

TITLE 19 VIRGIN ISLAND RULES & REGULATIONS

Part VI: Regulatory Provisions Concerning Public Health

Chapter 56: Solid and Hazardous Waste Management

Rules and Regulations

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Division 1. General Regulations

Section 1560-1      Definitions

The following definitions shall apply unless the context clearly requires another meaning or unless elsewhere expressly stated for specific application:

(a) "Active life" means the period of operation beginning with the initial receipt of solid waste and ending at completion of closure activities in accordance with Section 1560-900 of this Subchapter 1560.

(b) "Active portion" means that part of a facility or unit that has received or is receiving wastes and that have not been closed in accordance with Section 1560-900 of this Subchapter.

(c) "Approved refuse container" means a receptacle approved by the Commissioner for storage of designated types of wastes prior to collection for disposal.

(d) "Aquifer" means a geological formation, formations, or portion of a formation capable of yielding significant quantities of groundwater to wells or springs.

(e) "Business, industrial or commercial establishment" means any private enterprise organized or established for profit in the sale, at wholesale or retail, of goods or services, and required to be licensed under the provisions of Title 27, Virgin Islands Code.

(f) "CFR" means Code of Federal Regulations, pertinent copies of which shall be available for public perusal at the Department of Public Works and the Department of Planning and Natural Resources.

(g) "Commercial solid waste" means all types of solid waste generated by stores, offices, restaurants, hotels, motels, warehouses, and other non-manufacturing activities, excluding residential and industrial wastes.

(h) "Commissioner" means the Commissioner of the Department of Public Works or his/her designee.

(i) "Director of an Approved State" means the chief administrative officer of a State agency responsible for implementing the State municipal solid waste permit program or other system of prior approval that is deemed to be adequate by the DPNR under these regulations and its predecessor.

(j) Disposal site means all contiguous land and structures, other appurtenances and improvements on the land used for the disposal of solid waste, or any sanitary landfill, incinerator, baling or resource recovery facility or any other site authorized and designated by the Commissioner including those having received a permit for the operation thereof, as the final resting place of solid or hazardous wastes.

(k) "Environmental Protection Agency" means the U. S. Environmental Protection Agency.

(l) "Existing municipal solid waste landfill unit" means any municipal solid waste landfill unit that is receiving solid waste as of October 9, 1993.

(m) "Facility" means all contiguous land, structures, other appurtenances and improvements on the land used for the disposal of solid waste.

(n) "Garbage" means any putrescible animal, vegetable or fruit material, including waste resulting from handling, preparation, cooking, or consumption of food and any body, waste, or parts of domestic animals.

(o) "Groundwater" means water below the land surface in a zone of saturation.

(p) "Handbill" means any printed material, of any size, designed for distribution, without cost, by hand, to another person, and includes, but is not limited to business cards, brochures, books, magazines, newspapers, and flyers.

(q) "Hazardous waste" means a solid waste, or combination of solid wastes which, because of its quantity, concentration, or physical, chemical, or infectious characteristic may: (1) cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness or (2) pose a substantial present or potential hazard to human health or the environment when improperly treated, sorted, transported, disposed of, or managed.

(r) "Household waste" means any solid waste (including garbage, trash, sanitary waste in septic tanks) derived from households (including single and multiple residences, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).

(s) "Industrial solid waste" means solid waste generated by manufacturing or industrial processes that are not a hazardous waste regulated under Subtitle C of RCRA. Such waste may

include, but is not limited to, waste resulting from the following manufacturing processes: Electric power generation; fertilizer/agricultural chemicals; food and related products/byproducts; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemical; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.

(t) "Junked motor vehicle" means any vehicle that is wrecked, dismantled, damaged beyond repair, considered totally inoperable or which has been stripped to a shell or to a substantially similar condition such as to render it objectively valuable primarily or only as scrap metal or salvage. For purposes of this chapter, any abandoned vehicle may be considered a junk vehicle if it is valued at less than \$250.00, regardless of its condition. The Commissioner of Property & Procurement by rule and regulation shall establish a process by which as many officers as he deems necessary should be trained in the assessment and valuation of such vehicles and which shall require that photographs or videos be taken of the vehicle and that an assessment by one such officer made on a standardized form, based both on subjective and objective criteria, be completed prior to said vehicle's classification as a "junk vehicle." Such assessment by an officer shall be presumptive evidence of the value of the car.

(u) "Lateral expansion" means a horizontal expansion of the waste boundaries of an existing municipal solid waste landfill unit.

(v) "Leachate" means a liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste.

(w) "Liquid waste" means any waste material that is determined to contain free liquids as defined by Method 9095 (Paint Filter Liquid Test), as described in Tests Methods for Evaluating Solid Wastes, Physical/Chemical Methods (EPA Pub. No. SW-846).

(x) "Municipal solid waste landfill" means a discrete area of land or an excavation that receives household waste, and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under 40 CFR Part 257, Section 257.2. A municipal solid waste landfill (MSWLF) unit also may receive other types of RCRA Subtitle D wastes, such as commercial solid waste, non-hazardous sludge, conditionally exempt small quantity generator waste and industrial solid waste. Such a land full may be publicly or privately owned. A MSWLF unit may be a new MSWLF unit, an existing MSWLF unit, or a lateral expansion.

(y) "New municipal solid waste landfill unit" means any municipal solid waste landfill that has not received waste prior to October 9, 1993.

(z) "Open 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. It also means any manner of burning, causing rapid oxidation that results in products being discharged into the open air without passing through a properly designed stack, duct, chimney, flue, or other device process.

(aa) "Operator" means the person (s) responsible for the overall operation of a facility or part of a facility.

(ab) "Owner" means the person (s) who owns a facility or part of a facility.

(ac) "Person" means any individual, family, trust, firm, joint stock company, corporation, partnership, association, commission, political subdivision, local or federal government department or agency, including independent instrumentalities thereof.

(ad) "Private Waste Collector" means a waste collector who engages in the business of collection and transportation of waste to a disposal area by specific hire or contract with another person, and does not mean a public agency responsible by law for the collection of waste.

(ae) "Regulated hazardous waste" means a solid waste that is a hazardous waste, as defined in 40 CFR 261.3, that is not excluded from regulation as a hazardous waste under 40 CFR 261.4 (b) or was not generated by a conditionally exempt small quantity generator, as defined in 40 CFR 261.5.

(af) "RCRA means the Federal Resource Conservation and Recovery Act.

(ag) "Run-off" means any rainwater, leachate, or other liquid that drains over land from any part of a facility.

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

(ai) "Sanitary Landfill" means a facility for the disposal of solid waste which meets the criteria established by the Commissioner of the Department of Planning and Natural Resources.

(aj) "Saturated Zone" means the part of the earth's crust in which all voids are filled with water.

(ak) "Septic waste" means material from a septic system or a mixture consisting of sewage solids combined with water and dissolved.

(al) "Sludge" means any solid, semi-solid, or liquid waste generated from a territorial, commercial, or industrial waste water treatment plant, water supply treatment plant, or air pollution control facility, or any other such waste having similar characteristics and effects exclusive of the treated effluent from a waste-water treatment plant.

(am) "Solid waste" means any garbage, refuse, sludge from a wastewater treatment plant or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under Section 402 of the Federal Water and Pollution Control Act, as amended, or source, special nuclear, or by product material as defined by the Atomic Energy Act of 1954 as amended (68 Stat. 923).

(an) "Solid Waste Planner" means the position established in the Department of Public Works by the provisions of Title 19, Section 1553 (b), Virgin Islands Code, and also includes the position of Assistant Solid Waste Planner.

(ao) "State" means any of the several states, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

(ap) "Commissioner of DPNR" means the chief administrative officer of the state agency responsible for implementing the state municipal solid waste permit program or other system of prior approval.

(aq) "Storage container" means a large container or bin, which includes roll-off boxes, dumpsters, lugger boxes, tanks, or any similar appurtenances, except that it shall not include metal fiber or plastic containers with a capacity less than 100 gallons.

(ar) "Storage facility" means a site or facility or transfer station for the storage of wastes, other than storage containers or waste containers, prior to the salvage, reuse or recovery, or transportation for salvage, reuse or recovery.

(as) "Special waste" is any solid waste which is designated as such and regulated in this Subchapter. It includes solid wastes that are difficult to handle, require special precautions because of their properties or the particular nature of the wastes create solid waste management problems.

(at) "Transportation of waste" means that portion of the waste disposal procedure

which is provided for the hauling of waste in bulk or in waste containers or storage containers to a designated transfer point or disposal site.

(au) "Treat" or "Treatment" means any method, technique, or process, including neutralization designed to change the physical, chemical, or biological character or composition of any hazardous waste or special waste so as to (1) neutralize such waste; (2) recover energy or material resources from the waste; (3) render the waste safer to transport, store, or dispose of; or (4) render the waste as amenable for recovery or storage or reduces the volume.

(av) "Underground drinking water" means any aquifer supplying drinking water for human consumption or any aquifer in which the groundwater contains less than 10, 000 mg/L total dissolved solids.

(aw) "Upper most 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.

(ax) "Used oil" destined for recycling, is designated as a special waste and means any oil that has been used and as a result of use, has been contaminated with physical or chemical impurities.

(ay) "Waste," when unqualified, means solid waste and/or hazardous and/or special waste.

(az) "Waste collector" means the person, firm, agency, or public body or employee or agent thereof who is or intends to be engaged in the collection and/or transportation of waste.

(aaa) "Waste collection" means the procedure whereby waste and/or waste containers and/or storage containers containing waste are taken from designated locations and loaded into or onto vehicles for transport to a disposal area, and empty containers are left at or returned to such designated locations.

(aab) "Waste disposal" means the entire procedure required for the disposal of wastes and includes all tools, equipment, treatment space, buildings, structures, appurtenances, and materials required to take waste from a waste collector and bury, burn, process, destroy, or by other approved means dispose of.

(aac) "Waste management unit boundary" means a vertical surface located at the hydraulically down gradient limit of the unit. This vertical surface extends down into the upper most aquifer.

Section 1560-2      Prohibited Acts

(a) No person shall accumulate or allow the accumulation of any material which, because of its character, condition, or improper storage, may invite the breeding or collection of flies, mosquitoes, fertile animals or rodents, or which may in any other manner prejudice the public's health.

(b) No person shall throw, cast, deposit, drop, scatter, leave, or cause to be thrown, cast, deposited, dropped, scattered, or left, in or upon any public place, other than in an approved waste or storage container, any waste of any kind or any dead animal or decomposable matter of any sort.

(c) No person engaged in or having charge or control of a real property construction, excavation, repair or maintenance in the site of such a construction, excavation, repair or maintenance project shall spill, track or deposit or cause or permit to be spilled tracked or deposited in any manner, upon any public place, any concrete, sand, aggregate, mud, earth, or other material associated with such project. If any such spillage, tracking, or deposit occurs, the person or agent or employee of such person responsible shall promptly remove all of said material. Any such material which is permitted to remain on said public roadway for longer than 24 hours shall be considered a violation of this provision.

(d) Unless otherwise approved in writing by the Commissioner, no earth taken from excavations or waste materials, taken from buildings during the course of construction, renovation and repair projects shall be stored upon public places, but shall be taken directly from the excavation or construction site to an approved disposal site or, if the material is to be used as fill, to a site with an approved Earth Change Permit issued under Title 12, Chapter 13, Virgin Islands Code.

(e) No person shall engage in an activity which causes substantial dispersion or accumulation of dust on other premises.

(f) No person shall discard, except in a properly designated waste container, any commercial or noncommercial handbill in or upon any public place; and it shall be unlawful for any person to hand out or distribute any commercial handbill to any person on a public street, sidewalk, or vehicle parking area.

(g) No person shall drop, deposit or distribute any commercial or noncommercial handbill in or upon any private premises without the consent of the owner thereof and except by handing or transmitting the handbill directly to the owner or occupant or by placing or depositing the handbill so as to secure or prevent it from being scattered from the premises to other public or private places.

(h) No person shall place or deposit any commercial or noncommercial handbill upon any vehicle not his own or in his possession.

(i) No person shall mix flammable, radioactive, or explosive materials nor any material classed as a hazardous waste under these regulations with other solid wastes for disposal purposes.

(j) No person shall store or deposit wastes in a manner that will contaminate surrounding air, land, or water, or injure the public health or environment, or create offensive conditions.

(k) No junked motor vehicle shall be permitted on or alongside any street or road or on private property in plain view from a street or road.

(l) No business, industrial or commercial establishment shall use public waste or storage containers for any waste generated in the conduct of business or on their premises. Such establishments shall provide and maintain suitable containers as required by Division 2 of these regulations.

(m) No person shall kindle or in any manner set on fire any public or private waste or storage container nor open-burn any portion of a disposal area. No person shall willfully open-burn any waste anywhere at any time, except bonfires and outdoor rubbish fires, pursuant to Title 23, Section 871, Virgin Islands Code, without specific written authorization from the Commissioner of the Department of Planning and Natural Resources in concevt with 12 VI Rules & Regulations § 204-21.

(n) No person, except authorized collection personnel, shall remove, open, or otherwise tamper with any public waste or storage container. No person shall deposit waste in any private container not his own.

(o) No person shall dump along the roadside or deposit into or alongside any waste container or public storage container any appliance, furniture, bed spring, mattress, or other large household item; or any timber, log, or stump; or any vegetation trimmings greater than 24 inches long; except at specific collection sites designated by the Commissioner.

(p) Persons operating a disposal site shall not contaminate surface water or an underground drinking water source beyond the solid waste boundary established pursuant to Section 1560-300 (f) (4). This prohibition shall be enforced for 30 years after the closure of a waste disposal site, as specified in Section 1560-900 and Division 9 of this Subchapter 1560. The length of enforcement may be decreased or increased by the Commissioner of Department of Planning and Natural Resources (DPNR), as pursuant to Division 10 of these regulations.

(q) No person shall engage in scavenging. For purposes of this Subchapter



"scavenging" means the uncontrolled or unauthorized removal of materials from wastes deposited in any waste or storage container or authorized storage, disposal, salvage or resource recovery facility (as defined in Section 1560-400 (b) of this Subchapter 1560). Scavenging does not mean removal of reusable material from such a facility by authorized personnel of such a facility or by individuals with written permission from the Commissioner DPW.

(r) No person shall throw or deposit in or upon any open sewer or any trap, basin, inlet, grating, manhole, or other appurtenance, or any open sewer in the Virgin Islands any wastes; provided that this Section shall not apply to matter discharged through a house sewer into a public sewer. No person shall obstruct, impede, or cause to be obstructed or impeded, the flow of any public sewer, nor interfere with the free discharge thereof, nor clog up any appurtenances thereof.

