Pennsylvania
Base Regulations (Unofficial Copy)

- 75 PA Code Subchapter D - Hazardous Waste, eff. 09/14/85;
- Subchapter E - Hazardous Waste, eff. 03/09/85; and,
- Subchapter F - Criteria for Siting Hazardous Waste Treatment and Disposal Facilities, eff. 09/21/85

TITLE 25. RULES AND REGULATIONS
PART I. DEPARTMENT OF ENVIRONMENTAL RESOURCES

TRANSMITTAL SHEET NO. 94

SEPTEMBER 1985

Transmitted herewith are additional or substitute pages to the Rules and Regulations of the Department of Environmental Resources, identified by the month and year of revision, which contain additions or amendments as a result of the action taken by the Environmental Quality Board. The nature of the changes may be determined by comparing the old and new texts.

Section Affected	*Action Taken*	*Date of Adoption*	*Effective Date*	*Pa. Bulletin Citation*
CHAPTER 75				
Subchapter D, E, F				
Subchapter D	Amended	7-30-85	9-14-85	15 Pa.B. 3289
Subchapter E	Adopted	12-18-84	3-9-85	15 Pa.B. 895
Subchapter F	Adopted	7-30-85	9-21-85	15 Pa.B. 3334

Instructions

Remove the following pages	*Insert the following pages*
75.41 thru 75.220	75.41 thru 75.234

Note

File this transmittal sheet at the front of the Rules and Regulations of the Department (Part I) and retain prior transmittal sheets. It provides a reference authority for changes, a method for determining that all amendments have been received, and a check for determining if the Rules and Regulations contain the proper pages. Additional information may be obtained from the Bureau of Regulatory Counsel, Department of Environmental Resources, Room 505, Executive House, P. O. Box 2357, Harrisburg, PA 17120 (Telephone Area Code 717-787-7060).

Subchapter D. HAZARDOUS WASTE

Authority

The provisions of this Subchapter D issued under act of July 7, 1980 (P.L. 380, No. 97) (35 P.S. §§6018.101—6018.1003), unless otherwise noted.

Source

The provisions of this Subchapter D added August 2, 1980, 10 Pa. B. 3163, June 1, 1985, 15 Pa. B. 2065, and amended July 30, 1985, effective September 14, 1985, 15 Pa. B. 3289, unless otherwise noted. It should be noted that there were two sets of pages "3163—3184" in the August 2, 1980 issue of the *Pennsylvania Bulletin:* Part I ran from page 3155 to page 3260; Part II ran incorrectly from page 3163 to page 3184. The provisions of this § 75.261 were added on page 3163 in Part II of the August 2, 1980 issue of the *Pennsylvania Bulletin.*

§ 75.259. Scope.

This subchapter shall apply to the identification and listing, generation, transportation, storage, treatment, and disposal of hazardous waste. Nothing contained in this subchapter shall relieve or limit a person or municipality who generates, transports, stores, treats, or disposes of hazardous waste from complying with the requirements of the act of June 22, 1937 (P.L. 1987, No. 394), known as The Clean Streams Law, the act of January 8, 1960 (1959 P.L. 2119, No. 787), known as the Air Pollution Control Act, the act of May 31, 1945 (P.L. 1198, No. 418), known as the Surface Mining Conservation and Reclamation Act, the act of November 26, 1978 (P.L. 1375, No. 325), known as the Dam Safety and Encroachments Act, the act of July 17, 1961 (P.L. 659, No. 339), known as the Pennsylvania Bituminous Coal Mine Act, the act of November 10, 1965 (P.L. 721, No. 346), known as the Pennsylvania Anthracite Coal Mine Act, and the act of July 9, 1976 (P.L. 931, No. 178), entitled "An Act providing emergency medical personnel; employment of emergency medical personnel and emergency communications in coal mines," or the rules and regulations promulgated pursuant to the statutes enumerated in this section, when applicable.

§ 75.260. Definitions and requests for determinations.

(a) Definitions. The following words, and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise:

Abatement - The restoration, reclamation, recovery, and the like of a natural resource adversely affected by the activity of a person, permittee or municipality.

Access road - A paved roadway or all-weather course providing access to a treatment, storage, or disposal area within a HWM facility, suitable for use by transport vehicles and emergency equipment in all types of weather.

Act - The Solid Waste Management Act (35 P.S. §§6018.101 - 6018.1003).

Active portion - A portion of a facility where hazardous waste treatment, storage, or disposal operations are being conducted subsequent to November 19, 1980, and are not yet a closed portion.

Agricultural waste - Poultry and livestock manure, or residual materials in liquid or solid form generated in the production and marketing of poultry, livestock, fur bearing animals, and their products, provided that such agricultural waste is not hazardous. The term includes the residual materials generated in producing, harvesting, and marketing of all agronomic, horticultural, and silvicultural crops or commodities grown on what are usually recognized and accepted as farms, forests, or other agricultural lands.

Approved program or approved state - A state or interstate program which has been approved or authorized by the EPA under 40 CFR Part 271 (relating to requirements for authorization of state hazardous waste programs).

Aquifer - A geologic formation, group of formations, or part of a formation capable of yielding ground water to wells or springs.

ASTM - American Society for Testing and Materials.

Authorized representative - The individual responsible for the overall operation of a facility or an operational unit of the facility, or his assistant.

Captive facilities - Facilities which are located upon lands owned by a generator of hazardous waste and which are operated to provide for the treatment or disposal solely of such generator's hazardous waste.

Cell - A landfill cell.

C.F.R. - Code of Federal Regulations.

Certification - A statement of professional opinion based upon knowledge and belief.

Closed portion - Any portion of a facility where hazardous waste treatment, storage, or disposal operations have been conducted, but which have been closed in accordance with the approved facility closure plan and all applicable closure requirements of this chapter.

Closure - The act of securing a hazardous waste management facility under the requirements of §§ 75.264 and 75.265 (relating to new and existing hazardous waste management facilities applying for a permit and interim status standards for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities).

Commercial establishment - Any establishment engaged in nonmanufacturing or nonprocessing business, including, but not limited to, stores, markets, office buildings, restaurants, shopping centers, and theaters.

Confined aquifer - An aquifer bounded above and below by impermeable beds or by beds of distinctly lower permeability than that of the aquifer itself; an aquifer containing confined ground water.

Container - A portable device in which a material is stored, transported, treated, disposed of, or otherwise handled.

Contingency plan - A document setting forth an organized, planned, and coordinated course of action to be followed in order to prevent pollution incidents and limit potential pollution in case of a fire, explosion, or discharge of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

Designated Facility - A hazardous waste treatment, storage, or disposal facility that has been designated on the manifest by the generator, and which has or is considered to have a solid waste management permit from the Department and has interim status, or has a hazardous waste management permit from the Department, or if located outside the Commonwealth, which has received an EPA permit (or is a facility with interim status) in accordance with requirements 40 C.F.R. Parts 122 and 124 of Subtitle C of RCRA, or has a permit from a state authorized in accordance with Part 123 of Subtitle C of RCRA.

Dike - An embankment of natural or man-made materials constructed to contain or obstruct the movement of liquid, sludge, or other substances.

Discharge - An intentional or accidental spilling, leaking, pumping, pouring, dumping, emitting, or any other release of hazardous wastes, hazardous waste constituents, or hazardous materials which, when released into or onto land or water, becomes hazardous waste.

Disposal - The incineration, deposition, injection, dumping, spilling, leaking, or placing of solid waste into or on the land or water in a manner that the solid waste or a constituent of the solid waste enters the environment, is emitted into the air, or is discharged to the waters of this Commonwealth. The term "disposal" shall also include the abandonment of solid waste with the intent of not asserting or exercising any control over, or title or interest in the solid waste.

Disposal facility - A facility or part of a facility at which hazardous waste is placed into or on any land or water and at which waste will remain after closure.

Draft permit - A document prepared under § 75. 280 indicating the Department's tentative decision to issue, deny, modify, revoke and reissue, or revoke a permit. A notice of intent to revoke, and a notice of intent to deny a permit are types of draft permits. Draft permits shall contain all conditions, compliance schedules and monitoring requirements.

Elementary neutralization unit - A device which is used for neutralizing wastes which are hazardous wastes only because they exhibit the corrosivity characteristic defined in § 75.261 (relating to criteria, identification, and listing of hazardous waste) or are listed in § 75.261 (relating to criteria, identification and listing of hazardous waste) only for this reason; and which meets the definition of tank, container, transport vehicle, or vessel.

EPA - The United States Environmental Protection Agency.

EPA manifest document number - The EPA twelve digit identification number assigned to the generator plus a unique digit document number assigned to the manifest by the generator for recording and reporting purposes.

EP toxicity - A characteristic of a solid waste as specified under § 75.261(g)(5) which causes the solid waste to be a hazardous waste.

Equivalent method - A testing or analytical method determined by the Department under § 75.260(c) (relating to definitions and request for determinations) to be equivalent to methods specified in this chapter.

Existing hazardous waste management facility - Any storage facility, any treatment facility, or any permitted disposal facility which was in operation on November 19, 1980, or for which construction was begun on or before November 19, 1980. Construction shall be deemed to have begun if the owner or operator has obtained all permits and preconstruction approvals required by the act and either:

(i) on-going physical, on-site construction was underway; or

(ii) the owner or operator has entered into contractual obligations for construction which cannot be cancelled or modified without substantial loss.

Existing portion - The land surface area of an existing waste management unit, included in the orginial EPA Part A permit application, on which wastes have been placed prior to the issuance of a permit.

Facility - All land, structures, and other appurtenances or improvements on a property where hazardous waste is treated, stored, or disposed.

Facility personnel - Personnel.

Fact sheet - A document that sets forth the principal facts, and the significant factual, legal, methodological and policy questions considered in preparing a draft permit that the Department finds is the subject of widespread public interst or raises major issues, or a draft permit that incorporates a variance or requires an explanation.

Food-chain crops - Crops grown for human consumption, including tobacco, and pasture and crops grown for feed for animals whose products or byproducts are or will be used for human consumption.

Food processing waste - Residual materials in liquid or solid form generated in the slaughtering of poultry and livestock, or in processing and converting fish, seafood, milk, meats, and eggs to food products. The term also includes residual materials generated in the processing, converting, or manufacturing of fruits, vegetables, crops and other commodities into marketable food items.

Food processing wastes used for agricultural purposes - The use of food processing wastes in normal farming operations as defined in this section.

Freeboard - The vertical distance between the top of a tank sidewall or lowest elevation of a surface impoundment dike or berm, and the elevation of the highest surface of the waste contained in the tank or impoundment.

Free liquids - Liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.

FWPCA - The Federal Water Pollution Control Act (33 U.S.C. §§1251 - 1376).

Generator - A person or municipality who produces or creates hazardous waste identified or listed under § 75.261 (relating to criteria, identification, and listing of hazardous waste). If the generator generates hazardous waste at more than one site, he shall be deemed a separate generator in each case.

Ground water - Water below the land surface in a zone of saturation.

Ground water plume - A body of contaminated ground water originating from a specific source and influenced by such factors as the local ground water flow pattern, density and concentration of contaminant, and character of the aquifer.

Hazardous waste - Any garbage, refuse, sludge from an industrial or other waste water treatment plant, sludge from a water supply treatment plant, or air pollution control facility and other discarded material including solid, liquid, semisolid or contained gaseous material resulting from municipal, commercial, industrial, institutional, mining, or agricultural operations, and from community activities, or any combination of these factors, which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may:

(i) cause or significantly contribute to an increase in mortality or morbidity in either an individual or the total population; or

(ii) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed.

The term "hazardous waste" shall not include coal refuse as defined in the Coal Refuse Disposal Control Act (52 U.S.C. §§30.51 - 30.62). The term "hazardous waste" shall not include treatment sludges from coal mine drainage treatment plants, disposal of which is being carried on pursuant to and in compliance with a valid permit issued under the Clean Streams Law (35 P.S. §§691.1 - 691.1001). The term "hazardous waste" shall not include solid or dissolved material in domestic sewage, or solid 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 (33 U.S.C. §1342) or source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954 (42 U.S.C. §§2011 - 2394).

Hazardous waste constituent - A chemical component of a waste or chemical compound which qualifies a waste as hazardous under § 75.261 (relating to criteria, identification and listing of hazardous waste), or which is listed as a hazardous waste or hazardous compound in § 75.261 (relating to crieria, idenification, and listing of hazardous waste).

Hazardous waste discharge - A discharge.

Hazardous waste management facility - A facility where storage, treatment, or disposal of hazardous waste occurs.

Hazardous waste number - The number assigned by the Department to each hazardous waste listed and to each hazardous waste characteristic identified in § 75.261 (relating to criteria, identification and listing of hazardous waste).

Household waste - *Waste material* - including garbage, trash, and sanitary wastes in septic tanks-derived from households-including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas.

HWM - Hazardous waste management.

Identification number - The number assigned by the EPA or the number provided to the Department by the EPA for assignment to each generator, transporter, and treatment, storage, or disposal facility handling hazardous waste.

Impoundment - Surface impoundment.

Inactive portion - A portion of a hazardous waste management facility which is not operated after November 19, 1980, but which is not yet a closed portion.

Incinerator - An enclosed device using controlled flame combustion, the primary purpose of which is to thermally break down hazardous waste. Examples of incinerators are rotary kiln, fluidized bed, and liquid injection incinerators.

Incompatible waste - A hazardous waste which is unsuitable for:

(i) placement in a particular device or facility because it may cause corrosion or decay of containment materials such as container inner liners or tank walls; or

(ii) commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes, or gases, or flammable fumes or gases.

Individual generation site - The contiguous site at or on which one or more hazardous wastes are generated. An individual generation site, such as a large manufacturing plant, may have one or more sources of hazardous waste but is considered a single or individual generation site if the site or property is contiguous.

Industrial establishment - An establishment engaged in manufacturing or processing, including but not limited to, factories, foundries, mills, processing plants, refineries, mines and slaughterhouses.

Injection well - A well into which fluids are injected.

Inner liner - A continuous layer or lining of material placed inside a tank or other container which protects the construction materials of the tank or container from the contents.

In operation - Active functioning of a hazardous waste management facility.

Institutional establishment - An establishment engaged in service, including, but not limited to, hospitals, nursing homes, orphanages, schools and universities.

International shipment - The transportation of hazardous waste into or out of the jurisdiction of the United States.

Landfill - A disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a land treatment facility, a surface impoundment, or an injection well.

Landfill cell - A discrete volume of a hazardous waste landfill which uses a liner to provide isolation of wastes from adjacent cells or wastes. Examples of landfill cells are trenches and pits.

Land treatment facility - A facility or part of a facility at which hazardous waste is applied or incorporated into the soil surface; such facilities are disposal facilities if the waste will remain after closure.

LC-50 - Lethal Concentration Fifty. The calculated concentration of a substance in air, exposure to which for a specified length of time is expected to cause the death of 50% of an entire defined experimental animal population. The mode of exposure to the toxic, such as inhalation, and the test species, such as rat or mouse, usually accompany LC-50 values.

LD-50 - Lethal Dose Fifty. The calculated dose of a substance which is expected to cause the death of 50% of an entire defined experimental animal population. The mode of exposure to the toxic, such as oral or dermal, and the test species, such as rat or rabbit, usually accompany LD-50 values.

Leachate - A liquid, including suspended or dissolved components in the liquid, that has permeated through or drained from hazardous waste.

Liner - A continuous layer of natural or synthetic materials beneath or on the sides of a storage or treatment device, surface impoundment, landfill or landfill cell, which severely restricts or prevents the downward or lateral escape of hazardous waste, hazardous waste constituents, or leachate.

Liner compatibility - Absence of destructive or deleterious effect on the structure, integrity, and effectiveness of a liner as a result of physical or chemical exposure to hazardous waste or hazardous waste constituents.

Management - The entire process, or any part thereof, of storage, collection, transportation, treatment, and disposal of solid wastes by any person or municipality engaging in such process. "Hazardous waste management" refers to management of hazardous waste.

Manifest - The shipping document EPA Form 8700-22, and if necessary, EPA Form 8700-22A, originated, signed, and distributed in accordance with the instructions supplied with the manifest form.

Manifest document number - The unique number assigned to a particular manifest form usually printed in the upper right corner of the form.

Manifest system - The manifest, instructions supplied with the manifest, and distribution system for copies of the manifest which together identify the origin, routing, and destination of hazardous waste from the point of generation to the point of treatment, storage, or disposal under §§ 75.262(e), 75.263(d), 75.264(j), and 75.265(j) (relating to generators of hazardous waste, transporters of hazardous waste, new and existing hazardous waste management facilities applying for a permit and interim status standards for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities).

Mine - A deep or surface mine, whether active, inactive, or abandoned.

Mining - The process of the extraction of minerals from the earth, or from waste or stockpiles, or from pits or banks.

Mining overburden returned to the mine site - Material overlying an economic mineral deposit which is removed to gain access to that deposit and is then used for reclamation of a surface mine.

Movement - Hazardous waste transported to a facility in an individual vehicle.

Municipality - A city, borough, incorporated town, township, or county, or any authority created by any of the foregoing.

Municipal waste - Garbage, refuse, industrial lunchroom or office waste, and other material including solid, liquid, semisolid, or contained gaseous material resulting from operation of residential, municipal, commercial, or institutional establishments and from community activities, and any sludge not meeting the definition of residual or hazardous waste as defined in this section, from a municipal, commercial, or institutional water supply treatment plant, waste water treatment plant, or air pollution control facility.

New facility - A new hazardous waste management facility.

New hazardous waste management facility - A facility for which construction began after November 19, 1980.

Normal farming operations - The customary and generally accepted activities, practices and procedures that farms adopt, use, or engage in year after year in the production and preparation for market of poultry, livestock, and their products; and in the production, harvesting and preparation for market of agricultural, agronomic, horticultural, silvicultural, and aquicultural crops and commodities; provided that such operations are conducted in compliance with applicable laws, and provided that the use or disposal of these materials will not pollute the air, water, or other natural resources of this Commonwealth. The term includes the storage and utilizing of agricultural and food process wastes for animal feed, and includes the agricultural utilization of septic tank cleanings and sewage sludges which are generated off-site. The term includes the management, collection, storage, transportation, use or disposal of manure, other agricultural waste and food processing waste on land where such materials will improve the condition of the soil, the growth of crops, or in the restoration of the land for the same purposes.

NPDES - National Pollutant Discharge Elimination System.

Off-site - Any property which is not defined as on-site.

100-year flood - The flood magnitude expected to be equalled or exceeded on the average of once in 100 years; it may also be expressed as the flood having 1.0% chance of being equalled or exceeded in a given year.

100-year floodplain - The lands adjoining a river or stream that have been or maybe expected to be inundated by flood waters in a 100-year frequency flood.

On-site - The same or geographically contiguous property owned or leased or used by a generator or HWM facility, which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a crossroads intersection, and access is by crossing, as opposed to going along, the right-of-way. Noncontiguous properties owned or leased by the same person or municipality but connected by a right-of-way which he controls and to which the public does not have access, is also considered on-site property. Any facility that does not meet the requirements of this definition is an off-site facility.

Open burning - The combustion of material without the following characteristics:

(i) Control of combustion air to maintain adequate temperature for efficient combustion.

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

(iii) Control of emission of the gaseous combustion products.

Operator - The person responsible for the overall operation of a facility.

Owner - The person or municipality who is the owner of record of a facility or part of a facility.

Partial closure - The closure of a discrete portion of a facility or its activities in accordance with provisions of §§ 75.264 (relating to new and existing hazardous waste management facilities applying for a permit) and § 75.265 (relating to interim status for hazardous

waste management facilities and permit program for new and existing and existing hazardous waste management facilities). For example, partial closure may include closure of a trench, landfill cell, or unit operation, while other parts of the same facility remain in operation or to be placed in operation.

Permeability - The rate of movement of liquid and/or gases through a medium.

Permit - A written document issued by the Department under the act which authorizes the recipient to undertake the treatment storage or disposal of hazardous waste under the act. The term "Permit" does not include interim status or a permit which has not yet been the subject of final Department action, such as a draft permit or a proposed permit.

Permit-by-rule - A provision of these regulations whereby a facility or activity is deemed to have a hazardous waste management permit if it meets the requirements of § 75.270 (relating to the hazardous waste permit program).

Person - An individual, partnership, corporation, association, institution, cooperative enterprise, municipal authority, Federal Government or agency, State institution and agency - including, but not limited to, the Department of General Services and the State Public School Buildings Authority - or any other legal entity which is recognized by law as the subject of rights and duties. In a provision of the act prescribing a fine, imprisonment or penalty, or any combination of the foregoing, the term person shall include the officers and directors of a corporation or other legal entity having officers and directors.

Personnel - The staff of employees and others who oversee operation of, or work at, a hazardous waste management facility.

Pile - A noncontainerized accumulation of solid, nonflowing hazardous waste.

Point source - A discernible, confined, and discrete conveyance, including, but not limited to a pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

Point sources subject to permits under §402 of the Federal Water Pollution Control Act - Point source discharges for which valid and current permits have been issued under section §402 of the Federal Water Pollution Control Act (33 U.S.C. §1342), to the extent that such discharges are authorized by the permits.

Pollution - Contamination of air, water, land or other natural resources of this Commonwealth such as will create or are likely to create a public nuisance or to render such air, water, land or other natural resources harmful, detrimental or injurious to public health, safety or welfare, or to domestic, municipal, commercial, industrial, agricultural, recreational or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other life.

Post-closure - The activities after closure of a HWM facility related to maintaining, inspecting, monitoring, bonding and securing the facility in accordance with all applicable provisions of this subchapter.

Precious Metals - Recoverable gold, silver, or platinum metal.

Processing - Technology used for the purpose of reducing the volume or bulk of municipal or residual waste or to convert part or all of such waste materials for off-site reuse. Processing facilities include but are not limited to transfer facilities, composting facilities, and resource recovery facilities.

Professional Engineer - A registered professional engineer.

Publicly-owned treatment works (POTW) - A device or system used in the treatment, including recycling and reclamation, of municipal sewage or industrial wastes of a liquid nature which is owned by a State or municipality as defined by section 502(4) of the Clean Water Act (33 U.S.C. §1362). This definition includes sewers, pipes, or other conveyance only if they convey wastewater to a POTW providing treatment.

RCRA - Resource Conservation and Recovery Act of 1976 (42 U.S.C. §§6901 - 6986).

Registered professional engineer - An engineer registered to practice engineering in this Commonwealth.

Reportable quantity - The minimum quantity - or greater - of hazardous waste generated as a result of a discharge or spill, which must be reported to the Department.

Representative sample - A sample of a universe or whole, such as a waste pile, lagoon, or ground water, which can be expected to exhibit the average properties of the universe or whole.

Residual waste - Garbage, refuse, other discarded material or other waste including solid, liquid, semisolid, or contained gaseous materials resulting from industrial, mining, and agricultural operations and sludge from an industrial, mining or agricultural water supply treatment facility, waste water treatment facility or air pollution control facility, provided that it is not hazardous. The term shall not include coal refuse as defined in the Coal Refuse Disposal Control Act (52 P.S. §30.53). The term shall not include treatment sludges from coal mine drainage treatment plants, disposal of which is being carried on under a valid permit issued pursuant to The Clean Streams Law (35 P.S. §§691.1—691.901).

Responsible official - For corporations, corporate officers; for limited partnerships, general partners; for all other partnerships, partners; for a sole proprietorship, the proprietor; for a municipal, State or Federal authority or agency, an executive officer or ranking elected official responsible for compliance of the hazardous waste activities and facilities of the authority or agency with all applicable rules and regulations.

Run-off - Rainwater, leachate, or other liquid that drains overland from part of a facility.

Run-on - Rainwater, leachate, or other liquid that drains overland onto part of a facility.

Saturated zone - A part of the earth's crust in which all voids are filled with water.

Schedule of compliance - A schedule of remedial measures that may be included in a permit, or other written document, including an enforceable sequence of interim requirements-for example: actions, operations, or milestone events-leading to compliance with the appropriate act and regulations.

SIC number - A number assigned to a corresponding type of industry, manufacture, or product under the Standard Industrial Code prepared by the U.S. Office of Management and Budget.

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

Solid waste - Waste, including but not limited to, municipal, residual, or hazardous waste, including solid, liquid, semisolid, or contained gaseous materials.

Spill - A discharge.

State manifest document number - The state abbreviation, the letter, and the unique number assigned to the manifest, usually preprinted on the form, for recording and reporting purposes.

Statistically significant - Significant as determined by the Student's t-test - a statistical method - referred to in Appendix III of § 75.264 (relating to tests for significance).

Storage - The containment of waste on a temporary basis in such a manner as not to constitute disposal of such waste. It shall be presumed that the containment of waste in excess of one year constitutes disposal. This presumption can be overcome by clear and convincing evidence to the contrary.

Sump - A stationary device designed to contain an accumulation of hazardous waste resulting from a hazardous waste discharge from a tank, container, waste pile, surface impoundment, landfill, or other hazardous waste management structure.

Surface impoundment - A facility or part of a facility which is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials - although it may be lined with synthetic materials - which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.

Tank - A stationary device designed to contain an accumulation of hazardous waste and constructed primarily or entirely of non-earthen materials - such as, concrete, steel, plastic- which provide structural support and containment.

Thermal treatment - The treatment of hazardous waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the hazardous waste. Examples of thermal treatment processes are incineration, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge.

Totally enclosed treatment facility - A facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment. An example is a pipe in which waste acid is neutralized.

Transfer facility - A transportation related facility including loading docks, parking areas, storage areas, and other similar areas where shipments of hazardous waste are held during the normal course of transportation.

Transportation - The off-site removal of solid waste at any time after generation.

Transporter - A person or municipality engaged in the off-site transportation of hazardous waste by air, rail, highway, or water.

