CHAPTER 23
SOLID WASTE DISPOSAL REGULATIONS [ADOPTED 1997]

SOURCE: Filed with the Legislative Secretary on Dec. 10, 1997, and effective upon the lapse of 90 calendar days (Mar. 10, 1998) pursuant to the Administrative Adjudication Law (5 GCA §9303).

ARTICLE 1
GENERAL REGULATIONS

§ 23101. Purpose, Scope, and Applicability.

(a) The purpose of this Chapter is to establish the Guam's minimum criteria for all Municipal Solid Waste Landfill (MSWLF) units and other solid waste management facilities. These minimum criteria are intended to ensure the protection of human health and the environment.

(b) These rules and regulations apply to owners and operators of new Municipal Solid Waste Landfill units, existing Municipal Solid Waste Landfill units, and lateral expansions, except as otherwise specifically provided in this Chapter. All other solid waste management facilities and practices that are not regulated under Subtitle C of Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §6941, as amended, are subject to the criteria contained in 40 CFR, Part 257.

(c) These criteria do not apply to Municipal Solid Waste Landfill units that do not receive waste after October 9, 1991.

(d) Municipal Solid Waste Landfill units that receive waste after October 9, 1991 but stop receiving waste before October 9, 1993 are exempt from all the requirements of this Chapter, except the final cover requirement specified in Article 6, §23601 'Closure criteria' of this Chapter. The final cover must be installed within Six (6) months of last receipt of wastes. Owners or operators of Municipal Solid Waste Landfill units described in this paragraph that fail to complete cover installation within this Six (6) month period will be subject to all the requirements of this Chapter unless otherwise specified.

(e) All Municipal Solid Waste Landfill units that receive waste on or after October 9, 1993 must comply with all requirements of this Chapter unless otherwise specified.

(f) Municipal Solid Waste Landfill units failing to satisfy these criteria are considered open dumps for purposes of Guam solid waste management planning under RCRA.

(g) Municipal Solid Waste Landfill units failing to satisfy these criteria constitute open dumps, which are prohibited under §4005 of the RCRA.

(h) Municipal Solid Waste Landfill units containing sewage sludge and failing to satisfy these criteria violate §§309 and 405(e) of the Clean Water Act of 1977, 33 U.S.C. 1251, as amended.

(i) This Part shall be effective immediately.

§ 23102. Definitions.

(a) Unless otherwise noted, all terms contained in this Section are defined by their plain meaning. This Section contains definitions for terms that appear throughout this Chapter; additional definitions appear in the specific sections to which they apply.

(1) 'Active area' shall mean that portion of a facility where solid waste recycling, treatment, storage, or disposal operations are being conducted, designed to be, or have been conducted. Buffer zones shall not be considered part of the active area of a facility.

(2) '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 Article 6, §23601 'Closure criteria' of this Chapter.

(3) 'Active portion' means that part of a facility or unit that has received or is receiving wastes and that has not been closed in accordance with Article 6, §23601 'Closure criteria' of this Chapter.

(4) 'Administrator' shall mean the Administrator of the Guam Environmental Protection Agency or his designee.

(5) 'Agency' shall mean the Guam Environmental Protection Agency.

(6) 'Agricultural waste' shall mean wastes on farms resulting from the production of agricultural products including, but not limited to manures and carcasses of dead animals.

(7) 'Air quality standard' shall mean a standard set for maximum allowable contamination in ambient air as set forth in Guam's Air Pollution Control Standards and Regulations.

(8) 'Alternate Boundary' shall mean a boundary line that may be used in lieu of the disposal facility's property line, subject to the Administrator's approval.

(9) 'Aquifer' means a geological formation, group of formations, or portion of a formation capable of yielding significant quantities of ground-water to wells or springs.

(10) 'Ashes' shall mean the residue including any air pollution flue dusts from combustion or incineration of material including solid wastes.

(11) 'Base Flood' shall mean a flood that has a One Percent (1%) or greater chance of occurring in any year or a flood of a magnitude equaled or exceeded once in One Hundred (100) years.

(12) 'Bioremediation' shall mean the process by which organic materials (e.g. petroleum products) are biologically degraded, usually to innocuous materials such as carbon dioxide, methane, water, inorganic salts, biomass, and by-products that are less complex than the parent compound.

(13) 'Board' shall mean the Board of Directors of the Guam Environmental Protection Agency.

(14) 'Buffer zone' shall mean that part of a facility that lies between the active area and the property boundary.

(15) 'Bulky waste' shall mean large items of refuse, such as appliances, furniture, automobiles, and other oversize wastes which would typically not fit into reusable or disposable containers.

(16) 'Cell' shall mean compacted solid wastes that are enclosed by natural soil or cover material in a sanitary landfill.

(17) 'Clean Water Act' shall mean the Clean Water Act of 1977 which amended the Federal Water Pollution Control Act of 1972, codified as 33 U.S.C. §1251, as amended.

(18) 'Closure' shall mean those actions taken by the owner or operator of a solid waste site or facility to cease operations and to ensure that all such facilities are closed in conformance with applicable regulations at the time of such closures and to prepare the site for the post-closure period.

(19) 'Collecting agency' shall mean any agency, business or service operated by a person with a Solid Waste Collection Permit for the collection of solid waste.

(20) 'Commercial solid waste' means all types of solid waste generated by stores, offices, restaurants, warehouses, multiple dwellings of five or more units, hotels, motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic areas, and day-use recreation areas and other non-manufacturing activities, excluding residential and industrial wastes.

(21) 'Compliance schedule' shall mean a written schedule of required measures in a permit including an enforcement sequence leading to compliance with this Chapter.

(22) 'Composting' shall mean the controlled degradation of organic solid waste.

(23) 'Container' shall mean a device used for the collection, storage, or transportation of solid waste including but not limited to reusable containers, disposable containers and tanks, fixed or detachable.

(24) 'Cover material' shall mean soil or other approved suitable material that is used to cover compacted solid wastes in a land disposal site.

(25) 'Daily cover' shall mean cover material that is spread and compacted on the top and side slopes of a solid waste cell at the end of each operating day or after a period of Twenty-four (24) hours in order to control vectors, fire, moisture and erosion, and to assure aesthetic appearance.

(26) 'Demolition waste' shall mean solid waste, largely inert waste, resulting from the demolition or razing of buildings, roads and other man-made structures. Demolition wastes consists of, but is not limited to, concrete brick, bituminous concrete, wood and masonry, roofing material, steel, and minor amounts of other metals like copper. All these materials can be used as hardfill materials. Plaster or

any other material that is likely to produce gases or a leachate during the decomposition process is not considered to be demolition waste for the purpose of this Chapter. Asbestos waste is also not considered to be demolition waste for the purpose of this Chapter.

(27) 'Detachable containers' shall mean reusable containers that are mechanically loaded or handled such as a 'dumpster' or drop box.

(28) 'Disposal containers' shall mean containers that are used once to handle solid waste such as plastic bags, cardboard boxes, and paper bags.

(29) 'Disposal' shall mean the discharge, deposit, injection, dumping, spilling, leaking or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters including ground-water.

(30) 'Disposal site' shall mean the location where any treatment, utilization, processing, or deposition of solid waste occurs. See also the definition of interim solid waste facility.

(31) 'Endangered or threatened species' shall mean any species listed as such pursuant to the Endangered Species Act of Guam, §63201 of Title 5, Guam Code Annotated or the United States Endangered Species Act of 1973, as amended.

(32) 'Energy recover' shall mean the recovery of energy in a usable form from mass burning or refuse derived fuel incineration, pyrolysis of any other means of using the heat of combustion of solid waste that involves high temperature processing.

(33) 'Existing facility' shall mean a facility which is owned or leased, and in operation, or for which construction has begun, on or before the effective date of this Chapter and the owner or operator has obtained permits or approvals

necessary under Federal and Guam statutes, regulations and ordinances. A facility has commenced construction if either:

(A) on-site physical construction program has begun; or

(B) the owner or operator has entered into contractual obligations which cannot be cancelled or modified without substantial loss for physical construction of the facility to be completed within a reasonable time frame.

(34) 'Existing municipal solid waste landfill unit' shall mean any municipal solid waste landfill unit that is receiving solid waste as of October 9, 1993. Waste placement in existing units must be consistent with past operating practices or modified practices to ensure good management.

(35) 'Expanded facility' shall mean a facility adjacent to an existing facility for which the land is purchased and approved by GEPA after the effective date of this Chapter. A vertical expansion approved and permitted by GEPA after the effective date of this Chapter shall also be considered an expanded facility.

(36) 'Facility' shall mean all contiguous land and structures, other appurtenances, and improvements on the land used for the disposal, transfer, storage, treatment, and processing, of solid waste.

(37) 'Facility structures' shall mean buildings, sheds, utility lines, and drainage pipes on the facility.

(38) 'Final cover' shall mean a cover system designed and constructed to:

(A) have permeability less than or equal to the permeability of any bottom liner system or natural subsoils present of a permeability no greater than 1×10^{-5} cm/sec, which ever is less, and

(B) minimize infiltration through the closed Municipal Solid Waste Landfill unit by the use of an

infiltration layer that contains a minimum of Eighteen (18) inches of an earthen material, and

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

(39) 'Final treatment' shall mean that act of processing or preparing solid waste for disposal, utilization reclamation or other approved method of use.

(40) 'Free-liquids' shall mean any sludge which produces measurable liquids when the Paint Filter Liquids Test, Method 9095 of Environmental Protection Agency Publication Number SW-846, is performed.

(41) 'Free moisture' shall mean liquid that will drain freely by gravity from solid materials.

(42) 'Garbage' shall mean discarded animal and vegetable wastes, and animal and vegetable wastes resulting from the handling, preparation, cooking and serving of foods, including cans, bottles and cartons, in which it was received and wrapping in which it may have been placed for disposal, swill and carcasses of dead animals of such a character and proportion as to be capable of attracting or providing food for vectors. This does not include raw sewage or sludge related to wastewater processes.

(43) 'Ground-water' shall mean water below the land surface in a zone of saturation.

(44) 'Hardfill' shall mean a method of compaction and earth cover of solid wastes other than those containing garbage or other putrescible (putrescent) waste, including, but not limited to, demolition material, and like materials not constituting a health or nuisance hazard, where cover need not be applied on a per day used basis. A Hardfill shall not include any combustible material.

(45) 'Hazardous waste' shall mean any material or substance which, by reason of its composition or characteristics,

(A) is hazardous waste as defined in the Solid Waste Disposal Act, 42 U.S.C. §6901, et seq., as amended, replaced or superseded and the regulations implementing same,

(B) is a hazardous substance as defined by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. §9601, et seq.,

(C) is material the disposal of which is regulated by the Toxic Substances Control Act, 15 U.S.C. §2601, et seq., as amended, replaced, or superseded, and the regulations implementing same,

(D) is special nuclear or by-product material within the meaning of the Atomic Energy Act of 1954,

(E) is pathological, infectious or biological waste,

(F) is treated as hazardous waste or as a hazardous substance under applicable law, or

(G) requires a hazardous waste or similar permit for its storage, treatment, incineration of disposal.

(46) 'Household waste' shall mean any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (of single and multiple residences of up to four units).

(47) 'Incineration' shall mean reducing the volume of solid waste by use of an enclosed device controlled flame combustion.

(48) 'Incinerator' shall mean an enclosed devise using controlled flame combustion, the primary purpose of which, is to thermally break down solid waste.

(49) 'Industrial solid waste' shall mean solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under Subtitle C of the Resource Conservation and Recovery Act (RCRA) or Guam's Hazardous Waste Management Regulations. Such waste may include, but is not limited to, waste resulting from the following manufacturing process/operations: electric power generation; fertilizer/agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; 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.

(50) 'Inert wastes' shall mean non-combustible waste that will not cause an leachate or cause any environmental concern that are likely to retain their physical and chemical structure under expected conditions of disposal, including resistance to biological attack and chemical attack from acidic rainwater.

(51) 'Infectious waste' shall mean:

(A) equipment, instruments, utensils and fomites of a disposed nature used in the treatment of patients or animals who are suspected by a medical professional to have or have been diagnosed as having a communicable disease and must therefore, be isolated as required by public health agencies; or

(B) laboratory wastes, including pathological specimens (i.e., all tissues, specimens of blood elements, excreta, and excretion obtained from patients or laboratory animals) and disposal fomites attendant thereto and similar disposal materials from outpatient areas and emergency rooms; or

(C) carcass of any animal that has died from a communicable disease.

(52) 'Interim solid waste handling facilities' shall mean interim treatment, utilization or processing site engaged in solid waste handling which is not the final site of disposal. Transfer stations, composting, source separation centers, and treatment centers are considered as some of the interim solid waste handling facilities.

(53) 'Intermediate cover' shall mean cover material that serves the same function as daily cover, but must resist erosion for a longer time, because it is applied on areas where additional cells will not be constructed for extended periods of time.

(54) 'Landspreading disposal facility' shall mean a facility that applies sludge or other solid wastes onto or incorporates solid waste into the soil surface at a greater than vegetative utilization and soil conditioners/immobilization rates.

(55) 'Lateral expansion' shall mean a horizontal expansion of the waste boundaries of an existing Municipal Solid Waste Landfill unit.

(56) 'Leachate' shall mean a liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste.

(57) [No text.]

(58) 'Lower explosive limit' shall mean the lowest percent by volume of a mixture of explosive gases which will propagate a flame in air at 25 degrees centigrade and atmospheric pressure.

(59) 'Material resource recovery facility' shall mean a facility where recyclable materials such as scrap metal, aluminum, newspaper, and paper are accepted for recycling.

(60) 'Medical waste' shall mean any solid waste which is generated in the diagnosis, treatment, or immunization of

human beings or animals, in research pertaining thereto, or in the production or testing of biologicals. Such terms does not include any hazardous or household waste identified, listed, or defined under 10 Guam Code Annotated Chapter 51 or regulations promulgated under this Chapter.

(61) 'Municipal solid waste landfill unit' shall mean 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 the Code of Federal Regulations 40 Part §257.2. A Municipal Solid Waste Landfill unit also may receive other types of RCRA Subtitle D wastes, such as commercial solid waste, non-hazardous sludge, small quantity generator waste and industrial solid waste. Such a landfill may be publicly or privately owned. A Municipal Solid Waste Landfill unit may be a new Municipal Solid Waste Landfill unit, an existing Municipal Solid Waste Landfill unit or a lateral expansion.

(62) 'New municipal solid waste landfill unit' shall mean any municipal solid waste landfill unit that has not received waste prior to October 9, 1993.

(63) 'Open burning' shall mean the combustion of solid waste without:

(A) Control of combustion air to maintain adequate temperature for efficient combustion,

(B) Containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and

(C) Control of the emission of the combustion products.

(64) 'Open dump' shall mean a land disposal site which does not meet standards set forth in this Chapter and where solid wastes are disposed in a manner that does not protect the environment, is susceptible to open burning, and is exposed to the elements, vectors and scavengers.

(65) 'Operator' shall mean any person who accepts solid waste from a collector for transfer, storage, recycling, combustion, processing or disposal.

(66) 'Owner' shall mean the person(s) who owns a facility or part of a facility.

(67) 'Performance standards' shall mean the criteria for the performance of solid waste handling facilities.

(68) 'Permeability' shall mean the ease with which a porous material allows liquid or gaseous fluids to flow through it. For water, this is usually expressed in units of centimeters per second and termed hydraulic conductivity.

(69) 'Permit' shall mean an authorization issued by the Guam Environmental Protection Agency which allows a person to perform solid waste management activities at a specific location and which includes specific conditions for such facility operations.

(70) 'Person' shall mean any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, or any agency, department, or instrumentality of the Federal or local government, or any other legal representatives, agents or assigns.

(71) 'Pile' shall mean any non-containerized accumulation of solid waste that is used for treatment or storage.

(72) 'Plans' shall mean reports and drawings, including a narrative operating description, prepared to describe the land disposal site and its proposed operation.

(73) 'Point of compliance' shall mean that part of ground-water that lies beneath the perimeter of a solid waste facility's active area as that active area would exist at closure of the facility.