(s) No person shall dispose of a dead animal at an approved waste collection site or in any manner other than as provided for in Section 1560-307 of these regulations.

(t) No person shall permit any domestic animal owned by him or in his custody to stray on to or be otherwise present at a disposal site.

#### Division 2. Storage

##### Section 1560-100 Acceptable Waste Containers

(a) Waste containers for any waste other than hazardous waste shall be provided by individual, business, industrial or commercial establishments, and shall be of plastic or metal, with close-fitting covers and handles upon the sides. Such containers shall have a capacity of not less than 10 gallons nor more than 30 gallons, shall be in good repair, leak-proof, rodent-proof, and free from holes. Paper bags, plastic bags (except in Subsection (b) hereof or when authorized by the DPW), and cardboard boxes by themselves are prohibited.

(b) Tree trimmings, bush, weeds, clippings, and light wood less than 24 inches long may be stored in plastic bags or disposable wooden boxes, provided these are securely covered, tied, or sealed and do not exceed 30 pounds in weight.

(c) Lightweight, combustible waste and large articles such as packing cases, boxes, light wood, cardboard, or other combustible material must be broken up, collapsed or cut, and securely tied into bundles not to exceed 2 feet by 2 feet by 4 feet in size nor 30 pounds in weight per bundle.

(d) Where sufficiently large amounts of waste are generated by an individual household, mobile and dumpable 64 to 203 gallon (1 cubic yard) waste or storage container may be used.

(e) Owners of apartment buildings, tenement houses, and business, industrial, and commercial establishments which require more than six 30-gallon containers shall provide a mobile or dumpable 1 to 8 cubic yard storage container instead, unless exempted from this requirement by the Commissioner, who shall consider such factors as access to and storage space for containers, mode of collection, and other specific factors pertaining to the collection site, in making his determination.

Section 1560-101 Number of Waste Containers Limited

A single-family residence shall be limited to two 30-gallon waste containers or one waste or storage container described in Section 1560-100 (d) of this Subchapter 1560 put out for collection at any one time. Apartment buildings, tenement houses, and business, industrial and commercial establishments shall be limited to six 30-gallon containers or a mobile or dumpable 1 to 8 cubic yard storage container, unless exempted from this requirement by the Commissioner or under Section 1560-100 (e) of the Subchapter.

Section 1560-102 Acceptable Storage Practice

(a) All waste shall be stored in approved waste containers. Waste containers shall be kept securely covered except during filling and emptying. Garbage shall be drained of excess liquid or placed within a leak-proof plastic bag prior to placement in the waste container. Liquid shall not be placed in waste containers. Storage methods shall insure that there is no leakage or spillage of any waste during transfer from the waste container to the collection vehicle.

(b) Business, industrial, and commercial establishments and any other persons that generate, store, or treat hazardous wastes, as defined in Division 1 of these regulations, shall provide such special waste or storage containers as are prescribed in 40 CFR, Part 265 (i) and (j) and Section 1560-502 and 503 of this Subchapter 1560. Any person generating hazardous or special waste (except as exempted under Section 1560-501 (a) of this Subchapter 1560 shall register with and in a manner prescribed by the Commissioner of the Department of Planning and Natural Resources, who shall prescribe in writing such special waste or storage containers and practices as may be required.

(c) All persons shall provide suitable waste or storage containers of a type and quality to contain all wastes which may accumulate during the interval between collections, and shall insure that such containers are maintained in good repair.

(d) Unless exempted by the Commissioner PWD Waste, private waste or storage containers shall be set out in public places only during the period of collection. At other times such containers must be kept on the owner's property.

(e) Waste and storage containers shall be kept as dry as practicable, set on a platform

or other dry, well-drained area, and placed in a location easily accessible for collection. Such containers shall be secured against intrusion by animals.

(f) It shall be the duty and responsibility of the owners of apartment buildings, office buildings, and other commercial structures to provide suitable waste or storage containers for all waste generated in such buildings. Persons who generate, store, or treat hazardous wastes shall be responsible for providing their own waste or storage receptacles, as provided in Subsection (b) of this Section.

Section 1560-103     Public Litter Containers

Public wastepaper and litter baskets shall not be used for the disposal of waste-generated incident to the conduct of a household, store, or other place of business or domicile, but shall be reserved for the disposal of small quantities of litter by the public.

Section 1560-104     Public Storage Containers

Public storage containers shall be used only by those residents who do not receive house-to-house collection. Areas will be so designated by the placing of bins thereon, and by notice in a newspaper of general circulation, as to the location of containers and geographic area to be served. It is prohibited for any business, commercial or industrial establishment to place waste in such containers.

Division 3. Collection and Transportation

Section 1560-200     Responsibilities for Collection

(a) The Department of Public Works shall collect waste from office and other facilities of the Government and its instrumentalities. The Department shall also collect waste from public litter containers and public storage containers maintained by the Department and from private residences in areas which may be designated for house-to-house collection. The Department shall collect discarded appliances, furniture, bed springs, mattresses, and other large household items, as well as timber logs, stumps, and vegetation trimmings greater than 24 inches long, but only on such days and at such collection sites as designated and publicized by the Commissioner of the Department of Public Works. The Department will collect waste from only such other places as may be specifically approved for collection by the Commissioner.

(b) All other waste generators, including places of business, shall be responsible for collecting their own waste or procuring commercial collection service for transportation to an approved disposal site.

(c) The Commissioner of the Department of Public Works shall establish and from

time to time revise a schedule of fees for the removal of specific kinds and/or quantities of solid waste that have been permitted to accumulate on any property and not removed after notification, as provided for in Title 19, Section 1554 (f), Virgin Islands Code. Such schedule shall be appropriately published, and copies of same shall be available from the Office of the Commissioner.

Section 1560-201     Waste Collection Permit

(a)     Every private waste collector, junk dealer, and salvage operator shall hold a waste collection permit issued by the Department of Public Works.

(b)     There shall be charged a reasonable fee of not less than *\$150.00* for each permit, which shall be renewed annually in January. Such collectors, dealers, and operators shall provide proof of liability insurance covering their operations in the amount of *\$50,000* per person, *\$200,000* per accident, and *\$50,000* for property damage.

(c)     A business, industrial or commercial establishment operating its own collection service entirely for the benefit of such establishment under one ownership and for no other establishment, and disposing of wastes so collected at an approved disposal area, need not obtain a waste collection permit; provided that no material which is classed as hazardous or special waste is being collected, transported, or disposed of contrary to the provisions of Section 1560-102 (b), 501, 502, 503 of this Subchapter 1560. Such establishments shall, however, register the service with the Department of Public Works and shall comply with all applicable requirements for collection and transportation of waste.

(d)     The owner of a farm, collecting waste entirely from the premises so owned and disposing of such waste on the premises at an approved disposal site, need not obtain a waste collection permit, but shall comply with all other requirements for collection and transportation and/or disposal of such waste.

(e)     The owner or occupant of any dwelling unit need not obtain a waste collection permit for collecting and transporting waste from such premises in a vehicle owned or operated by him to an approved disposal site, but shall comply with all other requirements for collection and/or transportation and disposal of such waste.

Section 1560-202     Time of Collection; Placing of Containers

(a)     Waste containers shall be placed at the front steps or curb, easily accessible for collection, only on the date assigned for collection, and such containers shall be removed thereafter before the following day. No person, except the collector, shall in any way interfere with any waste container other than his own. For purposes of this Subsection "easily accessible" means the placing of waste containers on or near the premises in the access way or other place immediately adjacent to

public roads, the unfastening of gates, the constraining of domestic animals, and otherwise providing easy access to waste containers during the hours of collection.

(b) The place where waste containers are kept pending collection shall be clean, free of spilled waste, or fowl-smelling water or residue. The container shall be set on a dry, well-drained base which does not permit animals from overturning the container.

Section 1560-203 Collection of Waste; Responsibilities and Duties

Unless otherwise specified, the following minimum standards and requirements are established for the sanitary collection of waste by both public and private waste collectors.

(a) All private waste collectors shall operate under a waste collection permit issued by the Department of Public Works.

(b) The collector shall empty and return all waste containers to the designated collection place without damage.

(c) Plastic bags and other disposable containers will be placed in the collection vehicle unimpeded. Plastic bags and other disposal containers may be emptied into the vehicle if they contain materials destined for a resource recovery facility or salvage operation, as defined in Section 1560-400 (b) of this Subchapter 1560.

(d) A waste container in poor repair and not meeting the requirements of Section 1560-100 or 1560-102 shall be tagged securely by the collector with a notice to repair or replace the container, a duplicate of which notice shall be filed with the Department of Public Works, Office of the Director of Solid Waste, and in the principal office of any private collector involved.

(e) A container found to have been tagged, as above, on a subsequent collection and which is still not in compliance with container requirements shall have affixed thereon a "Condemned" tag or seal; notification of which shall be filed with the Commissioner and in the principal office of any private collector involved.

(f) A container owner whose container has been condemned shall have 24 hours or the time prior to the next scheduled collection date, whichever is longer, to contest in writing the condemnation, directed to the office of the Commissioner of Public Works Department.

(g) Thereafter the collector shall not collect the contents of a condemned container, and the container owner shall be deemed to have committed a nuisance as defined in Title 14, Section 1461, Virgin Islands Code.

(h) The Commissioner or his designee upon receipt of the notice filed in accordance with Subsection (d) above, shall investigate the condition reported and, upon receipt of the container owner's filing in accordance with Subsection (f) above shall hold an informal hearing with the owner of the condemned container within one week of such receipt, wherein the owner may present evidence and testimony on his/her behalf. If the condition of the container is found, by hearing or otherwise, to be as reported, the Commissioner shall proceed to abate the nuisance as provided by law. A representative of the Commissioner shall be the hearing officer, and his determination of the matter shall be final.

(i) No collector shall leave behind the spilled contents of any container or any waste which has fallen out of any collection vehicle, or any waste placed in the designated collection place.

(j) Any person observing any violation of this Section shall report the permit number of the vehicle and the exact location of the violation to the Department of Public Works, Office of the Commissioner, and to the principal office of any private collector involved.

(k) The collector shall furnish at collection sites and/or publish in a newspaper of general circulation a printed schedule of collection times for each route or area serviced.

(l) Designated collectors employed by the Department of Public Works shall be responsible for the periodic collection and disposal of discarded appliances, furniture, and other large items left at storage container sites specified by the Commissioner, pursuant to Section 1560-200 (a).

Section 1560-204     Transportation of Waste; Responsibilities and Duties

The following minimum standards and requirements are established for the sanitary transportation of waste by both public and private collectors.

(a) Every vehicle used for the transportation of waste by a private waste collector shall be owned and/or operated under the supervision of a person holding a waste collection permit, unless exempted, as prescribed in Section 1560-201 (c), (d) and (e).

(b) Every vehicle used by a public or private waste collector for the transportation of garbage, as defined, shall have a watertight hauling body constructed of metal or shall have a watertight lining on the floor in all side walls of the hauling body.

(c) Every such vehicle shall be provided with a means of covering the waste to be hauled and of keeping such waste securely within the hauling body.

(d) The hauling body shall be provided with a tight metal hood having adequate openings fitted with smoothly operating loading and unloading doors, or shall be provided with heavy tarpaulin or other canvass cover fitted with proper eyes, grommets, tie ropes and hooks,

whereby the cover can be held securely over the loaded waste in a manner acceptable to the Commissioner.

(e) Every such vehicle shall be kept well-painted, clean, and in good repair.

(f) Every such vehicle shall carry a legend on the side walls of the hauling body, identifying it as a waste transporter and giving the permittee's name and permit number. The legend shall be painted on the body or, if the vehicle has other uses, the legend may be placed on a separate durable metal or wood plaque which shall be firmly fixed to the vehicle when used for waste collection and transportation.

(g) No vehicle without permanent cover shall be loaded with waste to a level above the side wall height.

(h) No vehicle shall be loaded with waste in a manner which will permit material to swing off, fall out, be wind dispersed, or jarred loose while the vehicle is in motion.

(i) Whenever vehicles are to be used for the transportation of containers holding waste, other than hazardous or special waste, the container so carried shall meet the minimum requirements for waste containers set forth in Section 1560-100 of these regulations.

(j) No driver, owner, or superintendent having charge or control of any vehicle used for the transportation of waste shall keep or allow such vehicle or anything thereto appertaining to be kept in a condition needlessly filthy or offensive; nor allow such vehicle or implement thereto appertaining to be parked, stored, or kept in a place where its presence is needlessly offensive. No driver of any such vehicle shall consume an unreasonable length of time in loading such vehicle; nor when not engaged in collecting garbage, allow the lid of such vehicle to be otherwise than securely closed, nor allow such vehicle to be otherwise than securely covered.

Division 4. Disposal in accordance with 40 CFR, Parts 258, 257, 264, and 265

Section 1560-300 Approved Public or Private Disposal Sites; Permit

(a) All solid and hazardous waste shall be disposed of only at publicly or privately operated disposal sites duly approved and for which permits have been issued by the Department of Planning and Natural Resources, pursuant to applications and plans filed therefore. For purposes of this Section the word "plans" means technical reports and engineering drawings, including a narrative operative description prepared by professionals, which properly describe and record the landfill and disposal facility and its proposed operation.

(b) Disposal shall be only by sanitary landfill or by other method approved in the permit. Except as provided in Section 1560-301 (h) hereof, open burning, or dumping of wastes at

disposal sites shall not be permitted.

(c) Applications for the establishment and operation of municipal waste landfill disposal sites shall include detailed plans, maps, and drawings as necessary to show:

(1) the entire site; to include a portion of each adjacent parcel, its number; and name of owner.

(2) current ground water conditions and maximum high-water level of record;

(3) any floodplains, waterways, or channels likely to affect the site; plans for drainage and erosion control; and methods to prevent water flow restriction, reduction of temporary water storage capacity of the floodplain, or washout of solid wastes;

(a) For purposes of this Section "flood plain" means the lowland and relatively flat areas adjoining inland and coastal waters which are inundated by a flood that has one percent or greater chance of recurring in any year or a flood of a magnitude equaled or exceeded once in 100 years on the average over a significantly long period;

(4) location of springs and wells within less than a mile of proposed site boundary line;

(5) contours of site before and after filling;

(6) existing and proposed building locations;

(7) intended points of ingress and egress for an all-weather road;

(8) means to control public access after closing hours;

(9) location and type of fences and gates;

(10) method by which explosive gases will be controlled or vented; and

(11) location of litter control fences.

