner/operator or a private contractual professional pesticide applicator, at the owner/operator's expense, can perform the initial and/or follow-up larvicide applications, provided that the applications are safely done in accordance with all product label instructions and federal

or state regulations. If a Restricted Use pesticide is utilized, it must be purchased and applied by a Delaware Certified Pesticide Applicator (who could be the owner/operator if appropriately certified) in accordance with Delaware Department of Agriculture regulations. The Department's Mosquito Control Section, if requested by the owner/operator, can also perform the larvicide applications at the Section's discretion. The owner/operator shall then reimburse the Mosquito Control Section for all costs of any such treatments as determined or assessed by the Department.

12.6.1.2.1 A larvicide must be reapplied as needed to maintain good larval control in accordance with the methods described in subsection 12.6.1.2.

12.6.1.2.2 Mosquito control records involving larvicide applications must be maintained on the premises for a period of ~~three~~ 3 years and be available to Department personnel upon request. The records, at a minimum, must include name, type, and amount of larvicide applied per tire, the EPA registration number of the larvicide product lot used, the date and time of application, and the name of the person who applied the larvicide along with their Delaware Certified Pesticide Applicator Number, if a Restricted Use pesticide was applied.

12.6.2 If the Department finds the existence of excessive numbers of adult mosquitos or mosquito larvae on the premises, as determined at sole discretion of the Department, the owner/operator must apply, within 24 ~~hours~~ 24-hours of notice from the Department, an adulticide or larvicide that is registered for use for mosquito control by the U.S. Environmental Protection Agency, with applications done in accordance with all Delaware Department of Agriculture regulations, using the methods described in subsection 12.6.1.2.

12.7 Operational Standards

12.7.1 On-Site Operations

12.7.1.1 The owner/operator shall take whatever measures are necessary to familiarize all personnel responsible for operation of the scrap tire facility with relevant sections of the operations manual required in subsection 12.7.2, including training on the procedures to be followed in case of an emergency, including, but not limited to, fires.

12.7.1.2 The siting and design standards as required by subsection 12.5 must be met and maintained.

12.7.1.3 Only scrap tires may be stored in the designated scrap tire facility.

12.7.1.4 Only scrap tires generated by or from the qualifying business may be present on the scrap tire facility owned/operated by the qualifying business.

12.7.1.5 The scrap tire facility is required to be secured at all times during non-business hours. For completely enclosed containers, such as trailers, security can be achieved by locking the trailer. For all other situations, the facility must be enclosed by a locked security fence.

12.7.1.6 Scrap tires cannot stay on-site indefinitely: each calendar year, the amount of scrap tires removed from the facility must equal at least 75% (by weight, volume, or number) of the amount of scrap tires accumulated on-site on January 1~~st~~ 1 of that calendar year.

12.7.1.7 Any scrap ~~tire(s)~~ tire or tires removed from the facility must be properly transported to an authorized treatment, storage, disposal, or recycling facility (TSDRF).

12.7.1.8 The following inspections must be conducted at least monthly:

12.7.1.8.1 The owner/operator must inspect the scrap tire facility for litter and unauthorized materials. All litter and unauthorized materials must be removed from the scrap tire facility.

12.7.1.8.2 The owner/operator must inspect the fire break constructed around the perimeter of the scrap tire facility to ensure it meets the requirements in subsection 12.5.1.4.

12.7.1.8.3 The owner/operator must inspect the scrap tire facility and the surrounding area to ensure emergency equipment identified in its Operations Manual as required by subsection 12.7.2.1.3.2 is available and accessible.

12.7.1.8.4 The owner/operator must inspect the scrap tire facility to ensure the perimeter is secure in accordance with subsection 12.7.1.5.

12.7.2 Operations Manual

12.7.2.1 The owner/operator must develop and implement an operations manual. A paper copy of the operations manual must be readily available on-site. The manual must include:

12.7.2.1.1 Procedures for clean-up and maintenance of the facility;

12.7.2.1.2 Procedures to ensure compliance with the operational requirements of subsections 12.7.1 and 12.7.3.

12.7.2.1.3 Emergency procedures, including, but not limited to:

12.7.2.1.3.1 A list of names and telephone numbers of persons to be contacted in an emergency, including, but not limited to, the scrap tire facility's emergency coordinator, the Department's emergency number (1-800-662-8802) and 9-1-1.

12.7.2.1.3.2 A list of emergency response equipment present at the scrap tire facility or available for use at the facility and the location of the equipment;

- 12.7.2.1.3.3 Procedures to be followed by facility personnel from discovery of the emergency until the situation is corrected;
- 12.7.2.1.3.4 Location of known water supplies, fire hydrants, dry chemical extinguishers, or other materials that may be used for fire fighting purposes;

12.7.3 Recordkeeping

- 12.7.3.1 The following records must be maintained for a period of ~~three (3)~~3 years and made available for inspection by the Department upon request.
 - 12.7.3.1.1 Documentation of personnel training required in subsection 12.7.1.1.
 - 12.7.3.1.2 Documentation demonstrating the percentage of turnover as required in subsection 12.7.1.6.
 - 12.7.3.1.3 Documentation demonstrating delivery (e.g., tolling agreement, letter of acceptance, manifest or other documentation deemed acceptable by the Department) to the TSDRF as required by subsection 12.7.1.7.
 - 12.7.3.1.4 Documentation of arrangements with fire departments, as required in subsection 12.5.1.4.6.
 - 12.7.3.1.5 Mosquito control records in accordance with subsection 12.6.1.2.2.
 - 12.7.3.1.6 Documentation of inspections as required by subsection 12.7.1.8.

12.7.4 Reporting

- 12.7.4.1 The owner/operator must prepare and submit an annual report to the Department by March ~~1st~~1 of each calendar year. The report shall be submitted on a form provided by the Department and is to cover scrap tire facility activities during the previous calendar year.
- 12.7.4.2 In the event of a fire or other emergency related to the scrap tire facility, the owner/operator shall immediately notify emergency services by calling 9-1-1 and the Department by calling 1-800-662-8802. Within ~~seven (7)~~7 calendar days of reporting an emergency situation at the scrap tire facility, the owner/operator shall submit to the Department a written report detailing the emergency. The report must include:
 - 12.7.4.2.1 A description of the type of emergency;
 - 12.7.4.2.2 Date and time of the emergency;
 - 12.7.4.2.3 A description of the origins of the emergency;
 - 12.7.4.2.4 A description of the actions taken to respond to the emergency;
 - 12.7.4.2.5 The results of the actions that were taken to date; and
 - 12.7.4.2.6 An analysis of the success or failure of the actions.