Transport vehicle - A motor vehicle or rail car used for the transportation of cargo on land by any mode. Each cargo-carrying body (trailer, railroad freight car, etc.) is a separate transport vehicle.

Treatment - A method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any waste so as to neutralize such waste or so as to render such waste non-hazardous, safer for transport, suitable for recovery, suitable for storage, or reduced in volume. The term includes activity or processing designed to change the physical form or chemical composition of waste so as to render it neutral or nonhazardous.

Treatment zone - A soil area of the unsaturated zone of a land treatment unit within which hazardous constitutents are degraded, transformed, or immobilized.

Trial burn - An incineration test conducted under steady-state conditions to determine the ability of incineration to treat a hazardous waste.

TSD - Abbreviation for treatment, storage, or disposal of hazardous waste.

Underground injection - The subsurface emplacement of fluids through a bored, drilled, or driven well; or through a dug well, where the depth of the dug well is greater than the largest surface dimension.

U. N. Number - A specific number assigned to a corresponding individual chemical compound under a numbering system adopted for worldwide use by the United Nations Committee of Experts on the Transport of Dangerous Goods. "U.N. Number" shall include North American (N.A.) Numbers.

Unsaturated zone - The zone between the land surface and the upper boundary of the zone of saturation. This upper boundary of the zone of saturation is often called the water table.

Vessel - Any watercraft used or capable of being used as a means of transportation on the water.

Washout - The uncontrolled movement of hazardous waste from the active portion of the facility by floodwaters as a result of flooding.

Wastewater treatment unit - A device which meets the definition of a tank, and which is part of a wastewater treatment facility subject to regulation under either section 402 or 307(B) of the Federal Water Pollution Control Act, (33 USC 1362), and receives and treats or stores an influent wastewater which is a hazardous waste, or generates and accumulates a wastewater treatment sludge which is a hazardous waste, or treats or stores a wastewater treatment sludge which is a hazardous waste.

Water (bulk shipment) - The bulk transportation of hazardous waste which is loaded or carried on board a vessel without containers or labels.

Well - A driven, drilled, bored, or dug excavation, however inclined from the vertical, with a depth greater than the largest surface dimension, generally of a cylindrical form, and often walled by some means to prevent the excavation from caving in.

Well injection - An underground injection.

Zone of aeration - An unsaturated zone.

Zone of saturation - A saturated zone.

(b) Written requests to determine if a waste generated at a particular facility does not exhibit the properties nor contain the substances which were the bases for listing that waste as a hazardous waste in § 75.261 (relating to criteria, identification and listing of hazardous wastes) shall consist of the following:

(1) A person or municipality may make a request in writing to the Department for a determination of nonapplicability. The request shall be accompanied by demonstrated proof that the waste generated at that facility does not meet any of the criteria under which the waste was listed as a hazardous waste under § 75.261(f)(2)(i) (relating to criteria, identification and listing of hazardous waste), and that it also does not meet the criterion in § 75.261(f)(2)(ii) (relating to criteria, identification and listing of hazardous waste). It also shall not meet any of the characteristics of hazardous waste under § 75.261(g) (relating to criteria, identification and listing of hazardous waste). All demonstrations performed under this subsection shall be completed using representative samples of the waste.

(2) The procedures in this subsection may also be used to request the Department for a determination of nonapplicability of § 75.261(b)(1)(i) or (ii) or (3) to a waste listed in § 75.261(h), containing a waste listed in § 75.261(h), or derived from a waste listed in § 75.261(h). This determination shall only apply to a particular generating, storage, treatment, or disposal facility. The request shall be accompanied by demonstrated proof that the subject waste generated at the facility does not meet any of the criteria under § 75.261(g). However, if the waste is a mixture of solid waste and one or more hazardous wastes listed under § 75.261(h), or is derived from one or more hazardous wastes, the demonstration may be performed specific to each constituent listed waste, or to the waste mixture as a whole.

(3) If the waste is listed with hazard codes I, C, E, or R in § 75.261(h)(2) and (3) (relating to criteria, identification and listing of hazardous waste), the request shall include verification that demonstration samples of the waste do not exhibit any of the characteristics of hazardous waste described in § 75.261(g) (relating to criteria, identification and listing of hazardous waste).

(4) If the waste is listed with hazard code T in § 75.261(h)(2) and (3) and (4)(vi) (relating to criteria, identification and listing of hazardous waste), the request shall include demonstrated proof that:

(i) demonstration samples of the waste do not contain the constituents shown in Appendix VII of § 75.261 (relating to basis for listing hazardous waste) which cause the waste to be listed, using the test methods prescribed in Appendix III of § 75.261 (relating to chemical analysis test methods);or

(ii) the waste does not meet the criterion of § 75.261(f)(2)(ii) (relating to criteria, identification and listing of hazardous waste) when considering the factors in § 75.261(f)(2)(ii)(A) - (K) (relating to criteria, identification and listing of hazardous waste).

(5) If the waste is listed with the hazard code H in 75.261(h)(4)(v) (relating to criteria, identification, and listing of hazardous waste), the request shall include demonstrated proof that the waste does not meet either:

(i) the criterion in § 75.261(f)(2)(i) (relating to criteria, identification and listing of hazardous waste); or

(ii) the criterion in § 75.261(f)(2)(ii) (relating to criteria, identification and listing of hazardous waste) when considering the factors listed in § 75.261(f)(2)(ii)(A) -(K) (relating to criteria, identification and listing of hazardous waste).

(6) Demonstration samples shall consist of sufficient, but in no case less than four, representative samples taken over a period capable of representing the variability or uniformity of the waste.

(7) Each request shall be submitted to the Department by certified mail and shall include the following:

(i) The requestor's name and address.

(ii) A statement of the requestor's interest in the proposed determination.

(iii) A description of the proposed determination.

(iv) A statement of the need and justification for the proposed determination, including any supporting tests, studies, or other information.

(8) Each request shall also include the following:

(i) The name and address of the laboratory facility performing the sampling or tests of the waste.

(ii) The name and qualifications of the individuals sampling or testing the waste.

(iii) The dates of sampling and testing.

(iv) The name and location of the generating facility.

(v) A description of the materials, manufacturing process, or other operations producing the waste, and an assessment of whether such processes, operations, or raw materials could or would produce a waste that is not considered by the demonstration.

(vi) A description of the waste and an estimate of the average and maximum monthly and annual quantities of waste covered by the demonstration.

(vii) Pertinent data on and discussion of the factors delineated in the respective criteria for listing a hazardous waste, where the requestor's demonstration is based on the factors in § 75.261(f)(2)(ii) (relating to criteria, identification and listing of hazardous waste).

(viii) A description of the methods and equipment used to obtain the representative samples.

(ix) A description of the sample preparation and handling techniques employed in the demonstration, including techniques used for extraction, containerization, and preservation of samples.

(x) A description of the tests performed, including test results.

(xi) The names and model numbers of the instruments used in performing the tests.

(xii) The following statement signed by the generator of the waste or his authorized representative:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this demonstration and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information to be true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

(9) After receiving a request for determination, the Department may request any additional information which it deems necessary to evaluate the request.

(10) A determination shall apply only to the waste generated at the requestor's individual facility covered by the demonstration, and shall not apply to any waste from any other facility.

(11) The Department may make a determination of nonapplicability for only part of the waste for which the demonstration is submitted when variability of the waste justifies such a determination.

(c) Requests for determination of equivalent testing or analytical methods.

(1) No person or municipality may use a testing or analytical method not specified in §§ 75.261, 75.264, or 75.265 unless the method is approved in writing by the Department. The Department will not approve any equivalent method unless the person or municipality demonstrates to the satisfaction of the Department that:

(i) The proposed method is equal to or superior to the corresponding method prescribed in §§ 75.261, 75.264 or 75.265, in terms of its sensitivity, accuracy and precision, that is reproductibility.

(ii) The method is equivalent to a method set forth in the EPA publication "Test Methods for the Evaluation of Solid Waste: Physical/Chemical Methods" (SW 846).

(2) A person or municipality who requests Department approval of an equivalent method shall submit the following information to the Department:

(i) The requestor's name and address.

(ii) A statement of the requestor's interest in the proposed method.

(iii) A description of the proposed action requested by the person or municipality.

(iv) A statement of the need and justification for the proposed method, including any supporting tests, studies, or other information.

(v) A full description of the proposed method, including procedural steps and equipment used in the method.

(vi) A description of the types of wastes or waste matrices for which the proposed method may be used.

(vii) Comparative results obtained from using the proposed method with those obtained from using the relevant or corresponding methods prescribed in §§ 75.261, 75.264, or 75.265.

(viii) An assessment of factors which may interfere with, or limit the use of the proposed method.

(ix) A description of the quality control procedures necessary to ensure the sensitivity, accuracy and precision of the proposed method.

(3) Any person or municipality who requests approval of an equivalent method shall submit to the Department additional information on the proposed method which may be reasonably required by the Department to evaluate the method.

(4) Testing or analytical methods approved by the EPA administrator under 40 CFR Part 260.21 (relating to petitions for equivalent testing or analytical methods) shall be deemed to be approved by the Department as an equivalent testing or analytical method.

§ 75.261. Criteria, identification and listing of hazardous waste.

(a) *Scope.*

(1) This section defines the term "hazardous wastes", and identifies those solid wastes which are excluded from regulation under some portions of Chapter 75 (relating to solid waste management).

(2) This section identifies those solid wastes which are subject to regulation as hazardous wastes under Chapter 75 (relating to solid waste management).

(3) This section identifies hazardous wastes by characteristic, source and specific substance and estabishes special management requirements for hazardous waste produced by small quantity generators and hazardous waste which is used, reused, recycled or reclaimed.

(b) *Determination of hazardous waste*

(1) A solid waste is a hazardous waste if it is not excluded as hazardous waste under subsection (c) and meets any of the following criteria:

(i) Is listed in subsection (h) and has not been exempted in accordance with § 75.260 (relating to definitions and requests for determination).

(ii) Is a mixture of solid waste and one or more hazardous wastes listed in subsection (h) and has not been exempted in accordance with § 75.260 (relating to definitions and requests for determination).

(iii) Exhibits any of the characteristics of hazardous waste identified in subsection (g).

(2) A solid waste which is not excluded under subsection (c) becomes a hazardous waste when any of the following occur:

(i) In the case of a waste listed in subsection (h) when the waste first meets the listing description.

(ii) In the case of a mixture of solid waste and one or more listed hazardous wastes, when a hazardous waste listed in subsection (h) is first added to the solid waste.

(iii) In the case of any other waste, including a waste mixture, when the waste exhibits any of the characteristics identified in subsection (g).

(3) Unless and until it meets the criteria of paragraph (4):

(i) A hazardous waste will remain a hazardous waste as identified in this section.

(ii) Any solid waste generated from the treatment, storage or disposal of a hazardous waste, including any sludge, spill residue, ash, emission control dust or leachate—but not including precipitation run-off—is a hazardous waste. Waste pickle liquor sludge generated by lime stabilization of spent pickle liquor from the iron and steel industry (SIC codes 331 and 332) is not a hazardous waste even though it is generated from the treatment of a hazardous waste, unless it exhibits one or more of the characteristics of a hazardous waste identified in subsection (g).

(4) Solid waste described in paragraph (3) is not a hazardous waste if it meets the following criteria:

(i) In the case of solid waste, it does not exhibit any of the characteristics of hazardous waste identified in subsection (g).

(ii) In the case of a waste which is a hazardous waste listed in subsection (h), contains a hazardous waste listed in subsection (h), or is derived from a hazardous waste listed in subsection (h), if it has been exempted under § 75.260 (relating to definitions and requests for determinations).

(5) A hazardous waste which is generated in a product or raw material storage tank, a product or raw material transport vehicle or vessel, a product or raw material pipeline, or in a manufacturing process unit or an associated non-waste treatment manufacturing unit, is not subject to regulation under § 75.262 (relating to generators of hazardous waste), § 75.263 (relating to transporters of hazardous waste), § 75.264 (relating to new and existing hazardous waste management facilities applying for a permit), § 75.265 (relating to interim status for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities), § 75.267 (relating to notification of hazardous waste activities) §§ 75.270—75.282 (relating to the hazardous waste permit program), Subchapter E (relating to financial responsibility requirements), or Subchapter F (relating to criteria for siting hazardous waste treatment and disposal facilities) until it exits the unit in which it was generated. However, this paragraph shall not apply if the unit is a surface impoundment or if the hazardous waste remains in the unit more than 90 days after the unit ceases to be operated for manufacturing, or for storage or transportation of product or raw materials.

(c) *Exclusions.* The following solid wastes are specifically excluded as hazardous wastes:

(1) Solid or dissolved material in domestic sewage and any mixture of domestic sewage and other wastes that pass through a sewer system to publicly-owned treatment works for treatment.

(2) Industrial wastewater discharges that are point sources subject to regulation under section 402 of the Federal Water Pollution Control Act, as amended (86 Stat. 880). This exclusion applies only to the actual point source discharge. It does not exclude industrial wastewaters while they are being collected, stored or treated prior to discharge, nor does it exclude sludges that are generated by industrial wastewater treatment.

(3) Solid or dissolved materials in irrigation return flows.

(4) Source, special nuclear, or by-product material as defined by the United States Atomic Energy Act of 1954, as amended (68 Stat. 923).

(5) Materials subjected to in situ mining techniques which are not removed from the ground as a part of the extraction process.

(6) Household waste, including household waste that has been collected, transported, stored, treated, disposed, recovered, (such as refuse-derived fuel), or reused.

(7) Solid wastes generated by any of the following and which are returned to the soil as fertilizers:

(i) The growing and harvesting of agricultural crops.

(ii) The raising of animals, including animal manures.

(8) Coal refuse as defined in the act of September 24, 1968 (P.L. 1040, No. 318), known as the Coal Refuse Disposal Control Act.

(9) Mining overburden returned to the mine site.

(10) Treatment sludges from coal mine drainage treatment facilities, the disposal of which is being conducted pursuant to and in compliance with a valid permit issued pursuant to the act of June 22, 1937 (P.L. 1987, No. 394), known as The Clean Streams Law.

(11) Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated from the combustion of coal or other fossil fuels.

(12) Drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil, natural gas, or geothermal energy.

(13) Solid waste generated from the extraction, beneficiation and processing of ores and minerals (including coal), including phosphate rock and overburden from the mining of uranium ore.

(14) Cement kiln dust waste.

(15) Solid waste which consists of discarded wood or wood products which fail the test for the characteristic of EP toxicity and which is not a hazardous waste for any other reason, if the waste is generated by persons who utilize the arsenical-treated wood and wood products for these materials' intended end use.

(16) Waste scrap leather from the leather tanning industry, the shoe manufacturing industry, and other leather product manufacturing industries, so long as the chromium in the waste is exclusively-or nearly exclusively-trivalent chromium, the waste is generated from an industrial process which uses trivalent chromium exclusively-or nearly exclusively-the process does not generate hexavalent chromium, and the waste is managed in non-oxidizing environments. If the waste meets any of the characteristics of hazardous wastes identified in subsection (g), except for the characteristic of E.P. toxicity for chromium, this paragraph shall not apply and the waste shall be considered a hazardous waste subject to all applicable requirements of this chapter.

(17) Samples for the purpose of testing

(i) Except as provided in subparagraph (ii)(B), a sample of solid waste or a sample of water, soil, or air which is collected for the sole purpose of testing to determine its characteristics or composition, is not subject to any requirements of Subchapters D—F when:

(A) the sample is being transported to a laboratory for the purpose of testing;

(B) the sample is being transported back to the sample collector after testing;

(C) the sample is being stored by the sample collector before transport to a laboratory for testing;

(D) the sample is being stored in a laboratory before testing;

(E) the sample is being stored in a laboratory after testing but before it is returned to the sample collector; or

(F) the sample is being stored temporarily in the laboratory after testing for a specific purpose, such as until conclusion of a court case or enforcement action where further testing of the sample may be necessary.

(ii) To qualify for the exemption in subparagraph (i)(A) and (B), a sample collector shipping samples to a laboratory and a laboratory returning samples to a sample collector shall:

(A) Comply with the U.S. Department of Transportation (DOT), U.S. Postal Service (USPS), or any other applicable shipping requirements; or

(B) Comply with the following requirements if the sample collector determines that DOT, USPS, or other shipping requirements do not apply to the shipment of the sample:

(I) Assure that the following information accompanies the sample:

(-a-) The sample collector's name, mailing address, and telephone number.

(-b-) The laboratory's name, mailing address, and telephone number.

(-c-) The quantity of the sample.

(-d-) The date of shipment

(-e-) A description of the sample.

(II) Package the sample so that it does not spill, leak, or vaporize from its packaging.

(iii) This exemption shall not apply if the laboratory determines that the waste is hazardous, but the laboratory is no longer meeting any of the conditions stated in subparagraph (17)(i).

(18) Waste included as an exclusion under 40 C.F.R. §261.4 (relating to exclusions) after December 31, 1984, is incorporated by reference and effective on the date established by the Federal regulations unless otherwise established in this title.

(d) *Special requirements for hazardous waste generated by small quantity generators.*

(1) A generator is a small quantity generator if he generates in a calendar month less than 1000 kilograms of any hazardous waste in that month except those listed in paragraph (d)(2)(i) and (ii).

(2) A generator is a small quantity generator in any calendar month if he generates acutely hazardous waste in that calendar month in quantities less than set forth below:

(i) a total of one kilogram of commercial chemical products and manufacturing chemical intermediates having the generic names listed in subsection (h)(4)(v) and off-specification commercial chemical product and manufacturing chemical intermediate which, if they met specifications, would have the generic names listed in subsection (h)(4)(v); or

(ii) a total of 100 kilograms of any residue or contaminated soil, water or other debris resulting from the clean-up of a spill into or on any land or water of any commercial chemical products or manufacturing chemical intermediates having the generic names listed in subsection (h)(4)(v); or any residue or contaminated soil, water or other debris resulting from the cleanup of a spill into or on any land or water of any off-specification commercial chemical product or manufacturing chemical intermediate which, if they met specifications, would have the generic names listed in subsection (h)(4)(v).

(3) Anytime a small quantity generator becomes a large quantity generator he shall notify the Department as specified in § 75.267 (relating to notification of hazardous waste activities) and comply with all applicable requirements of Chapter 75 (relating to solid waste management).

(4) If a small quantity generator accumulates hazardous waste on-site at any time more than the quantities specified in paragraph (1) or (2), then he is subject to the requirements of Chapter 75 for all of those accumulated wastes for which the accumulation limit

was exceeded. The 90 day accumulation period applied to generators as specified in § 75.262(g) (relating to generators of hazardous waste) will begin for small quantity generators when the accumulated wastes exceed the applicable exclusion levels specified in paragraph (1) or (2) of this section.

(5) Hazardous waste that is subject to the special requirements of subsection (e)(2) is included in the quantity determinations of this section and is subject to the requirements of this section.

(6) In determining the quantity of hazardous waste he generates, a generator need not include:

(i) his hazardous waste when it is removed from on-site storage; or

(ii) hazardous waste produced by on-site treatment of his hazardous waste, except to the extent that such quantities generated during the treatment are in excess of those quantities treated by the generator.

(7) In order for a small quantity generator of hazardous wastes to be excluded from requirements of § 75.262 (relating to generators of hazardous waste), § 75.263 (relating to transporters of hazardous waste), § 75.264 (relating to new and existing hazardous waste management facilities applying for a permit), § 75.265 (relating to interim status for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities), and §§ 75.270—75.280 (relating to the hazardous waste permit program), he shall:

(i) comply with the hazardous waste determination in the generator requirements of § 75.262 (b) (relating to generators of hazardous waste);

(ii) if he stores his hazardous waste on-site, store it in compliance with the requirements of paragraph (4) of this section; and

(iii) treat, store, or dispose of his hazardous waste in one of the following manners:

(A) treat or dispose of the waste in a permitted on-site facility;

(B) ensure delivery to a permitted off-site hazardous waste management facility within the Commonwealth;

(C) ensure delivery of the waste to a permitted municipal or residual waste management facility, after the facility has received written approval from the Department if the facility is situated within the Commonwealth;

(D) ensure delivery to a permitted municipal, industrial, or hazardous waste management facility outside the Commonwealth which is authorized by the applicable regulatory agency to accept said waste, and which state through its applicable regulatory agency has an approved state program pursuant to 40 C.F.R. 123; or

(E) ensure delivery to a facility which beneficially uses or reuses, or legitimately recycles or reclaims his waste or treats his waste prior to beneficial use or reuse, recycling or reclaiming.

(8) Hazardous waste subject to the special requirements of this section may be mixed with nonhazardous waste and remain subject to only these special requirements even though the resultant mixture exceeds the quantity limitations identified in this subsection unless the mixture meets any of the characteristics of hazardous wastes identified in subsection (g).

(9) A person or municipality whose status changes from a small quantity generator to a large quantity generator shall file a notification form with the Department under § 75.267 (relating to notification of hazardous waste activities) and shall comply with § 75.262—75.265, 75.270—75.282 and 75.301—75.335. A person or municipality who changes his status from a large quantity to a small quantity generator may notify the Department under § 75.267.

(10) If a small quantity generator mixes a solid waste with a hazardous waste so that the resultant mixture exceeds a quantity exclusion level of this section, the mixture is subject to regulation as a hazardous waste.

(e) *Special requirements for hazardous waste which is used, reused, recycled, or reclaimed.*

(1) Except as provided in paragraph (2), a generator or transporter of hazardous waste identified in subsection (g) or an owner or operator of a facility which beneficially uses or reuses, or legitimately recycles or reclaims a hazardous waste that is being beneficially used or reused, legitimately recycled or reclaimed, transported, accumulated, stored or physically, chemically, or biologically treated prior to the beneficial use or reuse or legitimate recycling or reclamation shall be subject to the applicable notification, manifest, and quarterly report requirement of this chapter, except that a license for transportation is not required. The requirements of this paragraph do not apply to materials produced by a generator which are destined to be recycled and which have a commercial value, have historically had a commerical value, have a history of routine commerical trade and have been so verified in writing by the Department.

(2) If such a hazardous waste is a sludge, or is listed in subsection (h) or contains one or more hazardous wastes listed in subsection (h), a generator, transporter, or owner or operator as indicated in paragraph (1) shall be subject to the following requirements with respect to such transportation or storage:

(i) Notification requirements, § 75.267 (relating to notification of hazardous waste activities).

(ii) Generator requirements, § 75.262 (relating to generators of hazardous waste).

(iii) Transporter requirements, § 75.263 (relating to transporters of hazardous waste).

(iv) All applicable requirements of § 75.264 (relating to new and existing hazardous waste management facilities applying for a permit), § 75.265 (relating to interim status standards for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities).

(v) If such a hazardous waste is spent pickle liquor which is reused in wastewater treatment at a facility possessing a National Pollutant Discharge Elimination System (NPDES) permit or which is being accumulated, stored, or physically, chemically, or biologically treated before such reuse, a generator or owner or operator as indicated in paragraph (1) shall be subject only to the notification, manifest, and quarterly report requirements of this chapter, except that the use of a licensed transporter shall not be required.

(vi) The use, reuse, recycling, and reclaiming of hazardous waste as set forth in paragraphs (1) and (2), as a fuel, or mixed with other material for use, reuse, recycle, or reclaiming as a fuel, shall require a plan approved by the Department's Bureau of Air Quality for the combustion of the waste or mixture thereof at the specific facility as required by § 75.264 (w)(12) (relating to new and existing hazardous waste management facilities applying for a permit) and § 75.265 (w)(6), (relating to interim status standards for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities) and such use, reuse, recycle, or reclaiming of the waste or mixture shall be in accordance with all applicable air quality regulations.

(f) *Department regulation of unlisted hazardous waste.*

(1) The Department may regulate an unlisted waste as a hazardous waste if such waste demonstrates a characteristic that:

(i) poses a substantial present or potential hazard to human health or the environment when it is improperly treated, stored, transported, disposed of, or otherwise managed; and

(ii) can be measured by an available standardized test method which is reasonably within the capability of generators of solid waste or private laboratories that are available to serve generators of solid waste.

(2) The Department may regulate an unlisted waste as a hazardous waste upon determining that such waste meets one of the following criteria:

(i) It has been found to be fatal to humans in low doses or, in the absence data on human toxicity, it has been shown in studies to have an oral LD 50 toxicity (rat) of less than 50 milligrams per kilogram, an inhalation LC 50 toxicity (rat) of less than two milligrams per liter, or a dermal LD 50 toxicity (rabbit) of less than 200 milligrams per kilogram, or is otherwise capable of causing or significantly contributing to an increase in serious irreversible, or incapacitating reversible, illness.

(ii) It contains any of the toxic constituents listed in Appendix VIII unless, after considering any of the following factors, the Department concludes that the waste is not capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed:

(A) The nature of the toxicity presented by the constituent.

(B) The concentration of the constituent in the waste.

(C) The potential of the constituent or any toxic degradation product of the constituent to migrate from the waste into the environment under the types of improper management considered in clause (G) of this subsection.

(D) The persistence of the constituent or any toxic degradation product of the constituent.

(E) The potential for the constituent or any toxic degradation product of the constituent to degrade into nonharmful constituents and the rate of degradation.

(F) The degree to which the constituent or any degradation product of the constituent bioaccumulates in ecosystems.

(G) The plausible types of improper management to which the waste could be subjected.

(H) The quantities of the waste generated at individual generation sites or on a regional or national basis.

(I) The nature and severity of the human health and environmental damage that has occurred as a result of the improper management of wastes containing the constituent.

(J) Action taken by other governmental agencies or regulatory programs based on the health or environmental hazard posed by the waste or waste constituent.

(K) Such other factors as may be appropriate.

(iii) Substances will be listed on Appendix VIII only if they have been shown in scientific studies to have toxic, carcinogenic, mutagenic or teratogenic effects on humans or other life forms.