(12) location and type of erosion sedimentation control devices used

(a) during construction

(b) permanent



- (d) Said landfill disposal site applications shall include a detailed report stating the following:
- (1) type of underlying soil;
  - (2) means of controlling dust and accidental fires;
  - (3) a description of proposed disposal and operation methods, estimated completion time, and a schedule of operating hours and fees;
  - (4) manpower needs and description of earth-moving equipment to be used;
  - (5) method and type of vegetation to be used for revegetating upon completely filling the site or portion thereof; and
  - (6) litter control methods.
- (e) Sediment and erosion control plan to include:
- (1) (TR55 or comparable) storm water run off calculation scenario for the 100 year storm.
  - (2) Plan locating all projected sediment and erosion control devices.
  - (3) Detailed plans of each projected sediment and/or erosion control device.
- (f) Public or private operators of disposal sites shall provide:
- (1) adequate earth-moving equipment, properly maintained;
  - (2) periodic grading, as necessary, to maintain proper drainage;
  - (3) prompt revegetation of completed portions of the landfill;
  - (4) maintenance of site boundaries within limits to be determined by the permitting agency after review of the application;
  - (5) that any deviation or modification in the original application plan for the site is approved by the permitting agency;
  - (6) a scale for weighing waste collection and disposal vehicles; and

(7) any other requirements that may reasonably be established by the permitting agency or stated in 40 CFR, Parts 258, 257, 264, 265, and any other applicable Federal rules, laws and regulations, or requirements.

(g) No disposal site shall be issued a permit which does or, on the basis of the permitting agency's investigation, is determined to be likely to:

(1) contaminate an underground drinking water source beyond the solid waste boundary specified by the Department of Planning and Natural Resources, using criteria stated in 40 CFR, Parts 258, 257, 264, and 265;

(2) apply solid waste to land used for the production of food-chain crops, unless it meets the criteria stated in 40 CFR, Parts 257, 264, and 265;.

(h) Permits for disposal sites shall be issued only to the operator thereof, or in the case of the Government, to operating department or agency and shall not be right transferred or assigned. A permit fee of \$2,500 payable to DPNR shall be charged for each privately operated disposal site and shall be renewed each year in January following an inspection. The Commissioner of the Department of Planning and Natural Resources, in his discretion, may waive the permit fee when he deems it to be in the public interest.

(i) The owner or operator of a municipal solid waste landfill unit must comply with any other applicable Federal rules, laws, regulations, or other requirements.

#### Section 1560-301.10 General Operation Requirements

The following requirements shall govern the operation of all publicly and privately operated landfill disposal sites:

(a) The site shall be fenced with a gate which shall be locked when the site is closed. Operating hours shall be posted at the gate.

(b) As a minimum, operating personnel must be provided with adequate shelter; toilet and wash-up facilities, drinking water, and telephone for emergency use.

(c) There shall be an adequate, suitable water supply for firefighting and dust control.

(d) No pigs, goats, cattle, donkeys, dogs, chickens, peacocks, or other domestic animals shall be permitted on the site.

(e) Unloading of waste shall be in a clearly marked area with an attendant to direct the operation.

(f) Sewage, sludge, liquids, and hazardous wastes are specifically forbidden by Part 258, to be disposed of in a Municipal Solid Waste Landfill. Procedures to insure that sewage, sludge, liquids, and hazardous wastes, as defined in Part 258, are not disposed of at a Municipal Solid Waste Landfill are to be instituted by the landfill operator.

(g) There shall be a separate unloading area for bulky items.

(h) All open burning shall be prohibited, except with special permission for specific instances from the Commissioner of the Department of Planning and Natural Resources.

(i) Wastes shall be deposited in two-foot layers or lifts and compacted. A daily cover of at least six inches of compacted earth or alternative materials, as described in Section 1560-301.21 (b) shall be placed over compacted waste.

(j) Blowing dust, paper, and other debris shall be controlled.

(k) Paper, plastic bags, and other loose material shall be cleaned up from the site at least weekly.

(l) Salvaging or sorting of wastes shall be organized so as not to hamper orderly and prompt waste disposal or create nuisances or hazards.

(m) When a landfill site or portion thereof is completely filled, it shall be covered with at least six inches of impermeable (permeability less than  $1 \times 10^{-5}$  cm/sec.) material underlying an infiltration layer that contains a minimum 18 inches of earthen material and an erosion layer that contains a minimum 6 inches of earthen material capable of supporting vegetative growth. The vegetative cover shall in no way affect the integrity of the impermeable layer below. The site or area shall then be graded and revegetated in the manner previously approved by the Department of Planning and Natural Resources. (as approved before).

#### Section 1560-301.20 Procedures for Excluding the Receipt of Hazardous Waste

No person shall mix inflammable or explosive materials nor any material classed as a hazardous waste under these regulations with other solid waste for disposal purposes: Disposal of sewage sludge, liquids, and hazardous wastes is prohibited, in accordance with 40 CFR, Part 258. Owners and operators must implement a program at the facility for detecting and preventing the disposal of regulated hazardous wastes, as defined in 40 CFR, Part 261, and polychlorinated biphenyls (PCB) wastes, as defined in 40 CFR, Part 761. The program must include, at a minimum:

(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 waste.

(2) Officers or agents of the Virgin Islands Government charged with the administration and enforcement of these regulations may visit any public or private disposal site during normal operating hours for the purpose of conducting inspections. The Department of Planning and Natural Resources shall fully enforce laws and regulations within their respective jurisdictions at public as well as private sites;

(3) There must be records of any inspections;

(4) Training of facility personnel to recognize hazardous waste and polychlorinated biphenyls (PCB) wastes; and.

(5) If a regulated hazardous waste or polychlorinated biphenyls (PCB) is discovered and the Virgin Islands does not have an EPA approved program in place, the EPA Regional Administrator should be notified.

#### Section 1560-301.21 Cover Material Requirements

(a) Wastes shall be deposited in two-foot layers or lifts and compacted. A daily cover of at least 6 inches of compacted earth shall be placed over compacted waste, unless otherwise approved.

(b) Alternative materials of an alternative thickness (other than at least 6 inches of earthen material) may be approved by the Commissioner of the Department of Planning and Natural Resources if the owner or operator demonstrates that the alternative material and thickness control disease vectors, fires, odors, blowing litter, and scavenging without presenting a threat to human health and the environment.

(c) The Commissioner of DPNR may grant a temporary waiver from the requirement of paragraph (a) and (b) of this Section if their owner or operator demonstrates that there are extreme seasonal climatic conditions that make meeting such requirements impractical.

#### Section 1560-301.22 Disease Vector Control

(a) Owners or operators of all MSWLF units must prevent or control on-site population of disease vectors using techniques appropriate for protecting human health and the environment.

(b) For purposes of this Section, "disease vectors" means any rodents, flies, mosquitoes, or other animals, including insects capable of transmitting disease to humans.

#### Section 1560-301.23 Explosive gas control

(a) Owners or operators of all MSWLF units must ensure that the concentration of methane gas generated by the facility does not exceed twenty-five percent of the lower explosive limit for methane in facility structures (excluding gas control or recovery system components), and the concentration of Methane gas does not exceed the lower explosive limit for methane at the facility property boundary.

(b) Owners or operators of all MSWLF units must implement a routine methane monitoring program to ensure that the standards of Paragraph (a) of this Section are met.

(1) The type and frequency of monitoring must be determined based on the following factors:

- (i) Soil conditions;
- (ii) The hydrogeologic conditions surrounding the facility;
- (iii) The hydraulic conditions surrounding the facility; and
- (iv) The location of facility structures and property boundaries.

(2) The minimum frequency of monitoring shall be quarterly.

(c) If methane gas levels exceeding the limits specified in Section 1560-301.23 of this Section are detected, the owner or operator must:

(1) Immediately take all necessary steps to ensure protection of human health and notify the Commissioner of DPNR;

(2) Within the time set by the Commissioner of DPNR of not more than seven days of detection, place in the operating record to the methane gas levels detected and a description of the steps taken to protect human health; and

(3) Within the time set by the Commissioner of DPNR or not more than 60 days of the detection, implement a remediation plan for the methane gas releases, place a copy of the plan in the operating record, and notify the Commissioner that the plan has been implemented. The plan shall describe the nature and extent of the problem and the proposed remedy.

(4) The Commissioner of DPNR may establish alternative schedules for demonstrating compliance with paragraphs (c) (2) and (3) of this section.

(d) For the purpose of this Section "lower explosive limit" means the lowest percentage

volume of a mixture of explosive gases in air which will propagate a flame at 25 degrees Celsius atmospheric pressure.

Section 1560-301.24 Air Criteria

(a) Owners or operators of all MSWLF's must ensure that the units do not violate any applicable requirements developed under a state implementation plan (SIP) approved or promulgated by the United States Administrator of the Environmental Protection Agency, pursuant to Section 110 of the Clean Air Act as amended are applicable and controlling. All Sections of the Clean Air Act, and 40 CFR, Parts 51, 52, and 60, Standards of Performance for New Stationary Sources and Guidelines for Control of Existing Sources: Municipal Solid Waste Landfills are applicable and controlling.

(b) Open burning of solid waste, except for the infrequent burning of agricultural wastes, silvicultural wastes, clearing debris, diseased trees, or debris from emergency cleanup operations, is prohibited at all MSWLF units.

Section 1560-301.25 Access Requirements

Owners or operators of all MSWLF units must control public access and prevent unauthorized vehicular traffic, scavengers and illegal dumping of wastes by using artificial barriers, natural barriers, or both, as appropriate to protect human health and the environment.

Section 1560-301.26 Run-on / Run-off Control Systems

(a) Owners or operators of all MSWLF units must design, construct, and maintain:

(1) A run-on control system to prevent flow on to the active portion of the landfill during the peak discharge from a 25-year storm;

(2) A run-off 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 storm.

(b) Run-off from the active portion of the landfill unit must be handled in accordance with 1560-301.27 of this Subchapter 1560.

Section 1560-301.27 Surface Water Requirements

(a) MSWLF units shall not:

(i) Cause a discharge of pollutants into waters of the Territory that is in violation of the requirements of Sections 402 and 404 of the Clean Water Act as amended or is a violation of the Clean Water Act, National Pollution Discharge Elimination System NPDES, the Virgin Islands Water Pollution Control Act and the Territorial Pollution Discharge Elimination System or wetlands Regulations as amended.

(ii) Cause non-point source pollution of waters of the Territory that violate applicable requirements for implementing the Territorial Water Quality Management Plan approved by the Administrator under Section 208 or 319 of the Clean Water Act as amended.

Section 1560-301.28 Liquid Restrictions

(a) Bulk or noncontainerized liquid waste may not be placed in MSWLF units unless:

(1) The waste is household waste other than septic waste; or

(2) The waste is leachate or gas condensate derived from the MSWLF unit and the MSWLF unit, whether it is a new or existing MSWLF lateral expansion, is designed with a composite liner and leachate collection system as described in Section 1560-309 (a) (2) of this Subchapter 1560. The owner or operator must place the demonstration in the operating record and notify the Commissioner of DPNR that it has been placed in the operating record.

(b) Containers holding liquid waste may not be placed in a MSWLF unit unless:

(1) The container is a small container similar in size to that found in household waste;

(2) The container is designed to hold liquids for use other than storage; or

(3) The waste is household waste.

(c) For purposes of this section:

(1) "Liquid waste" means any waste material that is determined to contain "free liquids," as defined by Method 9095 (Paint Filter Liquid Test), as described in "Tests Methods for Evaluating Solid Wastes, Physical//Chemical Methods" (EPA Pub. No. SW-846).

(2) "Gas condensate" means the liquid generated as a result of gas recovery process(es) at the MSWLF unit.

Section 1560-302.10 Applicability and Effective Date

(a) The requirements of Section 1560-302.20 through 302.30 apply to owners or operators who are persons within the meaning provided in these Rules and Virgin Islands or Federal government entities whose debts and liabilities are the debts and liabilities of the Virgin Islands or the United States.

Section 1560-302.20 Financial Assurance for Closure

(a) The owner or operator must have a detailed written estimate, in current dollars, of the cost of hiring a third party to close the largest area of all MSWLF ever requiring closure units under Section 1560-900 of this Subchapter 1560 at any time during the active life in accordance with the closure plan. The owner or operator must notify the Commissioner of DPNR that the estimate has been placed in the operating record.

(1) The cost estimate must equal the cost of closing the largest area of all MSWLF units ever requiring a final cover at any time during the active life when the extent and manner of its operation would make closure the most expensive, as indicated by the closure plan (see Section 1560-900 (c) (2) of this Subchapter 1560).

(2) During the active life of the MSWLF unit, the owner or operator must annually adjust the closure cost estimate for inflation.

(3) The owner or operator must increase the closure cost estimated and the amount of financial assurance provided under Paragraph (b) of this section if changes to the closure plan or MSWLF unit conditions increase the maximum cost of closure at any time during the remaining active life.

(4) The owner or operator may reduce the closure cost estimate and the amount of financial assurance provided under paragraph (b) of this section if the cost estimate exceeds the maximum cost of closure at any time during the remaining life of the MSWLF unit. The owner or operator must notify the Commissioner of DPNR that the justification for the reduction of the closure cost estimate and the amount of financial assurance has been placed in the operating record.

(b) The owner or operator of each MSWLF unit must establish financial assurance for closure of the MSWLF unit in compliance with Section 1560-302.50 of this Subchapter 1560. The owner or operator must provide continuous coverage for closure until released from financial assurance requirements by demonstration compliance with Section 1560-900 (h) and (i) of this Subchapter 1560.

Section 1560-302.30 Financial Assurance for Post-closure Care



(a) The owner or operator must have a detailed written estimate, in current dollars, of the cost of hiring a third party to conduct post-closure care for the MSWLF unit in compliance with the post-closure plan developed under Section 1560-911 of this Subchapter 1560. The post-closure cost estimate used to demonstrate the financial assurance in Paragraph (b) of this Section, must account for the total costs of conducting post-closure care, including annual and periodic costs, as described in the post-closure plan over the entire post-closure care period. The owner or operator must notify the Commissioner of DPNR that the estimate has been placed in the operating record.

(1) The cost estimate for post-closure care must be based on the most expensive costs of post-closure care during the post-closure care period.

(2) During the active life of the MSWLF unit and during the post-closure care period, the owner or operator must annually adjust the post-closure cost estimate for inflation.