(74) 'Post-closure' shall mean the requirements placed upon disposal sites after closure to ensure their environmental safety for at least a twenty-year period or until

the site becomes stabilized (i.e., little or no settlement, gas production or leachate generation).

(75) 'Premises' shall mean a tract or parcel of land with or without habitable buildings.

(76) 'Processing' shall mean any method, system, or other treatment designed to change the physical, chemical or biological character or composition of any solid waste. This includes the neutralization of any hazardous waste; rendering of any hazardous waste non-hazardous, safer for transport, amenable for recovery, amenable for storage, or reduced in volume; or any other activity or processing designed to change the physical form or chemical composition of hazardous waste so as to render it non-hazardous.

(77) 'Putrescible waste' shall mean solid waste which contains material capable of being decomposed by micro-organisms, producing a foul-smelling matter.

(78) 'Pyrolysis' shall mean the process in which solid wastes are heated in an enclosed device in the absence of oxygen to vaporization, producing a hydrocarbon-rich gas capable of being burned for recovery of energy.

(79) 'Reclamation site' shall mean a location used for the processing or the storage of recyclable waste.

(80) 'Refuse' shall mean anything that is discarded as worthless and useless.

(81) 'Remediation' shall mean a permitted process by which the concentration of contamination is reduced to acceptable Guam Environmental Protection Agency levels.

(82) 'Reserved' shall mean a section having no requirements and which is set aside for future possible rule-making as a note to the regulated community.

(83) 'Residential waste' see household waste.

(84) 'Residue' shall mean all the materials that remain after completion of thermal processing, including bottom ash, fly ash and grate shifting.

(85) 'Resource Conservation and Recovery Act' (RCRA) shall mean the Resource Conservation and Recovery Act (42 U.S.C. §6941) as amended.

(86) 'Reusable containers' shall mean containers that are used more than once to handle solid waste such as garbage cans.

(87) 'Rubbish' shall mean nonputrescible solid waste, including ashes, consisting of both combustible and noncombustible waste such as paper, cardboard, cans, yard clippings, wood, glass, bedding, crockery and broken or rejected matter or litter of any kind.

(88) 'Run-off' shall mean any rainwater, leachate, or other liquid that drains over land from any part of a facility.

(89) 'Run-on' shall mean any rainwater, leachate, or other liquid that drains over land onto any part of a facility.

(90) 'Salvaging' shall mean the controlled removal of waste materials for utilization.

(91) 'Saturated zone' shall mean that part of the earth's crust in which all voids are filled with water.

(92) 'Scavenging' shall mean uncontrolled and unauthorized removal of solid waste materials from a municipal solid waste storage or disposal site(s).

(93) 'Septage' shall mean a semi-solid consisting of settled sewage solids combined with varying amounts of water and dissolved materials generated from a septic tank system.

(94) 'Sludge' shall mean any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater 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 wastewater treatment plant.

(95) 'Sole source aquifer' shall mean an aquifer designated by the Environmental Protection Agency

pursuant to Section 1424e of the Safe Drinking Water Act (PL 93-523).

(96) 'Solid waste' shall mean any garbage, rubbish, refuse, or sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded or spilled material(s), 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 Pollution Control Act, as amended (86 Stat. 880), or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended (68 Stat. 923).

(97) 'Solid waste handling' shall mean the management, storage, collection, transportation, treatment, utilization, processing or final disposal of solid wastes, including the recovery and recycling of materials from solid wastes, the recovery of energy resources from such wastes or the conversion of the energy in such wastes to more useful forms or combinations thereof.

(98) 'Solid waste management' shall mean the purposeful systematic control of the generation, storage, collection, transportation, separation, processing, recovery and disposal of solid waste.

(99) 'State' shall mean any of the states of the United States of America, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Marianas Islands.

(100) 'Storage' shall mean the interim containment of solid waste in accordance with Federal and local regulations.

(101) 'Surface impoundment' shall mean a facility or part of a facility which is a natural topographic depression, man-made excavation or diked area formed primarily to earthen materials (although it may be lined with man-made materials), and which is designed to hold an accumulation of liquids or sludge. The term includes holding, storage, settling and aeration pits, ponds or lagoons, but does not include injection wells.

(102) 'Surface water' shall mean all lakes, rivers, ponds, streams, inland waters and all other water and water courses.

(103) 'Transfer station' shall mean any intermediate waste facility in which solid waste collected from any source is temporarily deposited and stored while awaiting transportation to another solid waste management facility.

(104) 'Treatment' shall mean the physical, chemical or biological processing of solid waste to make such solid wastes safer for storage or disposal, amendable for energy or material resource recovery or reduced in volume.

(105) 'Uppermost aquifer' shall mean 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.

(106) 'Utilization' shall mean consuming, expending or exhausting by use, solid waste materials.

(107) 'Vector' shall mean any insect or other arthropod, rodent or other animal capable of transmitting the causative agents of human disease, or disrupting the normal enjoyment of life by adversely affecting the public health and well-being.

(108) 'Vertical expansion' shall mean the disposal of solid waste within the footprint of an existing Municipal Solid Waste Landfill following the proper engineering procedures.

(109) 'Waste management unit boundary' shall mean a vertical surface located at the hydraulically down gradient limit of the unit. This vertical surface extends down into the uppermost aquifer.

(110) 'Waste recycling' shall mean reusing waste materials and extracting valuable materials from a waste stream.

(111) 'Waste reduction' shall mean reducing the amount or type of waste generated.

(112) 'Water quality standard' shall mean the Guam Water Quality Standards, as amended.

(113) 'Water table' shall mean the upper most aquifer.

(114) 'Working face' shall mean that portion of the sanitary landfill where solid wastes are discharged and are spread and compacted prior to the placement of cover material.

(115) 'Combustible Materials' shall mean any solid or liquid that may be ignited.

(A) 'Combustible Solids', as defined in Title 49 of the Code of Federal Regulations Chapter 1, Subtitle B, Part 173.124, are those capable of igniting and burning.

(B) 'Combustible Liquids', as defined in Title 29 of the Code of Federal Regulations Chapter 17, Subtitle B, Part 1910.106, shall mean any materials having a flash point at or above 100 degrees Fahrenheit (37.8 degrees Celsius), but below 200 degrees Fahrenheit (93.3 degrees Celsius), except any mixture having components with flashpoints of 200 degrees Fahrenheit (93.3 degrees Celsius), or higher, the total volume of which make up ninety-nine percent (99%) or more of the total volume of the mixture[.]

SOURCE: Filed with the Legislative Secretary on Dec. 10, 1997, and effective upon the lapse of 90 calendar days (Mar. 10, 1998) pursuant to the Administrative Adjudication Law (5 GCA §9303). Subitems (a)(44) amended and (a)(115) added by P.L. 28-011:4-5 (Mar. 9, 2005).

§ 23103. Consideration of Other Federal Laws.

The owner or operator of municipal solid waste landfill units and other facilities must comply with other applicable Federal rules, laws, regulations, and or other requirements.

§ 23104. Solid Waste Management Permit System.

(a) Permits Required. It shall be unlawful for any person to initiate construction of, establish or operate any solid waste management facility or modify an existing solid waste management facility without a permit issued in accordance with the provisions of this Chapter. All permitted solid waste management facilities shall be operated in accordance with the provisions of Chapter 51 of Title 10, Guam Code Annotated, and this Chapter. For the purposes of these regulations, the following are considered solid waste management facilities:

(1) municipal solid waste landfill facility;

(2) industrial solid waste landfill facility (Reserved);

(3) solid waste transfer facility;

(4) solid waste hardfill facility;

(5) solid waste storage facility;

(6) solid waste processing facility;

(A) solid waste composting facility;

(B) solid waste material resource recovery facility;

(C) solid waste remediation facility:

(i) bioremediation;

(ii) all other remediation;

(D) solid waste incinerator facility;

(E) solid waste-to-energy recovery facility;

(F) other processing facility.

(b) Application for permit.

(1) Application for a permit shall be completed on forms furnished by the Administrator and shall include the following information:

(A) detailed plans and specifications of the facility and a brief description of the type of facility; a map showing the location of the proposed facility;

(B) certification of compliance with zoning requirements and local ordinances by the Department of Land Management, Department of Public Health and Social Services, Department of Public Works, and the Guam Environmental Protection Agency;

(C) an operations plan detailing such items as, the proposed method and length of operation; population and area to be served; the characteristics, quantity and source of material to be disposed; the type of equipment to be used; the number and responsibilities of site personnel; source and type of cover material; emergency operating procedures; and the proposed ultimate use of the disposal site. In those cases where only landfilling with demolition debris will take place, certain items may be excluded from the application form by the Administrator;

(D) the Administrator may require any additional information necessary to adequately assess the environmental impact of the proposed solid waste management facility, and prevent injury to the public health, welfare or environment of Guam.

(2) A proof of performance bond obtained from a bonding company authorized to do business in Guam may be required by the Administrator. The bond shall be payable to the government of Guam and conditioned on the fulfillment by the holder of the requirements of this Chapter.

(3) Each application shall be signed by the owner or his authorized representative, and shall constitute an agreement that the owner will assume responsibility for the construction

or modification and operation of the facility in accordance with this Chapter. If the owner is a partnership or group other than a corporation, the application shall be signed by One (1) individual who is a member of the group. If the owner is a corporation, the application shall be signed by an officer of the corporation or general manager of the facility.

(4) All new applications or renewal applications for a permit for a municipal solid waste landfill shall be accompanied by a non-refundable application fee of Ten thousand Dollars ($10,000.00) payable to the Treasurer of Guam and deposited into the Solid Waste Management Fund pursuant to Section 51117 of Public Law 23-64. New applications or renewal applications for permits for all other solid waste management facilities shall be accompanied by a non-refundable application fee payable to the Treasurer of Guam in the amount indicated on the attached schedule of fees as listed on Addendum A. These non-refundable application fees shall be deposited into the Solid Waste Management Fund.

(5) The Administrator shall approve an application for permit if the application and supporting information clearly show that the issuance, thereof, does not pose a threat to the environment, public health or welfare, and that the solid waste disposal facility is designed, built, and equipped in accordance with the best practicable technology so as to operate without causing a violation of applicable rules and regulations.

(6) The Administrator may issue to the applicant a conditional approval. Under such an approval the Administrator may:

(A) require the applicant to provide for sampling and testing to determine the degree of pollution from the solid waste management facility, if necessary;

(B) specify conditions which will bring the operation of the solid waste management facility

described in the application within the requirements of this Chapter.

(7) Written acceptance of any and all permit conditions by the applicant shall be necessary prior to any construction for which a permit is required.

(8) Unless otherwise provided for in §23104 of this Chapter, the Administrator may hold a public hearing to solicit public reaction and recommendations on a proposed permit application or permit renewal if the Administrator determines there is a significant degree of public interest in the proposed permit.

(c) Municipal Solid Waste Landfill permits.

(1) All owners of existing municipal solid waste landfill facilities shall file immediately an application for permit to continue to operate.

(2) The Administrator shall, within a reasonable time, not to exceed One hundred and twenty (120) days from the date the application is received with payment of the application fee, notify the applicant in writing if the application has been filled out properly and contains all the necessary information.

If additional information is requested by the Agency, then the request stops the One hundred and twenty (120) day time period and the remaining days left shall resume on the day after the supplementary information is received.

(3) Before issuing a permit for a municipal solid waste landfill facility, the Administrator shall cause to be published notice of Agency's intention to issue such a permit and that the public has Forty-five (45) days to submit written comments on the proposed action; The contents of the public notice shall include at least the following:

(A) name, address, and phone number of Agency issuing the public notice;

(B) name and address of each applicant;

(C) brief description of each applicant's activities or operations which result in the disposal or other activities described in the application;

(D) a short description of the location of each disposal or activity indicating whether such disposal or activity is new or existing; and

(E) address and phone number of agency premises at which interested persons may obtain further information and inspect a copy of the variance applications and supporting and related documents.

(4) If within Forty-five (45) days after publication and broadcast, the Agency receives written notice of opposition to the Agency's intention to issue such a permit and a request for a hearing is made by a substantially affected party, then the Agency shall provide for a hearing in accordance with the Administrative Adjudication Law, Chapter 9 of Title 5, Guam Code Annotated.

(A) A request for a hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing and the basis for being the proper party to request a hearing.

(B) The Board shall affirm, modify, or revoke the proposed action to be taken by the Agency. The Board may delay making a decision if it determines that the application was incomplete or public comments have not been adequately addressed.

(5) Written comments to GEPA with all supporting evidence, along with a copy for the applicant, must be received or postmarked within the Forty-five (45) day comment period to be considered by the Agency.

(6) All comments received during the comment period shall be considered in making a decision and the Administrator will prepare a written response to all significant comments, as determined by the Administrator, that were received during the public comment period or

raised during an Agency hearing. The response to comments shall be made available to the public upon request.

(d) Permits for facilities other than MSWLF.

(1) The Administrator shall, within a reasonable time, not to exceed One hundred twenty (120) days from the date the application is received, notify the applicant in writing, if the application has been filled out properly and contains all the necessary information. If the Administrator has not acted (i.e., approved, denied, or requested for additional information) within the One hundred twenty (120) day period from the day the application is received, the application shall be deemed to have been approved. The request for additional information stops the One hundred twenty (120) day period and the remaining days out of this period shall resume on the day the supplementary information is received.

(2) The applicant may submit questions and comments, in duplicate, in response to the Administrator's action on the application.

(3) The Administrator shall consider the applicant's questions and comments, and shall notify the applicant, in writing, of his final approval or denial of the application.

(4) Before issuing a permit for the processing, storage or disposal of solid waste, the Administrator shall:

(A) cause to be published in a major local newspaper or newspaper of general circulation, and broadcast over a local radio station or stations, notice of the Agency's intention to issue such a permit;

(B) if, within Forty-five (45) days after publication and broadcast, the Agency receives written notice of opposition to the Agency's intention to issue such permit and a request for a hearing is made, provide for a hearing in accordance with the Administrative Adjudication Law, Chapter 9 of Title 5, Guam Code Annotated, if requested by a substantially affected party;

(C) allow interested persons to submit written significant comments during the Forty-five (45) day period.

(5) Composting waste generated from no more than Three (3) households for personal use is exempted from permit requirements.

(e) Effect of the permit. The general and special conditions of the permit become the standards and guide for the facility.

(1) The owner or operator must notify the Agency that the construction has been completed in accordance with the approved plans and specification.

(2) An inspection of the facility will be conducted by the Agency to confirm that the facility is ready to accept solid wastes.

(3) The conditions will specify that the facility operate in accordance with the approved Operation Manual.

(4) Additional conditions specify type, frequency and data required for monitoring and record keeping.

(f) Permit denial. If a permit is denied, the applicant shall have the opportunity to appeal the decision at a hearing by the Board of Directors of GEPA in accordance with the Administrative Adjudication Law, Chapter 9 of Title 5, Guam Code Annotated. Such hearing shall be held not more than Sixty (60) days after the Board receives this notice of intent to appeal.

(g) Duration of Permit. The Administrator shall grant a permit for Five (5) years for all municipal solid waste landfills following the date of issuance. The duration of permit for all other solid waste management facilities are listed on the attached Addendum B.

(h) Modification to existing permits. The Administrator may, on his own motion or the application of any person, modify a permit if, after affording the applicant an opportunity for a hearing, the Administrator determines that:

(1) any condition of the permit has been violated or due to a change in any condition requiring either a temporary or permanent reduction or elimination of the permitted disposal;

(2) there is a change in applicable laws or regulations governing solid waste management; or

(3) such action is in the public interest.

The Agency will develop a schedule to revisit and reissue all existing permits affected by the change in the law or regulations at the time of the change. Modification of the permit shall become final Ten (10) days after service of notice of the final decision to modify the permit on the holder of the permit.

(i) Suspension of permit. The Administrator may, on his own motion or the application of any person, suspend a permit if, after affording the applicant an opportunity for a hearing, the Administrator determines that:

(1) any condition of the permit has been violated or any regulations of the agency has been violated; or

(2) such action is in the public interest.