12.8 Financial Assurance (Required only for Group 2)

- 12.8.1 The owner/operator must obtain and retain a minimum of \$10,000 financial assurance. Financial assurance is not required if the owner/operator can demonstrate a current, valid contract or other legal documentation with an approved TSDRF that requires the owner/operator to pay the cost of removing the scrap tires prior to delivery of a trailer where the scrap tires will be accumulated. Failure to obtain financial assurance will result in denial of issuance of a permit, which will cause the owner/operator to be in violation of ~~these regulations; this regulation.~~ Failure to maintain financial assurance will result in revocation of the permit, which will cause the owner/operator to be violation of ~~these regulations; this regulation.~~ this regulation.

12.9 Right of Entry and Access

- 12.9.1 The Department retains the right of entry and access upon any private or public property during normal business hours and upon presentation of official identification for any purpose relating to the scrap tire regulations.

12.10 Notification of Closure/Closure

- 12.10.1 When a scrap tire facility ceases accepting and/or generating scrap tires or ceases meeting the requirements of ~~these regulations; this regulation.~~ all scrap tires must be removed and the facility shall be closed in a manner that will eliminate the need for further maintenance of the facility. The following conditions apply:
 - 12.10.1.1 The Department shall be notified in writing a minimum of 90 days prior to the proposed date of cessation of use of a facility.
 - 12.10.1.2 The notification of closure must include:
 - 12.10.1.2.1 A description of methods, procedures, and processes that will be used to close the facility, including provisions that will be made for the proper removal of all scrap tires on the facility when operation ceases;
 - 12.10.1.2.2 A description of restrictions that will be put in place to preclude delivery of additional scrap tires;
 - 12.10.1.2.3 An estimate of the cost of closing the facility; and
 - 12.10.1.2.4 A schedule for implementation of closure procedures.
 - 12.10.1.3 A scrap tire facility must be closed in a manner that minimizes the need for further maintenance, and so that it will not pollute any waters, contaminate the ambient air, constitute a hazard to health or welfare, or create a nuisance.

- 12.10.1.4 The owner/operator must remove all scrap tires from the facility. All scrap tires must be properly transported to an authorized TSDRF. Documentation demonstrating delivery (e.g., tolling agreement, letter of acceptance, manifest or other documentation deemed acceptable by the Department) to the TSDRF must be kept for a period of at least ~~three~~ 3 years and all documentation must be available for inspection by the Department upon request.
- 12.10.1.5 The owner/operator shall begin implementation of the closure within 30 days following written Department approval, with full closure being achieved within 90 days, unless otherwise approved in writing by the Department.
- 12.10.1.6 The owner/operator must notify the Department within 10 days after closure activities are complete.
- 12.11 All other scrap tire facilities
 - 12.11.1 All other scrap tire facilities not complying with the requirements of Group 1, Group 2, or Group 3 or owner/operators who do not have a current and valid resource recovery facility permit (or other approval issued pursuant to ~~these regulations~~)this regulation) that addresses scrap tire management; or persons who are not registered with, and actively participating in, the Scrap Tire Management Program are prohibited and all scrap tires must be removed in accordance with this subsection and the facility shall be closed in a manner that will eliminate the need for further maintenance of the facility. The following conditions apply:
 - 12.11.1.1 The owner/operator must submit to the Department within 30 days of non-compliance with ~~these regulations~~:this regulation:
 - 12.11.1.1.1 A description of methods, procedures, and processes that will be used to close the facility, including provisions that will be made for the proper removal of all scrap tires on the facility when operation ceases;
 - 12.11.1.1.2 A sediment and stormwater management plan if required under, and in accordance to, the Sediment and Stormwater regulations in ~~Title 7, Chapter 40 of the Delaware Code~~ 7 Del.C. Ch. 40.
 - 12.11.1.1.3 A description of restrictions that will be put in place to preclude delivery of additional scrap tires;
 - 12.11.1.1.4 An estimate of the cost of closing the facility; and
 - 12.11.1.1.5 A schedule for implementation of closure procedures.
 - 12.11.1.2 A scrap tire facility must be closed in a manner that minimizes the need for further maintenance, and so that it will not pollute any waters, contaminate the ambient air, constitute a hazard to health or welfare, or create a nuisance.
 - 12.11.1.3 The owner/operator must remove all scrap tires from the facility. All scrap tires must be properly transported to an authorized treatment, storage, disposal, or recycling facility (TSDRF). Documentation demonstrating delivery (e.g., tolling agreement, letter of acceptance, manifest or other documentation deemed acceptable by the Department) to the TSDRF must be kept for a period of at least ~~three~~ 3 years and all documentation must be available for inspection by the Department upon request.
 - 12.11.1.4 The owner/operator shall begin implementation of the closure within 30 days following written Department approval, with full closure being achieved within 90 days, unless otherwise approved in writing by the Department.
 - 12.11.1.5 The owner/operator must notify the Department within 10 days after closure activities are complete.
 - 12.11.2 Failure to promptly and properly close the scrap tire facility may result in an enforcement action.
[19 DE Reg. 418 \(11/01/15\)](#)
[20 DE Reg. 296 \(10/01/16\)](#)

~~13.0~~ **Severability**

~~If any provision of these regulations, or the application of any provision of these regulations to any person or circumstance, is held invalid, the application of such provision to other persons or circumstances, and the remainder of these regulations, shall not be affected thereby.~~

~~2 DE Reg. 1545 (03/01/99)~~[8 DE Reg. 354 \(08/01/04\)](#)[19 DE Reg. 418 \(11/01/15\)](#)

~~14.0~~ **Plastic Carryout Bag Ban and At Store Recycling Program**

- ~~14.1~~ The purposes of these regulations are to ensure the following:
 - ~~14.1.1~~ Plastic carryout bags, as defined by ~~7 Del.C. §6099A~~, are banned;
 - ~~14.1.2~~ At-store collection of plastic carryout bags and film are implemented, maintained, and consistent with ~~7 Del.C. Ch. 60 Subchapter IX, Recycling and Waste Reduction~~;
 - ~~14.1.3~~ Plastic bags and film enter the marketplace and are not disposed; and
 - ~~14.1.4~~ Stores collect and report data to support the intent of ~~7 Del.C. §6099A~~.
- ~~14.2~~ **Applicability.** These regulations apply to:

~~14.2.1 All stores in the State of Delaware.~~

~~14.2.2 All manufacturers of plastic bags sold to a store in Delaware.~~

~~14.3 General Provisions~~

~~14.3.1 Stores shall:~~

~~14.3.1.1 Establish an at-store recycling program pursuant to 7 Del.C. Ch. 60 Subchapter IX, Recycling and Waste Reduction, that permits a customer of the store to return clean and dry plastic bags and film to the store.~~

~~14.3.1.2 Place a plastic bag and film collection bin at each store that is visible upon entering the store and that is easily accessible to the customer, clearly marked with the following language: "Please recycle plastic bags and film here," and that the collection bin is available for the purpose of collecting and recycling plastic carryout bags and film.~~

~~14.3.1.3 Provide clear information on what types of plastic bags or film that can be recycled within that location's at-store plastic bag recycling program.~~

~~14.3.1.4 Not commingle source-separated plastic bags and film with other solid waste.~~

~~14.3.1.5 Ensure the plastic bags and film enter the marketplace.~~

~~14.3.1.6 Adopting practices to eliminate the need for plastic carry out bags as outlined in 7 Del.C. §6099A, allows stores to remove an at store recycling program and can cease the collection as of March 31, 2021; and~~

~~14.3.1.7 Document the measurement of the plastic bag and film collected at the location's at-store plastic bag recycling program; perform an annual review and create an annual report summarizing the measurement documentation; and maintain the records related to the annual review and report and measurement documentation for three years; stores that supply this data as part of the Universal Recycling program reporting do not need to submit a separate report.~~

~~14.3.2 A retail establishment that does not meet the definition of a store and that provides plastic carryout bags to customers at the point of sale may adopt a similar at-store recycling program, as specified in 7 Del.C. Ch. 60 Subchapter IX, Recycling and Waste Reduction.~~

~~14.3.3 Manufacturers of plastic carryout bags shall:~~

~~14.3.3.1 Assist stores and ensure that all reusable bags sold within the state meet the requirements outlined in 7 Del.C. Ch. 60 Subchapter IX, Recycling and Waste Reduction.~~

~~14.3.3.2 Ensure that plastic bags classified as reusable contain a label that includes the following language, "This plastic bag is reusable and should be returned to stores for recycling and not recycled curbside."~~

~~14.3.3.3 Provide stores with recycling opportunities for reusable plastic bags and film to help increase diversion of this material where such programs exist and support store education efforts to educate consumers about plastic bag and film recycling programs.~~

24 DE Reg. 603 (12/01/20)

13.0 Plastic Carryout Bag Ban and At-Store Recycling Program

13.1 The purposes of this regulation are to ensure the following:

13.1.1 Plastic carryout bags, as defined by 7 Del.C. §6099A, are banned;

13.1.2 At-store collection of plastic carryout bags and film are implemented, maintained, and consistent with 7 Del.C. Ch. 60, Subchapter IX, Recycling and Waste Reduction;

13.1.3 Plastic bags and film enter the marketplace and are not disposed;

13.1.4 Stores collect and report data to support the intent of 7 Del.C. §6099A; and

13.1.5 Stores may provide plastic carryout bags for only those purposes permitted within 7 Del.C. §6099A.

13.2 Definitions

In addition to the definitions in Section 3.0 of this regulation, the following definitions are specific to the plastic carryout bag ban and at-store recycling program requirements of this part.

"Manufacturer" means the producer of a plastic carryout bag sold to a store.

"Paper bag" means a bag provided by a store to a customer at the point of sale made of paper that meets all of the following requirements:

(1) Is 100% recyclable and contains a minimum of 40% postconsumer recycled material;

(2) Is accepted for recycling;

(3) Has printed on the bag the name of the manufacturer of the bag, country where the bag was manufactured, and the percentage of postconsumer recycled material used;

(4) Displays the word "Recyclable" and "Reusable" in a highly visible manner on the outside of the bag; and

(5) Does not contain plastic lining or plastic handles.

"Plastic carryout bag" means a plastic bag provided by a store to a customer at the point of sale made from plastic and not specifically designed and manufactured to be reusable.

"Reusable bag" means a carryout bag made of polypropylene fabric, PET nonwoven fabric, nylon, cloth, cotton, jute, hemp product, or other washable fabric which meets all of the following requirements:

- (1) Is a bag made of cloth or other durable fabric that has stitched handles;
- (2) Has a volume capacity of at least 4 gallons (equivalent to 15 liters or 924 cubic inches);
- (3) Is machine washable or made from a durable material that can be cleaned and disinfected; and
- (4) Does not contain lead, cadmium, or any other toxic material that may pose a threat to public health. A reusable bag manufacturer may demonstrate compliance with this requirement by obtaining a no objection letter from the federal Food and Drug Administration.

"Store" means a retail establishment, excluding a restaurant, engaged in the business of selling or exchanging goods or services for cash, barter, or any form of consideration on the assumption that the purchaser of the goods or services has acquired the goods or services for ultimate consumption or use and not resale that provides carryout bags to its customers in conjunction with the sale of the goods or services.

13.3 Applicability. This regulation apply to:

13.3.1 All stores in the State of Delaware.

13.3.2 All manufacturers of plastic bags sold to a store in Delaware.

13.4 General Provisions

13.4.1 Stores shall:

13.4.1.1 Establish an at-store recycling program pursuant to 7 Del.C. Ch. 60, Subchapter IX, Recycling and Waste Reduction, that permits a customer of the store to return clean and dry plastic bags and film to the store.

13.4.1.2 Place a plastic bag and film collection bin at each store that is visible upon entering the store and that is easily accessible to the customer, clearly marked with the following language: "Please recycle plastic bags and film here," and that the collection bin is available for the purpose of collecting and recycling plastic carryout bags and film.

13.4.1.3 Provide clear information on what types of plastic bags or film that can be recycled within that location's at-store plastic bag recycling program.

13.4.1.4 Not commingle source-separated plastic bags and film with other solid waste.

13.4.1.5 Ensure the plastic bags and film enter the marketplace.

13.4.1.6 Adopting practices to eliminate the need for plastic carry out bags as outlined in 7 Del.C. §6099A, allows stores to remove an at-store recycling program and can cease the collection as of March 31, 2021; and

13.4.1.7 Document the measurement of the plastic bag and film collected at the location's at-store plastic bag recycling program; perform an annual review and create an annual report summarizing the measurement documentation; and maintain the records related to the annual review and report and measurement documentation for 3 years; stores that supply this data as part of the Universal Recycling program reporting do not need to submit a separate report.