(3) The owner or operator must increase the post-closure care cost estimate and the amount of financial assurance provided under Paragraph (b) of this section if changes in the post-closure plan or MSWLF unit conditions increase the maximum costs of post-closure care.

(4) The owner or operator may reduce the post-closure cost estimate and the amount of financial assurance provided under paragraph (b) of this section if the cost estimate exceeds the maximum costs of post-closure care remaining over the post-closure period. The owner or operator must notify the Commissioner of DPNR that the justification for the reduction of the post-closure cost estimate and the amount of financial assurance has been placed in the operating record.

(b) The owner or operator of each MSWLF unit must establish, in a manner in accordance with Section 1560-302.50 of this Subchapter 1560, financial assurance for the costs of post-closure care as required under Section 1560-911 of this Subchapter 1560. The owner or operator must provide continuous coverage for post-closure care until released from financial assurance requirements for post-closure care by demonstrating compliance with Section 1560-911 (e) of this Subchapter 1560.

#### Section 1560-302.40 Financial Assurance for Corrective Action

(a) An owner or operator of a MSWLF unit required to undertake a corrective action program under Section 1560-818 of this Subchapter 1560 must have a detailed written estimate, in current dollars, of the cost of hiring a third party to perform the corrective action in accordance with the program required under Section 1560-818 of this Subchapter 1560. 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 notify the Commissioner of DPNR that the estimate has been placed in the operating record.

(1) The owner or operator must annually adjust the estimate for inflation until the corrective action program is completed in accordance with Section 1560-818 of this Subchapter 1560.

(2) The owner or operator must increase the correction action cost estimate and the amount of financial assurance provided under Paragraph (b) of this Section if changed in the corrective action program or MSWLF unit conditions increase the maximum costs of corrective action.

(3) The owner or operator may reduce the amount of the corrective action cost estimate and the amount of financial assurance provided under Paragraph (b) of this Section if the cost estimate exceeds the maximum remaining costs of corrective action. The owner or operator must notify the Commissioner of DPNR that the justification for the reduction of the corrective action cost estimate and the amount of financial assurance has been placed in the operating record.

(b) The owner or operator of each MSWLF unit required to undertake a corrective action program under Section 1560-818 of this Subchapter 1560 must establish, in a manner in accordance with Section 1560-302.50 of this Subchapter 1560 financial assurance for the most recent corrective program. The owner or operator must provide continuous coverage for corrective action until released from financial assurance requirements for corrective action by demonstrating compliance with Sections 1560-818 (f) and (g) of this Subchapter 1560.

Section 1560-302.50 Allowable Mechanism

(a) Virgin Islands approved mechanism. An owner or operator may satisfy the requirements of this Section by obtaining a mechanism that meets the criteria specified in Section 1560-302.50 (1) of this Subchapter 1560, and that is approved by the Commissioner of DPNR. The owner or operator may choose from the options specified in 40 CFR, Part 258.74 (a) through (k).

(b) Virgin Islands Assumption of Responsibility. If the Commissioner either assumes legal responsibility for an owner or operator's compliance with the closure, post-closure, post closure care and/or corrective action requirements of this Chapter 56 or its Subchapter 1560, or assures that the funds will be available from Virgin Islands sources to cover the requirements, the owner or operator will be in compliance with the requirements of this section. Any Virgin Islands assumption of responsibility must meet the criteria specified in Section 1560-302.50 (d) of this Subchapter 1560.

(c) Use of Multiple Financial Mechanisms. An owner or operator may satisfy the requirements of this Section by establishing more than one financial mechanism per facility. The mechanisms must be as specified as in paragraphs (a), (b) and (c) of this Section, except that it is the combination of mechanisms, rather than the single mechanism which must provide financial assurance for an amount at least equal to the current cost estimate for closure, post-closure care per

corrective action, whichever is applicable. The financial test and a guarantee provided by a corporate parent, sibling, or grandparent may not be combined if the financial statements of the two firms are consolidated.

(d) The language of the mechanisms listed in paragraphs (a), (b), and (c) of this Section must ensure that the instruments satisfy to the following criteria:

(1) The financial assurance mechanisms 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;

(2) The financial assurance mechanisms must ensure that funds will be available in a timely fashion when needed.

(3) The financial assurance mechanisms must be obtained by the owner or operator by the effective date of these requirements or prior to the initial receipt or 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 in accordance with the requirements of Section 1560-818 of this Subchapter 1560, until the owner or operator is released from the financial assurance requirements 302.40 of this Subchapter 1560.

(4) The financial assurance mechanisms must be legally valid, binding, and enforceable under Virgin Islands and Federal law.

Section 1560-303     Inspections; Records

(a) Officers or agents of the Virgin Islands Government charged with the administration and enforcement of these regulations may visit any public or private disposal site during normal operating hours for the purpose of conducting inspections. The Department of Health and the Department of Planning and Natural Resources shall fully enforce laws and regulations within their respective jurisdictions at public as well as private sites.

(b) The Departments of Health, Public Works and the Department of Planning and Natural Resources may require any disposal site operator to keep such operating records as it may deem necessary and to submit or make available such records to appropriate agencies of the Government. The following information must be recorded and kept in operating record as it becomes available:

(1) Any location restriction demonstration required under Sections 1560-310, 311, 312, 313, 314, 315, and 316 of this Subchapter 1560;

(2) Inspection records, training procedures, and notification procedures

required in Section 1560-301.20 of this Subchapter 1560;

(3) Gas monitoring results from monitoring and any remediation plans required by Section 1560-301.23 of this Subchapter 1560;

(4) Any MSWLF unit design documentation for placement of leachate or gas condensate in a MSWLF unit as required under Section 1560-301.28 (a) (2) of the Subchapter 1560;

(5) Any demonstration, certification, finding, monitoring, testing, or analytical data required by Section 1560-800 of Subchapter 1560;

(6) Closure and post-closure care plans and any monitoring, testing, or analytical data as required by Section 1560-900 and 1560-911 of this Subchapter 1560;

(7) Any cost estimated and financial assistance documentation required by Section 1560-302 of the Subchapter 1560; and

(8) Any information demonstrating compliance with small community exemption as required by this Chapter 56.

(c) The owner/operator must notify the Commissioner of the Department of Planning and Natural Resources (DPNR) when the documents from Paragraph (a) of this Section have been placed or added to the operating record, and all information contained in the operating record must be furnished upon request to the Commissioner of the Department of Planning and Natural Resources.

(d) The Commissioner of DPNR can set alternative schedules for record keeping and notification requirements as specified in Section 1560-303 (b) and (c) of this Subchapter 1560 except for the notification requirements in Section 1560-310 (b) and Section 1560-815 (g) (iii) of this Subchapter 1560.

Section 1560-304 Compliance; Violations

(a) The Commissioner of the Department of Planning and Natural Resources shall investigate any report of noncompliance by a public or private disposal site pursuant to the relevant provision of laws or of these regulations. Upon verifying that a violation exists he/she shall notify the operator of such site in writing stating the nature of the violation and steps for abatement. If steps are not taken to correct the violation within five (5) days of receipt of notification by the site operator or his representative, the said Commissioner may modify, suspend or revoke the disposal site permit. If the permittee continues to operate the facility in violation of the permit suspension, the Commissioner may seek an injunction to restrain such violation or commence or cause to be

commenced such civil or criminal proceedings as may be authorized by Title 19, Sections 1561 and 1562, Virgin Islands Code.

Section 1560-305     Private Compost Piles

Private compost piles may be maintained for not more than two family units. If only soil and garden clippings are used, the pile may be enclosed by wire or other loose-fitting materials. If garbage, manure, or other putrescible matter is included, the pile must be covered by at least one foot of soil or tightly enclosed so as to be rodent and fly-proof. If any compost pile becomes a public nuisance or health hazard, the Department of Health may investigate the condition reported and notify the owner of its findings. If the condition persists or is deemed by the Department of Health to be such that immediate action is warranted, the Department of Health may order its removal. For purposes of this section "compost" means the product resulting from the decomposition of leaves, straw, grasses, and other such vegetable matters mixed with inorganic materials, ordinarily materials forming a part of the soil, such as sand or lime, and used, useable, or intended to be used as a fertilizer and soil conditioner.

Section 1560-306     Manure

In a populous district, stable manure must be kept in a covered water-tight pit or chamber and shall be removed at least once a week. Manure on farms or isolated premises, other than dairy farms, need not be so protected and removed, unless ordered by a health officer. Manure may be used as fertilizer for farming, gardening, or similar uses, subject to appropriate controls by the Department of Health regarding public nuisance or health hazard considerations. For purposes of this Section "manure" means that particular waste, which is the accumulation of animal droppings, with or without added decomposable material, such as straw, grasses, or leaves, and exclusive of human excrement.

Section 1560-307     Dead Animals

It shall be the duty of owners to dispose of the carcasses of dead animals. Carcasses of dogs, cats, and other small animals may be taken, enclosed in a tightly sealed plastic bag or other air-tight container, to an approved disposal area. The carcass of any other dead animal not killed for food shall be removed and disposed of within 24 hours after death by burial or other method approved by the Commissioner of Health.

Section 1560-308     Removal of Building Construction Waste

Any person engaged in the construction, repair, or demolition of any building or structure or part thereof, shall remove and dispose of in an authorized manner, from the street, alley, gutter, park, sidewalk, curbing, curb space, any public way or any premises not owned by him, all waste matter

deposited thereon in connection with that portion of the construction, repair, or demolition work under his specific or general supervision. Such waste matter shall be cleaned up, removed, and disposed of in a sanitary manner within seven days after the final cessation of work on such building or structure or part thereof unless otherwise specifically authorized in writing by a health officer.

Section 1560-309     Design Criteria

(a)     All MSWLF units and lateral expansions shall be constructed:

(1)     In accordance with a design approved by the Commissioner of DPNR. The design must ensure that the concentration values listed in Chapter 31, §§ 1303-21 will not be exceeded in the uppermost aquifer at the relevant point of compliance, as specified by the Commissioner of DPNR under Section 1560-309 (d) of Subchapter 1560, or

(2)     With a composite liner, as defined in Section 1560-309 (b) of this Subchapter 1560 and a leachate collection system that is designed and constructed to maintain less than a 30-cm depth of leachate over the liner.

(b)     For purposes of this Section, "composite liner" means a system consisting of two components: the upper components must consist of a minimum of 30-mil flexible membrane liner (FML), and the lower component must consist of at least a two-foot layer of compacted soil with a hydraulic conductivity to no more than  $1 \times 10^{-7}$  cm/sec. FML components consisting of High-Density Polyethylene (HDPE) shall be at least 60-mil thick. The FML component must be installed in direct and uniform contact with a compacted soil component.

(c)     When approving a design that complies with Section 1560-309, Paragraph (a) (1) of this Subchapter 1560, the Commissioner of DPNR must consider at least the following factors:

- (1)     The hydrogeological characteristics of the facility and surrounding land;
- (2)     The climate factors of the area; and
- (3)     The volume and physical and chemical characteristics of the leachate.

(d)     The relevant point of compliance specified by the Commissioner of DPNR shall be no more than 150 meters from the waste management unit boundary and shall be located on land owned by the owner of the MSWLF unit. In determining the relevant point of compliance, the Commissioner of DPNR shall consider at least the following factors:

- (1)     The hydrogeological characteristics of the facility and surrounding land;

- (2) The volume and physical and chemical characteristics of the leachate;
- (3) Current ground-water level and maximum high water level of record;
- (4) Location of springs and wells within 1, 000 feet of proposed site boundary line;
- (5) Public health, safety, and welfare effects; and
- (6) Practicable capability of the owner or operator;
- (7) The quantity, quality, and direction of flow of groundwater;
- (8) The proximity and withdrawal rate of groundwater users;
- (9) Availability of alternative drinking water supplies;
- (10) Existing quality of the groundwater, including other sources of contamination and their cumulative impacts on the groundwater and whether groundwater is currently used or reasonably expected to be used for drinking water.

(e) If the Virgin Islands does not have an EPA-approved program in place and if EPA does not promulgate a rule establishing the procedures and requirements for state compliance with RCRA, Section 4005 (c) (1) (b) by October 9, 1993, owners and operators in the Virgin Islands may utilize a design meeting the performance standard in Section 1560-309 (a) (1) of this Subchapter 1560 if the following conditions are met:

- (1) The Virgin Islands determines the design meets the performance standard in Section 1560-309 (a) (1) of this Subchapter;
- (2) The Virgin Islands petitions EPA to review the determination; and
- (3) EPA approves the Virgin Islands determination or does not disapprove the determination within 30 days.

**TABLE 1**

1	Chemical	MCL (mg/
	Arsenic .....	0.05
	Barium .....	1.0
	Benzene .....	0.005
	Cadmium .....	0.01
	Carbon Tetrachloride .....	0.005
	Chromium (hexavalent) .....	0.05
	2,4-Dichlorophenoxy acetic acid .....	0.1
	1,4-Dichlorobenzene .....	0.075
	1,2-Dichloroethane .....	0.005
	1,1-Dichloroethylene .....	0.007
	Endrin .....	0.0002
	Fluoride .....	4
	Lindane .....	0.004
	Lead .....	0.05
	Mercury .....	0.002
	Methoxychlor .....	0.1
	Nitrate .....	10
	Selenium .....	0.01
	Silver .....	0.05
	Toxaphene .....	0.005
	1,1,1-Trichloromethane .....	0.2
	Trichloroethylene .....	0.005
	2,4,5-Trichlorophenoxy acetic acid.....	0.01
	Vinyl Chloride .....	0.002

Section 1560-310 Location Restrictions for Airport Safety

(a) No disposal site or lateral expansions of a disposal site shall be issued a permit if it is located within 10, 000 feet (3, 048 meters) of any airport runway end used by turbojet aircraft or within 5, 000 feet (1, 524 meters) of any airport runway end used by only piston-type aircraft, unless the owner or operator can demonstrate to the permitting agency that the units are designed and operated so that the MSWLF unit does not pose a bird hazard to the aircraft.



- (b) Owners or operators proposing to site new MSWLF units and lateral expansions located within a five-mile radius of any airport runway end used by turbojet or piston-type aircraft must notify the affected airport and the Federal Aviation Administration (FAA).
- (c) The owners or operators must place the demonstration in this Section 1560-310 (a) of this Subchapter 1560, in the operation record and notify the Commissioner of DPNR that it has been placed in the operating record.
- (d) For purposes of this Section:
- (1) "Airport" means public-use airport open to the public without prior permission and without restrictions within the physical capacities of available facilities.
- (2) "Bird hazard" means an increase in the likelihood of bird/craft collisions that may cause damage to the aircraft or injury to its occupants.