(g) *Characteristics of hazardous waste.*

(1) *General*

(i) A solid waste is a hazardous waste if it exhibits any of the characteristics identified in this subsection unless it is excluded as a hazardous waste in subsection (c).

(ii) A hazardous waste, identified by a characteristic in this subsection but not listed as a hazardous waste in subsection (h), is assigned the Hazardous Waste Number of the respective characteristic as set forth in this subsection. This number shall be used in complying with the notification requirements and certain recordkeeping and reporting requirements under §§ 75.262 — 75.282 (relating to hazardous waste).

(iii) For the purposes of this subsection (g), the Department will consider as representative a sample obtained using any of the applicable sampling methods specified in Appendix I or an equivalent method approved by the Department.

(2) *Characteristic of ignitability.*

(i) A solid waste exhibits the characteristic of ignitability if a representative sample of the waste has any of the following properties:

(A) It is a liquid with a flash point less than 60 °C (140 °F), as determined by a Pensky-Martens Closed Cup Tester, using the test method specified in ASTM Standard

D-93-79, D-93-80, or a Setaflash Closed Cup Tester, using the test method specified in ASTM Standard D-3278-78, or as determined by an equivalent test method approved by the Department under § 75.260(c) (relating to definitions and requests for determinations). An aqueous solution containing less than 24% alcohol by volume is excluded from this definition.

(B) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture, or spontaneous chemical changes, and, when ignited, burns so vigorously and persistently that it creates a hazard.

(C) It is an ignitable compressed gas as defined in 49 C.F.R. § 173.300 and as determined by the test methods described in that regulation or equivalent test methods approved by the Department.

(D) It is an oxidizer as defined in 49 C.F.R. § 173.151.

(ii) A solid waste that exhibits the characteristic of ignitability, but is not listed as a hazardous waste in subsection (h), has the Hazardous Waste Number of D001.

(3) *Characteristic of corrosivity.*

(i) A solid waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties:

(A) It is aqueous and has a pH less than or equal to 2.0 or greater than or equal to 12.5, as determined by a pH meter using either the test method specified in the "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (also described in "Methods for Analysis of Water and Wastes" EPA 600/4-79-020, March 1979), or an eqivalent test method approved by the Department under § 75.260(c).

(B) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 millimeters (0.250 inch) per year at a test temperature of 55°C (130°F) as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM-01-69 as standardized in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods," or an equivalent test method approved by the Department.

(ii) A solid waste that exhibits the characteristic of corrosivity, but is not listed as a hazardous waste in subsection (h), has the Hazardous Waste Number of D002.

(4) *Characteristic of reactivity.*

(i) A solid waste exhibits the characteristic of reactivity if a representative sample of the waste has any of the following properties:

(A) It is normally unstable and readily undergoes violent change without detonating.

(B) It reacts violently with water.

(C) It forms potentialy explosive mixtures with water.

(D) When mixed with water, it generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

(E) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2.0 and 12.5, can generate toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment.

(F) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement.

(G) It is readily capable of detonation, explosive decomposition, or reaction at standard temperature and pressure.

(H) It is a forbidden explosive as defined in 49 C.F.R. §173.51, or a Class A explosive as defined in 49 C.F.R. §173.53 or a Class B explosive as defined in 49 C.F.R. §173.88.

(ii) A solid waste that exhibits the characteristic of reactivity, but is not listed as a hazardous waste in subsection (h), has the Hazardous Waste Number of D003.

(5) *Characteristic of EP toxicity.*

(i) A solid waste exhibits the characteristic of EP toxicity if, using the test methods described in Appendix II or equivalent methods approved by the Department under §75.260(c), the extract from a representative sample of the waste contains any of the contaminants listed in Table I at a concentration equal to or greater than the respective value

given in that table. When the waste contains less than 0.5% filterable solids as determined by the test procedure described in Appendix II, the waste itself, after filtering, is considered to be the extract for the purposes of this subsection.

(ii) A solid waste that exhibits the characteristic of EP toxicity, but is not listed as a hazardous waste in subsection (h), has the Hazardous Waste Number specified in Table I which corresponds to the toxic contaminant causing it to be hazardous.

Table 1

Maximum Concentration of Contaminants for Characteristic of EP Toxicity

Hazardous Waste No.	*Contaminant*	*Maximum Concentration (milligrams per liter)*
D004	Arsenic	5.0
D005	Barium	100.0
D006	Cadmium	1.0
D007	Chromium	5.0
D008	Lead	5.0
D009	Mercury	0.2
D010	Selenium	1.0
D011	Silver	5.0
D012	Endrin (1,2,3,4,10,10-hexachloro-1, 7-epoxy-1, 4,4a,5,6,7,8,8a-octahydro-1, 4-endo, endo-5, 8-dimethano naphthalene)	0.02
D013	Lindane (1,2,3,4,5,6-hexachlorocyclohexane, gamma isomer)	0.4
D014	Methoxychlor (1,1,1-Trichloro-2, 2-bis [p-methoxyphenyl] ethane)	10.0
D015	Toxaphene ($C_{10}H_{10}Cl_8$, Technical chlorinated camphene, 67-79 percent chlorine)	0.5
D016	2,4-D, (2,4-Dichlorophenoxyacetic acid)	10.0
D017	2,4,5-TP Silvex (2,4,5-Trichlorophenoxypropionic acid)	1.0

(h) *Lists of hazardous wastes.*

(1) *General.*

(i) A solid waste is a hazardous waste if it is listed or referenced in this subsection unless it has been exempted under § 75.260.

(ii) The subsection incorporates by reference the Federal hazardous waste lists promulgated under RCRA at 40 C.F.R. Part 261, Subpart D, (relating to list of hazardous waste) and 40 C.F.R. §§261.30(b) and 261.33(e) and (f) (relating to discarded commercial chemical products, off specification species, container residues and spill residues thereof) pertaining to the lists. In Appendix VII of Part 261, total chromium replaces hexavalent chromium as a basis for listing hazardous waste.

(iii) Each hazardous waste listed in or referenced in this subsection (h) is assigned a Hazardous Waste Number which precedes the name of the waste. This number must be used in complying with the notification requirements and certain recordkeeping and reporting requirements under §§ 75.262, 75.282 and Subchapter E, §§ 75.301—75.336 (relating to financial responsibility requirements for hazardous waste storage, treatment, and disposal facilities.)

(2) *List of hazardous waste from nonspecific sources.* The list of hazardous wastes from non-specific sources promulgated under RCRA at 40 C.F.R. §261.31 (relating to hazardous waste from nonspecific sources) is incorporated by reference. Additions, revisions, or deletions to the list adopted by EPA are incorporated into this chapter and are effective on the date established by the Federal regulations, unless otherwise established by regulation of the Department.

(3) List of hazardous waste from specific sources. The list of hazardous waste from specific sources promulgated under RCRA at 40 C.F.R. §261.32 (relating to hazardous waste from specific sources) is incorporated by reference. Additions, revisions or deletions to the list adopted by EPA are incorporated into this chapter and are effective on the date established by the Federal regulations, unless otherwise established by regulations of the Department.

(4) *Commercial chemical products.* The following containers and commercial chemical products, off-specification species, and spill residues thereof are hazardous wastes if and when they are discarded or intended to be discarded:

(i) Any commercial chemical product or manufacturing chemical intermediate having a generic name listed in subparagraphs (v) or (vi) and any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have a generic name listed in subparagraphs (v) or (vi).

(ii) Any container or an inner liner removed from a container that has held any hazardous waste or any commercial chemical product or manufacturing chemical intermediate having a generic name listed in subparagraph (vi) or any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have a generic name listed in subparagraph (vi), or any residue or contaminated soil, water or other debris resulting from the clean-up of a spill into or on any land or water of any off-specification chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in subparagraph (vi), except a waste that is a compressed gas that is identified in subparagraph (vi). Any such waste identified in this subparagraph is not a hazardous waste if:

(A) all wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container such as pouring, pumping, and aspirating; and

(B) no more than 2.5 centimeters (one inch) of residue remain on the bottom of the container or inner liner; or

(C) it is any empty container that has held a hazardous waste that is a compressed gas. A container is deemed to be empty when the pressure in the container approaches atmospheric pressure.

(iii) Any container or inner liner removed from a container that has held any commercial chemical product or manufacturing chemical intermediate having a generic name listed in subparagraph (v), or any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have a generic name listed in subparagraph (v), or any residue or contaminated soil, water, or other debris resulting from the clean-up of a spill into or on any land or water of any commercial chemical product or manufacturing chemical intermediate having the generic name listed in subparagraph (v), or of any off-specification chemical product and manufacturing chemical intermediate which, if it met specification, would have the generic name listed in subparagraph (v), except a waste that is a compressed gas that is identified in paragraph (v) unless:

(A) The container or inner liner has been triple rinsed using a solvent capable of removing the commercial product or manufacturing chemical intermediate.

(B) The container or inner liner has been cleaned by another method that has been shown in the scientific literature, or by tests conducted by the generator, to achieve equivalent removal.

(C) In the case of a container, the inner liner that prevented contact of the commercial chemical product or manufacturing chemical intermediate with the container, has been removed.

(D) It is an empty container that has held a hazardous waste that is a compressed gas. A container is deemed to be empty when the pressure in the container approaches atmospheric pressure.

(iv) Any residue or contaminated soil, water or other debris resulting from the cleanup of a spill into or on any land or water of any commercial chemical product or manufacturing chemical intermediate having a generic name listed in subparagraphs

(v) or (vi). The phrase "commercial product or manufacturing chemical intermediate having the generic name listed in. . ." refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use, which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. A mixture consisting solely of these listed pure commercial grade chemicals, listed technical grade chemicals, or formulations in which the listed generic chemical is the sole active ingredient shall also be considered a hazardous waste. Such a mixture shall, as applicable, have the hazardous waste number assigned to the largest acute hazardous waste fraction in subparagraph (v), or that assigned to the largest toxic waste fraction in subparagraph (vi). If the mixture consists of both listed acute hazardous and toxic fractions, the hazardous waste number of the largest acute hazardous fraction shall be used. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in subparagraphs (v) or (vi). When a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in subparagraphs (v) or (vi) such waste will be listed in either paragraph (2) or (3) of this subsection or will be identified as a hazardous waste by the characteristics set forth in subsection (g).

(v) The list of discarded commercial chemical products, off-specification species, container residues, and spill residues promulgated under RCRA at 40 C.F.R. §261.33(e) is incorporated by reference. Additions, revisions to, or deletions from the list adopted by EPA residues are incorporated into this chapter and are effective on the date established by Federal regulations, unless otherwise established in this title.

(vi) The list of discarded commercial chemical products, off-specification species, container residues, and spill residues promulgated under RCRA at 40 C.F.R. §261.33(f) is incorporated by reference. Additions, revisions to, or deletions from the list adopted by EPA are incorporated into this chapter and are effective on the date established by Federal regulations, unless otherwise established in this title.

(5) Appendices.

(i) *Appendix I. Representative Sampling Methods.* The text of Appendix I promulgated under RCRA at 40 C.F.R. Part 261 (relating to identification and listing of hazardous waste) entitled "Representative Sampling Methods" is incorporated by reference. Revisions to the appendix adopted by EPA are incorporated into this chapter and are effective on the date established by Federal regulations, unless otherwise established in this Chapter.

(ii) *Appendix II. EP Toxicity Test Procedure.* The text of Appendix II promulgated under RCRA at 40 C.F.R. Part 261 (relating to identification and listing of hazardous waste) entitled "EP Toxicity Test Procedure" is incorporated by reference. Revisions to the appendix adopted by EPA are incorporated into this chapter and are effective on the date established by Federal regulations, unless otherwise established in this Chapter.

(iii) *Appendix III. Chemical Analysis Test Methods.* The text of Appendix III promulgated under RCRA at 40 C.F.R. Part 261, (relating to identification and listing of hazardous waste) entitled "Chemical Analysis Test Methods" is incorporated by reference. Revisions to the appendix adopted by EPA are incorporated into this chapter and are effective on the date established by Federal regulations, unless otherwise established in this Chapter.

(iv) *Appendix VII. Basis for Listing Hazardous Waste.* The text of Appendix VII promulgated under RCRA at 40 C.F.R. Part 261 (relating to identification and listing of hazardous waste) entitled "Basis for Listing Hazardous Waste" is incorporated by reference, except that where hexavalent chromium is specified, it shall be replaced by total chromium as a basis for listing hazardous waste. Revisions to the appendix adopted by EPA are incorporated into this chapter and are effective on the date established by Federal regulations, unless otherwise established in this Chapter.

(v) *Appendix VIII. Hazardous Consititutents.* The text of Appendix VIII promulgated under RCRA at 40 C.F.R. Part 261, (relating to identification and listing of hazardous waste) entitled "Hazardous Constitutents" is incorporated by reference. Revisions to the appendix adopted by EPA are incorporated into this chapter and are effective on the date established by Federal regulations, unless otherwise established in this Chapter.

§ 75.262. Generators of hazardous waste.

(a) *Scope.*

(1) This section establishes standards for a generator of hazardous waste identified in § 75.261 (relating to criteria, identification, and listing of hazardous wastes) who is located within this Commonwealth. A generator who is located outside this Commonwealth and whose hazardous waste is designated for treatment, storage or disposal within this Commonwealth shall be subject to all the requirements of this section except subsections (g), (l), (m), and (n). Small quantity generators identified in § 75.261(d) (relating to criteria, identification and listing of hazardous waste) are subject only to the requirements of subsection (b).

(2) A generator who treats, stores, or disposes of hazardous waste at a permitted on-site facility or an on-site facility being treated as having been issued a permit shall comply with applicable requirements of § 75.264 (relating to new and existing hazardous waste management facilities applying for a permit), § 75.265 (relating to interim status for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities) and with the following in this section:

(i) Subsection (b) (relating to hazardous waste determination).
(ii) Subsection (c) (relating to identification numbers).
(iii) Subsection (g) (relating to accumulation).
(iv) Subsection (h) (relating to recordkeeping).
(v) Subsection (i)(2) (relating to quarterly reporting).
(vi) Subsection (k) (relating to additional reporting).
(vii) Subsection (l) (relating to hazardous waste disposal plan).
(viii) Subsection (m) (relating to hazardous waste discharges or spills).

(3) A farmer who generates waste pesticides which are hazardous wastes and who complies with all of the requirements of subsection (n) is not required to comply with § 75.264 (relating to new and existing hazardous waste management facilities applying for a permit), § 75.265 (relating to interim status for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities) with respect to such pesticides.

(4) An owner or operator who initiates a shipment of hazardous waste from a treatment, storage, or disposal facility shall comply with the generator standards established in this section.

(b) *Hazardous waste determination.*

(1) A person or municipality who generates a solid waste as defined in section 103 of the act (35 P.S. §6018.103) shall determine if that waste is a hazardous waste using the following procedure:

(i) He shall first determine if the waste is excluded from regulation under § 75.261(c) and (d) (relating to criteria, identification and listing of hazardous waste).

(ii) He shall then determine if the waste is listed as a hazardous waste in § 75.261(h) (relating to criteria, identification and listing of hazardous waste).

(iii) If the waste is not listed, in § 75.261(h), he shall determine whether the waste is identified in § 75.261(g) by either:

(A) Testing the waste according to the methods set forth in § 75.261 or according to an equivalent method approved by the Department under § 75.260(c).

(B) Applying knowledge of the hazard characteristic of the waste in light of the materials or the processes used.

(iv) He shall determine if any spill or accidental discharge is subject to the reporting requirements of subsection (m) and shall comply with the requirements of subsection (m) except subsection (m)(5) for any such spill or accidental discharge.

(2) If a waste is listed as a hazardous waste in § 75.261(h) (relating to criteria, identification and listing of hazardous waste), a generator's waste can be declared nonhazardous if he can demonstrate to the Department in accordance with § 75.260(b) (relating to definitions and requests for determinations) that the waste from his particular facility or operation is not a hazardous waste.

(3) If the waste is determined to be nonhazardous or is excluded under § 75.261(d) (relating to criteria, identification and listing of hazardous waste) generators shall retain copies of the evaluations performed and shall nevertheless repeat the necessary evaluations or testing when there is a significant change in their raw materials or operations which may alter the test results. Copies of such evaluations shall be retained for five years and furnished to the Department upon request.

(4) Generators of hazardous waste excluded under § 75.261(d) (relating to criteria, identification and listing of hazardous waste) shall nonetheless retain for a period of five years records of quantities, descriptions, and dispositions of such wastes, and shall furnish such records to the Department upon request.

(5) A determination that a waste is not hazardous under subsection (b)(1)(iii) and (2) does not preclude the Department, using the characteristics and testing methods set forth in § 75.261 (relating to criteria, identification and listing of hazardous waste) from determining the waste to be hazardous.

(c) *Identification numbers.*

(1) A generator shall not treat, store, dispose of, transport or offer for transport a shipment of hazardous waste without having received an identification number from the Department.

(2) A generator who has not received an identification number may obtain one by applying to the Department using DER Form ER—SWM—53. Upon receiving the request, the Department will assign an identification number to the generator.

(3) An identification number received as a result of notification to EPA pursuant to section 3010 of the Resource Conservation and Recovery Act (42 U.S.C. §6930) shall be deemed to satisfy the requirements of this section when furnished to the Department upon request.

(4) A generator shall offer a shipment of hazardous waste only to a licensed transporter or hazardous waste management facility that has received an identification number.

(d) *Authorization.*

(1) A generator, before designating a hazardous waste shipment for off-site treatment, storage, or disposal within the Commonwealth, shall contact the hazardous waste management facility and obtain a copy of a written authorization from the hazardous waste management facility.

(2) Such an authorization shall indicate that the facility is permitted to accept such waste, is capable, has capacity and is willing to accept the waste.

(3) Only one such authorization shall be necessary for each waste stream.

(e) *Manifest.*

(1) A generator who transports, or offers for transportation, hazardous waste for off-site treatment, storage, or disposal shall prepare a manifest according to the instructions supplied with the manifest.

(2) Any generator who transports or offers for transportation hazardous waste for off-site treatment, storage, or disposal in this Commonwealth shall obtain the manifest from the Department.

(3) A generator who transports or offers for transportation hazardous waste for off-site treatment, storage, or disposal outside this Commonwealth shall obtain the manifest from the destination state.

(4) If the destination states does not supply the manifest, the generator shall obtain the manifest from the Department.

(5) A generator shall designate on the manifest one facility which is permitted to handle the waste described on the manifest.

(6) If the transporter is unable to deliver the hazardous waste to the designated facility, the generator shall instruct the transporter to return the waste to the generator, or shall prepare a new manifest designating another facility which is permitted to handle the waste and deliver the new manifest to the transporter.

(7) The generator shall provide the following information on each manifest he prepares before the off-site transportation of the manifested waste occurs:

(i) The generator's EPA ID Number and the unique five digit number assigned to this manifest by the generator—EPA manifest document number.

(ii) Total number of pages used to complete the manifest.

(iii) The name, mailing address, and telephone of the generator.

(iv) The State manifest document number assigned by the Department.

(v) Each transporter's company name, EPA ID Number, Pennsylvania Hazardous Waste Transporter License Number, and telephone number.

(vi) The designated facility's name, site address, EPA ID Number, and telephone number.

(vii) The U.S. Department of Transportation Proper Shipping Name, Hazard Class, and ID Number—UN or NA—for each waste a identified by 49 CFR §§171-177 (relating to hazardous materials regulations).

(viii) The number of containers and container type, and the total quantity of the waste by either weight or volume.

(ix) The hazardous waste numbers for each waste.

(x) The physcial state and hazard codes for each waste.

(xi) Special handling instructions and any necessary additional information for proper handling and treatment of the waste during transportation.

(xii) The generator's written certification stating: "I her.by declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations, and all applicable State laws/regulations."

"Unless I am a small quantity generator who has been exempted by statute or regulation from the duty to make a waste minimization certification under Section 3002(b) of RCRA, I also certify that I have a program in place to reduce volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment."

(xiii) The printed or typed name and the signature of the generator's authorized representative and the date of the shipment.

(xiv) The printed or typed name and the signature of each transporter's authorized representative and each date of receipt.

(xv) The printed or typed name and the signature of the designated facility's authorized representative and the date of receipt.

(xvi) A continuation sheet, EPA Form 8700-22A, when there are more than two transporters, or for lab packs when there are more than four different waste streams in one shipment.

(8) If there are more than four different waste streams in one shipment, except for lab packs, the generator shall complete another manifest according to the instructions.

(9) The manifest shall consist of eight copies.

(10) The generator shall read and sign by hand the certification statement on the manifest.

(11) The generator shall obtain the printed or typed name, the handwritten signature of the initial transporter, and the date of acceptance on the manifest before the shipment is transported off-site.

(12) The generator shall detach Copies 6, 7 and 8 of the manifest.

(13) A generator located in this Commonwealth and designating a facility within the Commonwealth shall retain Copies 6, 7, and 8 of the manifest for his records under subsection (h).

(14) A generator located outside this Commonwealth and designating a facility in this Commonwealth shall submit copy 6 of the manifest to the Department and copy 7 to the generator state within 7 days of the date of the shipment and retain copy 8 for this records under subsection (h).

(15) A generator located in this Commonwealth and designating a facility within a state that does not supply the manifest shall submit copy 7 of the manifest to the Department and copy 6 to the destination state within 7 days of the date of the shipment and retain copy 8 for his records under subsection (h).

(16) A generator located in this Commonwealth and designating a facility within a state that supplies the manifest shall provide the information and distribute the copies as required by the manifest in accordance with the instructions supplied with the manifest and retain one copy for his records under subsection (h).

(17) The generator shall ensure that the required information on all copies of the manifest is capable of being read.

(18) The generator shall give the transporter the remaining copies of the manifest.

(19) Hazardous waste designated for treatment, storage, or disposal in this Commonwealth and shipped solely by railroad or solely by water—bulk shipments only—the generator shall send the remaining copies of the manifest dated and signed under this subsection to the owner or operator of the designated facility within 7 days of the date of the shipment. Copies of the manifest are not required for each transporter.

(20) Copies of the manifest retained by the generator under this subsection shall be furnished to the Department upon request.

(f) *Pretransport requirements, packing, labeling, marking, and placarding.*

(1) Before transporting or offering a shipment of hazardous waste for transportation off-site, a generator shall perform the following:

(i) place the hazardous waste in containers or packages meeting United States Department of Transportation requirements under 49 C.F.R. Parts 173, 178, and 179;

(ii) label and mark each container or package in accordance with United States Department of Transportation requirements under 49 C.F.R. Part 172; and

(iii) permanently mark each container of 110 gallons or less according to United States Department of Transportation requirements under 49 C.F.R. §172.304 with the following:

"HAZARDOUS WASTE - PENNSYLVANIA AND FEDERAL LAWS PROHIBIT IMPROPER DISPOSAL." If found contact the nearest police, public safety authority, the U.S. EPA at 215-597-9898, or the PA Department of Environmental Resources at 717-787-4343, if found within the Commonwealth of Pennsylvania.
Generator's Name _____
Generator's Address _____
Manifest Document Number _____
Waste Description _____
U. N. Number _____

(2) Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator shall placard or offer the initial transporter the appropriate placards according to United States Department of Transportation requirements under 49 C.F.R. Part 172, Subpart F.

(g) *Accumulation.*

(1) A generator may accumulate hazardous waste on-site without a permit for 90 days or less, provided that:

(i) All such waste is shipped off-site or treated or disposed of on-site within 90 days or less.

(ii) The waste is placed in containers which meet all United States Department of Transportation packaging, marking, and labeling requirements in subsection (f), or in tanks, provided that the generator complies with all the requirements of § 75.265(r) (relating to tanks), excluding the requirement for Waste Analysis and Trial Test.

(iii) All containers are managed in accordance with § 75.265(q) (relating to use and management of containers).

(iv) On each container, each date on which any hazardous waste was placed in that container shall be clearly marked and visible for inspection.

(v) The generator complies with the requirements of § 75.265 (h) (relating to preparedness and prevention), § 75.265 (i) (relating to contingency plan and emergency procedures) and § 75.265 (f) (relating to personnel training).

(2) A generator who accumulates hazardous waste for more than 90 days is an operator of a storage facility and is subject to the requirements of § 75.264 (relating to new and existing hazardous waste management facilities applying for a permit) and § 75.265 (relating to interim status for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities) and the permit requirements of § 75.265 (relating to interim status for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities).

(h) *Recordkeeping*

(1) A generator shall retain a copy of each manifest signed in accordance with subsection (e) for 20 years or until he receives a signed copy from the designated facility which received the waste. This signed copy shall be retained at the building, property, premises, or place where hazardous waste is generated or at a location approved by the Department as a record for at least 20 years from the date on which the waste was accepted by the initial transporter.

(2) A generator shall retain a copy of each quarterly report and exception report for a period of at least 20 years from the due date of the report.

(3) A generator shall retain records of any test results, waste analyses, or other determinations made in accordance with subsection (b) for at least 20 years from the date the waste was last sent for on-site or off-site treatment, storage, or disposal. The generator shall furnish these records to the Department upon request.

(4) The periods of retention referred to in this subsection shall be extended automatically during the course of any enforcement action regarding the regulated activity or as requested by the Department.

(i) *Quarterly report*

(1) A generator who ships hazardous waste off-site shall submit quarterly reports:

(i) To the Department on a form designated by the Department. The form shall contain as a minimum the following information.

(A) The name, identification number, mailing address, and the location of the generator.

(B) The name and telephone number of generator's contact person.

(C) The identification number and hazardous waste transporter (HWT) license number of each transporter.

(D) The name, identification number, and address of each HWM facility. For exported shipments the report shall give the name and address of the foreign facility.