13.4.2 Manufacturers of plastic carryout bags shall:

13.4.2.1 Assist stores and ensure that all reusable bags sold within the state meet the requirements outlined in 7 Del.C. Ch. 60, Subchapter IX, Recycling and Waste Reduction.

13.4.2.2 Provide stores with recycling opportunities for reusable plastic bags and film to help increase diversion of this material where programs exist and support store education efforts to educate consumers about plastic bag and film recycling programs.

14.0 Severability

If any provision of this regulation, or the application of any provision of this regulation to any person or circumstance, is held invalid, the application of the provision to other persons or circumstances, and the remainder of this regulation, shall not be affected thereby.

APPENDIX A to Section Subsection 4.1.11 (Relating to Financial Assurance)

TRUST AGREEMENT

Trust Agreement, the "Agreement," entered into as of [date] by and between [name of owner or operator], a [name of State] [insert "corporation," "partnership," "association," "limited liability company," or "proprietorship"], the "Grantor," and [name of corporate trustee], [insert ~~'incorporate'~~ 'incorporated' in the State of ____] or "a national bank", the "Trustee."

Whereas, the Delaware Department of Natural Resources and Environmental Control (the "Department") has established certain regulations applicable to the Grantor, requiring that an owner or operator of ~~[insert type of operation]~~ the [insert "Sanitary Landfill," "Industrial Landfill," "Resource Recovery Facility," "Transfer Station," "Infectious Waste Management Facility," "Scrap Tire Facility," "Composting Facility," or "Recycling Facility"], shall provide assurance that funds will be available when needed for closure and/or post-closure care of the ~~[insert type of operation]~~, "Sanitary

Landfill," "Industrial Landfill," "Resource Recovery Facility," "Transfer Station," "Infectious Waste Management Facility," "Scrap Tire Facility," "Composting Facility," or "Recycling Facility"].

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 "Secretary" means the chief administrator and head of the Delaware Department of Natural Resources and Environmental Control and any successor.

Section 2. Identification of Facilities and Cost Estimates. This agreement pertains to the [insert type of operation] "Sanitary Landfill," "Industrial Landfill," "Resource Recovery Facility," "Transfer Station," "Infectious Waste Management Facility," "Scrap Tire Facility," "Composting Facility," or "Recycling Facility"], and cost estimates identified on attached Schedule A [on Schedule A, for each facility list the permit number, name, address, and the current closure and/or post-closure 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 Department. 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 shall 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 Department.

Section 4. Payment for Closure and ~~Post-Closure~~ Post-Closure Care. The Trustee shall make payments from the Fund as the Department shall direct, in writing, to provide for the payment of the costs of closure and/or post-closure care of the [insert type of operation] "Sanitary Landfill," "Industrial Landfill," "Resource Recovery Facility," "Transfer Station," "Infectious Waste Management Facility," "Scrap Tire Facility," "Composting Facility," or "Recycling Facility"], covered by this Agreement in accordance with the activities specified in Schedule A and ~~the Delaware~~ Delaware's Regulations Governing Solid Waste applicable to closure and post-closure. The Trustee shall reimburse to the Grantor or other persons as specified by the Department from the Fund for closure and post-closure expenditures in such amounts as the Department shall direct in writing. In addition, the Trustee shall refund the Grantor such amounts as the Department specifies in writing. The Department shall direct reimbursements in accordance with the procedures set forth in the Delaware Regulations Governing Solid Waste. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee shall 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 from time to time, subject, however, to the provisions of this section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his 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;

i. Securities or other obligations of the Grantor, or any other owner or operator of the [insert type of operation], "Sanitary Landfill," "Industrial Landfill," "Resource Recovery Facility," "Transfer Station," "Infectious Waste Management Facility," "Scrap Tire Facility," "Composting Facility," or "Recycling Facility"], or any of their affiliates as defined in the most current edition of the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2-(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or a State government;

ii. 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; and

iii. 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 from time to time 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 the provisions thereof, to be commingled with the assets of other trusts participating therein; and

b. To purchase shares in any investment company registered under the most current edition of the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one 1 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 shall 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 State Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall 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; and

(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 shall be paid from the Fund. All other expenses 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 shall be paid from the Fund.

Section 10. Valuation and Adjustment. The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the Department's ~~Solid & Hazardous Waste Management Section~~ Division of Waste and Hazardous Substance' Compliance and Permitting Section a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the Department shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matter disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time 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 shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time 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 shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall 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 Department's ~~Solid & Hazardous Waste Management Section~~ Division of Waste and Hazardous Substances' Compliance and Permitting Section, and the present Trustee by

certified mail or nationally recognized overnight courier service 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this section shall be paid as provided in ~~Section 9.~~Section 9 of this Trust Agreement.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall 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 shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests and instructions by the Department to the Trustee shall be in writing, signed by the Secretary or the manager of the Department's ~~Solid & Hazardous Waste Management Section,~~Division of Waste and Hazardous Substances' Compliance and Permitting Section, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests and instructions. The Trustee shall 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 Department hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or Department, except as provided for herein.

Section 15. Notice of Nonpayment. The Trustee shall notify the Grantor and the Department's ~~Solid & Hazardous Waste Management Section~~Division of Waste and Hazardous Substances' Compliance and Permitting Section by certified mail or other nationally recognized overnight courier service within 10 days following the expiration of the 30-day period after the anniversary of the establishment of the Trust, if no payment is received from the Grantor during that period. After the pay-in period is completed, the Trustee shall not be 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 Department, or by the Trustee and the Department 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,~~Section 16 of the Trust Agreement, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and Department, or by the Trustee and the Department, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

Section 18. Immunity and Indemnification. The Trustee shall 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 Department issued in accordance with this Agreement. The Trustee shall 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 of the Grantor fails to provide such defense.

Section 19. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the State of Delaware.

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 the Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

Section 21. Counterparts. This Agreement may be executed in ~~one~~one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute ~~one~~one and the same instrument.

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, if applicable, and attested as of the date first above written.