Section 1560-311 Location Restrictions for Floodplains

- (a) Owners or operators of new MSWLF units, and lateral expansions located in 100-year floodplains must demonstrate that the unit will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health and the environment. The owner or operator must place the demonstration in the operating record and notify the Commissioner of DPNR that it has been placed in the operating record.
- (b) For the purpose of this Section:
- (1) "Floodplain" means the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of off-shore islands which are inundated by a flood that has a one percent or greater chance of recurring in any year of a flood of a magnitude equaled or exceeded once 100 years on the average over a significantly long period.
- (2) "Washout" means the carrying away of solid waste by waters of the base flood.
- (3) "100-year flood" means a flood that has percent 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.

Section 1560-312 Location Restrictions for Wetlands

- (a) New MSWLF units and lateral expansions shall not be located in wet lands,

unless

the owner or operator can make the following demonstrations to the Commissioner of DPNR:

- (1) Where applicable under Section 404 of the Clean Water Act or applicable wetlands laws of the Virgin Islands, the presumption that a practicable alternative to the proposed landfill is available which does not involve wetlands is clearly rebutted;
- (2) The construction and operation of the MSWLF unit will not:
  - (i) Cause non-point sources pollution of waters of the Territory that violate applicable requirements for implementing the Territorial Water Quality Management Plan approved by the Administrator of EPA under Section 208 of the Clean Water Act, as amended;
  - (ii) Contaminate an underground drinking water source beyond the solid waste boundary specified by the Department of Planning and Natural Resources, using the criteria stated 40 CFR, Parts 257, 264, and 265;
  - (iii) Cause a discharge of pollutants into waters of the Territory that is in violation of the requirements of Section 402 and 404 of the Clean Water Act, as amended. (Pub. L. 92-500);
  - (iv) Jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Endangered Species Act of 1973.
  - (v) Violate any requirements under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary;
  - (vi) Violate any applicable toxic effluent standard or prohibition under Section 307 of the Clean Water Act.
- (3) The MSWLF unit will not cause or contribute to significant degradation of wetlands. The owner or operator must demonstrate the integrity of the MSWLF unit and its ability to protect ecological resources by addressing the following factors:
  - (i) Erosion, stability, and migration potential of dredged and fill materials and native wetland soils, mud and deposits under to support the MSWLF unit;
  - (ii) The volume and chemical nature of the waste managed in the MSWLF unit;
  - (iii) Impacts on fish, wildlife, and other aquatic resources in their habitat

from release of the solid waste;

- (iv) The potential effects of catastrophic release of waste to the wetlands and resulting impacts on the environment; and
- (v) Any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected.

(4) To the extent required under Section 404 of the Clean Water Act or applicable wetlands laws of the Virgin Islands, steps have been taken to attempt to achieve no net loss of wetlands (as defined by acreage and function) by first avoiding impacts to wetlands to the maximum extent practicable as required by Paragraph (a) (1) of this Section, then minimizing unavoidable impacts to the maximum extent practicable, and finally offsetting remaining unavoidable wetland impacts through all appropriate and practicable compensatory mitigation actions (e.g. restoration of existing degraded wetlands or creation of man-made wetlands); and

(5) Sufficient information is available to make a reasonable determination with respect to these demonstrations.

- (b) For purposes of this Section, "wetlands" means those areas that are defined in 40 CFR 232.2 (r).

Section 1560-313     Location Restrictions for Fault Areas

(a) New MSWLF units and lateral expansions shall not be located within 200 feet (60 meters) of a fault that has had displacement in Holocene time unless the owner or operator demonstrated to the Commissioner of DPNR that an alternative setback distance of less than 200 feet (60 meters) will prevent damage to the structural integrity of the MSWLF unit and will be protective of human health and environment.

(b) For purposes of this Section:

(1) "Quality" means a fracture of a zone of fractures in any material along with strata of one side had been displaced with suspect to that on the other side.

(2) "Displacement" means the relative movement of any two sides of a fault measured in any direction.

(3) "Holocene" means the most recent epoch of the Quaternary period,

extending from the end of the Pleistocene Epoch to the present.

Section 1560-314     Location Restrictions for Seismic Impacts Zones

(a)     New MSWLF units and lateral expansions shall not be located in seismic impact zones, unless the owner or operator demonstrated to the Commissioner of DPNR 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. The owner or operator must place the demonstration in the operating record and notify the Commissioner of DPNR that it has been placed in the operating record.

(b)     For purposes of this Section:

(1)     "Seismic impact zone" means an area with a 10 percent or greater probability that a maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull will exceed 0.10g in 250 years.

(2)     "Maximum horizontal acceleration in lithified earth material" means the maximum expected horizontal acceleration depicted on a seismic map, with a 90 percent or greater probability that acceleration will not be exceeded in 250 years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment.

(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 earth surface.

Section 1560-315     Location Restriction for Unstable Areas

(a)     Owners or operators of new MSWLF units, existing MSWLF units, and lateral expansions located in an unstable area must demonstrate that engineering measures have been incorporated into the MSWLF unit's design to ensure that the integrity of the structural components of the MSWLF unit will not be disrupted. The owner or operator must place the demonstration in the operating record and notify the Commissioner of DPNR that it has been placed in the operating record. The owner or operator must consider the following factors, at a minimum, when determining whether an area is unstable:

- (1)     On-site or local soil conditions that may result in significant differential setting;
- (2)     On-site or local geologic or gentlemen move logical features; and.

- (3) On-site or local human-made features or event (both surface and substance surface).

(b) For purposes of this Section:

(1) "Unstable area" means a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of the landfill structural components responsible for preventing releases from a landfill. Unstable areas can include poor foundation conditions, areas susceptible to mass movements, and Karst terrains.

(2) "Structural components" means liners, leachate collection system, final covers, run-on/run-off systems, and any other components used in the construction and operation of the MSWLF that is necessary for protection of human health and the environment.

(3) "Poor foundation conditions" means those areas where features exist which indicate that a natural or man-induced event may result inadequate foundation support for the structural components of an MSWLF unit.

(4) "Areas susceptible to mass movement" means those areas of influence (i.e. areas characterized as having an active or substantial possibility of mass movement) where the movement of earth material at, beneath, or adjacent to MSWLF unit, because of natural or man-induced events, results in the down slope transport of soil and rock material by means of gravitational influence. Areas of mass movement include, but are not limited to landslides, avalanches, debris slides and flows, soil fluctuation, block sliding, and rock fall.

(5) "Karst Terrains" means areas where karst topography, with its characteristics surface and subterranean features, is developed as the result of dissolution of limestone, dolomite, or other soluble rock. Characteristics of physiographic features present in karst terrains include, but are not limited to, sink holes, sinking streams, caves, large springs, and blind valleys.

Section 1560-316 Closure of Existing MSWLF's

(a) Existing MSWLF units that cannot make the demonstration specified in Sections 1560-310 (a) pertaining to airports, Section 1560-311 (a) pertaining to floodplain, or Section 1560-315 (a) pertaining to unstable areas, must close by October 9, 1996, in accordance with Sections 1560-900 of the Subchapter 1560 and conduct post-closure activities in accordance with Section 1560-911 of this Subchapter 1560.

(b) The deadline for required by Paragraph (a) of this Section may be extended up to two years if the owner or operator demonstrates to the Commissioner of DPNR that:

- (1) There is no available alternative disposal capacity;
- (2) There is no immediate threat to human health and the environment.

Division 5. Salvaging and Resource Recovery

Section 1560-400 Joint Permit Required; Fee

(a) Any person seeking to establish any resource recovery facility or salvage operation, as those terms are defined in Subsection (b) hereof, shall first obtain a joint permit from the Commissioner of Public Works and the Commissioner of the Department of Planning and Natural Resources. The Commissioner of Public Works shall assess a reasonable fee for such permit, which shall be deposited into the General Fund of the Treasury of the Virgin Islands. The Commissioner may waive the annual permit fee if he deems such waiver to be in the public interest.

(b) For purposes of this Section:

(1) "Resource recovery facility" means any facility at which solid waste is processed for the purpose of extracting, converting to energy, or otherwise separating and preparing solid waste for reuse;

(2) "Salvage operation" means any operation carried on by a person or agent or employee of such person, for the express purpose of reclaiming or removing disregarded reusable materials for commercial or other purposes.

Section 1560-401 Source of Waste Materials

(a) Resource recovery facilities and salvage operations may be operated in conjunction with waste disposal facilities, but shall require a separate joint permit issued pursuant to Section 1560-400 hereof.

(b) Pursuant to the provisions of Section 4003 (5) of Public Law 941-580 (42 USC 6943 (5)), no agency or regulation of the Government of the Virgin Islands may prohibit long-term contracts for the supply of wastes to an authorized resource recovery facility or salvage operation which is dependent upon such a supply, provided that such contracts are conditioned before the continued availability of funds appropriated therefor.

(c) All waste management practices associated with a resource recovery facility or salvage operation shall conform to the requirements of these regulations.

Division 6. Hazardous Wastes in Accordance with 40 CFR Part 261

Section 1560-500 Identification

Examples of hazardous wastes, as defined in Section 1560-1 of these regulations include, but are not limited to, poisons, acids, ammunition, explosives, infectious materials, pathological wastes, caustic chemicals, petroleum products and their wastes, excluding special wastes, radiological materials, pesticides, toxic chemicals, inflammables, asbestos, benzene, and vinyl chloride. All hazardous waste listed in 40 CFR Part 261 and all hazardous waste that are hazardous because of their characteristic/s of ignitability, corrosivity, reactivity, or toxicity as defined in 40 CFR Part 261 are hereby classified as hazardous waste by reference.

Any person engaged in generation, storage, transportation, treatment, disposal, or recovery of hazardous wastes shall obtain a permit therefor from the Department of Planning and Natural Resources.

Section 1560-501 Permit Required

(a) Any person engaged in collection, generation, storage, transportation, treatment, disposal, or recovery of hazardous wastes and special wastes shall obtain a permit therefor from the Department of Planning and Natural Resources. However, do-it-yourself used oil generators need not obtain any permits from the Department of Planning and Natural Resources.

(b) For the purposes of this Section, "Do-It-Yourself" means a person or household that generates, stores, transports, or collects five (5) gallons or less of used oil per month.

(c) All hazardous and special waste being transported within the legal jurisdiction of the Territory of the Virgin Islands shall be accompanied by a Manifest. The Manifest shall be equivalent to the Department of Transportation or Resource Conservation Recovery Act manifest. The Manifest shall be available for inspection by the Commissioner of DPNR, any peace officer as defined and authorized in 5 VI Code, Chapter 305, or any emergency responder responding to an incident involving the hazardous waste. A copy of the completed manifest shall be filed with the Commissioner of DPNR within thirty (30) days of the waste being disposed of or treated.

Section 1560-502     Containers for Hazardous Wastes

The Commissioner of the Department of Planning and Natural Resources may require separate, special storage or waste containers or methods for the storage and handling of hazardous wastes. Such containers shall conform to the requirements of 40 CFR Part 265 (i) and (j) and shall be clearly marked "Contains Hazardous Waste Material."

Section 1560-503     Standards for the Management of Used Oil

The standards for the management of used oil shall be identical to those in 40 CFR Part 279, except as distinguished in Section 1560-102, 501, and 502 of this Subchapter 1560.

Division 7. Motor Vehicles and Boats

Section 1560-600     Removal

Pursuant to Title 19, Section 1559 Virgin Islands Code, an abandoned or junked motor vehicle or part thereof may be removed by the Virgin Islands Police Department in accordance with Title 20, Chapter 49, Virgin Islands Code, and the owner thereof, if ascertainable, assessed a removal fee of \$150.00 and arrested for a violation of Section 1563 (6) of said Title 19. Any abandoned or junked boat or part thereof may be removed by the Department of Planning and Natural Resources in accordance with Title 12, Section 715, Virgin Islands Code, and the same actions taken with suspect to the owner, if ascertainable. A policy is hereby established, however, that a court order be sought, in conjunction with any arrested owner's trial, to require said owner to cause his vehicle or boat, or part thereof, to be removed within a reasonable time, at his own expense.

Division 8. Penalties

Section 1560-700     Civil or Criminal Remedies

Properly designated officials of the departments of Public Works, Planning and Natural Resources, and Health, charged by these regulations with the obligation to administer and enforce the provisions of Title 19, Chapter 56, Virgin Islands Code, and the provisions of these rules and regulations shall fully utilize the provisions of Sections 1561 and 1562 of said Title 19 in addressing the violations of the law and of these regulations by any person.

Division 9. Groundwater Monitoring and Corrective Action

Section 1560-800     Applicability

- (a)     The requirements in this part apply to MSWLF units, except as provided in



paragraph (b) of this Section.

(b) Groundwater monitoring requirements under Section 1560-811 through Section 1560-815 of this Subchapter 1560, may be suspended by the Commissioner of DPNR for a MSWLF unit if the owner or operator can demonstrate that there is no potential for migration of hazardous constituents from that MSWLF unit to the upper most aquifer (as defined in Section 1560-1 of this Subchapter 1560) during the active life of the unit and the post-closure care period. This demonstration must be certified by a qualified groundwater scientist and approved by the Commissioner of DPNR, and must be based upon:

- (1) Site-specified field collected measurements, sampling, and analysis of physical, chemical, and biological processes affecting contaminant fate and transport; and
- (2) Contaminant fate and transport predictions that maximize contaminant migration and consider impacts on human health and environment.

(c) Owners and operators of MSWLF units must comply with the groundwater monitoring requirements of this Chapter 56 and its Subchapter 1560, according to the following schedule unless an alternative schedule is specified under Paragraph (d) of this Section:

- (1) Existing MSWLF units and lateral expansions less than one mile from a drinking water intake (surface or subsurface) must be in compliance with the groundwater

monitoring requirements specified in Sections 1560-811 through 1560-815 of this Subchapter 1560 by October 9, 1994;

- (2) Existing MSWLF units and lateral expansions greater than one mile but less than two (2) miles from a drinking water intake (surface or subsurface) must be in compliance with the groundwater monitoring requirements specified in Sections 1560-811 through Section 1560-815 of this Subchapter 1560 by October 9, 1995;

- (3) Existing MSWLF units and lateral expansion greater than 2 miles from a drinking water intake (surface or subsurface) must be in compliance with the groundwater monitoring requirements specified in Sections 258.51, 258.55 by October 9, 1996.