(E) The description, Department of Transportation hazard class and hazardous waste number of the hazardous waste.

(F) The amount and units of measure of each hazardous waste in a shipment.

(G) The manifest document number for each hazardous waste.

(H) Signature and certification of the generator's authorized representative.

(I) The information required by clauses (C), (D), (E), (F) and (G) shall be provided for each shipment of hazardous waste and each waste stream within the shipment.

(ii) To the Department not later than the last day of the following month for the quarter: January through March due on or before April 30; April through June due on or before July 31; July through September due on or before October 31; October through December due on or before January 31.

(2) A generator who treats, stores, or disposes of only his own hazardous waste at an on-site facility may not submit quarterly reports to the Department. The generator shall, however, submit an annual report to the Department under §§ 75.264(m)(3) or 75.265(m)(3) (relating to new and existing hazardous waste management facilities applying for a permit and interim status standards for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities) as applicable.

(j) *Exception reporting.*

(1) A generator who does not receive a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 35 days of the date the waste was accepted by the initial transporter or within seven days of the date of estimated arrival at the hazardous waste facility, whichever is less, shall contact the transporter or the owner or operator or authorized representative of the designated hazardous waste management facility, or both, to determine the status of the hazardous waste shipment and then notify the Department within 24 hours, by telephone, of the status of the shipment.

(2) A generator shall notify by telephone and submit an exception report to the Department, if he has not received a copy of the manifest with the handwritten signature of the owner, operator, or authorized representative of the designated hazardous waste management facility within 45 days of the date the waste was accepted by the initial transporter or within 14 days of the date the waste was expected to arrive at the hazardous waste facility, whichever is less. The exception report shall include the following:

(i) A legible copy of the manifest for which the generator does not have confirmation of delivery.

(ii) A cover letter signed by the generator or his authorized representative explaining the efforts taken to locate the hazardous waste and the results of those efforts.

(k) *Additional reporting.* The Department may require generators to furnish additional reports concerning the quantities and disposition of waste identified or listed in § 75.261 (relating to criteria, identification and listing of hazardous waste).

(l) *Hazardous waste disposal plan.* If required by the Department, a hazardous waste generator after January 1, 1981 shall submit to the Department for its approval a plan relating to the disposal of such hazardous waste at either an on-site or off-site treatment or disposal facility.

(1) This plan shall evaluate the viability of all alternatives to landfill disposal, such as treatment, incineration, recycling, use, reuse, and reclamation.

(2) If a generator is considering landfill disposal, this plan shall evaluate the technical and economic feasibility of alternatives to landfill disposal, such as treatment, incineration, recycling, use, reuse, and reclamation.

(3) This plan shall be submitted to the Department within 180 days after the generator receives written notice from the Department to prepare the plan.

(m) *Hazardous waste discharges or spills.*

(1) Spills and discharges which are in amounts less than the reportable quantities, which do not result in discharges into surface water or ground water, and which are managed according to an approved contingency plan need not be reported. The reportable quantities of the hazardous wastes spilled or discharged on-site are set forth below in Table 1. For any waste with more than one hazard code, the most stringent reportable quantity shall apply. Any discharges or spills into surface or ground water shall be reported regardless of quantity spilled or discharged.

TABLE 1

		Hazard Codes		
Physical Form	*Unit*	*H*	*T*	*I, C, R, and E*
Liquids*	Gal	5	5	10
Solid	Lbs	10	100	1000

*Liquids are flowable substances which contain less than 20% solids by dry weight. Flowable refers to flow in the sense of pourable as liquid.

In the event of a discharge or spill equal to or greater than the reportable quantity of hazardous waste, the generator shall take appropriate immediate action to protect the health and safety of the public and the environment and immediately notify the Department by telephone at 717-787-4343 with the following information:

(i) Name of the person reporting the spill.
(ii) Name and identification number of generator.
(iii) Phone number where person reporting the spill can be reached.
(iv) Date, time, and location of the spill.
(v) Brief description of the incident.
(vi) For each waste involved in the spill:
  (A) The shipping name, hazard class, and U.N. number
  (B) The estimated quantity of waste spilled.
(vii) The extent of contamination of land, water, or air, if known.

(2) If a discharge or spill of hazardous waste occurs during on-site unloading, loading, storage, or plant operation, and a departmental official acting within the scope of his official responsibilities determines that immediate removal of the waste is necessary to protect the health and safety of the public and the environment, that official may authorize in writing the removal of the waste by transporters who do not have identification numbers or licenses and without the preparation of a manifest.

(3) A generator shall clean up any hazardous waste discharge or spill that occurs during on-site unloading, loading, storage, or plant operation, and take such action as may be required or approved by the Department so that the discharge or spill no longer presents a hazard to the health and safety of the public or the environment.

(4) In addition, the generator shall file a written report on any reportable hazardous waste discharge or spill with the Department within 15 days after the incident, and supply the Department with any other information it may require or request that pertains to the discharge. The report on the hazardous waste spill or discharge shall be entitled, "Hazardous Waste Spill Report" and shall contain the following information:

(i) the name, address, and identification code of the generator and the date, time, and location of the incident;

(ii) a brief description of the circumstances causing the incident;

(iii) a description of each of the hazardous wastes involved in the incident including the estimated quantity spilled by weight or volume;

(iv) a legible copy of the manifest document, if applicable;

(v) a description of any contamination of land, water, or air that has occurred due to the incident; and

(vi) a description of what actions the generator intends to take to prevent a similar occurrence in the future.

(5) All generators of hazardous waste shall be responsible for developing and implementing a contingency plan approved by the Department for effective action to minimize and abate discharges or spills of hazardous wastes from an incident resulting from the generator's activities on or adjacent to the generator's property. Such contingency plan shall require compliance with § 75.264 (relating to new and existing hazardous waste management facilities applying for a permit), and § 75.265 (relating to interim status for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities) be developed in accordance with Department guidelines for contingency plans, and be submitted to the Department for approval as the Department prescribes.

(n) *Farmers.* A farmer disposing of waste pesticides from his own use which are hazardous wastes is not required to comply with this section and § 75.264 (relating to new and existing hazardous waste management facilities applying for a permit), and § 75.265 (relating to interim status for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities) for those wastes provided he triple rinses each emptied pesticide container in accordance with § 75.261(h)(4)(iii) (relating to criteria, identification, and listing of hazardous waste), and disposes of the pesticide residues on his own farm in a manner consistent with the disposal instructions on the pesticide label.

(o) *International shipments.*

(1) Any generator who exports hazardous waste to a foreign country from this Commonwealth or imports hazardous waste from a foreign country into this Commonwealth shall comply with the requirements of this section and with the special requirements of this subsection.

(2) When shipping hazardous waste outside the United States, the generator shall:

(i) Notify the Department and the EPA Administrator in writing four weeks before the initial shipment of hazardous waste to each country in each calendar year;

(A) The waste shall be identified by its EPA identification number and its Department of Transportation shipping description.

(B) The name and address of the foreign consignee shall be included in this notice.

(C) These notices shall be sent to Office of International Activities (A-106), United States Environmental Protection Agency, Washington, D.C. 20460.

(ii) Require that the foreign consignee confirm the delivery of the waste in the foreign country. A copy of the manifest signed by the foreign consignee may be used for this purpose.

(iii) Meet the requirements under subsection (e) for the manifest, except that:

(A) In place of the name, address, and EPA identification number of the designated facility, the name and address of the foreign consignee shall be used.

(B) The generator shall identify the point of departure from the United States through which the waste shall travel before entering a foreign country.

(3) A generator shall file an exception report, if:

(i) he has not received a copy of the manifest, signed by the transporter stating the date and place of departure from the United States within 45 days from the date it was accepted by the initial transporter; or

(ii) within 90 days from the date the waste was accepted by the initial transporter, the generator has not received written confirmation from the foreign consignee that the hazardous waste was received.

(4) When importing hazardous waste, a person or municipality shall meet all manifest requirements of subsection (e) except the following:

(i) In place of the generator's name, address, and EPA identification number, the name and address of the foreign generator and the importer's name, address, and EPA identification number shall be used.

(ii) In place of the generator's signature on the certification statement, the United States importer or his agent shall sign and date the certification and obtain the signature of the initial transporter.

§ 75.263. Transporters of hazardous waste.

(a) *Scope.*

(1) This section shall apply to a person or municipality who transports hazardous wastes which are generated, stored, treated, or disposed of in this Commonwealth, except that transporters transporting hazardous waste through this Commonwealth, neither picking up or delivering hazardous waste in this Commonwealth, need only comply with the EPA transporter requirements in 40 CFR § 263 (relating to standards applicable to transporters of hazardous waste).

(2) This section does not apply to on-site transportation of hazardous waste by generators or on-site transportation by owners or operators of permitted hazardous waste management facilities.

(3) A transporter of hazardous waste shall comply with the requirements of § 75.262 (relating to generators of hazardous waste) if he transports hazardous waste into the Commonwealth from a foreign country.

(b) *Identification number.*

(1) Except as otherwise provided in subsection (g), a transporter shall not transport hazardous waste without having received an identification number from the Department.

(2) A transporter who has not received an identification number may obtain one by applying to the Department using Department form ER—SWM—53. Upon receiving the request, the Department will assign an identification number to the transporter.

(3) A transporter shall not accept a shipment of hazardous waste from a generator who has not received an identification number, except as otherwise provided in § 75.261(d) and (e) (relating to criteria, identification and listing of hazardous waste), and subsection (g).

(4) An identification number received as a result of notification to EPA pursuant to section 3010 of the RCRA (42 U.S.C. § 6930) shall be deemed to satisfy the requirements of this section when furnished to the Department upon request.

(c) *Licensing.*

(1) Except as otherwise provided in paragraph (2) or subsection (g), no person or municipality shall transport any hazardous waste within the Commonwealth after the effective date of this section without first obtaining a license from the Department.

(2) A person or municipality who has been transporting hazardous waste within the Commonwealth on the effective date of the promulgation or revision of § 75.261 (relating to criteria, identification, and listing of hazardous waste) who files a notification form as required by § 75.267 (relating to notification of hazardous waste activities), and submits a license application as required by this section within 90 days of the effective date of this section or in case of revision of § 75.261 (relating to criteria, identification and listing of hazardous waste) within 90 days of the effective date of such revision shall be treated as having been issued a license until such time as a final Departmental action on such application is made. In no instance shall such person or municipality continue to transport hazardous waste without obtaining a license from the Department on or before July 7, 1982.

(3) A person or municipality desiring to obtain a license to transport hazardous waste within the Commonwealth shall perform the following:

(i) Comply with § 75.267 (relating to notification of hazardous waste activities) requiring notification.

(ii) File a hazardous waste transporter license application with the Department. Such application shall be on a form provided by the Department and shall be completed as required by the instructions supplied with such form.

(iii) Deposit with the Department a collateral bond which is conditional upon compliance by the licensee with all of the requirements of the act, the rules and regulations promulgated thereunder, the terms and conditions of the license, and any Department order issued to the licensee. The amount, duration, form, conditions and terms of the bond shall conform to the requirements of subsection (i).

(iv) Submit a certificate issued by an insurance company authorized to do business in this Commonwealth certifying that the applicant has a public liability insurance policy in force covering the applicant's transportation of hazardous wastes. The amount, duration, form, conditions and terms of this insurance shall conform to the requirements of subsection (i).

(v) Supply the Department with any additional information it may require.

(4) Upon receiving the application and the information required in subsection (c)(3) the Department will evaluate the application for a license and any other relevant information and issue or deny the license. If a license is denied, the Department will advise the applicant of the reasons for denial in writing.

(5) A license granted or renewed under this section shall be valid for a period of two years unless the Department determines that circumstances justify issuing a license for a period of less than two years. The expiration date shall be set forth on the license.

(6) The Department may at any time place such terms and conditions upon a license granted or renewed under subsection (c) as it deems necessary to protect the public health safety and the environment.

(7) A license to transport hazardous waste shall be nontransferrable and nonassignable and shall only be used by the licensee and his employes.

(8) The Department may revoke or suspend a license in whole or in part for any of the following reasons:

(i) violation of any applicable requirement of the act or a regulation promulgated pursuant to the act;

(ii) aiding or abetting the violation of any provisions of the act or a regulation promulgated pursuant to the act;

(iii) misrepresentation of a fact either in the application for the license or renewal or in information required or requested by the Department;

(iv) failure to comply with the terms or conditions placed upon the license or renewal;

(v) failure to comply with any order issued by the Department; or

(vi) failure to maintain the required bond amount and insurance.

(9) The application for license shall be accompanied by a check for $200 payable to the "Commonwealth of Pennsylvania".

(d) *Manifest.*

(1) A transporter may not accept hazardous waste from a generator or another transporter unless it is accompanied by a manifest which has been completed and signed by the generator under § 75.262 (relating to generators of hazardous waste).

(2) Before transporting the hazardous waste, the transporter shall print or type his name, sign, and date the manifest and, by his signature, acknowledge his acceptance of the hazardous waste from the generator. Before leaving the generator's property the transporter shall return to the generator the appropriate number of signed copies of the manifest according to the instructions supplied with the manifest.

(3) The transporter shall ensure that the manifest accompanies the hazardous waste.

(4) A transporter who delivers a hazardous waste to another transporter or to the designated facility shall:

(i) Obtain on the manifest the date of delivery, the printed or typed name, and the handwritten signature of the subsequent transporter or of the owner, operator or authorized representative of the designated facility.

(ii) Retain one copy of the manifest according to the instructions supplied with the manifest under subsection (f).

(iii) Give the remaining copies of the manifest to the accepting transporter or designated facility.

(5) The requirements of paragraphs (3) and (4) do not apply to water—bulk shipment—transporters if:

(i) The hazardous waste is delivered by water—bulk shipment—to the designated facility.

(ii) A shipping paper containing all the information required on the manifest—excluding the EPA ID Numbers, generator certification, signatures, and optional state information—accompanies the hazardous waste.

(iii) The delivering transporter obtains the date of delivery and handwritten signature of the owner or operator of the designated facility on either the manifest or the shipping paper.

(iv) The person delivering the hazardous waste to the initial water—bulk shipment—transporter obtains the date of delivery, the printed or typed name, and signature of the water—bulk shipment—transporter on the manifest and forwards it to the designated facility within 7 days of the date of delivery.

(v) A copy of the shipping paper or manifest is retained by each water—bulk shipment—transporter in accordance with the instructions supplied with the manifest and subsection (f).

(vi) The remaining copies of the manifest are forwarded to the designated facility.

(6) For shipments involving rail transportation, the requirements of paragraphs (3), (4), and (5) do not apply and the following requirements do apply:

(i) When accepting hazardous waste from a non-rail transporter, the initial rail transporter shall:

(A) Sign and date the manifest acknowledging acceptance of the hazardous waste;

(B) Return a signed copy of the manifest according to the instructions supplied with the manifest to the non-rail transporter;

(C) Forward the remaining copies of the manifest to:

(I) The next non-rail transporter, if any; or

(II) The designated facility, if the shipment is delivered to that facility by rail; or

(III) The last rail transporter designated to handle the waste in the United States;

(D) Retain one copy of the manifest and shipping paper in accordance with the instructions supplied with the manifest and subsection (f) (relating to recordkeeping).

(ii) Rail transporters shall ensure that a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator certification, and signatures) accompanies the hazardous waste at all times.

(iii) Intermediate rail transporters are not required to sign either the manifest or shipping paper.

(iv) When delivering hazardous waste to the designated facility, a rail transporter shall:

(A) Obtain the date of delivery and handwritten signature of the owner or operator of the designated facility on the manifest or the shipping paper (if the manifest has not been received by the facility); and

(B) Retain one copy of the manifest according to the instructions supplied with the manifest or signed shipping paper in accordance with subsection (f) (relating to recordkeeping).

(v) When delivering hazardous waste to a non-rail transporter, a rail transporter shall:

(A) Obtain the date of delivery and the handwritten signature of the next non-rail transporter on the manifest; and

(B) Retain one copy of the manifest according to the instructions supplied with the manifest in accordance with subsection (f) (relating to recordkeeping).

(vi) Before accepting hazardous waste from a rail transporter, a non-rail transporter shall sign and date the manifest and provide a copy to the rail transporter according to the instructions supplied with the manifest.

(7) Transporters who transport hazardous waste out of the United States shall:

(i) Indicate on the manifest the date the hazardous waste left the United States.

(ii) Sign the manifest and retain one copy in accordance with the instructions supplied with the manifest and subsection (f).

(iii) Return a signed copy of the manifest according to the instructions supplied with the manifest to the generator within 7 days of the date of delivery.

(8) The transporter shall deliver the entire quantity of hazardous waste which he has accepted from a generator or a transporter to one of the following:

(i) The designated facility listed on the manifest.

(ii) The next designated transporter listed on the manifest.

(iii) The designated facility outside the United States listed on the manifest.

(9) If the hazardous waste cannot be delivered under paragraph (7), the transporter shall return the waste to the generator.

(10) A transporter of hazardous waste shall ensure that the shipment complies with all applicable United States Department of Transportation regulations and 67 Pa. Code Part I (relating to Department of Transportation).

(11) A transporter may not accept or transport a shipment of hazardous waste if one of the following occurs:

(i) The waste is in containers or packaging which are or appear to be leaking, damaged, or otherwise do not comply with § 75.262.

(ii) The waste is in containers or packaging not marked under § 75.262(f)(1)(iii).

(iii) The number and type of containers to be transported do not correspond with the number and type stated in the manifest.

(e) *Blending, mixing, treating, or storing of hazardous waste by transporters.*

(1) If a transporter blends or mixes hazardous waste of different United States Department of Transportation shipping descriptions, he shall comply with § 75.262 (relating to generators of hazardous waste).

(2) If a transporter stores hazardous waste in a manner other than normal in-transit storage or alters the composition of hazardous waste, he shall comply with all applicable requirements of § 75.264 (relating to new and existing hazardous waste management facilities applying for a permit) and § 75.265 (relating to interim status for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities).

(f) *Recordkeeping.*

(1) A transporter of hazardous waste shall retain a copy of the manifest signed by the generator, the transporter himself, and the receiving transporter or the owner or operator of the designated hazardous waste management facility for a period of 20 years from the date the hazardous waste was accepted by the initial transporter.

(2) For shipments delivered to the designated hazardous waste management facility in bulk by rail or water, each rail or water transporter shall retain a copy of a shipping paper containing all the information required in subsection (d) for a period of 20 years.

(3) The periods of retention referred to in this subsection shall be extended automatically during the course of any enforcement action regarding the regulated activity or as requested by the Department.

(g) *Hazardous waste discharge or spills.*

(1) In the event of any discharge or spill of hazardous waste during transportation, the transporter shall take appropriate immediate action to protect the health and safety of the public and the environment and shall immediately notify the Department by telephone at 717-787-4343 and the National Response Center at 800-424-8802 with the following information:

(i) Name of the person reporting the spill.
(ii) Name, address, and identification number of the transporter.
(iii) Phone number where the person reporting the spill can be reached.
(iv) Date, time, and location of the spill.
(v) Mode of transportation and type of transport vehicle.
(vi) Brief description of the incident.
(vii) For each waste involved in the spill:
  (A) the name and identification number of the generator of the waste;
  (B) shipping name, hazard class, and U.N. number of the waste; and
  (C) estimated quantity of the waste spilled.
(viii) Shipping name, hazard class, and U.N. number of any other material carried.

(2) In the event of a discharge or spill of hazardous waste during transportation, the transporter shall immediately notify the affected municipality of the occurrence and nature of the discharge or spill.

(3) If a discharge or spill of hazardous waste occurs during transportation and a departmental official acting within the scope of his official responsibilities determines that immediate removal of the waste is necessary to protect the health and safety of the public or the environment, that official may authorize in writing the removal of the waste by transporters who do not have identification numbers or licenses and without the preparation of a manifest.

(4) A transporter shall clean up any hazardous waste discharge or spill that occurs during transportation or take such action as may be required or approved by the Department so that the discharge or spill no longer presents a hazard to the health and safety of the public or to the environment.

(5) Report in writing as required by 49 C.F.R. §171.16 (relating to detailed hazadous materials incident reports) to the Chief, Information Systems Division, Transportation Program Bureau, United States Department of Transportation, Washington, D.C., 20590, sending a copy of the report to the Department and a copy to the generator. A water—bulk shipment—transporter who has discharged hazardous waste shall give the same notice as required by 33 C.F.R. §153.203 (relating to procedure for the notice of discharge) for oil and hazardous substances, sending a copy of the report to the Department, and a copy to the generator.

(6) A transporter of hazardous waste shall develop and implement a transporter contingency plan for effective action to minimize and abate discharges or spills of hazardous wastes from an incident while transporting hazardous waste. The transporter shall develop such plan in accordance with the Department's guidelines for contingency plans and shall submit such plan to the Department as the Department prescribes for its written approval.

(7) A transporter utilizing in-transit storage of hazardous waste for periods of not more than 5 days but greater than 3 days shall prepare an in-transit storage preparedness, prevention, and contingency plan in addition to the transporter contingency plan and shall be approved by the Department in writing.

(8) A transporter transferring hazardous waste from one vehicle to another at a transfer facility shall prepare an in-transit storage preparedness, prevention, and contingency plan in addition to the transporter contingency plan and shall be approved by the Department in writing.

(h) *Safety.*

(1) A transporter of hazardous waste shall provide adequate personnel training to ensure all transport activities are conducted safely and in compliance with all applicable laws and regulations.

(2) The transporter shall have and maintain at least, but not limited to, the following safety equipment for use during clean-up of spills in the vehicle, loading and unloading of hazardous wastes and to initially arrest incidents until emergency personnel arrive:

(i) Proper protective clothing and equipment to enable personnel associated with the transportation to work safely with the hazardous wastes that are accepted by the transporter.

(ii) One eyewash apparatus per vehicle which is readily available in case of emergency.

(iii) First-aid supplies.

(iv) If transporting acute hazardous waste, a suitable means of communication, such as a two-way radio for summoning aid in an emergency.

(3) Equipment used to handle hazardous waste including, but not limited to, storage containers, processing equipment, trucks and loaders that are contaminated with hazardous waste shall be decontaminated prior to being serviced or used for any purpose other than transportation of compatible hazardous waste and prior to being serviced or used for transportation of nonhazardous waste, unless such wastes are compatible and are transported to a hazardous waste treatment, storage, or disposal facility. Contaminated wash water, waste solutions, or residues generated from washing or decontaminating equipment shall be collected and disposed of as a hazardous waste in compliance with all applicable laws and regulations.

(4) A transporter, when handling liquid hazardous wastes, shall have sufficient absorbent mats and material in the vehicle to absorb not less than 5.0% of the volume of liquids which being transported in containers of 110 gallons or less.

(i) *Bonding and insurance requirements.*

(1) A collateral bond means an indemnity agreement in a certain sum payable to the Department executed by the licensee and which is supported by the deposit with the Department of cash, negotiable bonds of the United States of America, the Commonwealth of Pennsylvania, the Pennsylvania Turnpike Commission, the General State Authority, the State Public School Building Authority, or any Commonwealth municipality, or an irrevocable letter of credit of any bank organized or authorized to transact business in the United States.

(2) No new, revised, or renewed license to transport hazardous waste shall be issued by the Department before the applicant for such a license has filed a collateral bond payable to the Department on a form provided by the Department, and such bond has been approved by the Department.

(3) The amount of the bond shall be $10,000 at a minimum and be in an amount sufficient to assure that the licensee shall faithfully perform all of the requirements of the act, the rules and regulations promulgated thereunder, the terms and conditions of the license, and any Department order issued to the licensee.

(4) Liability under the bond shall continue at a minimum for the duration of the license, any renewal thereof, and for a period of one year after expiration, termination, revocation, or surrender of the license. The one-year extended period of liability shall include, and shall be automatically extended for, such additional time during which administrative or legal proceedings are pending involving a violation by the transporter of the act, rules and regulations promulgated thereunder, the terms or conditions of a license, or a Department order.

(5) The Department may require additional bond amounts at any time if the methods of transporting wastes change, the kind of wastes transported changes, or the Department determines such additional bond amounts are necessary to guarantee compliance with the act, the rules and regulations, the terms and conditions of the license, or any Department order.

(6) Collateral bonds shall be subject to the following conditions:

(i) The Department will obtain possession of and keep in custody all collateral deposited by the licensee until authorized for release as provided in this subsection.

(ii) The Department will value collateral at their current market value.

(iii) Collateral shall be in the name of the licensee, not in the name of third parties, and shall be pledged and assigned to the Department free and clear of claims.

(7) Letters of credit shall be subject to the following conditions:

(i) The letter may only be issued by a bank organized or authorized to do business in the United States.

(ii) Letters of credit shall be irrevocable. The Department may accept a letter of credit which is irrevocable for a term of three years if:

(A) the letter of credit is automatically renewable for additional terms, unless the bank gives at least 90 days prior written notice to the Department of its intent to terminate the credit at the end of the current term; and

(B) the Department has the right to draw upon the credit before the end of its term and convert it into a cash collateral bond, if the licensee fails to replace such letter of credit with other acceptable collateral within 30 days of the bank's notice to terminate the credit.

(iii) The letter of credit shall be payable to the Department in part or in full upon demand of the Department in the case of a forfeiture or the failure of the operator to replace the letter of credit as provided in this section.

(iv) The Department will not accept letters of credit from a bank for a licensee in excess of 10% of the bank's capital surplus account as shown on a balance sheet certified by a Certified Public Accountant.

(v) All letters of credit shall be subject to the Uniform Customs and Practice for Documentary Credits, International Chamber of Commerce Publication No. 290, including amendments and successor publications.

(vi) Letters of credit shall provide that the bank will give prompt notice to the licensee and the Department of a notice received or action filed alleging the insolvency or bankruptcy of the bank, or alleging any violations of regulatory requirements which could result in suspension or revocation of the bank's charter or license to do business.