[Signature of Grantor]
[Title]
Attest:
[Title]
[Seal]
[Signature of Trustee]
Attest:
[Title]
[Seal]

CERTIFICATION OF ACKNOWLEDGMENT

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], the corporation described in and which executed the above instrument; and, if applicable, 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]

13 DE Reg. 1093 (02/01/10)
19 DE Reg. 418 (11/01/15)

APPENDIX B to ~~Section-Subsection~~ 4.1.11 (Relating to Financial Assurance)

PERFORMANCE SURETY BOND

Date bond executed: _____

Effective date: _____

Principal: [Legal name and business address of owner or operator]

Type of organization: [insert "individual," "joint venture," "~~partnership~~," "partnership," "limited liability company," or "corporation"]

State of incorporation: _____

Surety(ies): [name(s) and business address(es)]

Name, address, and closure and/or ~~post-closure~~post-closure amount(s) for each facility guaranteed by this bond (indicate closure and post-closure 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 Department of Natural Resources and Environmental Control, an agency of the State of Delaware, (hereinafter called DNREC), 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 corporation 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, under the State Statute, to have a [~~insert "permit in order to own or operate each solid waste management facility identified above" or "Beneficial Use Determination, hereinafter called BUD in order to own or operate each recycling facility identified above"~~], permit, and

Whereas said Principal is required to provide financial assurance for closure, or closure and post-closure care as a condition of the [~~insert "permit" or "BUD"~~], permit, and

Whereas said Principal shall establish a standby trust as is required when a surety bond is used to provide such financial assurance;

Now, therefore, the conditions of this obligation are such that if the Principal shall faithfully perform closure, whenever required to do so, of each facility for which this bond guarantees closure, in accordance with the closure plan and other requirements of the [~~insert "permit" or "BUD"~~]permit as such plan and [~~insert "permit" or "BUD"~~]permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations as such laws, statutes, rules, and regulations may be amended.

And, if the Principal shall faithfully perform post-closure care of each facility for which this bond guarantees post-closure care, in accordance with the post-closure plan and other requirements of the [~~insert "permit" or "BUD"~~]permit as such plan and [~~insert "permit" or "BUD"~~]permit may be amended, 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 ~~Section 4.1.11 of the State of Delaware~~subsection 4.1.11 of 7 DE Admin. Code §1301, Delaware's Regulations Governing Solid Waste, and obtain the DNREC Secretary's written approval of such assurance, within 90 days after the date notice of cancellation is received by both the Principal and the DNREC Secretary from the Surety(ies), then this obligation shall 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 DNREC Secretary that the Principal has been found in violation of the closure requirements, for a facility for which this bond guarantees performance of closure, the Surety (ies) shall either perform closure in accordance with the closure plan and other ~~insert "permit" or "BUD"~~ permit requirements or place the closure amount guaranteed for the facility into the standby trust fund as directed by the DNREC Secretary.

Upon notification by the DNREC Secretary that the Principal has been found in violation of the post-closure requirements 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 post-closure plan and other ~~insert "permit" or "BUD"~~ permit requirements or place in post-closure amount guaranteed for the facility into the standby trust fund as directed by the DNREC Secretary.

Upon notification by the DNREC Secretary that the Principal has failed to provide alternate financial assurance as specified in ~~Section 4.1.11 of the State of Delaware~~ subsection 4.1.11 of 7 **DE Admin. Code §1301**, Delaware's Regulations Governing Solid Waste, and obtain written approval of such assurance from the DNREC Secretary during the 90 days following receipt by both the Principal and the DNREC Secretary of a notice of cancellation of the bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the DNREC secretary.

The surety(ies) hereby waive(s) notification of amendments to closure plans, permits, approvals, 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 nationally recognized overnight courier service to the owner or operator and to the DNREC Secretary, provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by both the Principal and the DNREC Secretary as evidenced by the return receipts.

The principal may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the DNREC Secretary.

Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new closure and/or ~~post-closure~~ post-closure amount, provided that the penal sum does not increase by more than ~~20 percent~~ 20% in any ~~one~~ 1 year, and no decrease in the penal sum takes place without the written permission of the DNREC Secretary.

In Witness Whereof, The Principal and Surety(ies) have executed this Performance Bond and have affixed their seals, if applicable, on the date set forth above.

Principal
[Signature(s)]
[Name(s)]
[Title(s)]
[Corporate Seal]
Corporate Surety(ies)
[Name and address]
State of incorporation: _____
Liability limit: \$ _____
[Signature(s)]
[Names(s) and Title(s)]
[Corporate Seal]

[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]

Bond premium: \$ _____

13 DE Reg. 1093 (02/01/10)

19 DE Reg. 418 (11/01/15)

APPENDIX C to ~~Section~~ Subsection 4.1.11 (Relating to Financial Assurance)

IRREVOCABLE STANDBY LETTER OF CREDIT
NUMBER _____

ISSUE DATE: _____

BENEFICIARY: The Secretary of the Department of Natural Resources and Environmental Control, State of Delaware, 89 Kings Highway, Dover DE 19901 (All correspondence regarding this letter of credit must be submitted through the Department's ~~Solid & Hazardous Waste Management Section~~ Division of Waste and Hazardous Substances' Compliance and Permitting Section for administration).

APPLICANT:

Issuance Date: _____ Expiration Date: _____

Dear Sir or Madam:

We hereby establish our irrevocable standby letter of credit number _____ 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. number~~ _____ and,
2. your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to regulations issued under authority of ~~Title 7 of the Delaware Code, Chapter 60-7~~ Del.C. Ch. 60.

This letter of credit is effective as of [date] and shall expire on [date at least 1 year later], but such expiration date shall be automatically extended for a period of ~~one~~ 1 year on [date] and on each successive expiration date, unless at least 120 days before the current expiration date, we notify ~~(1) you, (1) you,~~ (2) the ~~Solid & Hazardous Waste Management Section, Division of Waste and Hazardous Substances' Compliance and Permitting Section~~ and (3) [owner's or operator's name] by nationally recognized overnight courier service or upon receipt if delivered personally, that we have decided not to extend this letter of credit beyond the current expiration date. In the event you are so notified, any unused portion of the credit shall be available, upon presentation of your sight draft, for 120 days or until the letter of credit has expired, whichever is later.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the draft directly into the standby trust fund of [owner's or operator's name] in accordance with your instructions.

This standby letter of credit is subject to the International Standby Practices (ISP98), International Chamber of Commerce Publication No. 590 and subsequent revisions thereof.