- (4) New MSWLF units must be in compliance with the groundwater monitoring requirements specified in Sections 1560-811 through 1560-815 of this Subchapter 1560 before waste can be placed in the unit.

(d) The Commissioner of DPNR may specify an alternative schedule for the owners or operators of existing MSWLF units and lateral expansions to comply with the groundwater monitoring requirements specified in Sections 1560-811 through 1560-815 of this Subchapter

1560. This schedule must ensure that 50 percent of all existing MSWLF units are in compliance by October 9, 1994 and all existing MSWLF units are in compliance by October 9, 1996. In setting the compliance schedule, the Commissioner of DPNR must consider potential risk posed by the unit to human health and the environment. The following factors should be considered in determining potential risk:

- (1) Proximity of human and environment receptors;
- (2) Design of the MSWLF unit;
- (3) Age of the MSWLF unit;
- (4) The size of MSWLF unit;
- (5) Types and quantities of wastes disposed, including sewage, sludge; and
- (6) Resources value of the underlying aquifer including:
  - (i) Current and future uses;
  - (ii) Proximity and withdrawal rate of users; and
  - (iii) Ground water quality and quantity.

(e) Once established at a MSWLF unit, groundwater monitoring shall be conducted throughout the active life and post-closure care period of that MSWLF unit as specified in Section 156 0-911 of this Subchapter 1560.

(f) For purposes of this Chapter 56 and its Subchapter 1560, a qualified groundwater scientist is a scientist or engineer which has received a baccalaureate post-graduate degree in the natural science training and experience in groundwater hydrology and related fields as may be demonstrated by Virgin Islands registration, professional certifications, or completion of accredited university programs that enable that individual to make sound, professional judgments regarding groundwater monitoring, contaminant fate and transport, and corrective-action.

(g) The Commissioner of DPNR may establish alternative schedule for demonstrating compliance with Section 1560-811 (d) (2) of this Subchapter 1560, pertaining to notification of placement of certification in operating record; Section 1560-814 (c) (1) of this Subchapter 1560 pertaining to notification that statistically increase (SSI) notice is in operating record; Section 1560-814 (c) (2) and (3) of this Subchapter 1560, pertaining to an assessment monitoring program; Section 1560-615 (b) of this Subchapter 1560, pertaining to sampling and analyzing Appendix II constituents; Section 1560-815 (d) (1) of this Subchapter 1560, pertaining to placement of notice in record; Section 1560-815 (d) (2) of this Subchapter 1560, pertaining to sampling from Appendix I and II to this Chapter 56 and its Subchapter 1560; Section 1560-815 (g) of this Subchapter 1560 pertaining to notification (and placement of notice in record) of SSI

above groundwater protection standard; Section 1560-815 (g) (1) (iv) and Section 1560-816 (a) of this Subchapter 1560 pertaining to assessment of corrective measures; Section 1560-817 (a) of this Subchapter 1560, pertaining to selection of remedy and notification of placement in record; Section 1560-818 (c) (4) of this Subchapter 1560, pertaining to notification of placement in record (alternative corrective action measures); and Section 1560-818 (f) of this Subchapter 1560, pertaining to notification of placement in record (certification of remedy completed).

Section 1560-811     Groundwater Monitoring System

(a)     A groundwater monitoring system must be installed that consists of a sufficient number of wells, installed at appropriate locations and depths, to yield groundwater samples from the upper most aquifer (as defined in Section 1560-1 of this Subchapter 1560) that:

(1)     Represent the quality of background groundwater that has not been affected

by leakage from a unit. A determination of background quality may include sampling of wells that are not hydraulically upgradient of the waste management area where:

(i)     Hydrogeologic conditions do not allow the owner or operator to determine what wells are hydraulically upgradient; or

(ii)    Sampling at other wells will provide an indication of background-water quality that is as representative or more representative than that provided by the upgradient wells; and

(2)     If the Virgin Islands does have an EPA-approved program in place, represent the quality of ground water passing the relevant point of compliance specified by the Commissioner of DPNR under Section 1560-309 (d) of this Subchapter 1560, or at the waste management unit boundary if the Virgin Islands does not have an EPA-approved program. The **downgradient** monitoring system must be installed at the relevant point of compliance specified by the Commissioner of DPNR under Section 1560-309 (d) if this Subchapter 1560 or at the waste management unit boundary in the Virgin Islands, if the Virgin Islands is **unapproved**, that ensures detection of groundwater contamination in the upper most aquifer. When physical obstacles preclude installation of groundwater wells at the relevant point of compliance at existing units, the downgradient monitoring system may be installed at the closest practicable distance hydraulically downgradient from the relevant point of compliance specified by the Commissioner of DPNR under Section 1560-309 of this Subchapter 1560 that ensure detection of groundwater contamination in the upper most aquifer.

(b)     The Commissioner of DPNR may approve a multi-unit groundwater monitoring system instead of separate groundwater monitoring systems for each MSWLF unit where the facility has several units, provided the multi-unit groundwater monitoring system meets the requirements of Section 1560-822 (a) of this Subchapter 1560 and will be as protective of human health and the environment as individual monitoring systems for each MSWLF unit, based on the

following factors:

- (1) Number, spacing, and orientation of the MSWLF units;
- (2) Hydrogeologic setting;
- (3) Site history;
- (4) Type of waste accepted at the MSWLF units,
- (5) Engineering design of the MSWLF.

(c) Monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole. This casing must be screened or perforated and packed with gravel or sand, where necessary, to enable collection of groundwater samples. The annular space (i.e. the space between the bore hole and the well casing) above the sampling depth must be sealed to prevent contamination of samples and the groundwater.

(1) The owner or operator must notify the Commissioner of DPNR that the design, installation, development, and decommission of any monitoring wells, piezometers, and other measurement, sampling and analytic devices documentation has been placed in the operating record; and

(2) The monitoring wells, piezometer, and other measurement sampling and analytic devices must be operated and maintained so that they perform to design specifications throughout the life of the monitoring program.

(d) The number, spacing, and depths of monitoring systems shall be:

(1) Determined based upon site-specific technical information that must include through characterization of:

(i) Aquifer thickness, groundwater flow rate. Groundwater flow direction, including seasonal and temporal fluctuations in groundwater flow; and

(ii) Saturated and unsaturated geologic units and fill materials overlying

the upper most aquifer, materials comprising the upper most aquifer, and materials comprising the confining unit defining the lower boundary of the upper most aquifer, including but not limited to thickness, stratigraphy, lithology, hydraulic conductivities, porosities, and effective porosities.

(2) Certified by a qualified groundwater scientist or approved by the Commissioner of DPNR within 14 days of this certification, the owner or operator must notify the Commissioner of DPNR that the certification has been placed in the operating record.

Section 1560-813 Groundwater Sampling and Analysis Requirements

(a) The groundwater monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide an accurate representation of groundwater quality at the background and downgradient wells installed in compliance with Section 1560-811 (a) of Subchapter 1560. The owner or operator must notify the Commissioner of DPNR that the sampling and analysis program documentation has been placed in the operating record and the program must include procedures and techniques for:

- (1) Sample collection;
- (2) Sample preservation and shipment;
- (3) Analytical procedures;
- (4) Chain of custody controls; and
- (5) Quality assurance and quality control.

(b) The ground water monitoring program must include sampling and analytical methods that are appropriate for groundwater sampling and that accurately measure hazardous constituents and other monitoring parameters in groundwater samples. Groundwater samples shall not be field-filtered prior to laboratory analysis.

(c) The sampling procedures and frequency must be protective of human health and the environment.

(d) Groundwater elevations must be measured in each well immediately prior to purging, each time groundwater is sampled. The owner or operator must determine the rate and direction of groundwater flow each time groundwater is sampled. Groundwater elevations in wells which monitor the same waste management area must be measured within a period of time short enough to avoid temporal variations in groundwater flow which could preclude accurate determination of groundwater flow rate and direction.

(e) The owner or operator must establish background groundwater quality in a hydraulically upgradient or background well(s) for each of the monitoring parameters or constituents required in the particular groundwater monitoring program that applies to the MSWLF unit, as determined under Section 1560-814 (a) or Section 1560-815 (a) of this

Subchapter 1560. Background groundwater quality may be established at wells that are not located hydraulically upgradient from the MSWLF unit if it meets the requirements of Section 1560-811 (a) (1) of this Subchapter 1560 for corrective action.

(f) The number of samples collected to establish groundwater quality data must be consistent with the appropriate statistical procedures determined pursuant to Paragraph (g) of this Section. The sampling procedures shall be those specified under Section 1560-814 (b) of this Subchapter 1560 for detection monitoring. Section 1560-815 (b) and (d) of this Subchapter 1560 for assessment monitoring, and Section 1560-816 (b) of this Subchapter 1560 for corrective action.

(g) The owner or operator must specify on the operating record one of the following statistical methods to be used in evaluating groundwater monitoring data for each hazardous constituent. The statistical test chosen shall be conducted separately for each hazardous constituent in each well.

(1) A parametric analysis of variance (ANOVA) followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's means and the background means levels each constituent.

(2) An analysis of variance (ANOVA) based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of contrasts between each compliance well's median and the background median levels for each constituent.

(3) A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper limit.

(4) A control chart approach that gives control limits for each constituent.

(5) Another statistical test method that meets the performance standards of Section 1560-813 (h) of this Subchapter 1560. The owner or operator must place a justification for this alternative in the operating record and notify the Commissioner of DPNR of the use of this alternative test. The justification must demonstrate that the alternative method meets the performance standards of Section 1560-813 (h) of this Subchapter 1560.

(h) Any statistical method chosen under Section 1560-813 (g) of this Subchapter 1560 shall comply with the following performance standard, as appropriate:

(1) The statistical method used to evaluate groundwater monitoring data shall be appropriate for the distribution of chemical parameters or hazardous constituents. If the distribution of the chemical parameters are hazardous constituents as shown by the owner or operator to be inappropriate for a normal theory test, then the data should be transformed or a distribution-free theory test should be used. If the distributions for the constituents differ, more than one statistical method may be needed.

(2) If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations or a groundwater protection standard, the test shall be done at a Type I error level no less than 0.01 for each testing time period. If a multiple comparison procedure is used, the Type I experiment wise error for each testing period shall be no less than 0.05; however, the Type I error of no less than 0.01 for individual well comparisons must be maintained. This performance standard does not apply to tolerance intervals, prediction intervals, or control charts.

(3) If a control chart approach is used to evaluate groundwater monitoring data, the specific type of control chart and its associated parameter values shall be protective of human health and the environment. The parameters shall be determined after considering the number of samples in the background database, the data distribution, and the range of the concentration values for each constituent of concern.

(4) If a tolerance interval or a predictional interval is used to evaluate groundwater monitoring data, the levels of confidence and for tolerance intervals, the percentage of the population that the interval must contain, shall be protective of human health and the environment. These parameters shall be determined after considering the number of samples in the background database, the data distribution, and the range of the concentration values for each constituents of concern.

(5) The statistical method shall account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environmental. Any practical quantitation limit (pql) that is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory conditions that are available to the facility.

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

(i) The owner or operator must determine whether or not there is a statistically significant increase over background values for each parameter or constituents required in the particular groundwater monitoring program that applies to the MSWLF unit, as determined under Sections 1560-814 (a) or Section 1560-815 (a) of this Subchapter 1560.

(1) In determining whether a statistically significant increase has occurred, the owner or operator must compare the groundwater quality of each parameter or constituent at each monitoring well designated pursuant to Section 1560-811 (a) (2) of this Subchapter 1560 to the background value of that constituent, according to the statistical procedures and performance standards specified under Paragraphs (g) and (h) of this Section.

(2) Within a reasonable period of time after completing sampling and analysis, the owner or operator must determine whether there has been a statistically significant increase over background at each monitoring well.

Section 1560-814     Detection Monitoring Program

(a) Detection monitoring is required at MSWLF units at all groundwater monitoring wells defined under Sections 1560-811(a) (1) and 1560-811 (a) (2) of this Subchapter 1560. At a minimum, a detection monitoring program must include the monitoring for the constituents listed in Appendix I to this Chapter 56 and its Subchapter 1560.

(1) The Commissioner of DPNR may delete any of the Appendix I monitoring parameters for a MSWLF unit if it can be shown that the removed constituents are not reasonably expected to be contained in or derived from the waste contained in the unit.

(2) The Commissioner of DPNR may establish an alternative list of inorganic indicator parameters for a MSWLF unit, in lieu of some or all of the heavy metals (constituents 1-15 in Appendix I to this Chapter 56 and its Subchapter 1560, if the alternative parameters provide a reliable indication of inorganic releases from the MSWLF unit to the groundwater. In determining alternative parameters, the Commissioner of DPNR shall consider the following factors:

(i) The types, quantities, and concentrations of constituents in waste managed at the MSWLF unit;

(ii) The mobility, stability, and persistence of waste constituents, and their reaction products in the unsaturated zone beneath the MSWLF unit;

(iii) The detectability of indicator parameters, waste constituents, and reaction products in the groundwater; and

(iv) The concentration or values and coefficients of variation of monitoring parameters or constituents in the ground water background.



(b) The monitoring frequency for all constituents listed in Appendix I to this Chapter 56 and its Subchapter 1560, or in the alternative list approved in accordance with Paragraph (a) (2) of this Section, shall be at least semiannual during the active life of the facility (including closure) and the post-closure period. A minimum of four independent samples from each well (background and downgradient) must be collected and analyzed for the Appendix I constituents, or the alternative list approved in accordance with Paragraph (a) (2) of this Section, during the first semiannual sampling events. At least one sample from each well (background and downgradient) must be analyzed during subsequent sampling events.

The Commissioner of DPNR may specify an appropriate alternative frequency for repeated sampling and analysis for Appendix I constituents, or the alternative list approved in accordance with Paragraph (a) (2) of this Section of this Subchapter 1560, during the active life (including closure) and the post-closure care period. The alternative frequency during the active life (including closure) shall be no less than annual. The alternative frequency shall be based on consideration of the following factors:

- (1) Lithology of the aquifer and unsaturated zone;
- (2) Hydraulic conductivity of the aquifer and unsaturated zone;
- (3) groundwater flow rates;
- (4) Minimum distance between upgradient edge of the MSWLF unit and downgradient monitoring well screen (minimum distance of travel); and
- (5) Resource value of the aquifer.