(vii) Upon the incapacity of a bank by reason of bankruptcy, insolvency, or suspension or revocation of its charter or license, the licensee shall be deemed to be without collateral bond coverage in violation of subsection (c)(3)(iii). The Department will issue a notice of violation against a licensee who is without bond coverage. The notice shall specify a reasonable period to replace bond coverage, not to exceed 90 days.

shall be released to the licensee one year after expiration, termination, revocation, or surrender of the license.

(9) The Department will declare forfeit all the bond if the Department finds that the licensee has violated any of the requirements of the act, the rules and regulations promulgated thereunder, the terms and conditions of a license, or a Department order issued to the licensee, and if the Department also finds that the licensee has failed to remedy promptly such violation.

(10) The licensee shall submit at the time of license application and renewal thereof, a certificate from an insurance company licensed to do business in this Commonwealth, certifying that the licensee has a public liability insurance policy in force covering the licensee's transportation of hazardous wastes. The certificate shall provide for personal injury and property damage protection including coverage for the cost of cleaning up a hazardous waste spill and consequential damages resulting from such spill and the efforts to clean it up, in an amount adequate to compensate all persons injured and property damaged. Minimum insurance coverage for personal injury and property damage shall be $1,000,000. The insurance policy shall be maintained in full force during the term of the license and renewals thereof. The insurance policy shall include a rider requiring that the insurer give the Department written notice of any substantive changes in the policy including termination or failure to renew.

(11) All remedies provided in law for violation of the act, the rules and regulations adopted thereunder or the conditions of the license, are expressly preserved. Nothing in this section shall be construed as an exclusive penalty or remedy for such violations of law. No action taken pursuant to this section shall waive or impair any other remedy or penalty provided in law.

§ 75.264. New and existing hazardous waste management facilities applying for a permit.

(a) *Scope.*

(1) Except as provided in paragraph (4), this section establishes the following:

(i) The minimum standards for new hazardous waste management facilities as defined in § 75.260 (relating to definitions and request for determinations) and for existing hazardous waste management facilities subject to the requirements of § 75.265(z) (relating to interim status standards for hazardous waste management facilities and permit program for new and existing hazardous management facilities) and §§ 75.270—75.282 (relating to hazardous waste management permit program).

(ii) The minimum standards for the closure and post-closure care of any hazardous waste surface impoundment, waste pile, land treatment or landfill facility that accepted hazardous waste on or after July 26, 1982 which does not have a hazardous waste permit and is required to have post-closure ground-water monitoring under subsection (n). These HWM facilities shall be subject to all applicable requirements of this section, and shall also apply for and obtain a permit for any post-closure care required under subsection (o) in accordance with the procedures set forth in § 75.265(z) and §§ 75.270—75.282. These HWM facilities will not be required to meet the liner requirements and groundwater isolation distance requirements as specified in subsections (s), (t), (u), or (v) for post-closure permitting, unless otherwise specified by the Department. These HWM facilities will be required to meet applicable cap requirements of subsection (s), (t), (u), or (v) for post-closure permitting.

(2) The standards of this section apply to:

(i) A person or municipality who treats, stores, or disposes of hazardous waste unless otherwise specified in this section of § 75.261(d) or (e) (relating to criteria, identification, and listing of hazardous waste);

(ii) A person or municipality disposing of hazardous waste by means of ocean disposal subject to a permit issued under the Marine Protection, Research, and Sanctuaries Act of 1972, 33 U.S.C.A. §§1401—1445 only to the extent they are included in a permit-by-rule granted to such a person under § 75.270. This section does apply to the treatment or storage of hazardous waste before it is loaded onto an ocean vessel for incineration or disposal at sea.

(iii) A person or municipality disposing of hazardous waste by means of underground injection subject to a permit issued under an Underground Injection Control (UIC) program approved or promulgated under the Safe Drinking Water Act (42 U.S.C.A. §§300f-300j-10) only to the extent they are required by 40 CFR 144.14 and § 75.270. This section does apply to the above-ground treatment or storage of hazardous waste before it is injected underground.

(3) The requirements of this section do not apply to the following:

(i) The owner or operator of a POTW which treats, stores, or disposes of hazardous waste, if the Permit by Rule provision in § 75.265(z)(14) (relating to interim status standards for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities) is complied with.

(ii) A person or municipality who owns or operates a facility permitted by the Department to manage municipal or residual solid waste, if the only hazardous waste the facility treats, stores, or disposes of is excluded from regulation under § 75.261(d) (relating to criteria, identification, and listing of hazardous waste) provided that:

(A) the facility receives written approval to accept such wastes from the Department in compliance with subsection (c); and

(B) the total hazardous waste received at the facility during any quarter is less than 1.0% by weight of the total amount of non-hazardous wastes managed at the facility during the previous quarter.

(iii) The owner or operator of a facility which treats or stores hazardous waste, if such treatment or storage meets the criteria in § 75.261(e)(1) (relating to criteria, identification, and listing of hazardous waste) except to the extent that § 75.261(e)(2) (relating to criteria, identification, and listing of hazardous waste) provides otherwise.

(iv) A generator accumulating waste on-site for 90 days or less in compliance with § 75.262(g) (relating to generators of hazardous waste).

(v) A farmer disposing of waste pesticides from his own use in compliance with § 75.262(n) (relating to generators of hazardous waste).

(vi) The owner or operator of a totally enclosed treatment facility as defined in § 75.260(a) (relating to definitions and requests for determinations).

(vii) A person or municipality with respect to those activities which are carried out to immediately contain or treat a spill of hazardous waste constituents or hazardous waste or material which, when spilled, becomes a hazardous waste, except that, with respect to such activities, the appropriate requirements of subsection (h) and (i) are applicable to owners and operators of treatment, storage, and disposal facilities otherwise subject to this section. This subparagraph only applies to activities taken in immediate response to a spill. After the immediate response activities are completed, the applicable regulations of this title apply fully to the management of any spill residue or debris which is a hazardous waste under § 75.261 (relating to criteria, identification, and listing of hazardous waste).

(viii) The owner or operator of a captive elementary neutralization unit or a captive wastewater treatment unit which treats or stores hazardous waste if the permit by rule provision of § 75.265(z)(17) (relating to interim status standards for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities) is complied with.

(ix) A licensed transporter storing manifested shipments of hazardous waste in containers that meet the requirements of § 75.262(f) (relating to generators of hazardous waste) at a transfer facility for a period of 5 days or less.

(4) With respect to the specific requirements of subsection (v), the Department may, upon written application from any person who is subject to that subsection, grant a variance from one or more specific provisions of that subsection, consistent with this paragraph. Any application for a variance shall:

(i) identify the specific provisions of that subsection from which a variance is sought, and

(ii) demonstrate that suspension of the identified provisions will, on the basis of conditions unique and peculiar to the applicant's particular situation, result in a level of protection of the environment and public health equivalent to that which would have resulted from compliance with the suspended provisions.

(5) In granting any variance, the Department may impose specific conditions reasonably necessary to assure that the subject activity will result in a level of protection of the environment and public health equivalent to that which would have resulted from compliance with the suspended provisions. Any variance granted under this section shall be no less stringent than the requirements of the Federal Resource Conservation and Recovery Act of 1976 P.L. 94-580, as amended, and regulations adopted pursuant thereto.

(b) *Identification numbers.*

(1) A person or municipality who owns or operates a hazardous waste management facility shall not accept hazardous waste for treatment, storage or disposal without having received an identification number from the Department and shall not accept hazardous waste from any transporter who has not received an identification number and license except as otherwise provided.

(2) An owner or operator of a hazardous waste management facility who has not received an identification number may obtain one by applying to the Department using the notification form. Upon receiving the request, the Department will assign an identification number to the owner or operator.

(3) An identification number received as a result of notification to EPA pursuant to section 3010 of the Resource Conservation and Recovery Act (42 U.S.C. §6930) shall be deemed to satisfy the requirements of this section when furnished to the Department upon request.

(c) *General requirements for hazardous waste management approvals and analysis.*

(1) Before an owner or operator treats, stores, or disposes of a specific hazardous waste from a specific generator for the first time, he shall submit to the Department for approval, on a form provided by the Department, a report which the owner or operator shall retain for 20 years, and which shall include the following information: a detailed chemical and physical analysis of the waste, a description of the waste and the process generating the waste, name and address of the HWM facility, description of the HWM facility's treatment, storage, and disposal methods, results of liner compatibility testing, an assessment of the impact of the waste on the HWM facility, and any other information which the Department may prescribe in order for the Department to determine whether the waste will be treated, stored, or disposed of in accordance with this section. The chemical and physical analysis of the waste shall be repeated under any of the following circumstances:

(i) when necessary to ensure that it is accurate and up-to-date;

(ii) when the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous waste has changed; and

(iii) for off-site facilities or on-site facilities receiving hazardous waste from off-site sources, when the results of the inspection or analysis, or both, of each hazardous waste indicates that the waste received at the facility does not match the description of the waste on the accompanying manifest or shipping paper.

(2) The owner or operator of an off-site facility or an on-site facility receiving hazardous waste from off-site sources shall inspect and, if necessary, analyze each hazardous waste received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.

(3) The owner or operator shall develop and follow a written waste analysis plan which shall be submitted to the Department for approval at such time in the application process as the Department may prescribe. The plan shall be retained at the facility. At a minimum, the plan shall specify all of the following:

(i) The parameters for which each hazardous waste will be analyzed and the rationale for the selection of these parameters.

(ii) The test methods which will be used to test for these parameters.

(iii) The sampling methods which will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using either:

(A) one of the sampling methods described in Appendix I of § 75.261 (relating to criteria, identification and listing of hazardous waste); or

(B) an equivalent sampling method approved by the Department.

(iv) The frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up-to-date;

(v) For off-site facilities or on-site facilities receiving wastes from off-site sources, the waste analyses that the hazardous waste generators supply in accordance with the requirements of this subsection.

(vi) When applicable, the testing procedures which will be used to meet the additional waste analysis requirements for the following hazardous waste management methods: tanks, surface impoundments, waste piles, land treatment, landfills, incineration, thermal treatment, and chemical, physical, and biological treatment;

(vii) For off-site facilities or on-site facilities receiving hazardous waste from off-site sources, the procedures which will be used to determine the identity of each hazardous waste managed at the facility and the sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling.

(viii) When applicable, the methods which will be used to meet the additional waste analysis requirements for specific waste management methods as specified in subsection (g).

(4) The owner or operator of a facility utilizing a liner shall conduct an evaluation of the liner compatibility with the hazardous waste before accepting such a waste for emplacement in a waste pile, surface impoundment, or landfill unless the approval to accept such waste is granted in the facility's permit. The evaluation procedure shall meet the approval of the Department prior to its commencement. The evaluation of the liner shall consist of testing the liner in the presence of the waste for a minimum of 30 days or as otherwise approved by the Department. In lieu of actual testing, existing published or documented data on the hazardous waste or waste generated from similar processes proving the liner compatibility may be substituted if approved by the Department. The results of the evaluation of the liner compatibility shall be furnished to the Department for approval of the waste before acceptance by the facility.

(d) *Security.*

(1) The owner or operator shall prevent unknowing entry, and minimize the possibility for unauthorized entry by persons or livestock onto the active portions of the facility, unless he can successfully demonstrate to the Department at the time of application that:

(i) physical contact with the waste, structures, or equipment within the active portion of the facility will not injure unknowing or unauthorized persons or livestock which may enter the active portion of a facility; and

(ii) disturbance of the waste or equipment by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility will not cause a violation of the requirements of this section.

(2) Unless the owner or operator has demonstrated sucessfully under paragraph (1), a facility shall have:

(i) a 24-hour surveillance system which continuously monitors and controls entry onto the active portion of the facility; or

(ii) an artificial barrier which completely surrounds the active portion of the facility, and a means to control entry, at all times, through the gates or other entrances to the active portion of the facility. A natural barrier may be substituted if approved by the Department.

(iii) The requirements of subparagraph (i) and (ii) shall be considered satisified if the facility within which the active portion is located has a surveillance system or a barrier and a means to control entry in accordance with requirements of subparagraph (i) and (ii).

(3) Unless the owner or operator has successfully demonstrated under paragraph (1), a sign with the legend, "Danger - Unauthorized Personnel Keep Out" shall be posted at each entrance to the active portion of a facility, and at other locations, in sufficient numbers to be seen from any approach to the active portion. The legend must be written in English and any other language predominant in the area surrounding the facility. The lettering shall be a minimum of four inches in height and of a color contrasting with its background. Existing signs with other legends may be used provided that the legend on the sign indicates that only authorized personnel are allowed to enter the active portion and entry onto the active portion can be dangerous.

(e) *General inspection and construction inspection requirements.*

(1) The owner or operator shall inspect his facility for malfunctions and deterioration, operator errors, and discharges which may cause or lead to an emission or discharge of hazardous waste constituents to the environment or a threat to human health. The owner or operator shall conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

(2) The owner or operator shall develop and follow a written schedule for inspecting all monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment that are important to preventing, detecting or responding to environmental or human health hazards.

(i) The schedule shall be retained at the facility.

(ii) The schedule shall identify the types of problems which are to be looked for during the inspection.

(3) The frequency of the inspection may vary for the items on the schedule. However, it should be based on the rate of possible deterioration of the equipment and the probability of an environmental or human health incident if the deterioration or malfunction or any operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, shall be inspected daily when in use. The inspection schedule shall be submitted with Part B of the permit application of § 75.265 (relating to interim status standards for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities). At a minimum, the inspection schedule shall include the terms and frequencies of inspections required under subsections (d) and (q)-(w), and § 75.265 (x) and (y).

(4) The owner or operator shall remedy any deterioration or malfunction of equipment or structures which the inspection reveals on a schedule that ensures the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action shall be taken immediately.

(5) The owner or operator shall record inspections in an inspection log or summary. He shall keep these records for the operating life of the facility at a location approved by the Department. At a minimum, these records shall include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions. These records shall be furnished to the Department upon request.

(6) A schedule for construction of a HWM facility shall be submitted to the Department for approval. At a minimum, the schedule shall provide for Department inspection and approval of each phase of construction.

(f) *Personnel training.*

(1) Facility personnel shall successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with this section. The owner or operator shall ensure that this program includes at a minimum all the elements required under this subsection. This training program shall be outlined and submitted to the Department for approval at such time in the application process as the Department may prescribe.

(2) This program shall be directed by a person trained in hazardous waste management procedures, and shall include instruction which teaches facility personnel hazardous waste management procedures, including contingency plan implementation relevant to the positions in which they are employed.

(3) At a minimum, the training program shall be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures and emergency equipment systems including when applicable:

(i) procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;

(ii) key parameters for automatic waste feed cut-off systems;

(iii) communications or alarm systems;

(iv) response to fires or explosions;

(v) response to ground-water contamination incidents; and

(vi) shutdown of operations.

(4) Facility personnel shall successfully complete the program required in paragraph (1) within six months after the effective date of this chapter or six months after the date of their employment or assignment to a facility, or to a new position at a facility, whichever is later. Employees hired after the effective date of these regulations shall not work in unsupervised positions until they have completed the training requirements of paragraph (1).

(5) Facility personnel shall participate in an annual review and evaluation of the elements of the initial training required in paragraph (1).

(6) The owner or operator shall maintain the following documents and records at the facility, which shall be furnished to the Department upon request:

(i) The job title for each position at the facility related to hazardous waste management, and the name of the employee holding each position.

(ii) A written job description for each position listed under subparagraph (1). This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company, location, or bargaining unit, but shall include the requisite skill, education, or other qualifications, and duties of facility personnel assigned to each position.

(iii) A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under subparagraph (i).

(iv) Records that document that the training or job experience required under this subsection has been given to and completed by facility personnel.

(7) Training records on current personnel shall be retained until closure of the facility. Training records on former employes shall be retained for the operating life of the facility. Personnel training records may accompany personnel transferred within the same company.

(g) *General requirements for ignitable, reactive, or incompatible wastes.*

(1) The owner or operator shall take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste shall be separated and protected from sources of ignition or reaction including but not limited to: open flame, smoking, cutting and welding, hot surface, frictional heat, sparks—static, electrical, or mechanical; spontaneous ignition, such as from heat-producing chemical reactions; and radiant heat. While ignitable or reactive waste is being handled, the owner or operator shall confine smoking and open flame to specially designated locations. "No Smoking" signs shall be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

(2) Where specifically required by other subsections of this section, the owner or operator of a facility that treats, stores, or disposes of ignitable or reactive waste, or mixes incompatible wastes or incompatible wastes and other materials, shall take precautions to prevent reactions which:

(i) Generate extreme heat or pressure, fire or explosion, or violent reactions.

(ii) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment.

(iii) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosion.

(iv) Damage the structural integrity of the device or facility.

(v) Through other like means threaten human health or the environment.

(3) When required to comply with paragraphs (1) or (2), the owner or operator shall document such compliance. This documentation may be based on references to published scientific or engineering literature; data from trial tests—such as bench scale or pilot scale tests; waste analyses, or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions.

(h) *Preparedness and prevention.*

(1) Facilities shall be designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or release of hazardous waste or hazardous waste constituents to air, soil, surface water, or ground water which could threaten human health or the environment.

(2) All facilities shall be equipped with the following, unless it can be demonstrated to the Department that none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified in this subsection:

(i) An internal communications or alarm system capable of providing immediate emergency instruction—voice or signal—to facility personnel.

(ii) A device such as a telephone immediately available at the scene of operations, or a hand-held two-way radio capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams.

(iii) Portable fire extinguishers, fire control equipment including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals, spill control equipment, and decontamination equipment.

(iv) Water at adequate volume and pressure to supply either water hose streams, foam producing equipment, automatic sprinklers, or water spray systems.

(3) All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, shall be tested and maintained as necessary to assure its proper operation in time of emergency.

(4) Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation shall have immediate access to an on-site internal alarm or emergency communication device, either directly or through visual or voice contact with another employee unless such a device is not required under paragraph (2).

(5) An employee working alone on the premises while the facility is operating shall have immediate access to a device, such as a telephone, immediately available at the scene of operation, or a hand-held two-way radio, capable of summoning external emergency assistance, unless the Department has determined that such a device is not required under paragraph (2).

(6) The owner or operator shall maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of the facility operation in an emergency, unless it can be demonstrated to the Department that aisle space is not needed for any of these purposes.

(7) The owner or operator shall attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for services as follows:

(i) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes.

(ii) Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with others to provide support to the primary emergency authority.

(iii) Agreements with State and local emergency response teams, emergency response contractors, and equipment suppliers.

(iv) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fire, explosion, or a discharge at the facility.

(8) Where State or local authorities decline to enter into such arrangements, the owner or operator shall document the refusal in the operating record.

(i) *Preparedness, Prevention and Contingency (PPC) Plan and emergency procedures.*

(1) Each owner or operator shall be responsible for developing and implementing a Preparedness, Prevention, and Contingency (PPC) Plan for effective action to minimize and abate hazards to human health and the environment from fire, explosion, emission or discharge of hazardous waste or hazardous waste constituents to air, soil, surface water, or ground water.

(2) The provisions of the plan shall be carried out immediately whenever there is a fire, explosion, emission or discharge of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

(3) The contingency plan shall describe the actions facility personnel shall take to comply with paragraphs (1), (2), and (12)—(21) in response to fire, explosion, emission or discharge of hazardous waste or hazardous waste constituents to air, soil, surface water, or ground water.

(4) The contingency plan and all revisions and amendments thereof, shall be prepared and implemented in accordance with the Department guidelines for contingency plans and submitted to the Department for approval at such time in the application process as the Department prescribes.

(5) The plan shall describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and State and local emergency response teams to coordinate emergency services pursuant to subsection (h).

(6) The plan shall list names, addresses, and phone numbers—office and home—for all persons qualified to act as emergency coordinator, and this list shall be kept up to date. Where more than one person is listed, one shall be named as primary emergency coordinator and others shall be listed in the order in which they will assume responsibility as alternates.

(7) The plan shall include a list of all required emergency equipment at the facility. The list shall be kept up to date. In addition, the plan shall include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(8) The plan shall include an evacuation plan for facility personnel when there is a possibility that evacuation could be necessary. The plan shall describe signals to be used to begin evacuation, evacuation routes, and alternate evacuation routes, in cases where the primary routes could be blocked by fire or emissions or discharges of hazardous waste.

(9) A copy of the contingency plan and all revisions to the plan shall be:

(i) maintained at the facility; and

(ii) submitted to all local police departments, fire departments, hospitals, and emergency response teams that may be called upon to provide emergency services.

(10) The contingency plan shall be reviewed, and immediately amended, if necessary, whenever:

(i) the facility permit is revised;

(ii) the plan fails in an emergency;

(iii) the facility changes, in its design, construction, operation, maintenance, or other circumstances, in a manner that materially increases the potential for fire, explosion, emission or discharge of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;

(iv) the list of emergency coordinators changes; or

(v) the list of emergency equipment changes.

(11) At all times, there shall be at least one employee either on the facility premises or on call with the responsibility for coordinating all emergency response measures. This emergency coordinator shall be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person shall have the authority to commit the resources needed to carry out the contingency plan.

(12) Whenever there is an imminent or actual emergency situation, the emergency coordinator shall immediately:

(i) Activate facility alarms or communication systems, where applicable, to notify all facility personnel; and

(ii) Notify State and local agencies with designated response roles if their help is needed.

(13) Whenever there is a fire, explosion, emission, or discharge, the emergency coordinator shall immediately identify the character, exact source, amount, and areal extent of any released materials. He may do this by observation or review of facility records or manifests and, if necessary, by chemical analysis.

(14) Concurrently, the emergency coordinator shall assess possible hazards to human health or the environment that may result from the fire, explosion, emission, or discharge. This assessment shall consider both direct and indirect effects of the fire, explosion, or discharge.

(15) If the emergency coordinator determines that the facility has had a fire, explosion, emission, or discharge which could threaten human health or the environment outside the facility, he shall report his findings as follows:

(i) if his assessment indicates that evacuation of local areas may be advisable, he shall immediately notify appropriate local authorities. He shall be available to help appropriate officials decide whether local areas should be evacuated; and

(ii) he shall immediately notify the Department by telephone at 717-787-4343 and the National Response Center at 800-424-8802. The report shall include the following:

(A) Name of the person reporting the incident.

(B) Name, address, and identification number of facility.

(C) Phone number where the person reporting the spill can be reached.

(D) Date, time, and location of the incident.

(E) A brief description of the incident including type of incident, nature of hazardous material involvement and possible hazards to human health or the environment.

(F) The extent of injuries, if any.

(G) For each waste involved in the incident, the shipping name, hazard class and U.N. number of the waste, and quantity of the waste involved.

(16) During an emergency, the emergency coordinator shall take all reasonable measures necessary to ensure that fire, explosion, emissions, or discharges do not occur, recur, or spread to other hazardous waste at the facility. These measures shall include, when applicable, stopping processes and operations, collecting and containing discharged waste, and removing or isolating containers.

(17) If the facility stops operations in response to a fire, explosion, emission, or discharge, the emergency coordinator shall monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

(18) Immediately after an emergency, the emergency coordinator shall, with Department approval, provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or other material that results from a fire, explosion, or discharge at the facility.

(19) The emergency coordinator shall ensure that, in the affected area of the facility:

(i) no waste that may be incompatible with the emitted or discharged material is treated, stored, or disposed of until cleanup procedures are completed; and

(ii) all emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

(20) The owner or operator shall notify the Department and the appropriate State or local authorities, that the facility is in compliance with paragraph (19) before operations are resumed in the affected areas of the facility.

(21) The owner or operator shall note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, he shall submit a written report on the incident to the Department. The report shall include the following:

(i) Name, address, and telephone number of the owner or operator.

(ii) Name, address, and telephone number of the facility.

(ii) Date, time, and type of incident.

(iv) Kinds and quantities of materials involved.

(v) The extent of injuries, if any.

(vi) An assessment of actual or potential hazards to human health or the environment, where this is applicable.

(vii) Estimated quantity and disposition of recovered material that resulted from the incident.

(j) *Manifest system and discrepancy reporting.*

(1) The requirements in this subsection apply to owners and operators of off-site facilities and on-site facilities receiving hazardous waste from off-site sources except as otherwise provided in subsection (a). This subsection does not apply to owners and operators of on-site facilities that do not receive hazardous waste from off-site sources.

(2) Except as otherwise provided in paragraph (4), no owner or operator may accept hazardous waste shipments received from off-site sources unless the shipment is accompanied by the Department's Manifest.

(3) The owner or operator of the facility, or his authorized representative, shall:

(i) Print or type his name, sign and date each copy of the manifest to certify that the hazardous waste covered by the manifest was received.

(ii) Note significant discrepancies in the manifest, as defined in paragraphs (9) and (10), on each copy of the manifest.

(iii) Immediately give the transporter at least one copy of the signed manifest.

(iv) Detach copies 1, 2, 3, and 4 of the manifest.

(v) Within 7 days after the date of delivery, send copy 3 of the manifest to the generator.

(vi) If the generator is located in this Commonwealth, retain copies 1 and 2 at the facility for its records under paragraph (5).

(vii) If the generator is located outside this Commonwealth, within 7 days after the date of delivery, send copy 1 of the manifest to the Department and copy 2 to the generator state.

(viii) Retain at the facility copy 4 of the manifest for his records under paragraph (5).

(4) If a facility receives, from a rail or water—bulk shipment—transporter, hazardous waste which is accompanied by a shipping paper containing the information required on the manifest—excluding EPA ID Numbers, generator's certification, and signatures, and optional State information—the owner or operator, or his authorized representative, shall:

(i) Sign and date each copy of the manifest or shipping paper to certify that the hazardous waste covered by the manifest or shipping paper was received.