Very truly yours,

[signature]
[typed name and title]
[institution]
[telephone number]

13 DE Reg. 1093 (02/01/10)
19 DE Reg. 418 (11/01/15)

APPENDIX D to ~~Section~~ Subsection 4.1.11 (Relating to Financial Assurance)

CERTIFICATE OF INSURANCE FOR CLOSURE OR POST-CLOSURE CARE

Name and Address of Insurer (herein called the "Insurer"): _____

Name and Address of Insured (herein called the "Insured"): _____

Facilities Covered: [List for each facility: Name, address, and the amount of insurance for closure and/or the amount for post-closure care (these amounts for all facilities 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 "closure" or "closure and post-closure care" or "post-closure care"] for the facilities identified above. The Insurer further warrants that such policy conforms in all respects with the requirements of ~~the Delaware~~ Delaware's Regulations Governing Solid Waste ~~Section 4.1.11, subsection 4.1.11~~ as applicable and as such

regulations were constituted on the date shown immediately below. It is agreed that any provision of the policy inconsistent with such regulations is hereby amended to eliminate such inconsistency.

The Insurer further certifies the following with respect to the insurance:

- a.) Bankruptcy or insolvency of the insured shall not relieve the "Insurer" of its obligations under the policy to which this certificate applies.
- b.) The "Insurer" is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the "Insurer."
- c.) Whenever requested by the Secretary of the State of Delaware Department of Natural Resources and Environmental Control, the Insurer agrees to furnish to the Secretary a duplicate original of the policy listed above, including all endorsements thereon.
- d.) Cancellation or any other Termination of the insurance by the "Insurer", except for non-payment of premium or misrepresentation by the insured shall be effective only upon written notice and only after the expiration of 60 days after a copy of such written notice is received by the insured.
- e.) [Insert for claims-made policies]: The insurance covers claims otherwise covered by the policy that are ~~report-reported~~ reported to the "Insurer" within ~~six-6~~ six months of the effective date of the cancellation or non-renewal of the policy except where the new or renewed policy has the same retroactive date or a retroactive date earlier than that of the prior policy, and which arise out of any covered Occurrence that commenced after the policy retroactive date, if applicable, and prior to such policy renewal or Termination date. Claims reported during such extended reporting period are subject to the terms, conditions, limits, including limits of liability, and exclusions of the policy.

I hereby certify that the wording of this instrument is identical to the wording in 7 DE Admin. Code §1301, Appendix D and that the "Insurer" is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus line insurer, in ~~one-1~~ one or more States.

Date

Signature of authorized representative of Insurer

Name of authorized representative

Title of authorized representative

Address of authorized representative
13 DE Reg. 1093 (02/01/10)

APPENDIX E to Section-Subsection 4.1.11 (Relating to Financial Assurance)

LOCAL GOVERNMENT GUARANTEE FOR CLOSURE

Guarantee made this [date] by the [owner or operator], a municipality incorporated under the laws of the State of Delaware, herein referred to as Guarantor, to the Department of Natural Resources and Environmental Control, an agency of the State of Delaware, Obligee. This guarantee is made on behalf of the [owner or operator, facility name, and address], to the State of Delaware, Department of Natural Resources and Environmental Control (DNREC).

Recitals:

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for Guarantors as specified in ~~the Delaware~~ Delaware's Regulations Governing Solid Waste (DRGSW), ~~Section 4.1.11.2.2.5-subsection 4.1.11.2.4.5.~~ Section 4.1.11.2.2.1 of the DRGSW.
2. [Owner or operator] owns or operates the following solid waste management facility covered by this guarantee: [List each facility: name and address].
3. "Closure plans" as used below refer to the plans maintained as required by the ~~DRGSW~~ DRGSW's section for the closure of facilities as identified above.
4. For value received from the Principal Debtor, Guarantor guarantees to DNREC that in the event that Principal Debtor fails to perform closure of the Facility in accordance with the closure plan, other permit or interim status requirements, and all other legal requirements for closure of solid waste facilities, then the Guarantor shall perform or pay a third party to perform closure of the Facility and all other legal requirements for closure of a solid waste facility; or the Guarantor shall establish a fully funded trust fund as specified in ~~Section 4.1.11.2.2.1 of the DRGSW, subsection~~ Section 4.1.11.2.2.1 of the DRGSW.

~~4.1.11.2.4.1 of DRGSW~~ in the name of Principal Debtor in the amount of the current closure cost estimates as required by ~~Section 4.1.11.3 of the DRGSW~~. subsection 4.1.11.3 of DRGSW.

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 within 90 days, by certified mail, ~~mail or other nationally recognized overnight courier service~~, notice to the Secretary of DNREC (Secretary), to the ~~DNREC Solid and Hazardous Waste Management Section~~ Division of Waste and Hazardous Substances' Compliance and Permitting Section that he intends to provide alternate financial assurance as specified in the DRGSW, in the name of [owner or operator]. Within 120 days after the end of such fiscal year, the Guarantor shall establish such financial assurance unless [owner or operator] has done so.

6. The Guarantor agrees to provide an updated financial test and supporting documents required by ~~Section 4.1.11.2.2.5 of the DRGSW~~ subsection 4.1.11.2.4.5 of DRGSW to DNREC annually, no later than 90 days after the close of the Guarantor's fiscal year. Supporting documents shall include ~~as at~~ a minimum; Guarantor's Chief Financial Officer letter, accountant's opinion, and annual financial report. In the event that the CFO does not use financial test figures directly from the annual statements provided to the Securities and Exchange Commission, supporting documents shall include a Special Report from an independent accountant approved by the DNREC.

7. The Guarantor agrees to notify the Secretary of the ~~DNREC Solid and Hazardous Waste Management Section~~ Division of Waste and Hazardous Substances' Compliance and Permitting Section of voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming Guarantor as debtor, within 10 days after commencement of the proceeding.

8. Guarantor agrees that if Guarantor no longer meets the financial test criteria or is otherwise disallowed by DNREC from providing this Guarantee, Guarantor, within 30 days after being notified by the Secretary of the ~~DNREC Solid and Hazardous Waste Management Section~~ Division of Waste and Hazardous Substances' Compliance and Permitting Section of a determination that Guarantor no longer meets the financial test criteria or that he is disallowed from continuing as a Guarantor of closure, he shall establish alternate financial assurance as specified in the DRGSW, as applicable, in the name of [owner or operator] unless [owner or operator] has done so.

9. Guarantor agrees to remain bound under this guarantee notwithstanding any or all of the following: amendment or modification of the closure, amendment or modification of the permit, the extension or reduction of the time of performance of closure, or any other modification or alteration of an obligation of the owner or operator pursuant to the DRGSW.