(c) If the owner or operator determines, pursuant to Section 1560-813 of this Subchapter 1560, that there is a statistically significant increase over background for one or more of the constituents listed in Appendix I of this Chapter 56 and its Subchapter 1560, or in the alternative list approved in accordance with Paragraph (a) (2) of this Section, at any monitoring well at the boundary specified under Section 1560-811 (a) (2) of this Subchapter 1560, the owner or operator:

- (1) Must, within 14 days of this finding, place a notice in the operating record indicating which constituents have shown statistically significant changes from background levels, and notify the Commissioner of DPNR that this notice was placed in the operating record; and
- (2) Must establish an assessment monitoring program meeting the requirements of Section 1560-815 of this Subchapter 1560 within 90 days except as provided for in Paragraph (c) (3) of this Section.

(3) The owner or operator may demonstrate that a source other than a MSWLF unit caused this contamination or that the statistically significant increase resulted from error in sampling, analysis statistical evaluation, or natural variation in groundwater quality. A report documenting this demonstration must be certified by a qualified groundwater scientist or approved by the Commissioner and placed in the operating record. If a successful demonstration is made and documented, the owner or operator may continue detection monitoring as specified in this Section. If after 90 days, a successful demonstration is not made, the owner or operator must initiate an assessment monitoring program, as required in Section 1560-815 of this Subchapter 1560.

Section 1560-815 Assessment Monitoring Program

(a) Assessment monitoring is required whenever a statistically significant increase over background has been detected for one or more of the constituents listed in Appendix I or in an alternative list approved in accordance with Section 1560-814 (a) (2) of the Subchapter 1560.

(b) Within 90 days of triggering an assessment monitoring program and annually thereafter, the owner or operator must sample and analyze the groundwater for all constituents identified in Appendix II of this Chapter 56 and its Subchapter 1560. A minimum of one sample from each downgradient wells must be collected and analyzed during each sampling event. For any constituent detected in the downgradient wells as the result of the complete Appendix II analysis, a minimum of four independent samples from each well (background and downgradient) must be collected and analyzed to establish background for the new constituents.

The Commissioner of DPNR may specify an appropriate substance set of wells to be sampled and analyzed for Appendix II constituents during assessment monitoring. The Commissioner of DPNR may delete any of the Appendix II monitoring parameters for a MSWLF unit if it can be shown that the removed constituents are not reasonably expected to be in or derived from the waste contained in the unit.

(c) The Commissioner of DPNR may specify an appropriate alternate frequency for repeated sampling and analysis for the full set of Appendix II constituents required by Section 1560-815 (b) of this Subchapter 1560, during the active life (including closure) and post-closure care of the unit considering the following factors:

- (1) Lithology of the aquifer and unsaturated zone;
- (2) Hydraulic conductivity of the aquifer and unsaturated zone;
- (3) Groundwater flow rates;

(4) Minimum distance between up gradient edge of the MSWLF unit and down gradient monitoring well screen (minimum distance of travel);

(5) Resource value of the aquifer; and

(6) Nature (fate and transport) of any constituents detected in response to this Section.

(d) After obtaining the results from the initial or subsequent sampling events required in Paragraph (b) of this Section, the owner or operator must:

(1) Within 14 days, place a notice in the operating record identifying the Appendix II constituents that have been detected and notify the Commissioner of DPNR that this notice has been placed in the operating record;

(2) Within 90 days, and on at least a semiannual basis thereafter, resample all wells specified by Section 1560-811 (a) of this Subchapter 1560, conduct analyses for all constituents in Appendix I of this Chapter 56 and its Subchapter 1560 or in the alternative list approved in accordance with Section 1560-814 (a) (2) of this Subchapter 1560, and for those constituents in Appendix II to this Chapter 56 and its Subchapter 1560 that are detected in response to Paragraph (b) of this Section, and record their concentrations in the facility operating record. At least one sample from each well (background and down gradient) must be collected and analyzed during these sampling events.

The Commissioner of DPNR may specify an alternative monitoring frequency during the active life (including closure) and the post-closure care period for the constituents referred to in this paragraph. The alternative frequency for Appendix I constituents, or the alternative list approved in accordance with 258.54 (a) (2), during the active life (including closure) shall be no less than annual. The alternative frequency shall be based on consideration of the factors specified in Paragraph (c) of this Section;

(3) Establish background concentrations for any constituents detected pursuant to paragraphs (b) or (d) (2) of this Section; and

(4) Establish groundwater protection standards for all constituents detected pursuant to Paragraph (b) or (d) of this Section. The groundwater protection standards shall be established in accordance with paragraphs (h) or (i) of this Section.

(e) If the concentrations of all Appendix II constituents are shown to be at or below background values, using the statistical procedures in Section 1560-813 (g) of this Subchapter 1560, for the two consecutive sampling events, the owner or operator must notify the Commissioner of DPNR of this finding and may return to detection monitoring.

(f) If the concentrations of any Appendix II constituents are above background values, but all concentrations are below the groundwater protection standard established under Paragraphs (h) or (i) of this Section, using the statistical procedures in Section 1560-813 (g) of this Subchapter 1560, the owner or operator must continue assessment monitoring in accordance with this Section.

(g) If one or more Appendix II constituents are detected at statistically significant levels above the groundwater protection standard established under Paragraphs (h) or (i) of this Section in any sampling event, the owner or operator must, within 14 days of this finding, place a notice in the operating record identifying the Appendix II constituents that have exceeded the groundwater protection standard and notify the Commissioner of DPNR and all appropriate local government officials and the operator also:

(1) (i) Must characterize the nature and extent of the release by installing additional monitoring wells as necessary;

(ii) Must install at least one additional monitoring well at the facility boundary in the direction of contaminant migration and sample this well in accordance with Section 1560-815 (d) (2) of this Subchapter 1560;

(iii) Must notify all persons who own the land or reside on the land that directly overlies any part of the plume of contamination if contaminants have migrated off-site, indicated by sampling of wells in accordance with Section 1560-815 (g) (1) of this Subchapter 1560; and

(iv) Must initiate an assessment of corrective measures as required by Section 1560-816 of this Subchapter 1560 within 90 days; or

(2) May demonstrate that a source other than a MSWLF unit caused the contamination, or that the SSI increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. A record documenting this demonstration must be certified by a qualified groundwater scientist or approved by the Commissioner of DPNR and placed in the operating record. If a successful demonstration is made, the owner or operator must continue monitoring in accordance with the assessment program pursuant to Section 1560-815 of this Subchapter 1560, and may return to detection monitoring if the Appendix II constituents are at or below background as specified in Section 1560-815 (e) of this Subchapter 1560. Until a successful demonstration is made, the owner or operator must comply with Section 1560-815 (g) of this Subchapter 1560, including initiating an assessment of corrective measures.

(h) The owner or operator must establish a groundwater protection standard for each

Appendix II constituent detected in the groundwater. The groundwater protection standard shall be:

(1) For constituents for which a maximum contaminant level (MCL) has been promulgated under Section 1412 of the Safe Drinking Water Act (codified) under 40 CFR Part 141, the MCL for that constituent;

(2) For constituents for which MCL's have not been promulgated.

(3) For the consistent established from wells in accordance with Section 1560-811 (a) (1) of this Subchapter 1560; or

(3) For constituents for which the background level is higher than the MCL identified under Subparagraph (h) (i) of this Section or health-based levels identified under Section 1560-815 (i) (1) of this Subchapter 1560.

(i) The Commissioner of DPNR may establish an alternative groundwater protection standard for constituents for which MCL's have not been established. These groundwater protection standards shall be appropriate health-based levels that satisfy the following criteria:

(1) The levels are derived in a manner consistent with Agency guidelines for ceasing the health risks of environmental pollutants 51 CFR 33992, 34006, 34014, 34028, September 24, 1986;

(2) The levels are based on scientifically valid studies conducted in accordance with the Toxic Substances Control Act Good Laboratory Practice Standards (40 CFR Part 792) or equivalent;

(3) For carcinogens, the level represents a concentration associated with an excess lifetime cancer risk level (due to continued use lifetime exposure) with the  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$  range; and

(4) For systemic toxicants, the level represents a concentration to which the human population (including sensitive subgroups) could be exposed to on a daily basis that is likely to be without appreciable risk of deleterious effects during a lifetime. For purposes of this subpart, systemic toxicants include toxic chemicals that cause effects, other than cancer or mutation.

(j) In establishing groundwater protection standards under Paragraph (i) of this Section, the Commissioner of DPNR may consider the following:

- (1) Multiple contaminants in the groundwater;
- (2) Exposure threats to sensitive environmental receptors; and
- (3) Other site-specific exposure or potential exposure to groundwater.

Section 1560-816 Assessment of Corrective Measures

(a) Within 90 days of finding that any of the constituents listed in Appendix II have been detected at a statistically significant level exceeding the groundwater protection standards defined under Section 1560-815 (h) or Section 1560-815 (i) of this Subchapter 1560, the owner or operator must initiate an assessment of corrective measures. Such an assessment must be completed within a reasonable period of time.

(d) The owner or operator must continue to monitor in accordance with the assessment monitoring program as specified in Section 1560-815 of this Subchapter 1560.

(c) The assessment shall include an analysis of the effectiveness of potential corrective measures in meeting all of the requirements and objectives of the remedy as described under Section 1560-817 of Subchapter 1560, addressing at least the following:

(1) The performance, reliability, ease of implementation, and potential impact of appropriate potential remedies, including safety impacts, and control of exposure to any residual contamination;

(2) The time required to begin and complete the remedy;

(3) The costs of remedy implementation; and

(4) The institutional requirements such as local permit requirements or other  
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(5) Environmental or public health requirements that may substantially affect implementation of the remedy (s).

(d) The owner or operator must discuss the results of the corrective measures assessments, prior to the selection of remedy, in a public meeting with interested and affected parties.

Section 1560-817 Selection of Remedy

(a) Based on the results of the corrective measures assessment conducted under

Section 1560-816 of this Subchapter 1560, the owner or operator must select a remedy that, at a minimum, meets the standards listed in Paragraph (b) of this Section. The owner or operator must notify the Commissioner of DPNR, within 14 days of selecting a remedy, that a report describing the selected remedy has been placed in the operating record and how it meets the standards in Paragraph (b) of this Section.

(b) Remedies must:

(1) Be protective of human health and the environment;

(2) Attain the groundwater protection standard as specified pursuant to Section 1560-815 (h) or (i) of this Subchapter 1560;

(3) Control the course(s) of releases so as to reduce or eliminate to the maximum extent practicable, further release of Appendix II constituents into the environment that may pose a threat to human health or the environment; and

(4) Comply with standards for management of wastes as specified in Section 1560-818 of this Subchapter 1560.

(c) In selecting a remedy that meets the standards of Section 1560-817 (b) of this Subchapter 1560, the owner or operator shall consider are the following evaluation factors:

(1) The long-and short-term effectiveness and protectiveness of the potential remedy(s), along with the degree of certainty that the remedy will prove successful based on consideration of the following:

(i) Magnitude of reduction of existing risks;

(ii) Magnitude of residual risks in terms of likelihood of further releases

due to waste remaining following implementation of a remedy;

(iii) The type and degree of long-term management required, including monitoring, operation, and maintenance;

(iv) Short-term risks that might be posed to the community, workers, or the environment during implementation of such a remedy, including potential threats to human health and the environment associated with excavation, transportation, and re-disposal or containment;

(v) Time until full protection is achieved;

(vi) Potential for exposure of humans and environmental receptors to remaining wastes, considering the potential threat to human health and the environment associated with the excavation, transportation, re-disposal or containment;

(vii) Long-term reliability of the engineering and institutional controls;  
and

(viii) Potential need for replacement of the remedy.

(2) The effectiveness of the remedy in controlling the source to reduce further releases based on consideration of the following factors;

(i) The extent to which containment practices will reduce further releases;

(ii) The extent to which treatment technologies may be used.

(3) The ease or difficulty of implementing a potential remedy(s) based on consideration of the following types of factors:

(i) Degree of difficulty associated with constructing the technology;

(ii) Expected operational reliability of the technologies;

(iii) Need to coordinate with and obtain necessary approvals and permits from other agencies;

(iv) Availability of necessary equipment and specialists; and

(v) Available capacity and location of needed treatment, storage, and disposal services.

(4) Practicable capability of the owner or operator, including a consideration of the technical and economic capability.

(5) The degree to which community concerns are addressed by a potential remedy (s).

(d) The owner or operator shall specify, as part of the selected remedy, a schedule for initialing and completing remedial activities. Such a schedule(s) must require the initiation of



remedial activities within a reasonable period of time, taking into consideration the factors set forth in paragraphs (d) (1-8). The owner or operator must consider the following factors in determining the schedule of remedial activities:

- (1) Extent and nature of contamination;
- (2) Practical capabilities of remedial technologies in achieving compliance with groundwater protection standards established under Section 1560 (g) or Section 1560 (h) of this Subchapter 1560 and other objectives of the remedy;
- (3) Availability of treatment or disposal capacity for wastes managed during implementation of the remedy;
- (4) Desirability of utilizing technologies that are not currently available, but which may offer significant advantages over already available technologies in terms of effectiveness, reliability, safety, or ability to achieve remedial objectives;
- (5) Potential risks to human health and the environment from exposure to contamination prior to completion of the remedy;
- (6) Resource value of the aquifer including:
  - (i) Current and future uses;
  - (ii) Proximity and withdrawal rate of users;
  - (iii) groundwater quantity and quality;
  - (iv) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;
  - (v) The hydrogeologic characteristics of the facility and surrounding land;
  - (vi) Groundwater removal and treatment costs; and
  - (vii) The cost and availability of alternative water supplies.
- (7) Practicable capability of the owner or operator.
- (8) Other relevant factors.

(e) The Commissioner of DPNR may determine that remediation of a release of an Appendix II constituent from a MSWLF unit is not necessary if the owner or operator demonstrated to the Commissioner of DPNR that:

(1) The groundwater is additionally contaminated by substances that have originated from a source other than a MSWLF unit and those substances that are present in concentrations such that cleanup of the release from the MSWLF unit would provide no significant reduction in risk to actual or potential receptors; or

(2) The constituent (s) is present in groundwater that:

(i) Is not currently or reasonably expected to be a source of drinking water; and

(ii) Is not hydraulically with water to which the hazardous constituents are migrating or are likely to migrate in a concentration(s) that would exceed the groundwater protection standards established under Section 1560-815 (h) or 1560 (i) of this Subchapter 1560; or

(3) Remediation of the release (s) is technically impracticable; or

(4) Remediation results in unacceptable cross-media impacts.