(ii) Note significant discrepancies in the manifest or shipping paper, as defined in paragraphs (9) and (10), on each copy of the manifest or shipping paper.

(iii) Immediately give the rail or water—bulk shipment—transporter at least one copy of the manifest or shipping paper.

(iv) Within 7 days after the date of delivery, send a copy of the manifest or shipping paper to the generator.

(v) Detach copies 1, 2, 3 and 4 of the manifest.

(vi) Within 7 days after the date of delivery, send copy 3 of the manifest to the generator.

(vii) If the generator is located in this Commonwealth, retain copies 1 and 2 for the owner or operator's records under paragraph (5).

(viii) If the generator is located outside this Commonwealth, within 7 days after the date of delivery, send copy 1 of the manifest to the Department and copy 2 to the generator state.

(ix) Retain a copy of each shipping paper and manifest for the owner or operator's records under paragraph (5).

(5) The owner or operator of the facility shall retain the required copies of the manifest and shipping paper (if signed in lieu of the Manifest at the time of delivery) for at least 20 years from the date of delivery.

(6) Copies of the manifest and shipping paper retained by the owner or operator under this subsection shall be furnished to the Department upon request.

(7) An owner or operator of a facility, or his authorized representative, who transports, or offers for transportation, hazardous waste for offsite treatment, storage, or disposal shall comply with § 75.262 (relating to generators of hazardous waste) and prepare a manifest in accordance with the instructions supplied with the manifest.

(8) The owner or operator of a facility that has arranged to receive hazardous waste from a foreign source shall notify the Department in writing at least 4 weeks in advance of the date the waste is expected to arrive at the facility. Notice of subsequent shipments of the same waste from the same foreign source is not required.

(9) Manifest discrepancies are differences between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity or type of hazardous waste a facility actually receives. Significant discrepancies in quantity are:

(i) For bulk waste, variations greater than 2.0% in weight.

(ii) For batch waste, a variation in piece count, such as a discrepancy of one drum in a truckload. Significant discrepancies in type are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper, or differences in physical state, color, odor, and the like.

(10) If there is a significant manifest discrepancy, as defined in paragraph (9), the owner or operator shall attempt to reconcile the discrepancy with the waste generator or transporter, for example with telephone conversations, before the waste is treated, stored, or disposed at the facility. If the discrepancy is not resolved within 3 days after receiving the waste, the owner or operator shall immediately notify the appropriate Regional Office of the Department by telephone and send a letter to the Department describing the discrepancy and attempts to reconcile it, including a copy of the manifest or shipping paper at issue.

(k) *Operating Record*

(1) The owner or operator of an on-site or off-site facility shall keep a written operating record at his facility.

(2) The following information shall be recorded as it becomes available and maintained in the operating record until closure of the facility:

(i) A description and the quantity of each hazardous waste received, and the methods and dates of its treatment, storage, or disposal at the facility as required by Appendix I of of this section. The quarterly report form may be used to record this information.

(ii) The location of each hazardous waste within the facility and the quantity at each location. For disposal facilities, the location and quantity of each hazardous waste shall be recorded on a map or diagram of each cell or disposal area. The maps or diagrams shall be drawn to scale and tied to permanently surveyed benchmarks. For all facilities, this information shall include cross-references to specific State manifest document numbers and EPA manifest document numbers, if the waste was accompanied by a manifest.

(iii) Records and results of waste analyses and trial tests performed as specified in subsections (c), (g) and (w).

(iv) Summary reports and details of all incidents that require implementing the contingency plan as specified in subsection (i)(21).

(v) Records and results of inspections as required by subsection (e).

(vi) For off-site facilities or on-site facilities receiving waste from off-site sources, notices to generators as specified in § 75.262(d) (relating to generators of hazardous waste).

(vii) All closure cost estimates under Subchapter E, § 75.319 and, for disposal facilities, all post-closure cost estimates under Subchapter E, § 75.319.

(viii) Monitoring, testing, or analytical data where required by subsections (n) and (s)—(w).

(l) *Availability, retention, and disposition of records.*

(1) All records, including plans, required under this section shall be furnished to the Department upon request, and be made available at all times for inspection by the Department.

(2) The retention period for records required under this section shall be extended automatically during the course of any enforcement action regarding the facility or as requested by the Department.

(3) A copy of records of waste disposal locations and quantities under subsection (k)(2)(ii) shall be submitted to the Department and the local land authority upon closure of the facility or as otherwise prescribed by the Department.

(4) Reports, plans, and other documents retained at the facility which require Department approval shall be the most recently approved version of the reports, plans, or other documents.

(m) *Quarterly facility report and additional reports.*

(1) Except as otherwise provided by paragraph (3), the owner or operator of an on-site or off-site facility shall submit quarterly reports:

(i) To the Department on a form designated by the Department. The form shall contain as a minimum the following information:

(A) The name, identification number, mailing address, and location of the facility.

(B) The name and telephone number of the facility's contact person.

(C) The identification number and hazardous waste transporter (HWT) license number of each transporter.

(D) The name, identification number, and address of each generator; for imported shipments the report shall give the name and address of the foreign generator.

(E) The description, Department of Transportation hazard class, and hazardous waste number, and date of treatment, storage or disposal of the hazardous waste. For off-site facilities, this information must be listed by the identification number of each generator.

(F) The amount and units of measure of each hazardous waste in a shipment and the method of treatment, storage, or disposal for each hazardous waste.

(G) The manifest document number for each hazardous waste shipment.

(H) Signature and certification of the facility's owner or operator or an authorized representative.

(I) The information required by clauses (C)—(G) shall be provided for each shipment of hazardous waste and each waste stream within the shipment.

(J) The most recent closure cost estimate under Subchapter E, § 75.319 of this title and for disposal facilities, the most recent post-closure cost estimate under Subchapter E, § 75.319.

(K) The quarter and calendar year covered by the report.

(ii) No later than the last day of the following month for the quarters: January through March due on or before April 30; April through June, due on or before July 31; July through September due on or before October 31; October through December due on or before January 31.

(2) The owner or operator of an on-site or off-site facility shall also report to the Department:

(i) any emission, discharge, fire, or explosion as required in subsection (i)(21); and

(ii) facility closure certification as required in subsection (o)(9).

(3) The owner or operator of a captive treatment or disposal facility or an on-site storage facility may not submit quarterly reports to the Department. The owner or operator of the facility shall, however, submit a single copy of an annual report to the Department, on a form specified by the Department, by March 1 of each year. The report shall describe facility activities during the previous calendar year and shall include, along with the date of the calendar year covered by the report, the information required in subsection (m)(1)(i) (A), (B), (E), (H), and (J), a description of each hazardous waste managed, the amount and units of measure of each hazardous waste managed, and the method of treatment, storage, or disposal for each hazardous waste for the calendar year covered by the report. This report shall be maintained for the life of the facility as a part of its operating record. These records shall be made available to the Department upon request.

(n) *Groundwater monitoring.*

(1) The owner or operator of a landfill, land treatment facility, waste pile—except as otherwise provided in subsection (t)(3)— or surface impoundment which is used to manage hazardous waste shall implement a groundwater monitoring program as required in this subsection capable of determining the facility's impact on the quality of a groundwater system which the facility has the potential for affecting, or as otherwise required in writing by the Department.

(2) The owner or operator shall install, operate, and maintain a groundwater monitoring system to detect the entry of hazardous waste, hazardous constituents or decomposition byproducts into the groundwater system. Hazardous constitutents are constituents identified in Appendix VIII, § 75.261 (relating to criteria, identification and listing of hazardous waste), or as otherwise specified by the Department, that are reasonably expected to be in or derived from wastes contained at the regulated facility. This groundwater monitoring program shall be conducted during the active life of the facility, and during the post-closure care period.

(3) The owner or operator shall have an approved outline for a groundwater quality assessment program for the site. The outline shall describe a more comprehensive ground-water monitoring program capable of:

(i) Determining which hazardous waste, hazardous constituents or decomposition byproducts have entered the ground water.

(ii) Determining the rate and extent of migration of hazardous waste, hazardous constituents or decomposition byproducts in the ground water.

(iii) Determining the concentrations of hazardous waste, hazardous constituents or decomposition byproducts in the ground water.

(4) A groundwater monitoring system shall be capable of yielding groundwater samples for analysis at all times and shall consist of:

(i) Monitoring wells—at least one—installed hydraulically upgradient—that is, in the direction of increasing static head—from the limit of the waste management area. Their number, locations, and depth shall be sufficient to yield ground water samples that are:

(A) representative of background ground-water quality; and

(B) not affected by the facility.

(ii) Monitoring wells—at least three—installed hydraulically downgradient—that is, in the direction of decreasing static head—at or close to the perimeter of the waste management area. Their number, locations, and depths shall ensure that they immediately detect statistically significant amounts of hazardous waste or hazardous constituents or decomposition byproducts that migrate from the waste management area to the ground water.

(iii) The locations of the monitoring wells shall be approved in writing by the Department prior to construction and shall be located at a distance no greater than 200 feet from the perimeter of the waste management area, unless otherwise approved under paragraph (5).

(iv) The approved monitoring well locations, which include both upgradient and downgradient wells, shall be considered the points of compliance at which acceptable concentration levels of background groundwater constituents shall be maintained.

(5) Where site conditions preclude the installation of monitoring wells as specified in paragraph (4), the Department may, based on the submission of a detailed hydrogeologic analysis of existing and future conditions, approve the construction of an alternate and innovative monitoring system.

(6) A separate monitoring system for each waste management component of a facility not required, if provisions for sampling upgradient and downgradient groundwater quality will detect discharge from the waste management area. The waste management area is an area on which waste will be placed during the active life of the facility and includes area taken up by any liner, dike, or other barrier designed to contain waste.

(i) In the case of a facility consisting of only one waste management component, the waste management area is described by the waste boundary (perimeter).

(ii) In the case of a facility consisting of more than one waste management component, the waste management area is described by an imaginary boundary line which circumscribes the several waste management components.

(7) A monitoring well shall be cased in a manner that maintains the integrity of the monitoring well borehole. This casing shall be screened or perforated, and packed with gravel or sand where necessary, to enable sample collection at depths where appropriate aquifer flow zones exist. The annular space above the sampling depth shall be sealed with a suitable material to prevent contamination of samples and the ground water.

(8) A monitoring well shall be protected from damage by heavy equipment in the normal operations of the facility and from vandals. The protective installation shall include:

(i) A length of steel casing several inches larger in diameter and height than the monitoring well and at least ten feet in length, installed around the monitoring well casing. The height of this protective steel casing shall be at least one foot above final grade and several inches above the monitoring well casing. This length of protective steel casing shall be grouted and placed into the ground to a depth of at least three feet and have a cement collar to hold it firmly in position. The steel casing shall be painted a highly visible color and be numbered.

(ii) The monitoring well casing shall have a cap which will allow the well to be locked and secured from acts of vandalism.

(9) The owner or operator shall obtain and analyze samples from the installed groundwater monitoring system. The owner or operator shall develop and submit to the Department for written approval a groundwater sampling and analysis plan, which shall be retained at the facility and followed. The plan shall include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide a reliable indication of groundwater quality upgradient, beneath and downgradient of the waste management area. At a minimum the plan shall include procedures and techniques for:

(i) Sample collection.

(ii) Sample preservation and shipment.

(iii) Analytical procedures.

(iv) Chain of custody control.

(10) The ground-water sampling plan shall include detailed sampling and analytical methods, specific to the monitored facility, that are appropriate for groundwater sampling and that accurately measure hazardous waste, hazardous constituents or decomposition byproducts in ground-water samples.

(11) The owner or operator at a minimum shall determine the concentration or value of the following parameters in groundwater samples obtained from the monitoring wells:

(i) pH

(ii) Total organic carbon

(iii) Total organic Halogen

(iv) Specific conductance

(v) Additional parameters as required by the Department in writing or by permit.

(12) The owner or operator shall establish initial background concentrations or values for parameters specified in paragraph (11) and other parameters as needed to meet the requirements of paragraph (20)(v)(C). Unless otherwise specifed in paragraph (13), determination of these background concentrations shall be based on quarterly sampling of the upgradient wells for 1 year. For a new facility, background groundwater quality shall be established through a 1 year sampling program which shall be completed prior to the disposal of hazardous waste at the facility. This background data, as well as the as-built construction details and pump-test data for wells—both upgradient and downgradient—shall:

(i) Unless otherwise specified by the Depatment in the permit, be submitted to the Department within 1 year of permit issuance. For an interim status facility receiving a permit under this section, background data will be based on the initial year's sampling results obtained at the upgradient wells as specified in § 75.265(n)(10) (relating to interim status standards for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities).

(ii) Account for measurement errors in sampling and analysis.

(iii) Account, to the extent possible, for a seasonal fluctuation in background groundwater quality if the fluctuation is expected to affect the concentration of hazardous constituents.

(13) Background quality may be based on sampling of wells that are not upgradient from the waste management area where one of the following exists:

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

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

(14) For each of the parameters specified in paragraph (11), and any additional parameters as specified by paragraph (20)(v)(c) the owner or operator shall establish initial background concentrations or values for each upgradient well. At least four replicate measurements shall be obtained for a sample and the initial background arithmetic mean and variance shall be determined by pooling the replicate measurements for the respective parameter concentrations or values in samples obtained from each upgradient well during the first year.

(15) After the first year, the monitoring wells—both upgradient and downgradient—shall be sampled and the samples analyzed at least quarterly for the parameters in paragraph (11)(i)-(iv) and others specified by the Department under paragraph (11)(v) or as necessary to meet the requirements of paragraph (20). These additional parameters shall be analyzed at a frequency specified by the Department under paragraph (11)(v).

(16) The elevation of the groundwater surface at at a monitoring well shall be determined each time a sample is obtained and shall be sent to the Department with the quarterly report required under subsection (m). Groundwater elevation measurements shall be recorded as a distance measurement from the reference elevation of the well head, and with respect to mean sea level based on U.S.G.S. or U.S.C. & G.S. datum.

(17) After the first year of background sampling, for a well in the monitoring system and for a parameter specified in paragraph (11), the owner or operator shall use the following statistical procedure in determining whether background values have been exceeded:

(i) If the level of a constituent at the compliance point is to be compared to the constituent's background value and that background value has a sample coefficient of variation less than 1.00, then one of the following shall be used:

(A) The owner or operator shall take at least four portions from a sample at a well at the compliance point and determine whether the difference between the mean of the constituent at a well—using the portions taken—and the background value for the constituent is significant at the 0.05 level using the Cochran's Approximation to the Behrens-Fisher Student's t-test as described in Appendix III of this section. If the test indicates that the difference is significant, the owner or operator shall repeat the same procedure—with at least the same number of portions as used in the first test—with a fresh sample from the monitoring well. If this second round of analyses indicates that the difference is significant, the owner or operator shall conclude that a statistically significant change has occurred.

(B) The owner or operator may use an equivalent statistical procedure, if approved in writing by the Department, for determining whether a statistically significant change has occurred. Approval will require a demonstration that the alternative procedure reasonably balances the probability of falsely identifying a noncontaminating regulated facility and the probability of failing to identify a contamination regulated facility in a manner that is comparable to that of the statistical procedure described in clause (A).

(ii) In other situations, the owner or operator shall use a statistical procedure that provides reasonable confidence that the migration of hazardous wastes, hazardous constituents or decomposition byproducts from a regulated facility into the ground water will be indicated. Department approval for an alternate statistical procedure will be based on the submission of data that demonstrates that the procedure proposed:

(A) Is appropriate for the distribution of the data used to establish background values or concentration limits.

(B) Provides a reasonable balance between the probability of falsely identifying a noncontaminating regulated facility and the probability of failing to identify a contaminating regulated facility.

(18) The owner or operator shall determine whether there is a statistically significant increase over background values for a parameter or constituent specified in the permit pursuant to paragraph (11) each time he determines groundwater quality at the compliance point both up gradient and downgradient, under paragraph (15).

(i) In determining whether a statistically significant increase has occurred, the owner or operator shall compare the groundwater quality at a monitoring well at the compliance point for a parameter or constituent to the background value for that parameter or constituent, according to statistical procedure specified under paragraph (17).

(ii) The owner or operator shall determine whether there has been a statistically significant increase at a monitoring well at the compliance point within 30 days after completion of sampling.

(19) If comparisons made under paragraph (18) for an upgradient well show a significant change, the owner or operator shall determine whether the facility has caused the significant change. If the facility is found to have caused the change, then the owner or operator shall submit to the Department for review a specific plan based on the outline required under paragraph (3) for a groundwater quality assessment program. If the change is shown to be unrelated to the facility and, instead, related to natural fluctuations in background quality, the background base data shall be revised after Department approval, or a new statistical procedure that allows for these natural changes shall be proposed.

(20) If the comparisons for downgradient wells made under paragraph (18) indicate a significant change, the owner or operator shall:

(i) Notify the Department within 7 days that the facility may be affecting the groundwater quality, and identify those parameters or constituents that have shown statistically significantly increases.

(ii) Unless otherwise approved in writing by the Department, immediately sample the groundwater in all monitoring wells and determine the concentrations of all Appendix VIII, § 75.261 constituents or other parameters the Department deems necessary. This sampling shall include a determination of the background concentrations of Appendix VIII constituents identified in the groundwater. Results of these analyses shall be submitted to the Department under paragraph (21).

(iii) Within 30 days or as otherwise approved in writing by the Department after the notification required under subsection (n)(20)(i), develop and submit to the Department for review and written approval a specific plan, based on the outline required under paragraph (3) and certified by quality geologist or geotechnical engineer, for a groundwater quality assessment program at the facility.

(iv) Include in the plan required under subparagraph (iii) as a minimum, the following information:

(A) The number, location, size, casing type, and depth of wells, borings or pits to be used.

(B) Sampling and analytical methods to be used to identify hazardous wastes, hazardous constituents or decomposition byproducts that are present in groundwater or in the facility and that were found during the sampling required by subparagraph (ii).

(C) The means to establish background values for the hazardous wastes, hazardous constituents or decomposition byproducts at the compliance-monitoring-points.

(D) Evaluation procedures, including use of previously gathered groundwater quality information, to be used.

(E) A schedule of implementation.

(v) Begin to implement the groundwater quality assessment program within 30 days of Department approval, and, at a minimum, determine:

(A) The rate and extent of migration of the hazardous waste, hazardous constituents or decomposition byproducts in the groundwater.

(B) Unless otherwise approved in writing by the Department, the concentrations of Appendix VIII, § 75.261 constituents, or other parameters the Department deems necessary.

(C) The background values for the hazardous wastes, hazardous constituents, or decomposition byproducts as defined in paragraph (2), that have been found at the monitoring points.

(vi) Make the detemination in subparagraph (v) as follows:

(A) Comply with paragraph (12)(ii) and (iii), and (14) in developing the data base used to determine background values and concentrations.

(B) Express background values and concentrations in a form necessary for the determination of statistically significant increases under paragraph (18).

(C) Use a groundwater monitoring system that complies with paragraphs (4)—(7) to take samples used in the determination of background values and concentrations.

(21) The owner or operator shall make his determination under paragraphs (20)(v) and (vi) within 180 days of plan implementation, or as otherwise required by the Department, and within 15 days after that determination, submit to the Department a written report containing an assessment of the groundwater quality. As a milestone in the partial fulfillment of the provisions of this paragraph, the owner or operator shall submit the sample results required by paragraph (20)(ii) and (v)(B) and (C) within 60 days of plan implementation.

(22) If the owner or operator believes that the statistically significant increase was caused by a source other than the HWM facility, or that the increase resulted from errors in sampling, analysis, or evaluation, the owner or operator may submit, as a part of the report described in paragraph (21), data to support such a demonstration. While the owner or operator may submit data as part of the groundwater assessment report, he is not relieved of the requirements of paragraphs (20) and (21) unless otherwise approved in writing by the Department.

(23) If in reviewing the groundwater quality assessment report, the owner or operator or the Department determines that hazardous wastes, hazardous constituents or decomposition byproducts have entered the groundwater, then the owner or operator shall submit to the Department a plan for the abatement of groundwater contamination. This abatement plan shall:

(i) Be submitted to the Department within 30 days after submission of the assessment report described in paragraph (21).

(ii) Include an engineering feasibility analysis.

(iii) Begin to be implemented within 30 days after Department approval.

(iv) Result in the abatement of groundwater contamination by the removal or treatment of hazardous wastes, hazardous constituents or decomposition byproducts in groundwater that are attributable to the facility.

(v) Establish and implement a groundwater monitoring program to demonstrate the effectiveness of the abatement program.

(vi) Ensure that the proposed abatement procedures will continue to the extent necessary to insure that the concentration levels of hazardous wastes, hazardous constituents or decomposition byproducts are being reduced.

(vii) Include the submission of a written quarterly report to the Department that describes the effectiveness of the abatement program and the results of the groundwater monitoring program.

(viii) Be modified when the Department determines that the abatement program is ineffective.

(ix) Be terminated when it can be demonstrated from the groundwater monitoring data submitted under paragraph (23)(vii), that the concentration levels of hazardous wastes, hazardous constituents or decomposition byproducts in monitoring points have remained at background levels for a period of 3 consecutive years.

(x) Be extended beyond the 30 year post-closure period, under subsection (o)(12), if the conditions of subparagraph (ix) cannot be demonstrated.

(24) If, after review of the groundwater quality assessment report the Department determines that no hazardous waste, hazardous constituents or decomposition byproducts have entered the groundwater, then the owner or operator shall:

(i) Notify the Department of proposed modifications to the facility's groundwater monitoring program.

(ii) Reinstate the original or an approved modified groundwater monitoring program for the facility.

(iii) Begin the implementation of proposed modifications to the facility's groundwater monitoring program within 30 days of Department approval.

(25) At least annually by January 31, the owner or operator shall evaluate the data on ground water elevations obtained under paragraph (16) to determine whether the requirements under paragraph (4) for locating the monitoring wells continues to be satisfied. If the evaluation shows that paragraph (4) is no longer satisfied or the Department determines that paragraph (4) is no longer satisfied, the owner or operator shall immediately modify the number, location, or depth of the monitoring wells to bring the groundwater monitoring system into compliance with this requirement. These modifications will be approved in writing by the Department before construction begins.

(26) At least annually by January 31, the owner or operator shall determine the groundwater flow rate and direction and report the determinations to the Department. The initial determination shall be based on in situ testing, but subsequent determinations may be based on the analysis of those water level elevations obtained in response to paragraph (16) and application of Darcy's Law.

(27) The owner or operator shall keep records of analyses and evaluations of groundwater quality, surface elevations and flow rate and direction determinations required under subsection (n).

(28) The owner or operator shall report the following information in writing to the Department:

(i) During the first year when initial background concentrations are being established for the facility: concentrations or values of the parameters listed in paragraph (11) for an upgradient groundwater monitoring well within 15 days after completing a quarterly analysis and no later than 30 days after the end of a quarter.

(ii) Quarterly after the first year: concentrations or values of the parameters in paragraph (11)(i)—(iv) and required under paragraph (11)(v) for each groundwater monitoring well, along with the required evaluations for these parameters under paragraph (18) within 15 days after completing a quarterly analysis and no later than 30 days after the end of a quarter.

(iii) Annually: concentrations or values of those parameters for each well which are specified by the facility's permit within 15 days of completing the annual analysis.

(iv) Annually: those determinations for the groundwater flow rate and direction specified in paragraph (26).

(29) The owner or operator shall report the groundwater quality at a monitoring point, under paragraph (28) in a form necessary for the determination of statistically significantly increases under paragraph (18).

(o) *Closure and post-closure.*

(1) Except as otherwise provided in subsection (a), paragraphs (2)—(9) apply to owners and operators of all hazardous waste management facilities, and paragraphs (10)—(21) also apply to owners and operators of all hazardous waste disposal facilities except incinerators.

(2) The owner or operator shall close the facility in a manner that:

(i) Minimizes the need for further maintenance, and

(ii) Controls, minimizes, or eliminates to the extent necessary to prevent threats to human health and the environment, post-closure escape of hazardous waste, hazardous waste constituents, leachate, contaminated rainfall, or waste decomposition products to the ground water or surface waters or to the atmosphere.

(3) The owner or operator of a hazardous waste management facility shall have a written closure plan. The plan shall be submitted with the permit application for approval in writing by the Department. The approved closure plan will become a condition of a HWM permit. The Department's decision shall assure that the approved closure plan is consistent with paragraphs (2) and (6)—(9), and the applicable closure requirements of subsections (q)—(w). A copy of the approved plan and all revisions to the plan shall be retained at the facility until closure is completed and certified in accordance with paragraph (9). The plan shall identify steps necessary to completely or partially close the facility at any point during its intended operating life and to completely close the facility at the end of its intended operating life. The closure plan shall include, at least:

(i) A description of how and when the facility will be partially closed, if applicable, and ultimately closed. The description shall identify the maximum extent of the operation which will not be closed during the life of the facility, and how the requirements of paragraphs (2) and (6)—(9), and the applicable closure requirements of subsections (q)—(w) and § 75.265 (x) and (y) will be met.

(ii) An estimate of the maximum inventory of wastes in storage and in treatment at any time during the life of the facility.

(iii) A description of the steps needed to decontaminate facility equipment during closure.

(iv) An estimate of the expected year of closure and a schedule for final closure. The schedule shall include, at a minimum, the total time required to close the facility and the time required for intervening closure activities which will allow tracking of the progress of closure. For example, in the case of a landfill, estimates of the time required to treat and dispose of all waste inventory and of the time required to place a final cover shall be included.

(v) The latest closure cost estimate prepared in accordance with Subchapter E, § 75.319, and when this estimate has been adjusted in accordance with Subchapter E, § 75.319, the latest adjusted closure cost estimate.