The permit shall be suspended until all conditions of the permit are met or all violations have been properly corrected. Suspension of a permit shall become final Ten (10) days after service of notice of the final decision to suspend on the holder of the permit.

(j) Revocation of permits. The Administrator may, on his own motion or the application of any person, revoke any permit if, after affording the applicant an opportunity for a hearing, the Administrator determines that:

(1) there is a violation of any condition of the permit;

(2) the permit was obtained by misrepresentation, or failure to disclose fully all relevant facts;

(3) there is a change in any condition that requires either a temporary or permanent reduction or elimination of the permitted disposal; or

(4) such is in the public interest.

Revocation of a permit shall become final Ten (10) days after service of notice of the final decision to revoke on the holder of the permit.

(k) Permit renewal. Each permittee must apply for a renewal of the permit Sixty (60) days before the permit expires. At the time of renewal of a solid waste management permit, the facility is reevaluated and the permit conditions updated to reflect changes and the current operational procedures.

(l) Transfer of permit. A permit shall not be transferable, whether by operation of law or otherwise, either from one location to another, from one solid waste disposal facility to another or from one person to another, without the written approval of the Administrator.

(m) Reporting termination. Sixty (60) days prior to closure any person issued a permit shall report the permanent termination of a solid waste processing or disposal facility for which the permit has been issued to the Administrator and within the Thirty (30) days after closure shall surrender the permit to the Administrator, unless otherwise noted in this Chapter. The Administrator may approve immediate closure of any solid waste management facility if the facility poses major threat to human health and the environment.

(n) Posting of permit. Upon granting an approval for a permit, the Administrator shall issue to the applicant a permit which shall be posted in a conspicuous place at or near the operation site for which the permit was issued.

(o) Falsifying or altering permit. No person shall knowingly deface, alter, forge, counterfeit or falsify a permit. Any such activity shall bring about immediate revocation of the permit.

2023 NOTE: Item designations modified to adhere to the Compiler's general codification scheme pursuant to authority granted by 1 GCA § 1606.

ARTICLE 2
LOCATION RESTRICTIONS

§ 23201. Airport Safety.

(a) Owners or operators of new MSWLF units, existing MSWLF units, and lateral expansions that are located within Ten thousand fee (10,000') (Three thousand forty-eight (3,048) meters) of any airport runway end used by turbo jet aircraft or within Five thousand feet (5,000') (One thousand five hundred and twenty-four (1,524) meters) of any airport runway end used by only piston-type aircraft must demonstrate that the units are designed and operated so that the MSWLF unit does not pose a bird hazard to aircraft. Components of such demonstrate are identified in Chapter 2, Subpart B, of the EPA Solid Waste Disposal Facility Criteria, Technical Manual, published in November 1993 or as updated.

(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 turbo jet or piston-type aircraft must notify the affected airport and the Federal Aviation Administration (FAA).

(c) The owner or operator must place the demonstration in Subsection (a) of this §23201 in the operating record and notify the Administrator that it has been placed in the operating record.

(d) Additional definitions, for the purposes of this Article 2:

(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/aircraft collisions that may cause damage to the aircraft or injury to its occupants.

§ 23202. Floodplains.

(a) Owners or operators of new MSWLF units, existing MSWLF units, and lateral expansions located in One hundred (100) year floodplains must demonstrate that the unit will not restrict the flow of the One hundred (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 Administrator that it has been placed in the operating record. Components of such demonstrations are identified in Chapter 2, Subpart B, of the EPA Solid Waste Disposal Facility Criteria, Technical Manual, published in November 1993 or as updated.

(b) For the purposes of this Chapter:

(1) 'Floodplain' means the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, that are inundated by the One hundred (100) year flood.

(2) 'One hundred (100) year flood' means a flood that has a One Percent (1%) or greater chance of recurring in any given year or a flood of a magnitude equaled or exceeded once in One hundred (100) years on the average over a significantly long period.

(3) 'Washout' means the carrying away of solid waste by waters of the base flood.

§ 23203. Wetlands.

(a) New MSWLF units and lateral expansions shall not be located in wetlands, unless the owner or operator can make the following demonstrations to the Administrator:

(1) Where applicable, under §404 of the Clean Water Act or applicable Guam wetlands laws, the presumption that a practicable alternative to the proposed landfill is available which does not involve wetlands is clearly rebutted;

(2) The constitution and operation of the MSWLF unit will not:

(A) cause or contribute to violations of any applicable Guam water quality standard;

(B) violate any applicable toxic effluent standard or prohibition under Section 307 of the Clean Water Act;

(C) 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 or the Endangered Species Act of Guam, as amended; and

(D) violate any requirement under the Marine Protection Research, and Sanctuaries Act of 1972, for the protection of a marine sanctuary;

(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 resource by addressing the following factors:

(A) erosion, stability, and migration potential of native wetland soils, mud, and deposits used to support the MSWLF unit;

(B) erosion, stability, and migration potential of dredged and fill materials used to support the MSWLF unit;

(C) the volume and chemical nature of the waste managed in the MSWLF unit;

(D) impacts on fish, wildlife, and other aquatic resources and their habitat from release of the solid waste;

(E) the potential effects of catastrophic release of waste to the wetland and the resulting impacts on the environment; and

(F) any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected;

(4) to the extent required under §404 of the Clean Water Act or applicable Guam wetlands laws, 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 the purposes of this Section, 'wetlands' means those areas that are inundated by surface or ground-water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, mangroves, natural ponds, surface springs, estuaries and similar such areas.

2023 NOTE: Reference to "Territorial/territorial" removed and/or replaced with "Guam" pursuant to 1 GCA §420.

§ 23204. Fault Areas.

(a) New MSWLF units and lateral expansions shall not be located within Two hundred (200) feet (Sixty (60) meters) of a fault that has had displacement in Holocene time unless the owner or operator demonstrates to the Administrator that an alternative setback distance of less than Two hundred (200) feet (Sixty (60) meters) will prevent damage to the structural integrity of the MSWLF unit and will be protective of human health and the environment. Components of such demonstrations are identified in Chapter 2, Subpart B, of the EPA Solid Waste Disposal Facility Criteria, Technical Manual, published in November 1993 or as updated.

(b) For the purposes of this Article:

(1) 'Fault' means a fracture or a zone of fractures in any material along which strata on One (1) side have been displaced with respect to that on the other side.

(2) 'Displacement' means the relative movement of any Two (2) 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.

§ 23205. Seismic Impact Zones.

(a) New MSWLF units and lateral expansions shall not be located in seismic impact zones, unless the owner or operator demonstrates to the Administrator 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 Administrator that it has been placed in the operating record. Components of such demonstrations are identified in Chapter 2, Subpart B, of the EPA Solid Waste Disposal Facility Criteria, Technical Manual, published in November 1993 or as updated.

(b) For the purposes of this Article:

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

(2) 'Maximum horizontal acceleration in lithified earth material' means the maximum expected horizontal acceleration depicted on a seismic hazard map, with a Ninety Percent (90%) or greater probability that the acceleration will not be exceeded in Two hundred and fifty (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 the earth surface.

§ 23206. 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 Administrator that it has been placed in the operating record. Components of such demonstrations are identified in Chapter 2, Subpart B, of the EPA Solid Waste Disposal Facility Criteria, Technical Manual, published in November 1993 or as updated. 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 settling;

(2) on-site or local geologic or geomorphologic features; and

(3) on-site or local human-made features or events (both surface and subsurface).

(b) For the purposes of this Article:

(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 systems, final covers, run-on/run-off systems, and any other component 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 in inadequate foundation support for the structural components of a 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 the MSWLF unit, because of natural or man-induced events, results in the downslope 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 fluction, block sliding, and rock fall.

(5) 'Karst terrains' means areas where karst topography, with its characteristic surface and subterranean features, is developed as the result of dissolution of limestone, dolomite, or other soluble rock. Characteristic physiographic features

present in karst terrains include, but are not limited to, sinkhole, sinking streams, caves, large springs, and blind valleys.

§ 23207. Closure of Existing Municipal Solid Waste Landfill Units.

(a) Existing MSWLF units that cannot make the demonstration specified in §§23201, 23202, and 23206 of this Article 2, must close immediately, in accordance with §23601 and conduct post-closure activities in accordance with §23602, all of this Chapter.

(b) The deadline for closure required by Subsection (a) of this §23207 may be extended up to Two (2) years if the owner or operator demonstrates to the Administrator that:

(1) there is no available alternative disposal capacity; and

(2) there is no immediate threat to human health and the environment.

ARTICLE 3
OPERATING CRITERIA

§ 23301. Solid Waste Accepted.

(a) As a part of the permit application, the owner/operator shall report what wastes shall be accepted and identify any special handling required. Only wastes for which the facility has been permitted shall be accepted.

(b) The permit application shall specify procedures for wastes requiring special handling. Wastes approved for acceptance at each are:

(1) Municipal Solid Waste Landfill Facility:

(A) residential waste;

(B) commercial waste;

(C) animal carcasses, body parts, etc. (to be disposed of only in the approved area as designated in the permit)

(2) Industrial Solid Waste Landfill Facility (Reserved)

(3) Solid Waste Transfer Facility:

(A) residential waste;

(B) yard waste.

(4) Solid Waste Hardfill Facility. Operating Criteria. Solid waste accepted:

(A) demolition and construction debris (bricks, concrete, stones, masonry materials, rocks, asphalt, rebar, corrugated steel, scrap metal, and paving materials);

(B) packaging and rubble resulting from construction, remodeling, repair, or demolition operations on pavements, houses, commercial buildings, and other structures, excluding asbestos containing materials;

(C) clay, limestone, coral, broken glass and pottery.

(5) Solid Waste Storage Facility:

(A) vehicles, vehicle parts, appliances, and metals still having worth and use.

Salvaged materials, such as automobile bodies, metals, and appliances may be salvaged in a controlled manner only by the permit holder. These materials must be drained of any free liquids and hazardous waste; the liquids and hazardous waste must be transferred to a solid waste processing facility for final disposal or processing. Chlorofluorocarbons (CFCs) must be properly removed for recycling at the processing facility or CFC recovery center, as approved by the Guam Air Pollution Control Program.

(6) Solid Waste Processing Facility:

(A) Solid Waste Composting Facility:

(i) yard waste such as grass clippings, tree branches, leaves, and other organic waste;

(ii) paper waste;

(iii) vegetative waste.

(B) Solid Waste Material Resource Recovery Facility:

(i) scrap metal, aluminum, and batteries;

(ii) newspapers, paper, magazines, cardboard, glass, and plastics;

(iii) tires, oil, and CFCs.

(C) Solid Waste Remediation Facility:

(i) bioremediation

(aa) petroleum contaminated waste;

(ii) all other remediation.

(D) Solid Waste Incinerator Facility:

(i) residential waste;

(ii) construction waste.

(E) Solid Waste-to-Energy Recovery Facility:

(i) residential waste;

(ii) construction waste.

(F) Other Processing Facility:

(i) vehicles and vehicle parts;

(ii) appliances.

SOURCE: Filed with the Legislative Secretary on Dec. 10, 1997, and effective upon the lapse of 90 calendar days (Mar. 10, 1998) pursuant to the Administrative Adjudication Law (5 GCA §9303). Subsection (b)(4)(A) repealed and reenacted by P.L. 28-011:6 (Mar. 9, 2005).

2023 NOTE: Item designations modified to adhere to the Compiler's general codification scheme pursuant to authority granted by 1 GCA § 1606.

§ 23302. Solid Waste Excluded.

(a) Using information indicated on the permit application, the Administrator determines specific wastes to be excluded and the permittee shall identify them in the plans. The generator of excluded wastes and hazardous materials shall report these wastes to the Administrator prior to disposal and consult with the Administrator in determining method of disposal. The criteria used in this Chapter shall determine what type of waste shall be excluded.

(b) Regular users of the land disposal site shall be provided with a list of excluded waste. The list shall be displayed prominently at the site entrance.

(c) Wastes excluded from solid waste management facilities shall include but not limited to the following:

(1) Municipal Solid Waste Landfill Facility:

(A) waste oil and regulated hazardous waste;

(B) whole or partially whole vehicles, vehicle parts, tires, batteries, appliances, septic tank pumping, sewage sludge and other petroleum products and oil based paints.

(2) Industrial Solid Waste Landfill Facility (Reserved)

(3) Solid Waste Transfer Facility:

(A) commercial, government and military solid wastes (unless approved by the Administrator);

(B) inert material or waste;

(C) biological waste, pathological wastes, radioactive wastes, medical wastes, infectious waste, free liquids, asbestos, animal carcasses and offal, ashes, putrescible animal waste, sewage sludge, other sludge and other petroleum products;

(D) all wastes excluded from MSWLFs are also excluded from Solid Waste Transfer Facilities.

(4) Solid Waste Hardfill Facility. Operating Criteria. Solid waste excluded:

(A) hazardous waste, infectious waste, biological waste, radioactive waste, medical waste, liquid waste, asbestos, animal carcasses and offal, ashes composting material, decayed matter, putrescible animal and vegetable waste;

(B) lawn and yard clippings, grass and leaves, and other organic waste;

(C) paper products, cardboard, cans, whole or partially whole vehicles, vehicle parts, tires and other rubber and synthetic products, or automobile batteries;

(D) residential waste, plastic products, mattresses and box springs, clothing, cloth and bedding, appliances and furniture, septic tank pumping, sewer sludge and other sludges, waste oil and other petroleum products, and miscellaneous trash and litter;

(E) Any combustible materials.

(5) Solid Waste Storage Facility:

(A) hazardous waste;

(B) residential waste.

(6) Solid Waste Processing Facility:

(A) Solid Waste Composting Facility:

(i) hazardous waste;

(ii) residential waste.

(B) Solid Waste Material Resource Recovery Facility:

(i) hazardous waste.

(C) Solid Waste Remediation Facility:

(i) bioremediation

(aa) hazardous waste

(ii) all other remediation

(aa) hazardous waste

(D) Solid Waste Incinerator Facility:

(i) hazardous waste.

(E) Solid Waste Energy Recovery Facility:

(i) hazardous waste.

(F) Other Processing Facility:

(i) hazardous waste;

(ii) residential waste;

(iii) yard waste.

SOURCE: Filed with the Legislative Secretary on Dec. 10, 1997, and effective upon the lapse of 90 calendar days (Mar. 10, 1998) pursuant to the Administrative Adjudication Law (5 GCA §9303). Subsection (b)(4)(E) added by P.L. 28-011:7 (Mar. 9, 2005).

2023 NOTE: Item designations modified to adhere to the Compiler's general codification scheme pursuant to authority granted by 1 GCA § 1606.

§ 23303. Procedures for Excluding the Receipt of Hazardous Waste.

(a) Owners or operators of all MSWLF units must implement a program at the facility for detecting and preventing the disposal of regulated hazardous wastes as defined in Guam's Hazardous Waste Management Regulations and polychlorinated biphenyl (PCB) wastes as defined in 40 CFR Part 761. This program must include, at a minimum:

(1) random inspections of incoming loads;

(2) records of any inspections;

(3) training of facility personnel to recognize regulated hazardous waste and PCB wastes; and

(4) notification of Administrator if a regulated hazardous waste or PCB waste is discovered at the facility.

(b) For purposes of this section, 'regulated hazardous waste' means a solid waste that is a hazardous waste or was not generated by a conditionally exempt small quantity generator as defined in Guam's Hazardous Waste Management Regulations.

§ 23304. Cover Material Requirements.

(a) Except as provided in Subsection (b) of this §23304, the owners or operators of all MSWLF units must cover disposed solid waste with Six (6) inches of earthen material at the end of each operating day, or at more frequent intervals if necessary, to control disease vectors, fires, odors, blowing litter, and scavenging.

(b) Alternative materials of an alternative thickness (other than at least Six (6) inches of earthen material) may be approved by the Administrator 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) In order to conserve land disposal site capacity, thereby preserving land resources, and to minimize moisture infiltration and settlement, solid waste and cover material shall be compacted to the smallest practicable volume. Solid wastes may be reduced in volume by using balers, shredders, or other reducing devices before placement in cells.