10. Guarantor agrees to remain bound under this guarantee for so long as [owner or operator] must comply with the applicable financial assurance requirements of the DRGSW for the above-listed facilities, except as provided in ~~paragraph 10~~ paragraph 11 of this agreement.

11. Guarantor may send notice of intent to terminate this Guarantee, by certified mail or nationally recognized overnight courier service to the Secretary of DNREC, the ~~Solid & Hazardous Waste Management Section~~, Division of Waste and Hazardous Substances' Compliance and Permitting Section, and to Principal Debtor, provided that this Guarantee shall not terminate unless and until Principal Debtor obtains, and the DNREC approves in its sole discretion, alternate closure financial assurance coverage complying with the DRGSW.

12. Guarantor expressly waives notice of acceptance of this guarantee by the ~~Solid and Hazardous Waste Management Section~~ Division of Waste and Hazardous Substances' Compliance and Permitting Section or by [owner or operator]. Guarantor also expressly waives notice of amendments or modifications of the closure plan and of amendments or modifications of the facility permit(s) or modifications of other applicable law.

13. This Guarantee shall also bind successors of Guarantor.

14. This Guarantee shall be governed by the laws of the State of Delaware.

15. Guarantor acknowledges that the consideration received for making this Guarantee includes the benefit to Principal Debtor in complying or attempting to comply with the DRGSW. This Guarantee does not include any promise by or duty upon DNREC, and shall not be construed to require DNREC to take any action, issue any regulatory approvals or permits, or expend any funds. Nothing in this Guarantee shall be construed as a waiver of sovereign immunity or any other defense.

16. It is mutually understood that this Guarantee is to bind the party who signs it, whether it is or will be signed by the other party.

17. Guarantor's Board of Directors agrees to all of the terms and conditions of this Guarantee and have so stated in [name of guaranteeing entity] Board of Directors Resolution [title and/or number and date], a signed, certified copy of which is attached.

Effective Date

[Name of Guarantor]

[Authorized signature for Guarantor]

[Name of person signing]

[Title of person signing]

Signature of witness or notary

13 DE Reg. 1093 (02/01/10)

19 DE Reg. 418 (11/01/15)

APPENDIX F to ~~Section~~ Subsection 4.1.11 (Relating to Financial Assurance)

CORPORATE GUARANTEE FOR CLOSURE

Guarantee made this [date] by the [owner or operator], a business entity organized under the laws of the State of Delaware, herein referred to as Guarantor, to the Department of Natural Resources and Environmental Control, an agency of the State of Delaware, Obligee. This guarantee is made on behalf of the [owner or operator, facility name, and address], to the State of Delaware, Department of Natural Resources and Environmental Control (DNREC).

Recitals:

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for Guarantors as specified in ~~the Delaware~~ Delaware's Regulations Governing Solid Waste (DRGSW), Section 4.1.11.2.2.6-subsection 4.1.11.2.4.6.

2. [Owner or operator] owns or operates the following solid waste management facility covered by this guarantee: [List each facility: name and address].

3. "Closure plans" as used below refer to the plans maintained as required by ~~the~~ DRGSW section for the closure of facilities as identified above.

4. For value received from the Principal Debtor, Guarantor guarantees to DNREC that in the event that Principal Debtor fails to perform closure of the Facility in accordance with the closure plan, other permit or interim status requirements, and all other legal requirements for closure of solid waste facilities, then the Guarantor shall perform or pay a third party to perform closure of the Facility and all other legal requirements for closure of a solid waste facility; or the Guarantor shall establish a fully funded trust fund as specified in ~~Section 4.1.11.2.2.1 of the DRGSW,~~ subsection 4.1.11.2.4.1 of DRGSW, in the name of Principal Debtor in the amount of the current closure cost estimates as required by ~~Section 4.1.11.3 of the DRGSW,~~ subsection 4.1.11.3 of DRGSW.

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 within 90 days, by certified ~~mail,~~ mail or nationally recognized overnight courier service, notice to the Secretary of DNREC (Secretary), ~~to via the DNREC Solid and Hazardous Waste Management Section~~ Division of Waste and Hazardous Substances' Compliance and Permitting Section that he intends to provide alternate financial assurance as specified in ~~the~~ DRGSW, in the name of [owner or operator]. Within 120 days after the end of such fiscal year, the Guarantor shall establish such financial assurance unless [owner or operator] has done so.

6. The Guarantor agrees to provide an updated financial test and supporting documents required by ~~Section 4.1.11.2.2.6 of the DRGSW~~ subsection 4.1.11.2.4.6 of DRGSW to DNREC annually, no later than 90 days after the close of the Guarantor's fiscal year. Supporting documents shall include ~~as at~~ a minimum; Guarantor's Chief Financial Officer letter, accountant's opinion, and annual financial report. In the event that the CFO does not use financial test figures directly from the annual statements provided to the Securities and Exchange Commission, supporting documents shall include a Special Report from an independent accountant approved by the DNREC.

7. The Guarantor agrees to notify the Secretary of the ~~DNREC Solid and Hazardous Waste Management Section~~ Division of Waste and Hazardous Substances' Compliance and Permitting Section of voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming Guarantor as debtor, within 10 days after commencement of the proceeding.

8. Guarantor agrees that if Guarantor no longer meets the financial test criteria or is otherwise disallowed by DNREC from providing this Guarantee, Guarantor, within 30 days after being notified by the Secretary of the ~~DNREC Solid and Hazardous Waste Management Section~~ Division of Waste and Hazardous Substances' Compliance and Permitting Section of a determination that Guarantor no longer meets the financial test criteria or that he is disallowed from continuing as a Guarantor of closure, he shall establish alternate financial assurance as specified in ~~the~~ DRGSW, as applicable, in the name of [owner or operator] unless [owner or operator] has done so.

9. Guarantor agrees to remain bound under this guarantee notwithstanding any or all of the following: amendment or modification of the closure, amendment or modification of the permit, the extension or reduction of the time of performance of closure, or any other modification or alteration of an obligation of the owner or operator pursuant to ~~the~~ DRGSW.

10. Guarantor agrees to remain bound under this guarantee for so long as [owner or operator] must comply with the applicable financial assurance requirements of the DRGSW for the above-listed facilities, except as provided in paragraph 10 paragraph 11 of this agreement.