(4) The owner or operator may amend his closure plan at any time during the active life of the facility. The active life of the facility is that period during which wastes are periodically received. The owner or operator shall amend the plan whenever changes in operating plans or facility design affect the closure plan, or whenever there is a change in the expected year of closure. These closure plan amendments shall be submitted to the Department prior to the actual change in plans or design. When the owner or operator requests a permit modification to authorize a change in operating plans or facility design, he shall request a modification of the closure plan at the same time if necessary, or as required in writing by the Department to effectuate the purpose of this section.

(5) The owner or operator shall notify the Department in writing at least 180 days prior to the date he expects the final volume of waste. If the facility's permit is terminated, or if the facility is otherwise ordered by judicial decree or compliance order to cease receiving wastes or to close, then the requirement of this paragraph does not apply. However, the owner or operator shall close the facility in accordance with the deadlines established in paragraphs (6) and (7).

(6) Within 90 days after receiving the final volume of hazardous wastes, the owner or operator shall remove from the site, or dispose of on-site, all hazardous waste in accordance with the approved closure plan. The Department may approve a longer period if the owner or operator demonstrates that:

(i) The activities required to comply with this paragraph will, of necessity, take longer than 90 days to complete; or

(A) the facility has the capacity to receive additional wastes;

(B) there is a reasonable likelihood that a person other than the owner or operator will recommence operation of the site; and

(C) closure of the facility would be incompatible with continued operation of the site;

(ii) He has taken and will continue to take all steps to prevent threats to human health and the environment.

(7) The owner or operator shall complete closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of wastes. The Department may approve a longer closure period if the owner or operator demonstrates that:

(i) The closure activities will, of necessity, take longer than 180 days to complete; or

(A) the facility has the capacity to receive additional wastes;

(B) there is reasonable likelihood that a person other than the owner or operator will recommence operation of the site; and

(C) closure of the facility would be incompatible with continued operation of the site; and

(ii) He has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed but inactive facility. Under paragraphs (6)(i)(A) and subparagraph (7)(i)(A), if operation of the site is recommenced, the Department may defer completion of closure activities until the new operation is terminated. Such deferral shall be in writing.

(8) When closure is completed, all facility equipment and structures shall have been properly disposed of, or decontaminated by removing all hazardous waste and residues.

(9) When closure is completed, the owner or operator shall submit to the Department certification both by the owner or operator and by an independent registered professional engineer that the facility has been closed in accordance with the specifications in the approved closure plan.

(10) Post-closure care shall continue for 30 years after the date of completing closure and shall consist of at least the following:

(i) Monitoring and reporting as applicable.

(ii) Maintenance of monitoring and waste containment systems as applicable.

(11) At any time after closure the Department may in writing reduce the post-closure care period to less than 30 years if the Department finds that the reduced period is sufficient to protect human health and the environment—such as leachate or groundwater monitoring results, characteristics of the waste, application of advanced technology, or alternative disposal, treatment, or reuse techniques indicate that the facility is secure.

(12) Prior to the time that the post-closure care period is due to expire, the Department may extend the post-closure care period if the extended period is necessary to protect human health and the environment such as leachate or groundwater monitoring results indicate a potential for migration of waste at levels which may be harmful to human health and the environment. The Department shall notify the owner or operator of such an extension in writing prior to the end of the post-closure care period.

(13) The Department may require, at closure, continuation of any of the security requirements during part or all of the post-closure care period after the date of completing closure when:

(i) hazardous wastes may remain exposed after completion of closure; or

(ii) access by the public or domestic livestock may pose a hazard to human health.

(14) Post-closure use of property on or in which hazardous wastes remain after closure shall never be allowed to disturb the integrity of the final cover, liners, or any other components of any containment system or the function of the facility's monitoring systems, unless the Department finds that the disturbance:

(i) is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or

(ii) is necessary to reduce a threat to human health or the environment.

(15) All post-closure care activities shall be in accordance with the provisions of the approved post-closure plan.

(16) The owner or operator of a disposal facility shall have a written post-closure plan. The plan shall be submitted with the permit application and approved by the Department as part of the permit. The approved post-closure plan will become a condition of a HWM permit issued. A copy of the approved plan and all revisions to the plan shall be kept at the facility until the post-closure care period begins. This plan shall identify the activities which will be conducted after closure and the frequency of those activities, and include at least:

(i) A description of the planned monitoring activities and frequencies at which they will be performed.

(ii) A description of the planned maintenance activities, and frequencies at which they will be performed, to ensure:

(A) the integrity of the cap and final cover or other containment structures where applicable; and

(B) the function of the facility monitoring equipment, and

(iii) The name, address, and phone number of the person or office to contact about the disposal facility during the post-closure care period. This person or office shall keep an updated post-closure plan during the post-closure care period.

(iv) The latest post-closure cost estimate prepared in accordance with Subchapter E § 75.319 and, when the estimate has been adjusted in accordance with Subchapter E, § 75.319, the latest adjusted post-closure cost estimate.

(17) Any amendment to the post-closure plan shall be submitted for approval by the Department. The owner or operator may amend his post-closure plan at any time during the active life of the disposal facility or during the post-closure care period. The owner or operator shall amend his plan whenever changes in operating plans or facility design, or events which occur during the active life of the facility or during the post-closure care period, affect his post-closure plan. He shall also amend his plan whenever there is a change in the expected year of closure. These post-closure plan amendments shall be submitted to the Department prior to the actual change in plans or designs.

(18) When a permit modification is requested during the active life of the facility to authorize a change in operating plans or facility design, modification of the post-closure plan shall be required at the same time if necessary to effectuate the purpose of this subsection, or if required in writing by the Department. These post-closure plan amendments shall be submitted to the Department prior to the actual change in plans or designs.

(19) Within 90 days after closure is completed, the owner or operator of a disposal facility shall submit to the Department and to the municipality in which the facility is located a survey plat indicating the location and dimensions of landfill cells or other disposal areas with respect to permanently surveyed benchmarks. This plat shall be prepared and certified by a registered land surveyor. The plat filed with the municipality shall contain a note, prominently displayed, which states the owner's or operator's obligation to restrict disturbance of the site as specified in paragraph (14). In addition, the owner or operator shall submit to the municipality and to the Department a record of the type, location, and quantity of hazardous waste disposed of within each cell or area of the facility. For wastes disposed of before these sections were promulgated, the owner or operator shall identify the type, location, and quantity of the wastes to the best of his knowledge and in accordance with any records he has kept. Any changes in the type, location, or quantity of hazardous waste disposed of within each cell or area of the facility that occur after the survey plat and record of wastes have been filed shall be reported in writing to the municipality and to the Department.

(20) The owner of the property on which a disposal facility is located shall record a notation on the deed to the facility property—or on some other instrument which is normally examined during title search—that will in perpetuity notify a potential purchaser of the property that:

(i) the land has been used to manage hazardous wastes.

(ii) its use is restricted under paragraph (14).

(iii) the survey plat and record of the type, location, and quantity of hazardous waste disposed of within each cell or area of the facility required in paragraph (19) have been filed with the municipality and the Department.

(21) If at any time the owner or operator or any subsequent owner of the land upon which a hazardous waste facility was located removes the waste and waste residues, the liner, if any, and all contaminated underlying and surrounding soil, he may add a notation to the deed or instrument indicating the removal of the waste. Comment: On removing the waste and waste residues, the liner, if any, and the contaminated soil, the owner or operator, unless he can demonstrate in accordance with § 75.261 (relating to criteria, identification, and listing of hazardous waste) that any solid waste removed is not a hazardous waste, becomes a generator of hazardous waste and shall manage it in accordance with all applicable requirements of §§ 75.262-75.282 (relating to hazardous waste).

(p) *Financial Responsibility*

Applicants for permits, reissuance of permits, or modification of permits shall be subject to the financial responsibility requirements of Subchapter E.

(q) *Use and Management of Containers.*

(1) If a container holding hazardous waste is not in good condition, or if it begins to leak, the owner or operator shall transfer the hazardous waste from the defective container to a container that is in good condition or manage the waste in some other way that complies with this section.

(2) The owner or operator shall use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

(3) A container holding hazardous waste shall always be closed during storage, except when it is necessary to add or remove waste.

(4) A container holding hazardous waste shall not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

(5) The owner or operator shall inspect areas where containers are stored, at least weekly, for leaks and deterioration of containers and the containment system caused by corrosion and other factors.

(6) Weighing or measuring facilities, if necessary or when required by the Department, shall be provided for weighing all hazardous wastes brought to the TSD facility, except for captive facilities that handle liquids or flowable wastes—less than 20% solids—which are amenable to accurate flow measurements, or captive facilities that possess other waste inventory controls—volume controls. All weighing facilities shall be capable of weighing the maximum anticipated load plus the weight of the transport vehicle. The precision of weighing devices shall be certified by the Pennsylvania Department of Agriculture. For off-site facilities or on-site facilities receiving waste from off-site sources, the hours of operation for the facility shall be prominently displayed on a sign at the entrance. The lettering shall be a minimum of four inches in height and of a color contrasting with its background.

(7) Incompatible wastes, or incompatible wastes and materials—see Appendix IV of this section—shall not be placed in the same container, unless subsection (g)(2) is complied with.

(8) Hazardous waste shall not be placed in an unwashed container that previously held an incompatible waste or material—see Appendix IV of this section.

(9) A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments, shall be separated from the other materials or protected from them by means of an impermeable dike, berm, wall, or other device.

(10) Container storage and receiving areas shall have a containment system capable of collecting and holding spills, leaks, and precipitation. The containment system shall:

(i) Have a base underlying the containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated rainfall.

(ii) Provide efficient drainage from the base to a sump or collection system so that standing liquid does not remain on the base longer than one hour after a spill or leak or a precipitation event.

(iii) Have sufficient capacity to contain the entire volume of the largest container or 10% of the total volume of all the containers, whichever is greater.

(11) Run-on into the containment system shall be prevented.

(12) Spilled or leaked waste and accumulated precipitation shall be removed from the sump or collection system with sufficient frequency to prevent overflow, and shall be managed in accordance with this title.

(13) At closure, all hazardous waste and hazardous waste residues shall be removed from the containment and collection systems. Remaining containers, liners, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues shall be decontaminated or removed.

(14) Storage of wastes shall be as follows:

(i) For indoor storage of reactive or ignitable hazardous waste, the total maximum container height shall not exceed six feet. The containers shall be grouped so that the maximum width and depth of a group is no greater than the area that would contain four 55-gallon drums wide by four 55-gallon drums deep—approximately eight feet by eight feet —or the containers shall be grouped so that the maximum width of a group is no greater than the area that would contain two 55-gallon drums deep, with the length of the group so limited that at least a five-foot-wide aisle surrounds the group. Each eight-foot by eight-foot group shall be separated by at least a five-foot wide aisle.

(ii) For outdoor storage of reactive or ignitable hazardous waste, the total container height shall not exceed nine feet. The maximum width and depth of a group of such containers shall not exceed the equivalent of eight 55-gallon drums wide by eight 55-gallon drums deep. Each group shall be separated by at least a five foot wide aisle from any adjacent group. A main aisle or accessway at least 12 feet wide shall be maintained through a container storage area. A minimum 40-foot setback from a building shall be maintained for all outdoor container storage of reactive or ignitable hazardous wastes.

(iii) For indoor or outdoor storage of nonreactive or nonignitable hazardous waste, the total container height shall not exceed nine feet. The maximum width and depth of a group of containers shall provide a configuration and aisle space which insures access for purposes of inspection, containment, and remedial action with emergency vehicles. The configuration shall be specified in the permit application and shall be approved in writing by the Department.

(15) Containers holding ignitable or reactive waste shall be set back at least 50 feet—15 meters—from the facility's property line.

(r) *Tanks.*

(1) This subsection shall apply to owners and operators of facilities that use tanks to treat or store hazardous waste, except as otherwise provided in subsection (a) of this section. The regulations in this section do not apply to facilities that treat or store hazardous waste in covered underground tanks that connot be entered for inspection.

(2) Treatment or storage of hazardous waste in tanks shall comply with subsection (g)(2).

(3) Hazardous waste or treatment reagents shall not be placed in a tank if they could cause the tank or its inner liner to rupture, leak, corrode, or otherwise fail before the end of its intended life.

(4) Uncovered tanks shall be operated to ensure at least 60 centimeters (two feet) of freeboard to prevent overtopping by wave or wind action or by precipitation, unless the tank is equipped with an overflow alarm, an overflow device to a standby tank with a capacity equal to or exceeding the volume of the top 60 centimeters (two feet) of the uncovered tank, and a waste feed cutoff system.

(5) Where hazardous waste is continuously fed into a tank, the tank shall be equipped with a means to stop the inflow.

(6) For liquid storage in above-ground tanks or partially above-ground tanks, there shall be a containment structure with a capacity that equals or exceeds the largest above-round tank volume plus a reasonable allowance for precipitation based on local weather conditions and plant operation.

(7) Whenever a tank is to be used to chemically treat or store a hazardous waste which is substantially different from waste previously treated or stored in that tank, or chemically treat hazardous waste with a substantially different process than any previously used in that tank, the owner or operator shall, before treating or storing the different waste or using the different process, conduct waste analyses and trial treatment or storage tests, or obtain written, documented information on similar storage or treatment of similar waste under similar operating conditions to show that this proposed treatment or storage will meet all applicable requirements of paragraphs (1)—(3).

(8) The owner or operator of a tank shall inspect, where present:

(i) Discharge control equipment at least once each operating day, to ensure that it is in good working order.

(ii) Data gathered from monitoring equipment at least once each operating day, to ensure that the tank is being operated according to its design.

(iii) The level of waste in the tank, at least once each operating day, to ensure compliance with paragraph (4).

(iv) The construction materials of the tank, at least weekly, to detect corrosion or leaking of fixtures or seams.

(v) The construction materials of, and the area immediately surrounding, discharge confinement structures at least weekly to detect erosion or obvious signs of leakage.

(vi) Records of inspection shall be maintained with the operations records referred to in subsection (k).

(9) At closure, all hazardous waste and hazardous waste residues shall be removed from tanks, discharge control equipment, and discharge confinement structures.

(10) Ignitable or reactive waste shall not be placed in a tank, unless:

(i) The waste is treated, rendered, or mixed before or immediately after placement in the tank so that the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste and paragraph (g)(2) is complied with;

(ii) The waste is stored or treated in such a way that it is protected from material or conditions which may cause the waste to ignite or react; or

(iii) The tank, by written Department approval, is used solely for emergencies.

(11) The owner or operator of a facility which treats or stores ignitable or reactive waste in covered tanks shall comply as a minimum with all applicable requirements in National Fire Protection Association (NFPA) standards for tanks, contained in the "Flammable and Combustible Code - 1981", or latest revised edition.

(12) Incompatible waste, or incompatible wastes and materials, as set forth in Appendix IV of this section, may not be placed in the same tank except in compliance with subsection (g)(2).

(13) Hazardous waste shall not be placed in an unwashed tank which previously held an incompatible waste or material except in compliance with subsection (g)(2).

(14) As part of the inspection schedule required in subsection (e)(2) and in addition to the specific requirements of paragraph (8), the owner or operator shall develop a schedule and procedure for assessing the condition of the tank. The schedule and procedure shall be adequate to detect cracks, leaks, corrosion, or erosion which may lead to cracks or leaks, or wall thinning to less than the thickness required under paragraph (15). Procedures for emptying a tank to allow entry and inspection of the interior shall be established when necessary to detect corrosion or erosion of the tank sides or bottom. The frequency of these assessments shall be based on the material of construction of the tank, type of corrosion or erosion protection used, rate of corrosion or erosion observed during previous inspections, and the characteristics of the waste being treated or stored.

(15) Tanks shall have sufficient shell strength and, for closed tanks, pressure controls (e.g., pressure/vacuum vents) to assure that they do not collapse or rupture. The Department will review the design of the tanks, including the foundation, structural support, seams, and pressure controls. The Department will require that a minimum shell thickness be maintained at all times to ensure sufficient shell strength. Factors to be considered in establishing minimum thickness include the width, height, and materials of construction of the tank, and the specific gravity of the waste which will be placed in the tank. In reviewing the design of the tank and establishing a minimum thickness, the Department will rely upon appropriate industrial design standards and other available information such as design standards for certain types of tanks published by the American Petroleum Institute, Underwriter's Laboratories, the American Concrete Institute, and several other organizations.

(16) All tanks shall be equipped with an alarm or warning device which will sound an audible warning or other suitable alerting device in the event the permitted liquid level is exceeded.

(17) Weighing or measuring facilities if necessary or when required by the Department shall be provided for weighing all hazardous wastes brought to the TSD facility, except for captive facilities that handle liquids or flowable wastes—less than 20% solids—which are amenable to accurate flow measurements, or captive facilities that possess other waste inventory controls—volume controls. All weighing facilities shall be capable of weighing the maximum anticipated load plus the weight of the transport vehicle. The precision of weighing devices shall be certified by the Pennsylvania Department of Agriculture.

(18) For off-site facilities or on-site facilities receiving waste from off-site sources, hours of operations for the site shall be prominently displayed on a sign at the entrance. The lettering shall be a minimum of four inches in height and of a color contrasting with its background.

(19) During construction or installation the tank shall be inspected for uniformity, damage, and imperfections.

(20) Whenever there is any indication of a possible failure of the tank, it shall be inspected in accordance with the provisions of the Tank Evaluation and Repair (TER) Plan required by paragraph (23).

(21) Whenever there is evidence of a failure, the tank shall be removed from service.

(22) If the tank is removed from service as required by paragraph (21) the owner or operator shall:

(i) Immediately stop adding wastes to the tank;

(ii) Immediately contain any leakage which has or is occuring;

(iii) Immediately take measures which shall stop the leak; and

(iv) If the leak cannot be stopped by any other means, remove the waste from the tank.

(23) As part of the contingency plan required in subsection (i), the owner or operator shall specify:

(i) A procedure for complying with the requirements of paragraph (22); and

(ii) A Tank Evaluation and Repair (TER) Plan describing testing and monitoring techniques, procedures to be followed to evaluate the integrity of the tank if a failure is suspected, a schedule of actions to be taken in the event of a suspected failure, and a description of the repair techniques to be used in the event of leakage.

(24) No tank that has been removed from service in accordance with paragraph (21) of this subsection may be restored to service unless:

(i) The tank has been repaired; and

(ii) The tank has been certified by a registered professional engineer as meeting the design specifications approved in the permit.

(25) A tank that has been removed from service in accordance with paragraph (21) and that is not being repaired shall be closed.

(26) Access roads shall be paved or surfaced with such materials as asphalt or concrete or other materials approved in writing by the Department. Access roads shall be suitable for use in all types of weather by loaded transport vehicles and emergency vehicles and equipment. These roads shall have a base capable of withstanding anticipated load limits. The minimum cartway width for two-way traffic shall be 22 feet; for one-way traffic, separate roads with a minimum cartway width of 12 feet shall be provided; or if the HWM facility is a captive facility or a non-commercial off-site facility and the access is restricted to company personnel with minimal traffic volume, then the minimum cartway width for two-way traffic shall be 12 feet, provided the entire length of the roadway is visible to the driver or passing points are provided at appropriate intervals so as to not impede access. The maximum sustained grade shall not exceed 12%.

(27) Unless otherwise approved in writing by the Department, a buffer zone of 50 feet shall be established between the property line and the permitted facilitiy, within which no solid waste treatment, storage, or disposal activities shall take place.

(28) Surface water management measures on the site shall as a minimum be in conformance with the provisions of, Chapter 102, (relating to erosion control). More stringent design standards may be required by the Department based on the best engineering practices and methods outlined in "Engineering Field Manual for Conservation Practices" published by USDA-SCS.

(29) All surface water run-off from active areas of the site, where such run-off exists, shall be collected. It shall then be managed as a hazardous waste if it has been determined to be a hazardous waste. Necessary measures and structures shall be designed to handle water quantities based on the 24-hour rainfall in inches to be expected once in ten years. Supporting calculations shall be provided.

(30) Run-on shall be diverted away from the site with all the necessary measures and structures designed to handle water quantities based on the 24-hour rainfall in inches expected once in one hundred 100 years and supported by calculations.

(31) Best engineering construction practices shall be employed for all phases of installation and construction.

(32) Quality control measures and tests shall be specified and employed to insure that installation and construction conforms to all design materials and construction specifications.

(33) A registered professional engineer shall certify in writing for each phase of installation and construction, under penalty of law, that he has personally examined the installation and construction of the said phase and it is installed and constructed in accordance with the documents, statements, designs, and plans submitted as part of the application as approved by the Department.

(34) Vector, odor, and/or noise control procedures shall be carried out when necessary or when required by the Department to prevent health hazards or nuisances. The applicant shall submit a Vector, Odor, and Noise Control (VONC) Plan for written approval by the Department.

(35) Equipment provided for operation of the tank shall be maintained in operable condition and adequate in size and performance capability to assure that the facility operation will not be interrupted during normal working periods and that the operation of the facility is in accordance with these regulations.

(36) Standby equipment shall be on-site or readily available for use in the event of major equipment breakdown.

(37) Unloading areas, if necessary, shall be specified and shall permit vehicles to unload promptly.

(38) Provisions shall be made, if necessary, to prevent dust from hampering site operations or from causing health or safety hazards or nuisances.

(39) The site shall be operated in such a manner that the tracking of waste within or outside the site by equipment and machinery is eliminated or minimized.

(40) After removing all contaminated materials and tank structures during closure, the site shall be graded and revegetated as approved in writing by the Department.

(s) *Surface impoundments.*

(1) This subsection shall apply to owners and operators of facilities that use surface impoundments to treat, store, or dispose of hazardous waste unless otherwise provided in subsection (a).

(2) This subsection sets forth standards for design and operation of surface impoundments used in the management of hazardous waste.

(3) The following are the minimum general design standards required:

(i) A surface impoundment shall be designed, constructed, operated and maintained with sufficient freeboard to prevent overtopping of the dike by overfilling; wave action; normal or abnormal operations; wind action; rainfall; run-on; malfunctions of level controllers, alarms and other equipment; human error; or storms. There shall be at least 60 centimeters—2 feet—of freeboard at all times, unless otherwise specified by the Department.

(ii) All earthen dikes shall have a protective cover, such as suitable vegetation, rock riprap, or non-erodible material to minimize wind and water erosion and preserve structural integrity.

(iii) Access roads shall be paved or surfaced with such materials as asphalt or concrete or other materials approved in writing by the Department. Access roads shall be suitable for use in all types of weather by loaded transport vehicles and emergency vehicles and equipment. These roads shall have a base capable of withstanding anticipated load limits. The minimum cartway width for two-way traffic shall be 22 feet; for one-way traffic, separate roads with a minimum cartway width of 12 feet shall be provided; or if the HWM facility is a captive facility or a non-commercial off-site facility and the access is restricted to company personnel with minimal traffic volume, then the minimum cartway width for two-way traffic shall be 12 feet, provided the entire length of the roadway is visible to the driver or passing points are provided at appropriate intervals so as to not impede access. The maximum sustained grade shall not exceed 12%.

(iv) Weighing or measuring facilities, if necessary or when required by the Department, shall be provided for weighing all hazardous wastes brought to the TSD facility, except for captive facilities that handle liquids or flowable wastes—less than 20% solids—which are amenable to accurate flow measurements, or captive facilities that possess other waste inventory controls—volume controls. All weighing facilities shall be capable of weighing the maximum anticipated load plus the weight of the transport vehicle. The precision of weighing devices shall be certified by the Pennsylvania Department of Agriculture.

(v) For off-site facilities or on-site facilities receiving waste from off-site sources, hours of operations for the site shall be prominently displayed on a sign at the entrance. The lettering shall be a minimum of four inches in height and of a color contrasting with its background.

(vi) A buffer zone of 50 feet shall be established between the property line and the permitted area, within which no solid waste treatment, storage, or disposal activities shall take place. No buildings or structures shall be constructed or placed within 25 feet of the surface impoundment, unless the structures are necessary to conduct the monitoring and testing requirements of this subchapter and are approved by the Department.

(vii) Final surface grades for surface impoundments used for disposal shall provide a slope of not less than 2.0% but not exceeding 15% except as otherwise approved in writing by the Department. Where final grades approved by the Department exceed 15%, but in no case exceeding 25%, a horizontal terrace ten feet minimum in width shall be constructed on the slope for every 20 feet maximum in vertical rise of the slope. The gradient of the terrace shall be 1.0% toward the center of the surface impoundment to eliminate overflow of the run-off onto the next terrace. The terrace shall be graded with a minimum 3.0% slope to remove any run-off to the sedimentation pond. The maximum side slope of the terrace shall be 28.5% or the angle of repose of the impounded waste, whichever is less. This shall be supported with testing and/or calculations.

(viii) Surface water management measures on the site shall, as a minimum, be in conformance with the provisions of Chapter 102, (relating to erosion control). More stringent design standards may be required by the Department based on the best engineering practices and methods outlined in "Engineering Field Manual for Conservation Practices" published by USDA-SCS.

(ix) Run-on shall be diverted away from the site with all the necessary measures and structures designed to handle water quantities based on the 24-hour rainfall in inches expected once in 100 years and supported by calculations.

(x) Daily and intermediate cover, when and if required in writing by the Department, shall be soils that fall within the United States Department of Agriculture (USDA) textural classes sandy loam, loam, sandy clay loam, silty clay loam, and silt loam. All other cover materials shall be approved by the Department. The coarse fragment content—fragments not passing the No. 10 mesh sieve, 2mm,—shall not exceed 50% by volume and the combustible and/or coal content shall not exceed 12% by volume. Boulders and stones as classified by USDA shall be excluded from soils to be used for any type of cover material. The source and volumes of daily and intermediate cover necessary and available shall be specified and supported by calculations.

(xi) Daily cover, when and if required by the Department, shall be a minimum uniform six-inch compacted layer, and intermediate cover shall be a minimum uniform 12 inch graded and compacted layer.