(f) A determination by the Commissioner of DPNR pursuant to Paragraph (e) of this Section shall not affect the authority of the Virgin Islands to require the owner or operator to undertake source control measures or other measures that may be necessary to eliminate or minimize further releases to the groundwater, to prevent exposure to the groundwater, or to remediate the groundwater to concentrations that are technically practicable and significantly reduce threats to human health or the environment.

Section 1560-818 Implementation of the Corrective Action Program

(a) Based on the schedule established under Section 1560-817 (d) of this Subchapter 1560 for initiation and completion of remedial activities the owner or operator must:

(1) Establish and implement a corrective action groundwater monitoring program that:

(i) At a minimum, meet the requirements of an assessment monitoring program under Section 1560-815 of this Subchapter 1560;

(ii) Indicate the effectiveness of the corrective action remedy; and

(iii) Demonstrate compliance with groundwater protection standard pursuant to Paragraph (e) of this Section.

(2) Implement the corrective action remedy selected under Section 1560-817 of this Subchapter 1560; and

(3) Take any interim measures necessary to ensure the protections of human health and the environment. Interim measures should, to the greatest extent practicable, be consistent with the objectives of and contribute to the performance of any remedy that may be required pursuant to Section 1560-817 of this Subchapter 1560. The following factors must be considered by an owner or operator in determining whether interim measures are necessary:

(i) Time required to develop and implement a final remedy;

(ii) Actual or potential exposure of nearby populations or environmental receptors to hazardous constituents;

(iii) Actual or potential contamination of drinking water supplies or sensitive ecosystems;

(iv) Further degradation of the groundwater that may occur if remedial action is not initiated expeditiously;

(v) Weather conditions that may cause hazardous constituents to migrate or be released;

(vi) Risks of fire or explosion or potential exposure to hazardous constituents as a result of an accident or failure of a container or handling system; and

(vii) Other situations that may pose threats to human health and the environment.

(b) An owner or operator may determine, based on information developed after implementation of the remedy has begun or other information, that compliance with requirements of Section 1560-817 (b) of this Subchapter 1560 are not being achieved through the remedy selected. In such cases, the owner or operator must implement other methods or techniques that could be practicably achieved with the requirements, unless the owner or operator makes the determination under Section 1560-818 (c) of this Subchapter 1560.

(c) If the owner or operator determines that compliance with requirements under Section 1560-817 (b) of this Subchapter 1560 cannot be practically achieved with any currently

available methods, the owner or operator must:

(1) Obtain certification of a qualified groundwater scientist or approval by the Commissioner of DPNR that compliance with requirements under Section 1560-817 (b) of this Subchapter 1560 cannot be practicably achieved with any currently available methods;

(2) Implement alternate measures to control exposure of humans or the environment to residual contamination, as necessary to protect human health and the environment; and

(3) Implement alternate measures for control of the source rights of contamination, or for removal or decontamination of equipment, units, devices, or structures that are:

(i) Technically practicable; and

(ii) Consistent with the overall objective of the remedy.

(4) Notify the Commissioner of DPNR within 14 days that a report justifying the alternative measures prior to implementing the alternative measures has been placed in the operating record.

(d) All solid wastes that are managed pursuant to a remedy required under Section 1560-817 of this Subchapter 1560, or an interim measure require under Section 1560-818 (a) (3) of this Subchapter 1560, shall be managed in a manner;

(1) That is protective of human health and the environments; and

(2) that complies with applicable RCRA requirements.

(e) Remedies selected pursuant to Section 1560-817 of this Subchapter 1560 shall be considered complete when:

(1) The owner or operator complies with groundwater protection standards established under the Section 1560-815 (h) or (i) of this Subchapter 1560 at all points within the plume of contamination that lie beyond the groundwater monitoring well system established under Section 1560-811 (a) of this Subchapter 1560.

(2) Compliance with the ground water protection standards established under Section 1560-815 (h) or (i) of this Subchapter 1560 has been achieved by demonstrating that concentrations of Appendix II constituents have not exceeded the groundwater protection standard (s) for a period of three consecutive years using the statistical procedures and

performance standards in Section 1560-813 (g) and (h) of this Subchapter 1560. The Commissioner of DPNR may specify an alternative length of time during which the owner or operator must demonstrate that concentrations of Appendix II constituents have not exceeded that groundwater protection standard (s) taking into consideration:

- (i) Extent and concentration of the release (s);
  - (ii) Behavior characteristics of the hazardous constituents in the groundwater;
  - (iii) Accuracy of monitoring or modeling techniques, including any seasonal, meteorological, or other environmental variabilities that may affect the accuracy; and
  - (iv) Characteristics of the groundwater.
- (3) All actions required to complete the remedy have been satisfied.

(f) Upon completion of the remedy, the owner or operator must notify the Commissioner of DPNR within 14 days that a certification that the remedy has been completed in compliance with the requirements of Section 1560-818 (e) of this Subchapter 1560 has been placed in the operating record. The certification must be signed by the owner or operator and by a qualified groundwater scientist or approved by the Commissioner of DPNR.

(g) When, upon completion of the certification, the owner of operator determines that the corrective action remedy has been completed in accordance with the requirements under Paragraph (e) of this Section, the owner or operator shall be released from the requirements for financial assurance for corrective action under Section 1560-302.40 of this Subchapter 1560.

#### Division 10. Closure and Post Closure Care

##### Section 1560-900 Closure Criteria

- (a) Owners or operators of all MSWLF units must install a final cover system that is designed to minimize infiltration and erosion. The final cover system must be designed and constructed to:
  - (1) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoil present, or a permeability no greater than  $1 \times 10^5$  cm/sec. whichever is less; and
  - (2) Minimize infiltration through the closed MSWLF by the use of an

infiltration layer that contains a minimum 18-inches of earthen material; and

(3) Minimize erosion of the final cover by the use of an erosion layer that contains a minimum 6 inches of earthen material that is capable of sustaining native plant growth.

(b) The Commissioner of DPNR may approve an alternative final cover design that includes:

(1) An infiltration layer that achieves an equivalent reduction in infiltration as the infiltration layer specified in paragraphs (a) (1) and (a) (2) of this Section; and

(2) An erosion layer that provides equivalent protection from wind or water erosion as the erosion layer specified in Paragraph (a) (3) of this Section; and

(c) The owner or operator must prepare a written closure plan that describes the steps necessary to close all MSWLF units at any point during their active life in accordance with the cover design requirements in Section 1560-900 (a) or (b) of this Subchapter 1560, as applicable. The closure plan, at a minimum, must include the following information:

(1) A description of the final cover, designed in accordance with Section 1560-900 (a) of this Subchapter 1560 and the methods and procedures to be used to install the cover;

(2) An estimate of the largest area of the MSWLF unit of requiring a final cover as required under Section 1560-900 (a) of this Subchapter 1560 at any time during the active life;

(3) An estimate of the maximum inventory of wastes ever on-site over the active life of the landfill facility; and

(4) A schedule for completing all activities necessary to satisfy the closure criteria in Section 1560-900 of this Subchapter 1560.

(d) The owner or operator must notify the Commissioner of DPNR that a closure plan has been prepared and places in the operation record no later than the effective date of this Chapter 56 or its Subchapter 1560, or by the initial receipt of waste, whichever is later.

(e) Prior to beginning closure of each MSWLF unit as specified in Section 1560-900 (f) of this Subchapter 1560, an owner or operator must notify the Commissioner of DPNR that a notice of the intent to close the unit has been placed in the operating report.

(f) The owner or operator must begin closure activities of each MSWLF unit no later than 30 days after the date on which the MSWLF unit receives the known final receipt of wastes or, if the MSWLF unit has remaining capacity and there is a reasonable likelihood that the MSWLF unit will receive additional wastes, no later than one year after the most recent receipt of wastes. Extensions beyond the one-year deadline or beginning closure may be granted by the Commissioner of DPNR if the owner or operator demonstrated that the MSWLF unit has the capacity to receive additional wastes and the owner or operator has taken and will continue to take all steps necessary to prevent threats to human health and the environment from the unclosed MSWLF unit.

(g) The owner or operator of all MSWLF units must complete closure activities of each MSWLF unit in accordance with the closure plan within 180 days following the beginning of closure, as specified in Paragraph (f) of this Section. Extensions of the closure may be granted by the Commissioner of DPNR if the owner or operator demonstrated that closure will, of necessity, take longer than 180 days and he has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed MSWLF unit.

(h) Following closure of each MSWLF unit, the owner or operator must notify the Commissioner of DPNR that a certification, signed by an independent registered professional engineer or approved by the Commissioner of DPNR, verifying that closure has been completed in accordance with the closure plan, has been placed in the operating record.

(i) (1) Following closure of all MSWLF units, the owner or operator must record a notation on the deed to the landfill facility property, or some other instrument that is normally examined during title search, and notify the Commissioner of DPNR that the notation has been recorded and a copy has been placed in the operating record.

(2) The notation on the deed must in perpetuity notify any potential purchaser of the property that:

(i) The land has been used as a landfill facility; and

(ii) Its use is restricted under Section 1560-911 (c).

(j) The owner or operator may request permission from the Commissioner of DPNR to remove the notation from the deed if all wastes are removed from the facility.

Section 1560-911 Post Closure Care Requirements

(a) Following closure of each MSWLF unit, the owner or operator must conduct post-closure care. Post-closure care must be conducted for 30 years, except as provided under

Paragraph (b) of this Section, and consist of at least the following:

(1) Maintaining the integrity and effectiveness of any final cover, including making repairs to the cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding otherwise damaging the final cover;

(2) Maintaining and operating the leachate collection system in accordance with the requirements in Section 1560-309 of this Subchapter 1560, if applicable. The Commissioner of DPNR may allow the owner or operator to stop managing leachate if the owner or operator demonstrates that leachate no longer poses a threat to human health and the environment;

(3) Monitoring the groundwater in accordance with requirements of Division 9 of this Subchapter 1560 and maintaining the groundwater monitoring system, if applicable; and

(4) Maintaining and operating the gas monitoring system in accordance with the requirements of Section 1560-301.23 of this Section 1560.

(b) The lengths of the post-closure care period may be:

(1) Decreased by the Commissioner of DPNR if the owner or operator demonstrated that the reduced period is sufficient to protect human health and the environment and this demonstration is approved by the Commissioner of DPNR; or

(2) Increased by the Commissioner of DPNR if the Commissioner of DPNR determines that the lengthened period is necessary to protect human health and the environment.

(c) The owner or operator of all MSWLF units must prepare written post-closure plan that includes, at a minimum, the following information:

(1) A description of the monitoring and maintenance activities required in Section 1560-911 (a) of this Subchapter 1560 for each MSWLF unit, and the frequency at which these activities will be performed;

(2) Name, address, and telephone number of the person or officer to contact about the facility during the post-closure period; and

(3) A description of the planned uses of the property during the post-closure period. Post-closure use of the property shall not disturb the integrity of the final cover, liner (s), or any other components of the containment system, or the function of the monitoring systems



unless necessary to comply with the requirements in this Chapter 56 and its Subchapter 1560.

The Commissioner of DPNR may approve any other disturbance if the owner or operator demonstrates that disturbance of the final cover, liner, or other components of the containment system, including any removal of waste, will not increase the potential threat to human health or the environment.

(d) The owner or operator must notify the Commissioner of DPNR that a post-closure plan has been prepared and placed in the operating record no later than the effective dates of this Chapter 56 and its Subchapter 1560, October 9, 1993, or by the initial receipt of waste, whichever is greater.

(e) Following completion of the post-closure care period for each MSWLF unit, the owner or operator must notify the Commissioner of DPNR that a certification, signed by an independent registered professional engineer or approved by the Commissioner of DPNR, verifying that post-closure care has been completed in accordance with the post-closure plan, has been placed in the operating record.

#### Notes

- (1) The regulatory requirements pertain only to the list of substances; the right-hand

columns (Methods and PQL) are given for informational purposes only. See also footnotes 5 and 6.

- (2) Common names are those widely used in government regulations, scientific publications, and commerce; that contain this element are included.
- (3) Chemical abstracts service registry number. Where "total" is entered, all species in the groundwater that contain this element are included.
- (4) CAS index are those used in the ninth collective index.
- (5) Suggested methods refer to analytical procedure numbers used in EPA report SW-846. "Test methods for evaluating solid waste," 3rd edition, November 1986, as revised, December 1987. Analytical details can be found in SW-846 and in documentation on file at the agency.
- (6) Practical Quantitation Limits (PQL) are the lowest concentrations of analyses in groundwaters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions. The PQL's listed are generally stated to one significant figure. PQL's are based on 5 mL samples for volatile organics and 1 L samples for semi-volatile organics. Caution: The PQL values in many cases are based only on a general estimate for the method and not on a determination for individual compounds; PQL's are not a part of the regulation.
- (7) This substance is often called Bis (2-chloroispropyl) ether, the name Chemical Abstracts Service applies to its non chemical isomer, Propane, 2, 2 "-oxybis [2-chloro- (CAS RN 39638-32-9).
- (8) Chlordane: This entry includes alpha-chlordane (CAS RN 5103-71-9), beta-chlordane (CAS RN 5103-742), gamma-chlordane (CAS RN 5566-347), and constituents of chlordane (CAS RN 57-74-9) and CAS RN 12789-03W-6). PQL shown is for technical chlordane. PQL's of specific isomers are about 20 ug/L by method 8270.
- (9) Polychlorinated biphenyls (CAS RN 1336-36-3); this category contains congener chemicals, including constituents of Aroclor 1016 (CAS RN 12674-11-2), Aroclor 1221 (CAS RN 11104-28-2), Aroclor 1232 (CAS RN 1114 1-16-5), Aroclor 1242 (CAS RN 534 6969-21-9), Aroclor 1248 (CAS RN 12672-29-6.), Aroclor 1254 (CAS RN 1109 7-69-1), and Aroclor 1260 (CAS RN 110 96-82-5). The PQL shown is an average value for PCB congeners.

- (10) Toxaphene: This entry includes congener chemicals contained in technical toxaphene (CAS RN 8001-35-2), i.e., chlorinated camphene.
- (11) Xylene (total): This entry includes o-xylene (CAS RN 96-47-6), m-xylene (CAS RN 108-38-3), p-xylene (CAS RN 106-4 2-3), and unspecified xylenes (dimethylbenzenes) (CAS RN 1330-20-7). PQL's for method 8021 are 0.2 for O-xylene and 0.1 for m- or p- xylene. The PQL for m-xylene is 2.0 ug/L by method 8020 or 8260.

Caution: The methods listed are representative SW-846 procedures and may not always be the most suitable method(s) for monitoring and analyzing.