(d) The Administrator may grant a temporary waiver from the requirement of Subsections (a) and (b) of this §23304, if the owner or operator demonstrates that there are extreme short term climatic conditions that make meeting such requirements impractical.

§ 23305. Disease Vector Control.

(a) Owners or operators of all MSWLF units must prevent or control on-site populations of disease vectors using techniques appropriate for the protection of 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.

§ 23306. Explosive Gases Control.

(a) Owners or operators of all MSWLF units must ensure that:

(1) the concentration of methane gas generated by the facility does not exceed Twenty-five Percent (25%) of the lower explosive limit for methane in facility structures (excluding gas control or recovery system components); and

(2) 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 Subsection (a) of this §23306 are met.

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

(A) soil conditions;

(B) the hydrogeologic conditions surrounding the facility;

(C) the hydraulic conditions surrounding the facility; and

(D) 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 Subsection (a) of this §23306 are detected, the owner or operator must:

(1) immediately take all necessary steps to ensure protection of human health and notify the Administrator;

(2) within Seven (7) days of detection, place in the operating record the methane gas levels detected and a description of the steps taken to protect human health; and

(3) within Sixty (60) days of detection, implement a remediation plan for the methane gas releases, place a copy of the plan in the operating record, and notify the Administrator that the plan has been implemented; the plan shall describe the nature and extent of the problem and the proposed remedy;

(4) the Administrator may establish alternative schedules for demonstrating compliance with Items (2) and (3) of Subsection (c) of this §23306.

(d) For purposes of this Section, 'lower explosive limit' means the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at Twenty-five Degrees Celsius (25ºC) and atmospheric pressure.

§ 23307. Air Criteria.

(a) Owners or operators of all MSWLFs 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 Environmental Protection Agency (USEPA) Administrator pursuant to Section 110 of the Clean Air Act, as amended, or any additional requirements of the Guam Air Pollution Control rules, regulations, or laws.

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

§ 23308. Access Requirements.

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

(b) Characteristics of on-site soil shall be evaluated with respect to their effects on site operations, such as vehicle maneuverability and their use as cover material shall be included in the design of the facility.

(c) The site shall be accessible to vehicles for which the site is designed by all weather roads leading from the public road system; temporary roads maintained in a passable condition shall be provided as needed to deliver wastes to the working face.

§ 23309. 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 onto the active portion of the landfill during the peak discharge from a Twenty-five (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 Twenty-four (24) hour, Twenty-five (25) year storm.

(b) Run-off from the active portion of the landfill unit must be handled in accordance with §23310 'Surface water requirements' of this Chapter.

§ 23310. Surface Water Requirements.

MSWLF units shall not cause a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act, including, but not limited to, the National Pollutant Discharge Elimination System (NPDES) requirements, pursuant to Section 402, or cause the discharge of a non-point source of pollution to waters of the United States, including wetlands, that violates any requirement of an area-wide or Guam-wide water quality management plan that has been approved under Section 208 or 319 of the Clean Water Act, as amended.

2023 NOTE: Reference to "territorial" replaced with "Guam" pursuant to 1 GCA §420.

§ 23311. Liquid Restrictions.

(a) Bulk or non-containerized 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 or lateral expansion, is designed with a composite liner and leachate collection system as described in Item (2) of Subsection (a), §23401 of this Chapter. The owner or operator must place the demonstration in the operating record and notify the Administrator 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 normally found in household waste;

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

(3) the waste is household waste;

(4) the oil filters are drained for at least Twenty-four (24) hours or crushed and are not regulated as hazardous waste.

(c) For the 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 Liquids Test), as described in 'Test 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.

§ 23312. Recordkeeping Requirements.

(a) The owner or operator of a MSWLF unit must record and retain near the facility in an operating record or in an alternative location approved by the Administrator, the following information as it becomes available:

(1) any location restriction demonstration required under Article 2 of this Chapter;

(2) inspection records, training procedures, and notification procedures required in Subsection (a) of §23303 of this Chapter;

(3) gas monitoring results from monitoring and any remediation plans required by §23306 of this Chapter;

(4) any MSWLF unit design documentation for placement of leachate or gas condensate in a MSWLF unit as required under Item (2) of Subsection (a), §23311 of this Chapter;

(5) any demonstration, certification, finding, monitoring, testing, or analytical data required by Article 5 of this Chapter;

(6) closure and post-closure care plans and any monitoring, testing, or analytical data as required by Article 6 of this Chapter;

(7) any cost estimates and financial assurance documentation required by Article 7 of this Chapter;

(8) description of solid waste materials received, identified by source of materials; and the license plate number of the vehicle transporting them for disposal; these records shall be maintained on a daily basis and summarized monthly as to the number of tons received, number of vehicles by type, and kinds of waste materials received;

(9) operation problems, complaints or difficulties;

(10) air quality and litter control efforts;

(11) vector control efforts.

(b) The owner/operator must notify the Administrator when the documents from Subsection (a) of this §23312 have been placed or added to the operating record, and all information contained in the operating record must be furnished upon request to the Administrator or be made available at all reasonable times for inspection by the Administrator.

(c) The Administrator may set alternative schedules for recordkeeping and notification requirements as specified in Subsections (a) and (b) of this §23312, except for the notification requirements in Subsection (b) of §23201 and Item (3) of Subsection (g), §23506 of this Chapter.

§ 23313. Safety.

(a) The land disposal site shall be designed, constructed, and operated in such a manner as to protect the health and safety of personnel associated with the operation and meet all appropriate federal and local Occupational Safety and Health Act requirements.

(b) The operating manual shall describe safety precautions and procedures to be employed at the site during the working day. In addition, the following safety measures are required:

(1) personal safety devices such as hard hats, gloves, and footwear shall be worn by all facility employees while on the site;

(2) safety devices, including but not limited to such items as rollover protective structures, seat-belts, and audible reverse warning devices shall be provided on all equipment used to spread and compact solid wastes or cover material at the facility; fire extinguisher shall be provided and be located within the immediate vicinity of the working face;

(3) provisions shall be made to extinguish any fires in wastes being delivered to the site or which occur at the working face or within equipment or personnel facilities;

(4) communications equipment shall be available on-site for emergency situations;

(5) scavenging shall be prohibited at all times to avoid injury and to prevent interference with site operations;

(6) access to the disposal site shall be controlled and shall be by established roadways only. The site shall be accessible only when operating personnel are on duty. Large volume containers may be placed at the site entrance so that users can conveniently deposit waste after hours. The containers and the areas around them shall be maintained in a sanitary and litter-free condition. Containers shall be emptied daily unless an alternate schedule is approved by the Administrator;

(7) traffic signs, markers or site personnel shall be provided to promote an orderly traffic pattern to and from the discharge area, maintain efficient operating conditions, and, if necessary, restrict access to hazardous areas. Drivers of manually discharging vehicles shall not hinder operation of mechanically discharging vehicles. Vehicles shall not be left unattended at the working face or along traffic routes. If a regular user persistently poses a safety hazard, he may be barred from the site and reported to the Agency.

ARTICLE 4
DESIGN CRITERIA

§ 23401. Design Criteria for Municipal Solid Waste Landfills.

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

(1) in accordance with a design approved by the Administrator. The design must ensure that the concentration values listed in §23403 of this Chapter will not be exceeded in the uppermost aquifer at the relevant point of compliance, as specified by the Administrator under Subsection (d) of this §23401, or

(2) with a composite liner, as defined in Subsection (b) of this §23401 and a leachate collection system that is designed and constructed to maintain less than a Thirty centimeter (30cm) (Twelve inches (12")) depth of leachate over the liner.

(3) So as not to cause or contribute to the taking of any endangered or threatened species of plant, fish or wildlife, and not cause the destruction of critical habitat of endangered or threatened species.

(b) For purposes of this Section, 'composite liner' means a system consisting of two components; the upper component must consist of a minimum 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 of no more than 1×10^{-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 the compacted soil component.

(c) When approving a design that complies with Item (1) of Subsection (a) of this §23401, the Administrator shall consider at least the following factors:

(1) the hydrogeologic characteristics of the facility and surrounding land;

(2) the climatic factors of the area;

(3) the volume and physical and chemical characteristics of the leachate;

(4) the types and quantities of solid waste expected to be disposed of at the facility. Survey methods and results shall be incorporated in the design of the facility;

(5) land use and zoning within one-quarter mile of the site including location of all residences, buildings, wells, water courses, historical sites, recreational areas and roads;

(6) facilities for employee convenience and equipment maintenance;

(7) litter control program proposed by applicant; and

(8) site operation and maintenance plan.

(d) The relevant point of compliance specified by the Administrator 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 Administrator shall consider at least the following factors:

(1) the hydrogeologic characteristics of the facility and surrounding land;

(2) the volume and physical and chemical characteristics of the leachate;

(3) the quantity, quality, and detection of flow of ground-water;

(4) the proximity and withdrawal rate of the ground-water users;

(5) the availability of alternative drinking water supplies;

(6) the existing quality of the ground-water, including other sources of contamination and their cumulative impacts on the ground-water and whether ground-water is currently used or reasonably expected to be used for drinking water;

(7) public health, safety, and welfare effects; and

(8) practicable capability of the owner or operator.

§ 23402. Design Criteria for Solid Waste Management Facilities other than MSWLF.

(a) Plans for the design, construction, and operation of solid waste management sites or modifications to existing sites shall be prepared or approved by a professional engineer and submitted to the Administrator for approval.

(b) The types and quantities of all solid wastes expected to be at the facility should be determined by survey and analysis to form a basis for design. The survey methods and results shall be incorporated with the application for a permit for the facility.

(c) Site development plans shall include the following design factors:

(1) initial and final topographies at contour intervals of Ten (10) feet or less;

(2) land use and zoning within One-quarter (1/4) mile of the site including location of all residences, buildings, wells, water courses, historical sites, recreational areas and roads. All airports within Two (2) miles of the site shall be identified to aid in assessing the potential hazard of birds to aircraft;

(3) location of all utilities within Five Hundred (500) feet of the site;

(4) facilities for employees convenience and equipment maintenance;

(5) narrative description, with associated drawings, indicating site development and operation procedures.

(d) The construction operation of a solid waste management facility other than a MSWLF shall not cause or contribute to the taking of any endangered or threatened species of plant, fish, or wildlife and shall not cause the destruction of the critical habitat of endangered or threatened species.

(e) The design, construction, and operation of a solid waste management facility other than a MSWLF shall not restrict the flow of the base flood, reduce the temporary water storage capacity of the floodplain, or result in a washout of solid waste so as to pose a hazard to human life, wildlife, or land or water resources.

(f) The solid waste management facility, other than a MSWLF, shall not be located, constructed, or operated so that birds attracted to the facility pose a hazard to aircraft approaching or leaving any airport.

§ 23403. Table of Maximum Contaminant Levels (MCL) for Constituents at the Relevant Point of Compliance.

Chemical	MCL(mg/l)
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

Chemical	MCL(mg/l)
Fluoride	4.0
Lindane	0.004
Lead	0.05
Mercury	0.002
Methoxychlor	0.1
Nitrate	10.0
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

ARTICLE 5
GROUND-WATER MONITORING AND CORRECTIVE ACTION

§ 23501. Applicability.

(a) The requirements in this part apply to MSWLF units, except as provided in Subsection (b) of this §23501.

(b) Ground-water monitoring requirements under §§23502 through 23506 of this Chapter may be suspended by the Administrator 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 uppermost aquifer (as defined in §23102 of this Chapter) during the active life of the unit and the post-closure care period. This demonstration must be certified by a qualified ground-water scientist and approved by the Administrator, and must be based upon:

(1) site-specific 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 ground-water monitoring requirements of this Chapter according to the following schedule unless an alternative schedule is specified as discussed in Article 6 of this Chapter.

(1) Existing MSWLF units and lateral expansions less than One (1) mile from a drinking water intake (surface or subsurface) must be in compliance with the ground-water monitoring requirements specified in §§23502 through 23506 of this Chapter;

(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 ground-water monitoring requirements specified in §§23502 through 23506 of this Chapter.

(3) Existing MSWLF units and lateral expansions greater than Two (2) miles from a drinking water intake (surface or subsurface) must be in compliance with the ground-water monitoring requirements specified in §§23502 through 23506 of this Chapter.

(4) New MSWLF units must be in compliance with the ground-water monitoring requirements specified in §§23502 through 23506 of this Chapter before waste can be placed in the unit.

(d) Once established at a MSWLF unit, ground-water monitoring shall be conducted throughout the active life and post-closure care period of that MSWLF unit as specified in §23602 of this Chapter.

(e) For the purposes of Article 5 of this Chapter, a 'qualified ground-water scientist' is a scientist or engineer who has received a baccalaureate or post-graduate degree in the natural sciences or engineering and has sufficient training and experience in ground-water hydrology and related fields as may be demonstrated by state or Guam registration, professional certifications, or completion of accredited university programs that enable that individual to make sound professional judgments regarding ground-water monitoring, contaminant fate and transport, and corrective-action.

(f) The Administrator may establish alternative schedules for demonstrating compliance with Item (2) of Subsection (d), §23502, pertaining to notification of placement of certification in operating record; Item (1) of Subsection (c), §23505, pertaining to notification that statistically significant increase (SSI) notice is in operating record; Items (2) and (3) of Subsection (c), §23506, pertaining to an assessment monitoring program; Subsection (b) of §23506, pertaining to sampling and analyzing Appendix II constituents; Item (1) of Subsection (d), §23506, pertaining to placement of notice (Appendix II constituents detected) in record and notification of notice in record; Item (2) of Subsection (d), §23506, pertaining to sampling for Appendix I and II; Item (2) of Subsection (g) of §23506, pertaining to notification (and placement of notice in record) of SSI above ground-water protection standard; Item (4) of Subsection (g), §23506 and Subsection (a) of §23507 pertaining to assessment of corrective measures; Subsection (a) of §23508, pertaining to selection of remedy and notification of placement in record; Item (4) of Subsection (c), §23509, pertaining to notification of placement in

record (alternative corrective action measures); and Subsection (f) of §23509, pertaining to notification of placement in record (certification of remedy completed), all of this Chapter.

2023 NOTE: Reference to "territorial" replaced with "Guam" pursuant to 1 GCA §420.

§ 23502. Ground-water Monitoring Systems.

(a) A ground-water monitoring system must be installed that consists of a sufficient number of wells, installed at appropriate locations and depths, to yield ground-water samples from the uppermost aquifer (as defined in §23102 of this Chapter) that:

(1) represent the quality of background ground-water that has not been affected by leakage from a unit. A determination of background quality may include sampling of wells that are not hydraulically up-gradient of the waste management area where:

(A) hydrogeologic conditions do not allow the owner or operator to determine what wells are hydraulically up-gradient; or

(B) sampling at other wells will provide an indication of background ground-water quality that is as representative or more representative than that provided by the up-gradient wells; and

(2) represent the quality of ground-water passing the relevant point of compliance specified by the Administrator under Subsection (d) of §23401 of this Chapter. The down-gradient monitoring system must be installed at the relevant point of compliance specified by the Administrator under Subsection (d) of §23401 that ensures detection of ground-water contamination in the uppermost aquifer. When physical obstacles preclude installation of ground-water monitoring wells at the relevant point of compliance at existing units, the down-gradient monitoring system may be installed at the closest practicable distance hydraulically down-gradient from the relevant point of compliance specified by the Administrator under §23401 of this Chapter

that ensure detection of ground-water contamination in the uppermost aquifer.

(b) The Administrator may approve a multi-unit ground-water monitoring system instead of separate ground-water monitoring systems for each MSWLF unit when the facility has several units, provided the multi-unit ground-water monitoring system meets the requirements of Subsection (a) of §23502 of this Chapter 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) engineering design of the MSWLF units; and

(5) type of waste accepted at the MSWLF units.