11. Guarantor may send notice of intent to terminate this Guarantee, by certified mail or nationally recognized overnight courier service to the Secretary of DNREC, the ~~Solid & Hazardous Waste Management Section~~, Division of Waste and Hazardous Substances' Compliance and Permitting Section, and to Principal Debtor, provided that this Guarantee shall not terminate unless and until Principal Debtor obtains, and the DNREC approves in its sole discretion, alternate closure financial assurance coverage complying with the DRGSW.

12. Guarantor expressly waives notice of acceptance of this guarantee by the ~~Solid and Hazardous Waste Management Section~~ Division of Waste and Hazardous Substances' Compliance and Permitting Section or by [owner or operator]. Guarantor also expressly waives notice of amendments or modifications of the closure plan and of amendments or modifications of the facility permit(s) or modifications of other applicable law.

13. This Guarantee shall also bind successors of Guarantor.

14. This Guarantee shall be governed by the laws of the State of Delaware.

15. Guarantor acknowledges that the consideration received for making this Guarantee includes the benefit to Principal Debtor in complying or attempting to comply with the DRGSW. This Guarantee does not include any promise by or duty upon DNREC, and shall not be construed to require DNREC to take any action, issue any regulatory approvals or permits, or expend any funds. Nothing in this Guarantee shall be construed as a waiver of sovereign immunity or any other defense.

16. It is mutually understood that this Guarantee is to bind the party who signs it, whether it is or will be signed by the other party.

17. Guarantor's Board of Directors agrees to all of the terms and conditions of this Guarantee and have so stated in [name of guaranteeing entity] Board of Directors Resolution [title and/or number and date], a signed, certified copy of which is attached.

Effective Date

[Name of Guarantor]

[Authorized signature for Guarantor]

[Name of person signing]

[Title of person signing]

Signature of witness or notary

13 DE Reg. 1093 (02/01/10)

19 DE Reg. 418 (11/01/15)

APPENDIX G to Section Subsection 4.1.11 (Relating to Financial Assurance)

STANDBY TRUST AGREEMENT

Standby Trust Agreement, the "Agreement," entered into as of [date] by and between [name of owner or operator], a [name of State] [insert "corporation," partnership," "association," "limited liability company," or "proprietorship"], the "Grantor," and [name of corporate trustee], [insert ~~incorporate~~ incorporated in the State of ____" or "a national bank"], the "Trustee."

Whereas, the Delaware Department of Natural Resources and Environmental Control (the "Department") has established certain regulations applicable to the Grantor, requiring that an owner or operator of [insert type of operation] shall provide assurance that funds will be available when needed for closure and/or post-closure care of the [insert type of operation],

Whereas, the Grantor has elected to establish [insert either "a guarantee," "surety bond," or "letter of credit"] 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 "Secretary" means the chief administrator and head of the Delaware Department of Natural Resources and Environmental Control and any successor.

Section 2. Identification of Facilities and Cost Estimates. This agreement pertains to the [insert type of operation] and cost estimates identified on attached Schedule A [on Schedule A, for each facility list the permit number, name, address, and the current closure and/or post-closure 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 Department. 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 shall 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 Department.

Section 4. Payment for Closure and ~~Post-Closure~~Post-Closure Care. The Trustee shall make payments from the Fund as the Department shall direct, in writing, to provide for the payment of the costs of closure and/or post-closure care of the [insert type of operation] covered by this Agreement in accordance with the activities specified in Schedule A and the ~~Delaware~~Delaware's Regulations Governing Solid Waste applicable to closure and post-closure. The Trustee shall reimburse to the Grantor or other persons as specified by the Department from the Fund for closure and post-closure expenditures in such amounts as the Department shall direct in writing. In addition, the Trustee shall refund the Grantor such amounts as the Department specifies in writing. The Department shall direct reimbursements in accordance with the procedures set forth in the ~~Delaware~~Delaware's Regulations Governing Solid Waste. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee shall 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 from time to time, subject, however, to the provisions of this section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his 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;

i. Securities or other obligations of the Grantor, or any other owner or operator of the [insert type of operation], or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or a State government;

ii. 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; and

iii. 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 from time to time 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 the provisions thereof, to be commingled with the assets of other trusts participating therein; and

b. To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including ~~one~~ 1 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 shall 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 State Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall 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; and

(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 shall be paid from the Fund. All other expenses 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 shall be paid from the Fund.

Section 10. Valuation and Adjustment. The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the Department's ~~Solid & Hazardous Waste Management Section~~ Division of Waste and Hazardous Substances' Compliance and Permitting Section a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the Department shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matter disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time 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 shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time 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 shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall 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 Department's ~~Solid & Hazardous Waste Management Section~~ Division of Waste and Hazardous Substances' Compliance and Permitting Section and the present Trustee by certified mail or nationally recognized overnight courier service 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall 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 shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests and instructions by the Department to the Trustee shall be in writing, signed by the Secretary or the manager of the Department's ~~Solid & Hazardous Waste Management Section~~ Division of Waste and Hazardous Substances' Compliance and Permitting Section, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests and instructions. The Trustee shall 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 Department hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or Department, except as provided for herein.

Section 15. Amendment of agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the Department, or by the Trustee and the Department if the Grantor ceases to exist.

Section 16. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and Department, or by the Trustee and the Department, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

Section 17. Immunity and Indemnification. The Trustee shall 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 Department issued in accordance with this Agreement. The Trustee shall 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 of the Grantor fails to provide such defense.

Section 18. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the State of Delaware.

Section 19. 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 the Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

Section 20. Counterparts. This Agreement may be executed in ~~one~~1 or more counterparts, each of which shall be deemed an original, but all of which together shall constitute ~~one~~1 and the same instrument.

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, if applicable, and attested as of the date first above written.

[Signature of Grantor]

[Title]

Attest:

[Title]

[Seal]

[Signature of Trustee]

Attest:

[Title]

[Seal]

CERTIFICATION OF ACKNOWLEDGMENT

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], the corporation described in and which executed the above instrument; and, if applicable, 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]

13 DE Reg. 1093 (02/01/10)

19 DE Reg. 418 (11/01/15)

2 DE Reg. 1545 (03/01/99)

4 DE Reg. 1855 (05/01/01)

8 DE Reg. 354 (08/01/04)

11 DE Reg. 807 (12/01/07)

13 DE Reg. 1093 (02/01/10)

17 DE Reg. 545 (11/01/13)

19 DE Reg. 418 (11/01/15)

19 DE Reg. 422 (11/01/15)
20 DE Reg. 296 (10/01/16)
21 DE Reg. 893 (05/01/18)
24 DE Reg. 603 (12/01/20)