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

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

(2) The monitoring wells, piezometers, and other measurement, sampling, and analytical 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 thorough characterization of:

(A) aquifer thickness, ground-water flow rate, ground-water flow direction including seasonal and temporal fluctuations in ground-water flow; and

(B) saturated and unsaturated geologic units and fill materials overlying the uppermost aquifer, materials comprising the uppermost aquifer, and materials comprising the confining unit defining the lower boundary of the uppermost aquifer; including, but not limited to thickness, stratigraphy, lithology, hydraulic conductivities, porosities, and effective porosities.

(2) certified by a qualified ground-water scientist or approved by the Administrator. Within Fourteen (14) days of this certification, the owner or operator must notify the Administrator that the certification has been placed in the operating record.

§ 23503. [Reserved.]

[Reserved.]

§ 23504. Ground-water Sampling and Analysis Requirements.

(a) The ground-water monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide an accurate representation of ground-water quality at the background and down-gradient wells installed in compliance with Subsection (a) of §23502 of this Chapter. The owner or operator must notify the Administrator 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 control; and

(5) quality assurance and quality control.

(b) The ground-water monitoring program must include sampling and analytical methods that are appropriate for ground-water sampling and that accurately measure hazardous constituents and other monitoring parameters in ground-water samples. Ground-water 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) Ground-water elevations must be measured in each well immediately prior to purging, each time ground-water is sampled. The owner or operator must determine the rate and direction of ground-water flow each time ground-water is sampled. Ground-water 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 ground-water flow which could preclude accurate determination of ground-water flow rate and direction.

(e) The owner or operator must establish background ground-water quality in a hydraulically up-gradient or background wells for each of the monitoring parameters or constituents required in the particular ground-water monitoring program that applies to the MSWLF unit, as determined under Subsection (a) of §23505 or Subsection (a) of §23506 of this Chapter. Background ground-water quality may be established at wells that are not located hydraulically up-gradient from the MSWLF unit if it meets the requirements of Item (1) of Subsection (a), §23502 of this Chapter.

(f) The number of samples collected to establish ground-water quality data must be consistent with the appropriate statistical procedures determined pursuant to Subsection (g) of this §23504. The sampling procedures shall be those specified under Subsection (b) of §23505 for detection monitoring,

Subsections (b) and (d) of §23506 for assessment monitoring, and Subsection (b) of §23507 for corrective action, all of this Chapter.

(g) The owner or operator must specify in the operating record one of the following statistical methods to be used in evaluating ground-water 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 mean and the background mean levels for 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 the 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 tolerance or prediction limit.

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

(5) Another statistical test method that meets the performance standards of Subsection (h) of this §23504. The owner or operator must place a justification for this alternative in the operating record and notify the Administrator of the use of this alternative test. The justification must demonstrate that the alternative method meets the performance standards of Subsection (h) of this §23504. Components of such demonstrations are identified in Chapter 5, Subpart E, of the EPA Solid Waste Disposal

Facility Criteria, Technical Manual, published in November 1993 or as updated.

(h) Any statistical method chosen under Subsection (g) of this §23504 shall comply with the following performance standards, as appropriate.

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

(2) If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations or a ground-water protection standard, the test shall be done at a Type I error level no less than 0.01 for each testing period. If a multiple comparisons procedure is used, the Type I experiment wise error rate 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 ground-water 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 data base, 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 ground-water monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, shall be protective

of human health and the environment. These parameters shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(5) The statistical method shall account for data below the limit of detection with One (1) or more statistical procedures that are protective of human health and the environment. Any practical quantitative 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 operating conditions that are available to the facility.

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

(i) The owner or operator must determine whether or not there is a statistically significant increase over background values for each parameter or constituent required in the particular ground-water monitoring program that applies to the MSWLF unit, as determined under Subsection (a) of §23505 or Subsection (a) of §23506, of this Chapter.

(1) In determining whether a statistically significant increase has occurred, the owner or operator must compare the ground-water quality of each parameter or constituent at each monitoring well designated pursuant to Item (2) of Subsection (a) of §23502 of this Chapter, to the background value of that constituent, according to the statistical procedures and performance standards specified under Subsection (g) and (h) of this §23504.

(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.

§ 23505. Detection Monitoring Program.

(a) Detection monitoring is required at MSWLF units at all ground-water monitoring wells defined under Items (1) and (2) of Subsection (a), §23502 of this Chapter. At a minimum, a detection monitoring program must include the monitoring for the constituents listed in Appendix I of this Chapter.

(1) The Administrator 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 Administrator 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 of this Chapter), if the alternative parameters provide a reliable indication of inorganic releases from the MSWLF unit to the ground-water. In determining alternative parameters, the Administrator shall consider the following factors:

(A) the types, quantities, and concentrations of constituents in waste managed at the MSWLF units;

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

(C) the detectability of indicator parameters, waste constituents, and reaction products in the ground-water; and

(D) 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 of this Chapter, or in the alternative list approved in accordance with Item (2) of Subsection (a) of this §23505, shall be at least semi-annual during the active life of the facility (including closure) and the post-closure period. A minimum of

Four (4) independent samples from each well (background and down-gradient) must be collected and analyzed for the Appendix I constituents, or the alternative list approved in accordance with Item (2) of Subsection (a) of this §23505, during the first semiannual sampling event. At least One (1) sample from each well (background and down-gradient) must be collected and analyzed during subsequent semiannual sampling events. The Administrator may specify an appropriate alternative frequency for repeated sampling and analysis for Appendix I constituents, or the alternative list approved in accordance with Item (2) of Subsection (a) of this §23505, 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) ground-water flow rates;

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

(5) resource value of the aquifer.

(c) If the owner or operator determines, pursuant to Subsection (g) of §23504, that there is a statistically significant increase over background for One (1) or more of the constituents listed in Appendix I of this Chapter, or in the alternative list approved in accordance with Item (2) of Subsection (a) of this §23505, at any monitoring well at the boundary specified under Item (2) of Subsection (a) of §23502, the owner or operator:

(1) must within Fourteen (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 Administrator that this notice was placed in the operating record; and

(2) must establish an assessment monitoring program meeting the requirements of §23506 within Ninety (90) days except as provided for in Item (3) of Subsection (c) of this §23505.

(3) May demonstrate that a source other than a MSWLF unit caused the contamination or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in ground-water quality. Components of such demonstrations are identified in Chapter 5, Subpart E, of the EPA Solid Waste Disposal Facility Criteria, Technical Manual, published in November 1993 or as updated. A report documenting this demonstration must be certified by a qualified ground-water scientist or approved by the Administrator and be 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 Ninety (90) days, a successful demonstration is not made, the owner or operator must initiate an assessment monitoring program as required in §23506 of this Chapter.

§ 23506. 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 the alternative list approved in accordance with Item (2) of Subsection (a) of §23505.

(b) Within Ninety (90) days of triggering an assessment monitoring program, and annually thereafter, the owner or operator must sample and analyze the ground-water for all constituents identified in Appendix II of this Chapter. A minimum of One (1) sample from each down-gradient well must be collected and analyzed during each sampling event. For any constituent detected in the down-gradient wells as the result of the complete Appendix II analysis, a minimum of Four (4) independent samples from each well (background and down-

gradient) must be collected and analyzed to establish background for the new constituents.

The Administrator may specify an appropriate subset of wells to be sampled and analyzed for Appendix II constituents during assessment monitoring. The Administrator 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 Administrator may specify an appropriate alternate frequency for repeated sampling and analysis for the full set of Appendix II constituents required by Subsection (b) of §23506, 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) ground-water 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 §23506.

(d) After obtaining the results from the initial or subsequent sampling events required in Subsection (b) of this §23506, the owner or operator must:

(1) within Twenty-four (24) hours, place a notice in the operating record identifying the Appendix II constituents that have been detected and notify the Administrator that this notice has been placed in the operating record;

(2) within Ninety (90) days, and on at least a semi-annual basis thereafter, resample all wells specified by Subsection (a) of §23502, conduct analyses for all

constituents in Appendix I of this Chapter or in the alternative list approved in accordance with Item (2) of Subsection (a) of §23505, and for those constituents in Appendix II of these regulations that are detected in response to Subsection (b) of this §23506, and record their concentrations in the facility operating record. At least One (1) sample from each well (background and down-gradient) must be collected and analyzed during these sampling events.

The Administrator may specify an alternative monitoring frequency during the active life (including closure) and the post-closure period for the constituents referred to in this paragraph. The alternative frequency for Appendix I constituents, or the alternative list approved in accordance with Item (2) of Subsection (a) of §23505, 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 Subsection (c) of this §23506;

(3) establish background concentrations for any constituents detected pursuant to Subsection (b) or Item (2) of Subsection (d), all of this §23506; and

(4) establish ground-water protection standards for all constituents detected pursuant to Subsections (b) and (d) of this §23506. The ground-water protection standards shall be established in accordance with Subsections (h) or (i) of this §23506.

(e) If the concentrations of all Appendix II constituents are shown to be at or below background values, using the statistical procedures in Subsection (g) of §23504, for Two (2) consecutive sampling events, the owner or operator must notify the Administrator 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 ground-water protection standard established under Subsections (h) or (i) of this §23506, using the statistical procedures in

Subsection (g) of §23504, the owner or operator must continue assessment monitoring in accordance with this §23506.

(g) If One (1) or more Appendix II constituents are detected at statistically significant levels above the ground-water protection standard established under Subsections (h) or (i) of this §23506, in any sampling event, the owner or operator must, within Fourteen (14) days of this finding, place a notice in the operating record identifying the Appendix II constituents that have exceeded the ground-water protection standard and notify the Administrator and all appropriate local government officials that the notice has been placed in the operating record. The owner or operator also:

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

(2) must install at least One (1) additional monitoring well at the facility boundary in the direction of contaminant migration and sample this well in accordance with Item (2) of Subsection (d) of this §23506;

(3) 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 if indicated by sampling of wells in accordance with Item (1) of Subsection (g) of this §23506; and

(4) must initiate an assessment of corrective measures as required by §23507 of this Chapter within Ninety (90) days; or

(5) may demonstrate that a source other than a MSWLF unit caused the contamination, or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in ground-water quality. Components of such demonstrations are identified in Chapter 5, Subpart E, of the EPA Solid Waste Disposal Facility Criteria, Technical Manual, published in November 1993 or as updated. A report documenting this demonstration must be certified by a qualified ground-water scientist or approved by the Administrator and placed in the operating record. If a

successful demonstration is made, the owner or operator must continue monitoring in accordance with the assessment monitoring program pursuant to this §23506, and may return to detection monitoring if the Appendix II constituents are at or below background as specified in Subsection (e) of this §23506. Until a successful demonstration is made, the owner or operator must comply with Subsection (g) of this §23506, including initiating an assessment of corrective measures.

(h) The owner or operator must establish a ground-water protection standard for each Appendix II constituent detected in the ground-water. The ground-water 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 (42 U.S.C. §300g) and under 40 CFR Part 141, the MCL for that constituent;

(2) for constituents for which MCLs have not been promulgated, the background concentration for the constituent established from wells in accordance with Item (1) of Subsection (a) of §23502; or

(3) for constituents for which the background level is higher than the MCL identified under Item (1) of Subsection (h) of this §23506 or health based levels identified under Item (1) of Subsection (i) of this §23506, the background concentration.

(i) The Administrator may establish an alternative ground-water protection standard for constituents for which MCLs have not been established. These ground-water protection standards shall be appropriate health based levels that satisfy the following criteria:

(1) the level is derived in a manner consistent with USEPA guidelines for assessing the health risks of environmental pollutants (51 FR 33992, 34006, 34014, 34028, September 24, 1986);

(2) the level is 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 continuous lifetime exposure) with the $1x\ 10^{-4}$ to $1\ x\ 10^{-6}$ range; and

(4) for systemic toxicant, 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 Subsection (i) of this §23506, systemic toxicant includes toxic chemicals that cause effects other than cancer or mutation.

(j) In establishing ground-water protection standards under Subsection (i) of this §23506, the Administrator may consider the following:

(1) multiple contaminants in the ground-water;

(2) exposure threats to sensitive environmental receptors; and

(3) other site-specific exposure or potential exposure to ground-water.

§ 23507. Assessment of Corrective Measures.

(a) Within Ninety (90) days of finding that any of the constituents listed in Appendix II have been detected at a statistically significant level exceeding the ground-water protection standards defined under Subsections (h) or (i) of §23506 of this Chapter, the owner or operator must initiate an assessment of corrective measures. Such an assessment must be completed within a reasonable period of time.

(b) The owner or operator must continue to monitor in accordance with the assessment monitoring program as specified in §23506 of this Chapter.

(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 §23508 of this Chapter, addressing at least the following:

(1) the performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies, including safety impacts, cross-media 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 Guam or local permit requirements or other environmental or public health requirements that may substantially affect implementation of the remedy.

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

2023 NOTE: Reference to "territorial" replaced with "Guam" pursuant to 1 GCA §420.

§ 23508. Selection of Remedy.

(a) Based on the results of the corrective measure assessment conducted under §23507 of this Chapter, the owner or operator must select a remedy that, at a minimum, meets the standards listed in Subsection (b) of this §23508. The owner or operator must notify the Administrator, within Fourteen (14) days of selecting a remedy, a report describing the selected remedy has been placed in the operating record and how it meets the standards in Subsection (b) of this §23508.

(b) Remedies must:

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

(2) attain the ground-water protection standard as specified pursuant to Subsection (h) or (i) of §23506 of this Chapter;

(3) control the source(s) of releases so as to reduce or eliminate, to the maximum extent practicable, further

releases 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 Subsection (d) of §23509 of this Chapter.

(c) In selecting a remedy that meets the standards of Subsection (b) of this §23508, the owner or operator shall consider the following evaluation factors:

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

(A) magnitude of reduction of existing risks;

(B) magnitude of residual risks in terms of likelihood of further releases due to waste remaining following implementation of a remedy;

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

(D) 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 redisposal or containment;

(E) time until full protection is achieved;

(F) potential for exposure of humans and environmental receptors to remaining wastes, considering the potential threat to human health and the environment associated with excavation, transportation, redisposal, or containment;

(G) long-term reliability of the engineering and institutional controls; and

(H) 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:

(A) the extent to which containment practices will reduce further releases;

(B) the extent to which treatment technologies may be used.

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

(A) degree of difficulty associated with constructing the technology;

(B) expected operational reliability of the technologies;

(C) need to coordinate with an obtain necessary approvals and permits from other agencies;

(D) availability of necessary equipment and specialists; and

(E) 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(ies).

(d) The owner or operator shall specify as part of the selected remedy a schedule(s) for initiating and completing remedial activities. Such a schedule must require the initiation of remedial activities within a reasonable period of time taking into consideration the factors set forth in Item (1) through (8) of Subsection (d) of this §23508. 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 ground-water protection standards established under Subsections (g) or (h) of §23506 of this Chapter 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:

(A) current and future uses;

(B) proximity and withdrawal rate of users;

(C) ground-water quantity and quality;

(D) the potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituent;

(E) the hydrogeologic characteristic of the facility and surrounding land;

(F) ground-water removal and treatment costs; and

(G) the cost and availability of alternative water supplies.

(7) practicable capability of the owner or operator;

(8) other relevant factors.

(e) The Administrator may determine that remediation of a release of an Appendix II constituent from a MSWLF unit is not

necessary if the owner or operator demonstrates to the Administrator that:

(1) the ground-water is additionally contaminated by substances that have originated from a source other than a MSWLF unit and those substances 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 ground-water that:

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

(B) is not hydraulically connected with waters to which the hazardous constituents are migrating or are likely to migrate in a concentration(s) that would exceed the ground-water protection standards established under Subsections (h) or (i) of §23506; or

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

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

(f) A determination by the Administrator pursuant to Subsection (e) of §23508 shall not affect the authority of Guam to required the owner or operator to undertake source control measures or other measures that may be necessary to eliminate or minimize further releases to the ground-water, to prevent exposure to the ground-water, or to remediate the ground-water to concentrations that are technically practicable and significantly reduce threats to human health or the environment.

§ 23509. Implementation of the Corrective Action Program.

(a) Based on the schedule established under Section (d) of §23508 of this Chapter, for initiation and completion of remedial activities the owner or operator must:

(1) establish and implement a corrective action ground-water monitoring program that:

(A) at a minimum, meet the requirements of an assessment monitoring program under §23506 of this Chapter;

(B) indicate the effectiveness of the corrective action remedy; and

(C) demonstrate compliance with ground-water protection standard pursuant to Subsection (e) of this §23509. Components of such demonstrations are identified in Chapter 5, Subpart E, of the EPA Solid Waste Disposal Facility Criteria, Technical Manual, published in November 1993 or as updated.

(2) implement the corrective action remedy selected under §23508 of this Chapter; and

(3) take any interim measures necessary to ensure the protection 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 §23508 of this Chapter. The following factors must be considered by an owner or operator in determining whether interim measures are necessary:

(A) time required to develop and implement a final remedy;

(B) actual or potential exposure of nearby populations or environmental receptors to hazardous constituents;

(C) actual or potential contamination of drinking water supplies or sensitive ecosystems;

(D) further degradation of the ground-water that may occur if remedial action is not initiated expeditiously;

(E) weather conditions that may cause hazardous constituents to migrate or be released;

(F) risks of fire or explosion, or potential for exposure to hazardous constituents as a result of an accident or failure of a container or handling system; and

(G) 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 Subsection (b) of §23508 of this Chapter are not being achieved through the remedy selected. In such cases, the owner or operator must implement other methods or techniques that could practicably achieve compliance with the requirements, unless the owner or operator makes the determination under Subsection (c) of this §23509.

(c) If the owner or operator determines that compliance with requirements under Subsection (b) of §23508 cannot be practically achieved with any currently available methods, the owner or operator must:

(1) obtain certification of a qualified ground-water scientist or approval by the Administrator that compliance with requirements under Subsection (b) of §23508 cannot be practically 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 sources of contamination, or for removal or decontamination of equipment, units, devices, or structures that are:

(A) technically practicable; and

(B) consistent with the overall objective of the remedy.

(4) notify the Administrator within Fourteen (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 §23508 of this Chapter, or an interim measure required under Item (3) of Subsection (a) of this §23509, shall be managed in a manner:

(1) that is protective of human health and the environment; and

(2) that complies with applicable RCRA requirements.

(e) Remedies selected pursuant to §23508 of this Chapter, shall be considered complete when:

(1) the owner or operator complies with the ground-water protection standards established under Subsections (h) or (i) of §23506 at all points within the plume of contamination that lie beyond the ground-water monitoring well system established under Subsection (a) of §23502;

(2) compliance with the ground-water protection standards established under Subsections (h) or (i) of §23506 has been achieved by demonstrating that concentrations of Appendix II constituents have not exceeded the ground-water protection standard(s) for a period of Three (3) consecutive years using the statistical procedures and performance standards in Subsection (g) or (h) of §23504. Components of such demonstrations are identified in Chapter 5, Subpart E, of the EPA Solid Waste Disposal Facility Criteria, Technical Manual, published in November 1993 or as updated. The Administrator may specify an alternative length of time during which the owner or operator must demonstrate that concentrations of Appendix II constituents have not exceeded the ground-water protection standard(s) taking into consideration:

(A) extent and concentration of the release(s);

(B) behavior characteristics of the hazardous constituents in the ground-water;

(C) accuracy of monitoring or modeling techniques, including any seasonal, meteorological, or other environmental variabilities that may affect the accuracy; and

(D) characteristics of the ground-water;

(3) all actions required to complete the remedy have been satisfied.

(f) Upon completion of the remedy, the owner or operator must notify the Administrator within Fourteen (14) days that a certification that the remedy has been completed in compliance with the requirements of Subsection (e) of this §23509 has been placed in the operating record. The certification must be signed by the owner or operator and by a qualified ground-water scientist or approved by the Administrator.

(g) When, upon completion of the certification, the owner or operator determines that the corrective action remedy has been completed in accordance with the requirements under Subsection (e) of the §23509, the owner or operator shall be released from the requirements for financial assurance for corrective action under §23704.

ARTICLE 6
CLOSURE AND POST-CLOSURE CARE

§ 23601. 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 comprised of an erosion layer underlain by an infiltration layer as follows:

(1) the infiltration layer must be comprised of a minimum of Eighteen (18) inches of earthen material that has a permeability less than or equal to the permeability of any

bottom liner system or natural subsoils present, or a permeability no greater than 1 x 10^{-5} cm/sec, whichever is less, and

(2) the erosion layer must consist of a minimum Six (6) inches of earthen material that is capable of sustaining native plant growth.

(b) The Administrator 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 Item (1) of Subsection (a) of this §23601; and

(2) an erosion layer that provides equivalent protection from wind and water erosion as the erosion layer specified in Item (2) of Subsection (a) of this §23601.

(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 its active life in accordance with the cover design requirements in Subsections (a) or (b) of this §23601, as applicable. This plan must be approved by Guam EPA prior to the initiation of closure activities. The closure plan, at a minimum, must include the following information:

(1) a description of the final cover, designed in accordance with Subsections (a) of this §23601 and the methods and procedures to be used to install the cover;

(2) an estimate of the largest area of the MSWLF unit ever requiring a final cover as required under Subsections (a) of this §23601 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 this §23601.

(d) The owner or operator must notify the Administrator that a closure plan has been prepared and placed in the operating

record immediately or by the initial receipt of waste, whichever is later.

(e) Prior to beginning closure of each MSWLF unit as specified in Subsections (f) of this §23601, an owner or operator must notify the Administrator that a notice of the intent to close the unit has been placed in the operating record.

(f) The owner or operator must begin closure activities of each MSWLF unit no later than Thirty (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 (1) year after the most recent receipt of wastes. Extensions beyond the One (1) year deadline for beginning closure may be granted by the Administrator if the owner or operator demonstrates 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 One hundred and eighty (180) days following the beginning of closure as specified in Subsection (f) of this §23601. Extensions of the closure period may be granted by the Administrator if the owner or operator demonstrates that closure will, of necessity, take longer than One hundred and eighty (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 Administrator that a certification, signed by an independent registered professional engineer and approved by the Administrator, verifying that closure has been completed in accordance with the closure plan, has been placed in the operating record.

(i) 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 Administrator that the notation has been recorded and a copy has been placed in the operating record.

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

(1) the land has been used as a landfill facility; and

(2) its use is restricted under Item (3) of Subsection (c) of this §23602.

(k) The owner or operator may request permission from the Administrator to remove the notation from the deed if all wastes are removed from the facility.

§ 23602. 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 Thirty (30) years, except as provided under Subsection (b) of this §23602, 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 or otherwise damaging the final cover;

(2) maintaining and operating the leachate collection system in accordance with the requirements in §23401 of this Chapter. The Administrator 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 ground-water in accordance with the requirements of Article 5 of this Chapter and maintaining the ground-water monitoring system, if applicable; and

(4) maintaining and operating the gas monitoring system in accordance with the requirements of §23306.

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

(1) decreased by the Administrator if the owner or operator demonstrates that the reduced period is sufficient to protect human health and the environment and this demonstration is approved by the Administrator; or

(2) increased by the Administrator, if the Administrator 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 a written post-closure plan that includes, at a minimum, the following information:

(1) a description of the monitoring and maintenance activities required in Subsection (a) of this §23602, for each MSWLF unit, and the frequency at which these activities will be performed;

(2) name, address, and telephone number of the person or office 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.

The Administrator may approve any other disturbance if the owner or operator demonstrates that disturbance of the final cover, liner or other component 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 Administrator that a post-closure plan has been prepared and placed in the operating

record immediately or by the initial receipt of waste, whichever is later.

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

ARTICLE 7
FINANCIAL ASSURANCE CRITERIA

§ 23701. Applicability and Effective Date.

(a) The requirements of this Article 7 apply to owners and operators of all MSWLF units, except owners or operators who are local or federal government entities whose debts and liabilities are the debts and liabilities of Guam or the United States.

(b) The requirements of this Article shall be effective immediately.

§ 23702. 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 units ever requiring a final cover as required under §23601 of this Chapter at any time during the active life in accordance with the closure plan. The owner or operator must notify the Administrator 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 its closure plan (see Item (2) of Subsection (c), §23601 of this Chapter).

(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 estimate and the amount of financial assurance 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 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 Administrator 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 §23705 of this Chapter. The owner or operator must provide continuous coverage for closure until released from financial assurance requirements by demonstrating compliance with Subsections (h), (i), and (j) of §23601 of this Chapter.

§ 23703. 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 §23602 of this Chapter. The post-closure cost estimate used to demonstrate financial assurance in Subsection (b) of this §23703 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 Administrator 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 Subsection (b) of this §23703 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 Subsection (b) of this §23703 if the cost estimate exceeds the maximum costs of post-closure care remaining over the post-closure care period. The owner or operator must notify the Administrator 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 §23705, financial assurance for the costs of post-closure care as required under §23602 of this Chapter. 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 Subsection (e) of §23602 of this Chapter.

§ 23704. Financial Assurance for Corrective Action.

(a) An owner or operator of a MSWLF unit required to undertake a corrective action program under §23509 of this

Chapter 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 that Section. 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 Administrator 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 Subsection (f) of §23509 of this Chapter.

(2) The owner or operator must increase the corrective action cost estimate and the amount of financial assurance provided under Subsection (b) of this §23704 if changes 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 Subsection (b) of this §23704 if the cost estimate exceeds the maximum remaining costs of corrective action. The owner or operator must notify the Administrator 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 §23509 of this Chapter must establish, in a manner in accordance with §23705 of this Chapter, financial assurance for the most recent corrective action 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 Subsections (f) and (g) of §23509 of this Chapter.

§ 23705. Allowable Mechanisms.

The mechanisms used to demonstrate financial assurance under this Section must ensure that the funds necessary to meet the costs of closure, post-closure care, and corrective action for known releases will be available whenever they are needed. Owners and operators must choose from the options specified in Subsections (a) through (f) of this §23705.

(a) Trust fund.

(1) An owner or operator may satisfy the requirements of this §23705 by establishing a trust fund which conforms to the requirements of Subsection (a) of this §23705. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or local agency. A copy of the trust agreement must be placed in the facility's operating record. The owner or operator must notify the Administrator that a copy of the trust fund agreement has been placed in the facility's operating record.

(2) Payments into the trust fund must be made annually by the owner or operator over the term of the initial permit or over the remaining life of the MSWLF unit, whichever is shorter, in the case of a trust fund for closure or post-closure care, or over One-half (1/2) of the estimated length of the corrective action program in the case of corrective action for known releases. This period is referred to as the pay-in period.

(3) For a trust fund used to demonstrate financial assurance for closure and post-closure care, the first payment into the fund must be at least equal to the current cost estimate for closure or post-closure care, divided by the number of years in the pay-in period as defined in Item (2) of Subsection (a) of this §23705. The amount of subsequent payments must be determined by the following formula:

(A) Next payment = (CE – CV)/Y.

(B) CE is the current cost estimate for closure or post-closure care (updated for inflation or other changes), CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) For a trust fund used to demonstrate financial assurance for corrective action, the first payment into the trust fund must be at least equal to One-half (1/2) of the current cost estimate for corrective action, divided by the number of years in the corrective action pay-in period as defined in Item (2) of Subsection (a) of this §23705. The amount of subsequent payments must be determined by the following formula:

(A) Next payment = (RB – CV)/Y.

(B) RB is the most recent estimate of the required trust fund balance for corrective action (i.e., the total costs that will be incurred during the second half of the corrective action period), CV is the current value of the trust fund, and Y is the number of years remaining on the pay-in period.

(5) The initial payment into the trust fund must be made immediately or before the initial receipt of waste, whichever is later, in the case of closure and post-closure care, or no later than One hundred twenty (120) days after the corrective action remedy has been selected in accordance with the requirements of §23509 of this Chapter.

(6) If the owner or operator establishes a trust fund after having used One (1) or more alternate mechanisms specified in this Article, the initial payment into the trust fund must be at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to the specifications of Subsection (a) of this §23705, as applicable.

(7) The owner or operator, or other person authorized to conduct closure, post-closure care, or corrective action activities may request reimbursement from the trustee for these expenditures. Requests for reimbursement will be granted by the trustee only if sufficient funds are remaining in the trust fund to cover the remaining costs of closure, post-closure care, or corrective action, and if justification and documentation of the cost is placed in the operating record. The owner or operator must notify the Administrator that the documentation of the justification for reimbursement has been placed in the operating record and that reimbursement has been received.

(8) The trust fund may be terminated by the owner or operator only if the owner or operator substitutes alternate financial assurance as specified in this Section or if he is no longer required to demonstrate financial responsibility in accordance with the requirements of Subsection (b) of §23703 or Subsection (b) of §23704, all of this Chapter.

(b) Surety bond guaranteeing payment or performance.

(1) An owner or operator may demonstrate financial assurance for closure or post-closure care by obtaining a payment or performance surety bond which conforms to the requirements of this Item (1) of Subsection (b) of this §23705. An owner or operator may demonstrate financial assurance for corrective action by obtaining a performance bond which conforms to the requirements of this paragraph. The bond must be effective immediately or before the initial receipt of waste, whichever is later, in the case of closure and post-closure care, or no later than One hundred twenty (120) days after the corrective action remedy has been selected in accordance with the requirements of §23509. The owner or operator must notify the Administrator that a copy of the bond has been placed in the operating record. The surety company issuing the bond must, at a

minimum, be among those listed as acceptable sureties on federal bonds in Circular 570 of the U.S. Department of Treasury.

(2) The penal sum of the bond must be in an amount at least equal to the current closure, post-closure care or corrective action cost estimate, whichever is applicable, except as provided in Subsection (g) of §23705.

(3) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(4) The owner or operator must establish a standby trust fund. The standby trust fund must meet the requirements of Subsection (a) of §23705, except the requirements for initial payment and subsequent annual payments specified in Items (2), (3), (4), and (5) of Subsection (a) of this §23705.

(5) Payments made under the terms of the bond will be deposited by the surety directly into the standby trust fund. Payments from the trust fund must be approved by the trustee.

(6) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner and operator and to the Administrator One hundred and twenty (120) days in advance of cancellation. If the surety cancels the bond, the owner or operator must obtain alternate financial assurance as specified in this Article 7.

(7) The owner or operator may cancel the bond only if alternate financial assurance is substituted as specified in this Section or if the owner or operator is no longer required to demonstrate financial responsibility in accordance with Subsection (b) of §23702, Subsection (b) of §23703, or Subsection (b) of §23704, all of this Chapter.

(c) Letter of credit.

(1) An owner or operator may satisfy the requirements of this Article 7 by obtaining an irrevocable standby letter of credit which conforms to the requirements of this Subsection (c). The letter of credit must be effective immediately or before the initial receipt of waste, whichever is later, in the case of closure and post-closure care, or no later than One hundred and twenty (120) days after the corrective action remedy has been selected in accordance with the requirements of §23509 of this Chapter. The owner or operator must notify the Administrator that a copy of the letter of credit has been placed in the operating record. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a federal or local agency.

(2) A letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: name, and address of the facility, and the amount of funds assured, must be included with the letter of credit in the operating record.

(3) The letter of credit must be irrevocable and issued for a period of at least One (1) year in an amount at least equal to the current cost estimate for closure, post-closure care or corrective action, whichever is applicable, except as provided in Subsection (a) of §23705. The letter of credit must provide that the expiration date will be automatically extended for a period of at least One (1) year unless the issuing institution has cancelled the letter of credit by sending notice of cancellation by certified mail to the owner and operator and to the Administrator One hundred and twenty (120) days in advance of cancellation. If the letter of credit is cancelled by the issuing institution, the

owner or operator must obtain alternate financial assurance.

(4) The owner or operator may cancel the letter of credit only if alternate financial assurance is substituted as specified in this §23705 or if the owner or operator is released from the requirements of this Section in accordance with Subsection (b) of §23702, Subsection (b) of §23703, or Subsection (b) of §23704, all of this Chapter.

(d) Insurance.

(1) An owner or operator may demonstrate financial assurance for closure and post-closure care by obtaining insurance which conforms to the requirements of this paragraph. The insurance must be effective immediately or before the initial receipt of waste, whichever is later. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in Guam or One (1) or more States. The owner or operator must notify the Administrator that a copy of the insurance policy has been placed in the operating record.

(2) The closure or post-closure care insurance policy must guarantee that funds will be available to close the MSWLF unit whenever final closure occurs or to provide post-closure care for the MSWLF unit whenever the post-closure care period begins, whichever is applicable. The policy must also guarantee that once closure or post-closure care begins, the insurer will be responsible for the paying out of funds to the owner or operator or other person authorized to conduct closure or post-closure care, up to an amount equal to the face amount of the policy.

(3) The insurance policy must be issued for a face amount at least equal to the current cost estimate for closure or post-closure care, whichever is applicable,

except as provided in Subsection (a) of this §23705. The term 'face amount' means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) An owner or operator, or any other person authorized to conduct closure or post-closure care, may receive reimbursements for closure or post-closure expenditures, whichever is applicable. Requests for reimbursement will be granted by the insurer only if the remaining value of the policy is sufficient to cover the remaining costs of closure or post-closure care, and if justification and documentation of the cost is placed in the operating record. The owner or operator must notify the Administrator that the documentation of the justification for reimbursement has been placed in the operating record and that reimbursement has been received.

(5) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided that such consent is not unreasonably refused.

(6) The insurance policy must provide that the insurer may not cancel, terminate or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may cancel the policy by sending notice of cancellation by certified mail to the owner and operator and to the Administrator One hundred and twenty (120) days in advance of cancellation. If the insurer cancels the policy, the owner or operator must obtain alternate financial assurance as specified in this Section.

(7) For insurance policies providing coverage for post-closure care, commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. Such increase must be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to Eighty-five Percent (85%) of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. Treasury for Twenty-six (26) week Treasury securities.

(8) The owner or operator may cancel the insurance policy only if alternate financial assurance is substituted as specified in this Section or if the owner or operator is no longer required to demonstrate financial responsibility in accordance with the requirements of Subsection (b) of §23702, Subsection (b) of §23703, or Subsection (b) of §23704, all of this Chapter.

(e) Local approved mechanism. An owner or operator may satisfy the requirements of this Section by obtaining any other mechanism that meets the criteria specified in Subsection (h) of this §23705, and that is approved by the Administrator.

(f) Local assumption of responsibility. If the Administrator either assumes legal responsibility for an owner or operator's compliance with the closure, post-closure care or corrective action requirements of this Article 7, or assures that the funds will be available from local sources to cover the requirements, the owner or operator will be in compliance with the requirements of this Section. Any local assumption of responsibility must meet the criteria specified in Subsection (h) of this §23705.

(g) Use of multiple financial mechanisms. An owner or operator may satisfy the requirements of this Article 7 by establishing more than One (1) financial mechanism per facility. The mechanisms must be as specified in Subsections

(a) through (f) of this §23705, 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 or 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 (2) firms are consolidated.

(h) Criteria for language of financial assurance mechanisms. The language of the mechanisms listed in Subsections (a) through (g) of this §23705, must satisfy 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 immediately or prior to the initial receipt of solid waste, whichever is later, in the case of closure and post-closure care, and no later than One hundred and twenty (120) days after the corrective action remedy has been selected in accordance with the requirements of §23509 of this Chapter, until the owner or operator is released from the financial assurance requirements under §§23702, 23703, and 23704 of this Chapter;

(4) The financial assurance mechanisms must be legally valid, binding, and enforceable under federal and local law;

(5) The financial assurance mechanism required by this Chapter may not be cancelled by the guarantor

unless the Administrator has received written notice thereof and there has been a lapse of One hundred and twenty (120) days between receipt of notice and cancellation date.

ADDENDUM A FEE SCHEDULE FOR ALL OTHER SOLID WASTE MANAGEMENT FACILITIES

1. Solid Waste Transfer Facility	$500.00
2. Industrial Solid Waste Landfill Facility	(Reserved)
3. Solid Waste Hardfill Facility	$500.00
4. Solid Waste Storage Facility	$500.00
5. Solid Waste Processing Facility	
a. Solid Waste Composting Facility	$100.00
b. Solid Waste Material Resource Recovery Facility	$200.00
c. Solid Waste Remediation Facility	
(1) Bioremediation	
(a) Temporary Site Specific	$200.00
(b) Permanent	$500.00
(2) All other remediation	$500.00
d. Solid Waste Incinerator Facility	$500.00
e. Solid Waste-to-Energy Recovery Facility	$10,000.00
f. Other Processing Facility	$200.00

ADDENDUM B DURATION OF PERMIT FEES FOR ALL OTHER SOLID WASTE MANAGEMENT FACILITIES

The following is the duration of permit for all other solid waste management facilities.

1. Solid Waste Transfer Facility	5 years
2. Industrial Solid Waste Landfill Facility	(Reserved)
3. Solid Waste Hardfill Facility	2 years
4. Solid Waste Storage Facility	2 years
5. Solid Waste Processing Facility	
a. Solid Waste Composting Facility	5 years
b. Solid Waste Material Resource Recovery Facility	5 years
c. Solid Waste Remediation Facility	
(1) Bioremediation	
(a) Temporary Site Specific	2 years
(b) Permanent	5 years
(2) All other remediation	2 years
d. Solid Waste Incinerator Facility	5 years
e. Solid Waste-to-Energy Recovery Facility	5 years
f. Other Processing Facility	2 years

ADDENDUM C ADMINISTRATIVE PENALTIES

After following the procedures as outlined in Subsection (e) of § 51115 of Public Law 23-64, the Administrator may impose the following administrative penalties up to the listed amount per day for each violation. The violations are including but not limited to the following:

1. Acceptance of Prohibited Solid Wastes	$1,000.00
2. Procedures for Excluding Receipt of Hazardous Waste	$1,000.00
3. Failure to Meet Cover Material Requirements	$1,000.00

4. Failure to Provide Disease Vector Control	$500.00
5. Failure to Provide Explosive Gases Control	$800.00
6. Failure to Meet Air Criteria	$500.00
7. Failure to Meet Access Requirements	$500.00
8. Lack of Run-on/Run-off Control Systems	$1,000.00
9. Failure to Meet Surface Water Requirements	$1,000.00
10. Acceptance of Liquid Wastes	$1,000.00
11. Failure to Meet Recordkeeping Requirements	$500.00
12. Failure to Provide Safety Equipment	
a. Appropriate Hard Hats	$500.00
b. Appropriate Respirators/Breathing Equipment	$500.00
c. Appropriate Safety Shoes	$500.00
d. Ear Protection	$500.00
e. Appropriate Work Gloves	$500.00
f. Appropriate Fire Extinguisher(s)	$1,000.00
g. First Aid	$1,000.00
h. Communication Equipment	$500.00
i. Rollover Protective Structures	$500.00
j. Seat Belts	$500.00

APPENDIX I CONSTITUENTS FOR DETECTION MONITORING

Common name[1]	**CAS RN[2]**
Inorganic Constituents:	
(1) Antimony	(Total)
(2) Arsenic	(Total)
(3) Barium	(Total)
(4) Beryllium	(Total)

Common name[1]	**CAS RN[2]**
(5) Cadmium	(Total)
(6) Chromium	(Total)
(7) Cobalt	(Total)
(8) Copper	(Total)
(9) Lead	(Total)
(10) Nickel	(Total)
(11) Selenium	(Total)
(12) Silver	(Total)
(13) Thallium	(Total)
(14) Vanadium	(Total)
(15) Zinc	(Total)
Organic Constituents:	
(16) Acetone	67–64–1
(17) Acrylonitrile	107–13–1
(18) Benzene	71–43–2
(19) Bromochloromethane	74–97–5
(20) Bromodichloromethane	75–27–4
(21) Bromoform; Tribromomethane	75–25–2
(22) Carbon disulfide	75–15–0
(23) Carbon tetrachloride	56–23–5
(24) Chlorobenzene	108–90–7
(25) Chloroethane; Ethyl chloride	75–00–3
(26) Chloroform; Trichloromethane	67–66–3
(27) Dibromochloromethane; Chlorodibromomethane	124–48–1
(28) 1,2-Dibromo-3-chloropropane; DBCP	96–12–8
(29) 1,2-Dibromoethane; Ethylene dibromide; EDB	106–93–4
(30) o-Dichlorobenzene; 1,2-Dichlorobenzene	95–50–1
(31) p-Dichlorobenzene; 1,4-Dichlorobenzene	106–46–7
(32) trans-1, 4-Dichloro-2-butene	110–57–6
(33) 1,1-Dichlorethane; Ethylidene chloride	75–34–3

Common name[1]	CAS RN[2]
(34) 1,2-Dichlorethane; Ethylene dichloride	107–06–2
(35) 1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride	75–35–4
(36) cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene	156–59–2
(37) trans-1, 2-Dichloroethylene; trans-1,2-Dichloroethene	156–60–5
(38) 1,2-Dichloropropane; Propylene dichloride	78–87–5
(39) cis-1,3-Dichloropropene	10061–01–5
(40) trans-1,3-Dichloropropene	10061–02–6
(41) Ethylbenzene	100–41–4
(42) 2-Hexanone; Methyl butyl ketone	591–78–6
(43) Methyl bromide; Bromomethane	74–83–9
(44) Methyl chloride; Chloromethane	74–87–3
(45) Methylene bromide; Dibromomethane	74–95–3
(46) Methylene chloride; Dichloromethane	75–09–2
(47) Methyl ethyl ketone; MEK; 2-Butanone	78–93–3
(48) Methyl iodide; Idomethane	74–88–4
(49) 4-Methyl-2-pentanone; Methyl isobutyl ketone	108–10–1
(50) Styrene	100–42–5
(51) 1,1,1,2-Tetrachloroethane	630–20–6
(52) 1,1,2,2-Tetrachloroethane	79–34–5
(53) Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	127–18–4
(54) Toluene	108–88–3
(55) 1,1,1-Trichloroethane; Methylchloroform	71–55–6
(56) 1,1,2-Trichloroethane	79–00–5
(57) Trichloroethylene; Trichloroethene	79–01–6
(58) Trichlorofluoromethane; CFC–11	75–69–4
(59) 1,2,3-Trichloropropane	96–18–4
(60) Vinyl acetate	108–05–4
(61) Vinyl chloride	75–01–4

Common name[1]	CAS RN[2]
(62) Xylenes	1330–20–7

[1] Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

[2] Chemical Abstract Service registry number. Where "Total" is entered, all species in the ground water that contain this element are included.

[70 FR 34555, June 14, 2005; 70 FR 44150, Aug. 1, 2005]

2023 NOTE: 40 CFR Appendix I to Part 258.

APPENDIX II LIST FOR HAZARDOUS AND ORGANIC CONSTITUENTS

Common name[1]	CAS RN[2]	Chemical abstracts service index name[3]
Acenaphthene	83–32–9	Acenaphthylene, 1,2-dihydro-
Acenaphthylene	208–96–8	Acenaphthylene
Acetone	67–64–1	2-Propanone
Acetonitrile; Methyl cyanide	75–05–8	Acetonitrile
Acetophenone	98–86–2	Ethanone, 1-phenyl-
2-Acetylaminofluorene; 2-AAF	53–96–3	Acetamide, N–9H-fluoren-2-yl-
Acrolein	107–02–8	2-Propenal
Acrylonitrile	107–13–1	2-Propenenitrile
Aldrin	309–00–2	1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-(1,4,4a,5,8,8a)-
Allyl chloride	107–05–1	1-Propene, 3-chloro-

Common name[1]	CAS RN[2]	Chemical abstracts service index name[3]
4-Aminobiphenyl	92–67–1	[1,1′-Biphenyl]-4-amine
Anthracene	120–12–7	Anthracene
Antimony	(Total)	Antimony
Arsenic	(Total)	Arsenic
Barium	(Total)	Barium
Benzene	71–43–2	Benzene
Benzo[a]anthracene; Benzanthracene	56–55–3	Benz[a]anthracene
Benzo[b]fluoranthene	205–99–2	Benz[e]acephenanthrylene
Benzo[k]fluoranthene	207–08–9	Benzo[k]fluoranthene
Benzo[ghi]perylene	191–24–2	Benzo[ghi]perylene
Benzo[a]pyrene	50–32–8	Benzo[a]pyrene
Benzyl alcohol	100–51–6	Benzenemethanol
Beryllium	(Total)	Beryllium
alpha-BHC	319–84–6	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1α,2α,3β,4α,5β,6β)-
beta-BHC	319–85–7	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1α,2β,3α,4β,5α,6β)-
delta-BHC	319–86–8	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1α,2α,3α,4β,5α,6β)-
gamma-BHC; Lindane	58–89–9	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1α,2α, 3β, 4α,5α,6β)-
Bis(2-chloroethoxy)methane	111–91–1	Ethane, 1,1′-[methylenebis (oxy)]bis [2-chloro-
Bis(2-chloroethyl)ether; Dichloroethyl ether	111–44–4	Ethane, 1,1′-oxybis[2-chloro-

Common name[1]	CAS RN[2]	Chemical abstracts service index name[3]
Bis(2-chloro-1-methylethyl) ether; 2,2′-Dichlorodiisopropyl ether; DCIP, See footnote 4	108–60–1	Propane, 2,2′-oxybis[1-chloro-
Bis(2-ethylhexyl) phthalate	117–81–7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl)ester
Bromochloromethane; Chlorobromethane	74–97–5	Methane, bromochloro-
Bromodichloromethane; Dibromochloromethane	75–27–4	Methane, bromodichloro-
Bromoform; Tribromomethane	75–25–2	Methane, tribromo-
4-Bromophenyl phenyl ether	101–55–3	Benzene, 1-bromo-4-phenoxy-
Butyl benzyl phthalate; Benzyl butyl phthalate	85–68–7	1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester
Cadmium	(Total)	Cadmium
Carbon disulfide	75–15–0	Carbon disulfide
Carbon tetrachloride	56–23–5	Methane, tetrachloro-
Chlordane	See footnote 5	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-
p-Chloroaniline	106–47–8	Benzenamine, 4-chloro-
Chlorobenzene	108–90–7	Benzene, chloro-
Chlorobenzilate	510–15–6	Benzeneacetic acid, 4-chloro--(4-chlorophenyl)--hydroxy-, ethyl ester.
p-Chloro-m-cresol; 4-Chloro-3-methylphenol	59–50–7	Phenol, 4-chloro-3-methyl-

Common name[1]	CAS RN[2]	Chemical abstracts service index name[3]
Chloroethane; Ethyl chloride	75–00–3	Ethane, chloro-
Chloroform; Trichloromethane	67–66–3	Methane, trichloro-
2-Chloronaphthalene	91–58–7	Naphthalene, 2-chloro-
2-Chlorophenol	95–57–8	Phenol, 2-chloro-
4-Chlorophenyl phenyl ether	7005–72–3	Benzene, 1-chloro-4-phenoxy-
Chloroprene	126–99–8	1,3-Butadiene, 2-chloro-
Chromium	(Total)	Chromium
Chrysene	218–01–9	Chrysene
Cobalt	(Total)	Cobalt
Copper	(Total)	Copper
m-Cresol; 3-Methylphenol	108–39–4	Phenol, 3-methyl-
o-Cresol; 2-Methylphenol	95–48–7	Phenol, 2-methyl-
p-Cresol; 4-Methylphenol	106–44–5	Phenol, 4-methyl-
Cyanide	57–12–5	Cyanide
2,4-D; 2,4-Dichlorophenoxyacetic acid	94–75–7	Acetic acid, (2,4-dichlorophenoxy)-
4,4′-DDD	72–54–8	Benzene 1,1′-(2,2-dichloroethylidene) bis[4-chloro-
4,4′-DDE	72–55–9	Benzene, 1,1′-(dichloroethenylidene) bis[4-chloro-
4,4′-DDT	50–29–3	Benzene, 1,1′-(2,2,2-trichloroethylidene) bis[4-chloro-

Common name[1]	CAS RN[2]	Chemical abstracts service index name[3]
Diallate	2303–16–4	Carbamothioic acid, bis(1-methylethyl)-, S- (2,3-dichloro-2-propenyl) ester.
Dibenz[a,h]anthracene	53–70–3	Dibenz[a,h]anthracene
Dibenzofuran	132–64–9	Dibenzofuran
Dibromochloromethane; Chlorodibromomethane	124–48–1	Methane, dibromochloro-
1,2-Dibromo-3-chloropropane; DBCP	96–12–8	Propane, 1,2-dibromo-3-chloro-
1,2-Dibromoethane; Ethylene dibromide; EDB	106–93–4	Ethane, 1,2-dibromo-
Di-n-butyl phthalate	84–74–2	1,2-Benzenedicarboxylic acid, dibutyl ester
o-Dichlorobenzene; 1,2-Dichlorobenzene	95–50–1	Benzene, 1,2-dichloro-
m-Dichlorobenzene; 1,3-Dichlorobenzene	541–73–1	Benzene, 1,3-dichloro-
p-Dichlorobenzene; 1,4-Dichlorobenzene	106–46–7	Benzene, 1,4-dichloro-
3,3′-Dichlorobenzidine	91–94–1	[1,1′-Biphenyl]-4,4′-diamine, 3,3′-dichloro-
trans-1,4-Dichloro-2-butene	110–57–6	2-Butene, 1,4-dichloro-, (E)-
Dichlorodifluoromethane; CFC 12	75–71–8	Methane, dichlorodifluoro-
1,1-Dichloroethane; Ethyldidene chloride	75–34–3	Ethane, 1,1-dichloro-
1,2-Dichloroethane; Ethylene dichloride	107–06–2	Ethane, 1,2-dichloro-
1,1-Dichloroethylene; 1,1-Dichloroethene;	75–35–4	Ethene, 1,1-dichloro-

Common name[1]	CAS RN[2]	Chemical abstracts service index name[3]
Vinylidene chloride	156–59–2	Ethene, 1,2-dichloro-(Z)-
cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene		
trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	156–60–5	Ethene, 1,2-dichloro-, (E)-
2,4-Dichlorophenol	120–83–2	Phenol, 2,4-dichloro-
2,6-Dichlorophenol	87–65–0	Phenol, 2,6-dichloro-
1,2-Dichloropropane	78–87–5	Propane, 1,2-dichloro-
1,3-Dichloropropane; Trimethylene dichloride	142–28–9	Propane, 1,3-dichloro-
2,2-Dichloropropane; Isopropylidene chloride	594–20–7	Propane, 2,2-dichloro-
1,1-Dichloropropene	563–58–6	1-Propene, 1,1-dichloro-
cis-1,3-Dichloropropene	10061–01–5	1-Propene, 1,3-dichloro-, (Z)-
trans-1,3-Dichloropropene	10061–02–6	1-Propene, 1,3-dichloro-, (E)-
Dieldrin	60–57–1	2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aα,2β,2aα,3β,6β,6aα,7β,7aα)-
Diethyl phthalate	84–66–2	1,2-Benzenedicarboxylic acid, diethyl ester
O,O-Diethyl O–2-pyrazinyl phosphorothioate; Thionazin	297–97–2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester.

Common name[1]	CAS RN[2]	Chemical abstracts service index name[3]
Dimethoate	60–51–5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester
p-(Dimethylamino)azobenzene	60–11–7	Benzenamine, N,N-dimethyl-4-(phenylazo)-
7,12-Dimethylbenz[a]anthracene	57–97–6	Benz[a]anthracene, 7,12-dimethyl-
3,3′-Dimethylbenzidine	119–93–7	[1,1′-Biphenyl]-4,4′-diamine, 3,3′-dimethyl-
alpha, alpha-Dimethylphenethylamine	122–09–8	Benzeneethanamine, α,α-dimethyl-
2,4-Dimethylphenol; m-Xylenol	105–67–9	Phenol, 2,4-dimethyl-
Dimethyl phthalate	131–11–3	1,2-Benzenedicarboxylic acid, dimethyl ester
m-Dinitrobenzene	99–65–0	Benzene, 1,3-dinitro-
4,6-Dinitro-o-cresol; 4,6-Dinitro-2-methylphenol	534–52–1	Phenol, 2-methyl-4,6-dinitro-
2,4-Dinitrophenol	51–28–5	Phenol, 2,4-dinitro-
2,4-Dinitrotoluene	121–14–2	Benzene, 1-methyl-2,4-dinitro-
2,6-Dinitrotoluene	606–20–2	Benzene, 2-methyl-1,3-dinitro-
Dinoseb; DNBP; 2-sec-Butyl-4,6-dinitrophenol	88–85–7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-
Di-n-octyl phthalate	117–84–0	1,2-Benzenedicarboxylic acid, dioctyl ester
Diphenylamine	122–39–4	Benzenamine, N-phenyl-
Disulfoton	298–04–4	Phosphorodithioic acid, O,O-diethyl S-[2- (ethylthio)ethyl] ester

Common name[1]	CAS RN[2]	Chemical abstracts service index name[3]
Endosulfan I	959–98–8	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide,
Endosulfan II	33213–65–9	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide, (3α,5aα,6β,9β, 9aα)-
Endosulfan sulfate	1031–07–8	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3,3-dioxide
Endrin	72–20–8	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aα, 2β,2aβ, 3α,6α,6aβ,7β,7aα)-
Endrin aldehyde	7421–93–4	1,2,4-Methenocyclopenta[cd]pentalene-5-carboxaldehyde,2,2a,3,3,4,7-hexachlorodecahydro-(1α,2β,2aβ,4β,4aβ,5β,6aβ,6bβ,7R*)-
Ethylbenzene	100–41–4	Benzene, ethyl-
Ethyl methacrylate	97–63–2	2-Propenoic acid, 2-methyl-, ethyl ester
Ethyl methanesulfonate	62–50–0	Methanesulfonic acid, ethyl ester
Famphur	52–85–7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl]-O,O-dimethyl ester
Fluoranthene	206–44–0	Fluoranthene
Fluorene	86–73–7	9H-Fluorene

Common name[1]	CAS RN[2]	Chemical abstracts service index name[3]
Heptachlor	76–44–8	4,7-Methano-1H-indene,1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-
Heptachlor epoxide	1024–57–3	2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a,-hexahydro-,(1aα,1bβ,2α,5α,5aβ,6β,6aα)
Hexachlorobenzene	118–74–1	Benzene, hexachloro-
Hexachlorobutadiene	87–68–3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
Hexachlorocyclopentadiene	77–47–4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
Hexachloroethane	67–72–1	Ethane, hexachloro-
Hexachloropropene	1888–71–7	1-Propene, 1,1,2,3,3,3-hexachloro-
2-Hexanone; Methyl butyl ketone	591–78–6	2-Hexanone
Indeno(1,2,3-cd)pyrene	193–39–5	Indeno[1,2,3-cd]pyrene
Isobutyl alcohol	78–83–1	1-Propanol, 2-methyl-
Isodrin	465–73–6	1,4,5,8-Dimethanonaphthalene,1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a hexahydro-(1α, 4α, 4aβ,5β,8β,8aβ)-
Isophorone	78–59–1	2-Cyclohexen-1-one, 3,5,5-trimethyl-
Isosafrole	120–58–1	1,3-Benzodioxole, 5-(1-propenyl)-
Kepone	143–50–0	1,3,4-Metheno-2H-cyclobuta-[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-

Common name[1]	CAS RN[2]	Chemical abstracts service index name[3]
Lead	(Total)	Lead
Mercury	(Total)	Mercury
Methacrylonitrile	126–98–7	2-Propenenitrile, 2-methyl-
Methapyrilene	91–80–5	1,2,Ethanediamine, N,N-dimethyl-N′-2-pyridinyl-N′-(2-thienylmethyl)-
Methoxychlor	72–43–5	Benzene, 1,1′-(2,2,2,trichloroethylidene)bis [4-methoxy-
Methyl bromide; Bromomethane	74–83–9	Methane, bromo-
Methyl chloride; Chloromethane	74–87–3	Methane, chloro-
3-Methylcholanthrene	56–49–5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-
Methyl ethyl ketone; MEK; 2-Butanone	78–93–3	2-Butanone
Methyl iodide; Iodomethane	74–88–4	Methane, iodo-
Methyl methacrylate	80–62–6	2-Propenoic acid, 2-methyl-, methyl ester
Methyl methanesulfonate	66–27–3	Methanesulfonic acid, methyl ester
2-Methylnaphthalene	91–57–6	Naphthalene, 2-methyl-
Methyl parathion; Parathion methyl	298–00–0	Phosphorothioic acid, O,O-dimethyl
4-Methyl-2-pentanone; Methyl isobutyl ketone	108–10–1	2-Pentanone, 4-methyl-
Methylene bromide; Dibromomethane	74–95–3	Methane, dibromo-
Methylene chloride; Dichloromethane	75–09–2	Methane, dichloro-
Naphthalene	91–20–3	Naphthalene
1,4-Naphthoquinone	130–15–4	1,4-Naphthalenedione

Common name[1]	CAS RN[2]	Chemical abstracts service index name[3]
1-Naphthylamine	134–32–7	1-Naphthalenamine
2-Naphthylamine	91–59–8	2-Naphthalenamine
Nickel	(Total)	Nickel
o-Nitroaniline; 2-Nitroaniline	88–74–4	Benzenamine, 2-nitro-
m-Nitroaniline; 3-Nitroaniline	99–09–2	Benzenamine, 3-nitro-
p-Nitroaniline; 4-Nitroaniline	100–01–6	Benzenamine, 4-nitro-
Nitrobenzene	98–95–3	Benzene, nitro-
o-Nitrophenol; 2-Nitrophenol	88–75–5	Phenol, 2-nitro-
p-Nitrophenol; 4-Nitrophenol	100–02–7	Phenol, 4-nitro-
N-Nitrosodi-n-butylamine	924–16–3	1-Butanamine, N-butyl-N-nitroso-
N-Nitrosodiethylamine	55–18–5	Ethanamine, N-ethyl-N-nitroso-
N-Nitrosodimethylamine	62–75–9	Methanamine, N-methyl-N-nitroso-
N-Nitrosodiphenylamine	86–30–6	Benzenamine, N-nitroso-N-phenyl-
N-Nitrosodipropylamine; N-Nitroso-N-dipropylamine; Di-n-propylnitrosamine	621–64–7	1-Propanamine, N-nitroso-N-propyl-
N-Nitrosomethylethalamine	10595–95–6	Ethanamine, N-methyl-N-nitroso-
N-Nitrosopiperidine	100–75–4	Piperidine, 1-nitroso-
N-Nitrosopyrrolidine	930–55–2	Pyrrolidine, 1-nitroso-
5-Nitro-o-toluidine	99–55–8	Benzenamine, 2-methyl-5-nitro-

Common name[1]	CAS RN[2]	Chemical abstracts service index name[3]
Parathion	56–38–2	Phosphorothioic acid, O,O-diethyl-O-(4-nitrophenyl) ester
Pentachlorobenzene	608–93–5	Benzene, pentachloro-
Pentachloronitrobenzene	82–68–8	Benzene, pentachloronitro-
Pentachlorophenol	87–86–5	Phenol, pentachloro-
Phenacetin	62–44–2	Acetamide, N-(4-ethoxyphenyl)
Phenanthrene	85–01–8	Phenanthrene
Phenol	108–95–2	Phenol
p-Phenylenediamine	106–50–3	1,4-Benzenediamine
Phorate	298–02–2	Phosphorodithioic acid, O,O-diethyl S- [(ethylthio)methyl] ester
Polychlorinated biphenyls; PCBs	See footnote 6	1,1′-Biphenyl, chloro derivatives
Pronamide	23950–58–5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-
Propionitrile; Ethyl cyanide	107–12–0	Propanenitrile
Pyrene	129–00–0	Pyrene
Safrole	94–59–7	1,3-Benzodioxole, 5-(2-propenyl)-
Selenium	(Total)	Selenium
Silver	(Total)	Silver
Silvex; 2,4,5-TP	93–72–1	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-
Styrene	100–42–5	Benzene, ethenyl-
Sulfide	18496–25–8	Sulfide
2,4,5-T; 2,4,5-Trichlorophenoxyacetic acid	93–76–5	Acetic acid, (2,4,5-trichlorophenoxy)-

Common name[1]	CAS RN[2]	Chemical abstracts service index name[3]
2,3,7,8-TCDD; 2,3,7,8-Tetrachlorodibenzo- p-dioxin	1746–01–6	Dibenzo[b,e][1,4]dioxin, 2,3,7,8-tetrachloro-
1,2,4,5-Tetrachlorobenzene	95–94–3	Benzene, 1,2,4,5-tetrachloro-
1,1,1,2-Tetrachloroethane	630–20–6	Ethane, 1,1,1,2-tetrachloro-
1,1,2,2-Tetrachloroethane	79–34–5	Ethane, 1,1,2,2-tetrachloro-
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	127–18–4	Ethene, tetrachloro-
2,3,4,6-Tetrachlorophenol	58–90–2	Phenol, 2,3,4,6-tetrachloro-
Thallium	(Total)	Thallium
Tin	(Total)	Tin
Toluene	108–88–3	Benzene, methyl-
o-Toluidine	95–53–4	Benzenamine, 2-methyl-
Toxaphene	See footnote 7	Toxaphene
1,2,4-Trichlorobenzene	120–82–1	Benzene, 1,2,4-trichloro-
1,1,1-Trichloroethane; Methylchloroform	71–55–6	Ethane, 1,1,1-trichloro-
1,1,2-Trichloroethane	79–00–5	Ethane, 1,1,2-trichloro-
Trichloroethylene; Trichloroethene	79–01–6	Ethene, trichloro-
Trichlorofluoromethane; CFC–11	75–69–4	Methane, trichlorofluoro-
2,4,5-Trichlorophenol	95–95–4	Phenol, 2,4,5-trichloro-
2,4,6-Trichlorophenol	88–06–2	Phenol, 2,4,6-trichloro-

Common name[1]	CAS RN[2]	Chemical abstracts service index name[3]
1,2,3-Trichloropropane	96–18–4	Propane, 1,2,3-trichloro-
O,O,O-Triethyl phosphorothioate	126–68–1	Phosphorothioic acid, O,O,O-triethyl ester
sym-Trinitrobenzene	99–35–4	Benzene, 1,3,5-trinitro-
Vanadium	(Total)	Vanadium
Vinyl acetate	108–05–4	Acetic acid, ethenyl ester
Vinyl chloride; Chloroethene	75–01–4	Ethene, chloro-
Xylene (total)	See footnote 8	Benzene, dimethyl-
Zinc	(Total)	Zinc

[1] Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

[2] Chemical Abstracts Service registry number. Where "Total" is entered, all species in the ground water that contain this element are included.

[3] CAS index names are those used in the 9th Cumulative Index.

[4] This substance is often called bis(2-chloroisopropyl) ether, the name Chemical Abstracts Service applies to its noncommercial isomer, propane, 2,2″-oxybis[2-chloro-(CAS RN 39638–32–9).

[5] Chlordane: This entry includes alpha-chlordane (CAS RN 5103–71–9), beta-chlordane (CAS RN 5103–74–2), gamma-chlordane (CAS RN 5566–34–7), and constituents of chlordane (CAS RN 57–74–9 and CAS RN 12789–03–6).

[6] 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 11141–16–5), Aroclor-1242 (CAS RN 53469–21–9), Aroclor-1248 (CAS RN 12672–29–6), Aroclor-1254 (CAS RN 11097–69–1), and Aroclor-1260 (CAS RN 11096–82–5).

[7] Toxaphene: This entry includes congener chemicals contained in technical toxaphene (CAS RN 8001–35–2), i.e., chlorinated camphene.

[8] Xylene (total): This entry includes o-xylene (CAS RN 96–47–6), m-xylene (CAS RN 108–38–3), p-xylene (CAS RN 106–42–3), and unspecified xylenes (dimethylbenzenes) (CAS RN 1330–20–7).

[70 FR 34556, June 14, 2005; 70 FR 44150, Aug. 1, 2005]

2023 NOTE: 40 CFR Appendix II to Part 258.