(xii) Gas venting systems and gas monitoring systems shall be installed at all sites when necessary or when required by the Department. Gas venting may be accomplished by construction of either lateral and/or vertical venting. The maximum center to center spacing between the lateral lines or vertical trenches shall be 100 feet. Pipe vents located within 100 feet of any building, mechanical structure, or roadway shall be constructed so as to discharge above the roof line of said building or mechanical structure and a minimum of 12 feet above the roadway surface. A forced gas venting system shall be installed when and if required by the Department. Appropriate safety measures shall be included in the design and installation of any gas venting, collection, storage, or processing system.

(xiii) Hazardous waste in surface impoundments used for disposal shall be capable of withstanding anticipated static and dynamic loadings with a minimum factor of safety of 1.5.

(xiv) A surface impoundment shall be designed so that any flow of waste into the impoundment can be immediately shut off in the event of overtopping or liner failure.

(xv) A surface impoundment shall be designed to prevent discharge into the land and groundwater and to surface water—except discharges authorized by an NPDES permit—during the life of the impoundment, by use of a liner system described in this subsection.

(xvi) Dikes shall be designed with sufficient structural integrity to prevent massive failure without dependence on any liner system included in the surface impoundment design.

(xvii) All hazardous waste treated, stored, or disposed of in a surface impoundment shall be underlain by a liner system. The surface impoundment liner system shall be designed with the following components, starting from the bottom of the system:

(A) A subbase of a prepared six-inch thick layer of the soil upon which the liner system is constructed. The subbase shall be capable of supporting the expected static and dynamic loadings with a minimum factor of safety of 1.5. The subbase shall be compacted to 95% of the standard Proctor density. The subbase shall prevent damage to the bottom liner, be true to cross section, and uniform. The subbase shall have a surface which is smooth and free of all debris, plant materials, or other foreign materials. The minimum slope for all surface impoundment subbase surfaces including any side slopes shall be 2.0% and the maximum slope shall be 33% except for surface impoundments used for disposal, which shall not exceed 20%. Any subbase sloped greater than those specified in this clause shall be only as approved in writing by the Department.

(B) A bottom liner (secondary liner) meeting the requirements specified in Appendix V, Table 3, and capable of detecting and diverting any leachate that may bypass, or leak, through the primary liner. The secondary liner shall be constructed so as to divert all leachate or waste to a collection sump or point where it can be collected for proper treatment, storage, or disposal with sufficient frequency to prevent backup into the flow zone. The slope requirements shall conform to the slope of the subbase.

(C) A flow zone—leachate detection zone—between the secondary and primary liners capable of allowing free flow of liquids and providing a stable, uniform, smooth layer, free of all debris, plant materials, or other foreign material, and which will prevent damage to either the primary or secondary liners. The maximum particle size for the flow zone material shall be 0.25 inches and the permeability of the flow zone shall be greater than 1×10^{-4} cm/sec. The flow zone shall be a minimum one foot thick under the entire primary liner. A perforated piping system which is capable of withstanding all anticipated loads and which is capable of intercepting the liquids or leachate within the flow zone and transmitting them to a collection sump or point shall be installed within the flow zone. The piping system design and pipe grade, size, and spacing shall ensure that all liquids will exit the landfill in less than six months. This shall be supported by calculations and drawings. A positive projecting installation design of the piping system shall be used unless otherwise approved in writing by the Department. Stones or aggregate surrounding the pipes shall be large enough to prevent clogging of the pipe and fine enough to prevent damage to the liners. Any other method of preventing the pipes from clogging shall meet the approval of the Department.

(D) A top liner (primary) meeting the requirements specified in Appendix V, Table 3 of this section. A liner shall be constructed of materials that prevent wastes from migrating into the liner during the active life of the facility. If the surface impoundment is used for treatment or storage, then the liner may be constructed of materials that may allow wastes to migrate into the liner, but not into the adjacent subsurface soil or ground water or surface water, during the active life of the facility. For surface impoundments used for disposal, this liner shall be capable of diverting to a collection sump or point liquids or leachate, passing through or generated within the hazardous waste, where it can be collected for proper treatment, storage, or disposal with sufficient frequency to prevent backup into the surface impoundment.

(E) A protective cover zone/leachate collection zone, a minimum of one foot thick capable of protecting the primary liner from the hazardous waste. The protective cover shall be stable, uniform, smooth, free of debris, plant material, or other foreign material. The maximum particle size for protective cover shall be 0.25 inches. For surface impoundments used for disposal, the protective cover shall be capable of allowing free flow of all liquids and leachate passing through or generated within the solid waste and shall have a permeability greater than 1×10^{-4} cm/sec. A perforated piping system shall be installed within the protective cover which is capable of withstanding all anticipated loads and capable of intercepting the liquids and leachate within the protective cover zone and transmitting them to a collection sump or point. The piping system design and the pipe spacing, grade, and size shall insure that all liquids and leachate drain through the protective cover at a rate twice the maximum expected rate of infiltration through the waste above. This shall be supported with calculations and drawings. A positive projecting installation design of the piping system shall be used unless otherwise approved in writing by the Department. Stones or aggregate surrounding the pipes shall be large enough to prevent clogging of the pipe and fine enough to prevent damage to the liner. Further measures to prevent clogging or damage to the pipe and additional measures to prevent damage to the liner shall be installed if required by the Department.

(F) A cap which is capable of preventing the infiltration of liquid into closed portions of the surface impoundment. The cap shall have permeability less than or equal to the permeability of the primary liner. The cap shall meet the minimum requirements specified in Appendix V, Table 3 ,of this section. It shall be placed on a stable 1-foot thick layer of intermediate cover material which has been compacted and graded to prevent damage to the cap. This requirement may be altered or waived if it is determined by the Department that capping is not necessary.

(xviii) For surface impoundments used for treatment or storage, the outside slopes of all berms or dikes shall not exceed 33% unless otherwise approved in writing by the Department.

(xix) For surface impoundments used for disposal, the outside slopes of all berms or dikes shall not exceed 20% unless otherwise approved in writing by the Department.

(xx) All liners shall be installed and constructed in conformance with manufacturer's specifications and shall have the written approval of the Department. Other types of liners shall be approved if it is demonstrated to the Department that the proposed liner is substantially equivalent to the specifications for the primary and secondary liners.

(xxi) During and after construction and installation, liner systems and cover systems shall be inspected for uniformity, damage, and imperfections, such as holes, cracks, thin spots, and foreign materials. Earth material liner systems shall be inspected for imperfectons, including lenses, cracks, channels, root holes, or other structural non-uniformities, and shall be tested for compaction density, moisture content, and permeability after placement. Manufactured liner materials shall be inspected to ensure tight seams and joints and the absence of tears or blisters..

(xxii) For all surface impoundments, a minimum distance of four feet shall be maintained between the top of the subbase and any seasonal high water table without the use of any artificial or manmade groundwater drainage or dewatering system. Soil mottling shall indicate the presence of a seasonal high groundwater table. The distance between the top of the subbase and the groundwater table shall be a minimum of eight feet.

(xxiii) The outer perimeter of all liner and liner systems shall be well protected and well marked through all stages of construction, closure, and final closure.

(xxiv) For a surface impoundment used for disposal, the conveyance system and storage system for the leachate from the leachate collection zone and run-off shall meet, as a minimum, the following design standards when required by the Department:

(A) The minimum storage capacity for leachate shall be 25,000 gallons per acre of active portions of the surface impoundment plus an additional 1000 gallons per acre of closed portions.

(B) The minimum storage capacity for run-off shall be based on the 24-hour rainfall in inches expected once in 25 years per acre of active portions of the surface impoundment.

(C) All such storage tanks or surface impoundments shall meet the applicable requirements of this section for tanks and surface impoundments.

(D) The piping system conveying the leachate or run-off from the surface impoundment to the collection point—tank or surface impoundment—shall be sized to convey the leachate flow as calculated in subparagraph (xvii), chemically compatible with the leachate, of sufficient strength to withstand all anticipated loads, equipped with cleanouts where necessary or as required in writing by the Department, and sealed to prevent any loss of leachate.

(E) The liner collection pipe and the conveyance pipe shall be connected such that all leachate is directed into the conveyance pipe.

(F) A containment system shall have an effective life equal to or greater than the life of the surface impoundment.

(xxv) Leachate detection zone tanks shall be a minimum of 100 gallons in capacity and connected to the leachate detection zone by means of a piping system. The piping system conveying the detected leachate shall be sized to convey the leachate flow as calculated in subparagraph (xvii)(c), chemically compatible, of sufficient strength to withstand all anticipated loads, sealed to prevent any loss of leachate, and designed to intercept and convey all the leachate detected.

(xxvi) Best engineering construction practices shall be employed for all phases of construction.

(xxvii) Quality control measures and tests shall be specified and employed to ensure that construction conforms to all design, materials, and construction specifications.

(xxviii) A registered professional engineer shall certify in writing, for each phase of construction, under penalty of law, that he has personally examined the construction of the said phase and it is constructed and prepared in accordance with the documents, statements, designs, and plans submitted as part of the application as approved by the Department.

(xxix) For surface impoundments used for disposal:

(A) Design for the treatment facilities to receive the leachate and run-off from storage shall be submitted to the Department for written approval prior to issuance of a permit.

(B) The design flow rate for the treatment facility shall be a minimum of 15,000 gallons per day for each acre of active portion, and an additional 100 gallons for each acre of closed portion. The design standards for the treatment facilities shall meet the requirements of subsection (y).

(C) The treatment facilities shall be compatible with and capable of treating the waste constituents expected to be present in the leachate and run-off and the anticipated volumes of waste.

(xxx) For surface impoundments used for disposal, the closure and post-closure care shall conform to subsection (o) and the following specific requirements:

(A) After eliminating any free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues, a final layer of cover material compacted to a minimum uniform depth of 2 feet shall be placed over the entire surface of the surface impoundment. The final cover shall be soils that fall within the United States Department of Agriculture (USDA) textural classes of sandy loam, loam, sandy clay loam, silty clay loam, and silt loam. Other final cover materials may be approved in writing by the Department. The soil shall compact well, not crack excessively when dry, and support a vegetative cover. The coarse fragment content—fragments not passing the No. 10 mesh sieve, 2 mm—shall not exceed 50% by volume, and the combustible or coal content or both may not exceed 12% by volume. Boulders and stones as classified by USDA shall be excluded from soils used for cover material. The source and volume of final cover necessary and available shall be specified and supported by calculations.

(B) The final cover layer shall be completed within 30 days after disposing of the final volume of hazardous waste unless otherwise approved in writing by the Department. Completion shall include permanent stabilization of all slopes.

(C) Completed portions of the surface impoundment shall be graded as specified in this subsection within two weeks of completion.

(D) Seedbed preparation and planting operations to promote stabilization of the final soil cover shall be done as soon as weather permits and seasonal conditions are suitable for the establishment of the type of vegetation to be used. Reseeding and maintenance of cover material shall be mandatory until adequate vegetative cover is established to prevent erosion. Applicable revegetation procedures as published in PennDOT Form 408 or the current "Agronomy Guide" of The College of Agriculture, Pennsylvania State University, may be utilized.

(E) The owner and operator shall:

(I) Maintain the integrity and effectiveness of the final cover, including repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events.

(II) Maintain and monitor the leachate detection zone as required by permit or regulations.

(III) Maintain and monitor the ground-water monitoring system and comply with all other applicable requirements of subsection (n).

(IV) Prevent run-on and run-off from eroding or otherwise damaging the final cover.

(F) During the post-closure care period, if liquids leak into the leachate detection zone the owner or operator shall notify the Department of the leak in writing within seven days after detecting the leak.

(xxxi) Closure of surface impoundments used for treatment or storage shall conform to the closure requirements of subsection (o), and, at closure, hazardous waste, hazardous waste residues and contaminated subsoils shall be removed from the impoundment. A component of the impoundment, a component of the liner system, or appurtenant structures or equipment—such as discharge platforms, pipes, baffles, skimmers, aerators, or other equipment—containing or contaminated with hazardous waste or hazardous waste residues shall be decontaminated or removed. The wastes shall be subject to all applicable regulations. In the event the owner or operator is not able to close the surface impoundment under this subparagraph, the owner or operator shall comply with the closure and post-closure care requirements for surface impoundments used for disposal under subsection 75.264(s)(3)(xxx), (relating to surface impoundments). At the time of permit application, the owner or operator shall include as part of his closure and post-closure plans:

(A) Contingent closure and post-closure plans for complying with applicable requirements of subparagraph (3)(xxx).

(B) Cost estimates for complying with the contingent closure and post-closure plans need not include the cost of removing all hazardous waste, hazardous waste residues, contaminated subsoils, or any component of the liner system, or any appurtenant structures or equipment.

(xxxii) Prior to the issuance of a surface impoundment permit and after an extended period of time—at least 6 months—during which impoundment was not in service, the owner or operator shall obtain a certification from a registered professional engineer qualified to make a certification that the impoundment's dike including that portion of a dike which provides freeboard, has structural integrity. The certification shall establish, in particular, that the dike:

(A) Will withstand the stress of the pressure exerted by the types and amount of wastes to be placed in the impoundment.

(B) Will not fail due to scouring or piping, without dependence on a liner system included in the surface impoundment construction.

(4) The following are the minimum general operating standards required for surface impoundments:

(i) Whenever a surface impoundment is to be used to chemically treat a hazardous waste which is substantially different from waste previously treated in that impoundment, or chemically treat hazardous waste with a substantially different process than any previously used in that impoundment; the owner or operator shall, before treating the different waste or using the different process, conduct waste analyses and trial treatment tests, or obtain written, documented information on similar treatment of similar waste under similar operating conditions.

(ii) The owner or operator shall comply with the requirements of subsection (g)(2).

(iii) The owner or operator shall inspect the following as specified below and after storms:

(A) The freeboard level at least once each operating day to detect any sudden drops in liquid level and also to insure the minimum freeboard level is being maintained.

(B) The surface impoundment, including dikes and vegetation surrounding the dike, at least once a week to detect existing and potential leaks, deterioration, or failures in the impoundments.

(C) The collection sump or point at least daily to detect leakage through the top liner. However, the owner or operator shall not be required to inspect the collection sump or point daily provided that:

(I) The collection sump or point is equipped with an alarm system capable of detecting any accumulation of liquids in the sump of one inch or greater.

(II) The alarm system is maintained in proper working order.

(III) The owner or operator has received prior written approval from the Department.

(D) Systems to control overtopping, weekly for deterioration, malfunctions or improper operation.

(iv) Ignitable or reactive waste shall not be placed in a surface impoundment, unless:

(A) the waste is treated, rendered, or mixed before or immediately after placement in the impoundment so that the resulting waste, mixture, or dissolution of the material no longer meets the definition of ignitable or reactive waste; and subsection (g)(2) is complied with; or

(B) with written Department approval, the surface impoundment is used solely for emergencies.

(v) Incompatible wastes, or incompatible wastes and materials,—see Appendix IV of this section, shall not be placed in the same surface impoundment, unless subsection (g)(2) is complied with and unless approved in writing by the Department.

(vi) Earthen dikes shall be kept free of:

(A) plants with root systems which could displace the earthern materials upon which the structural integrity of the dike is dependent; and

(B) burrowing mammals which could remove earthen materials upon which the structural integrity of the dike is dependent or create leaks through burrows in the dike.

(vii) Whenever there is an indication of a possible failure of the surface impoundment, such as leaks or sudden drops in the liquid level, and the drop is not known to be caused by a controlled change in the flow into or out of the impoundment, the impoundment shall be inspected under the Surface Impoundment Evaluation and Repair (SIER) Plan required by subparagraph (x).

(viii) Whenever there is evidence of a failure of the impoundment, the impoundment shall be removed from service.

(ix) If the surface impoundment is removed from service as required by subparagraph (viii) the owner or operator shall:

(A) immediately shut off the flow of or stop the addition of wastes into the impoundment;

(B) Immediately contain any leakage which has occurred or is occurring;

(C) Immediately take measures which will stop the leak;

(D) If the leak cannot be stopped by any other means, empty the impoundment.

(E) Take any other necessary steps to stop or prevent catastrophic failure.

(F) Notify the appropriate Regional Office of the Department of the problem immediately by telephone and file a written report within seven days after detecting the problem describing the nature of the problem and the measures taken to remedy the problem.

(x) As part of the PPC Plan required in subsection (i) the owner or operator shall specify:

(A) a procedure for complying with the requirements of subparagraph (ix); and

(B) a SIER plan describing testing and monitoring techniques; procedures to be followed to evaluate the stability of the impoundment if a failure is suspected; a schedule of actions to be taken in the event of a suspected failure; and a description of the repair techniques to be used in the event of leakage.

(xi) No surface impoundment that has been removed from service due to failure may be restored to service unless:

(A) the impoundment has been repaired; and

(B) the impoundment has been certified by a registered professional engineer as meeting the design specifications approved in the permit.

(xii) A surface impoundment that has been removed from service due to failure and that is not being repaired shall be closed under paragraph (3)(xxx) for surface impoundments used for disposal or paragraph (3)(xxxi) for surface impoundments used for treatment or storage.

(xiii) Surface impoundment contents subject to dispersal by wind shall be covered or otherwise managed so that wind dispersal of the hazardous waste and all other solid waste is controlled.

(xiv) Vector, odor, and/or noise control procedures shall be employed when necessary or when required in writing by the Department to prevent health hazards or nuisances. The applicant shall submit a Vector, Odor, and Noise Control (VONC) Plan for written approval by the Department.

(xv) The site shall be designed and operated in a manner which prevents or minimizes surface water percolation into the hazardous waste deposits.

(xvi) Equipment provided for operation of the surface impoundment shall be maintained in operable condition and adequate in size and performance capability to assure that the facility operation will not be interrupted during normal working periods and the operation of the facility is in accordance with these regulations.

(xvii) Standby equipment shall be on-site or readily available for use in the event of major equipment breakdown.

(xviii) Unloading areas shall be specified and restricted to the proximity of the working face and shall permit collection vehicles to unload promptly.

(xix) An attendant shall direct vehicles to the unloading area or clearly marked signs shall be located prominently to direct vehicles to the unloading area.

(xx) Provisions shall be made to prevent dust from hampering surface impoundment operations or from causing health or safety hazards or nuisances.

(xxi) Surface impoundments shall be operated in such a manner that the tracking of waste within or outside the site by equipment and machinery is eliminated or minimized.

(5) The Department shall specify or reference in the permit design and operating practices which the Department deems necessary to ensure that the requirements of this subsection are satisfied. The Department may also require a permittee to take any measures, whether or not specified or referenced in the permit, reasonable or necessary to ensure complaince with the act and this subchapter or necessary to protect public health and environment.

(t) *Waste piles.*

(1) This subsection applies to an owner or operator of a facility that stores or treats hazardous waste in piles, except under subsection (a). A waste pile used as a disposal facility is a landfill and shall meet the requirements of subsection (v).

(2) A waste pile shall be designed to prevent discharge into the land, surface water, or groundwater during the life of the pile.

(3) An owner or operator of a waste pile complying with subparagraph (i) is not subject to the ground-water requirements of subsection (n), or the liner and collection and treatment requirements of paragraph (4). An owner or operator of a waste pile complying with subparagraph (ii) or (iii) is not subject to the ground-water requirements of subsection (n).

(i) The waste pile is inside or under a completely enclosed structure that provides protection from preciptation so that neither run-off nor leachate is generated.

(A) A liquid or material containing free liquids is not placed in the pile.

(B) The pile is designed and operated to control dispersal of the waste by wind, where necessary, by means other than wetting.

(C) The pile will not generate leachate through decomposition or other reactions.

(D) The waste is underlain by an impermeable membrane of sufficient strength and thickness to prevent failure due to the stress of installation, puncture, cracking, tearing, or other physical damage from equipment used to place the waste in or on the pile, or remove the waste from the pile, or to clean the membrane. The membrane shall be compatible and nonreactive with the waste to be placed on it.

(E) The pile is protected from surface water run-on by the structure or in another manner.

(ii) The waste pile is underlain by a liner system composed of two liners and conditions of paragraph (4) are compiled with.

(iii) The waste in the pile is removed periodically and the liner is inspected for deterioration, cracks or other conditions that may result in leaks. The frequency of inspection shall be specified in the inspection schedule under subsection (e) and shall be based on the potential for the liner-base-to crack or otherwise deteriorate under the conditions of operation such as waste types, rainfall, loading rates, subsurface stability and conditions of paragraph (4) are compiled with.

(4) The liner system for the waste pile shall consist of:

(i) A leachate and run-off collection system immediately above the liner that is designed, constructed, maintained and operated to collect and remove leachate from the pile. The leachate collections system shall be:

(A) Constructed of materials that are:

(I) Chemically resistant to the waste managed in the pile and the leachate to be generated.

(II) Of sufficient strength and thickness to prevent collapse under the pressure exerted by overlaying waste, waste cover material, and by equipment used at the pile.

(B) Designed, constructed, and operated to function without clogging through the schedule closure of the waste pile.

(C) Designed, constructed, operated and maintained so that no standing liquid may accumulate.

(ii) A liner underlying and in contact with the waste pile which will prevent discharge into the land, surface water, or groundwater during the life of the pile, including the closure period. The liner type and design will be based on the required liner's thickness, the required permeability of the liners, and the characteristics of the waste or leachate to which the liner will be exposed. The liner system constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients- -including static head and external hydrogeologic forces—physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation or other physical damage from equipment used to place the waste in or on the pile, or to remove waste from the pile, or to clean and expose the liner surface for inspection. The liner permeability shall not exceed 1×10^{-7}cm/sec.

(iii) Where necessary under pararaph (3)(ii), a secondary liner designed, constructed, maintained and operated in a manner that prevents the migration of liquid out of the space between the liners and that meets the specifications of subparagraph (ii).

(iv) Where necessary under paragraph (3)(ii), a leak detection system between the liners designed, constructed, maintained and operated to detect migration of liquid into the space between the liners.

(v) A subbase underlying the liners capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift.

(5) A liner system shall have an effective life equal to or greater than the life of the pile.

(6) A liner system shall be protected from plant growth which could damage any component of the system.

(7) For all waste pile, a minimum distance of 20 inches between the top of the subbase and seasonal high groundwater table shall be maintained without the use of artificial or manmade groundwater drainage or dewatering systems. Soil mottling shall indicate the presence of a seasonal high groundwater table.

(8) All surface water run-off from active area of the permitted site shall be collected. It shall then be managed as a hazardous waste unless it has been determined not to be a hazardous waste. Necessary measures and structures shall be designed to hand water quantities based on 24-hour rainfall in inches to be expected once in 25 years. Supporting calculations shall be provided.

(9) The conveyance system and storage system for conveying and storing the leachate from the leachate and run-off collection system shall meet as a minimum the following design standards:

(i) The minimum storage capacity for leachate shall be 25,000 gallons per acre of the waste pile.

(ii) The minimum storage capacity for run-off shall be based on 24-hour four hour rainfall in inches expected once in 25 years per acre of the waste pile.

(iii) All such storage tanks or surface impoundments shall meet the applicable requirements of this section for tanks and surface impoundments.

(iv) The piping system conveying the leachate or run-off from the waste pile to the collection point (tank or surface impoundment) shall be sized for the anticipated leachate and run-off flow, chemically compatible with the leachate, of sufficient strength to withstand all anticipated loads, equipped with cleanouts where necessary or as required by the Department, and sealed to prevent loss of leachate.

(v) The liner collection pipe and the conveyance pipe shall be connected such that all leachate is directed into the conveyance pipe.

(10) Design of treatment facilities to receive the leachate and run-off from storage, if the facility is needed or required in writing by the Department, shall be submitted to the Department for written approval prior to issuance of a permit. The treatment facilities shall be constructed prior to the acceptance of any hazardous waste at the facility.

(11) The design flow rate for the treatment facility shall be a minimum of 15,000 gallons per day for each acre of active portion. The design standards for the treatment facilities shall meet the requirements of § 75.265(y) (relating to interim status for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities).

(12) The treatment facilities shall be compatible with and capable of treating the waste constitutents expected to be present in the leachate and run-off and the anticipated volumes of waste.

(13) Run-on shall be diverted away from the site, with all necessary measures and structures designed to handle water quantities based on the 24-hour rainfall in inches expected one in 100 years and supported by calculations.

(14) A collection and holding facility—such as a tank or basin—associated with run-on and run-off control systems shall be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(15) The best engineering construction practices shall be employed during construction.

(16) Quality control measures and tests shall be specified and employed to ensure that construction conforms to all design, materials, and construction specifications.

(17) A registered professional engineer shall certify in writing for each phase of installation or construction under penalty of law that he has personally examined the construction of the said phase and it is constructed and prepared in accordance with the documents, statements, designs, and plans submitted as part of the application as approved by the Department.

(18) During construction or installation, the liner system shall be inspected for uniformity, damage, and imperfections—such as, holes, cracks, thin spots, and foreign material—and manufactured liner materials—such as, membranes, sheets, and coatings—shall be inspected to ensure tight seams and joints and the absence of tears or blisters.

(19) A waste pile shall be designed, constructed, operated and maintained to control dispersal of the waste by wind or by water erosion.

(20) The Department may specify in writing control practices—such as cover or frequent wetting—when necessary—when necessary to ensure that wind dispersal of hazardous waste from a pile is controlled.

(21) While a waste pile is in operation, it is shall be inspected by the owner or operator weekly and after storms to detect evidence of the following.

(i) Deterioration, malfunctions, or improper operation of run-on and run-off control systems.

(ii) The presence of liquid in leak detection systems, where applicable.

(iii) Proper functioning of wind dispersal control systems, where present.

(iv) The presence of leachate in and proper functioning of the leachate collection and removal systems, where present.

(22) Whenever there is indication of a possible failure of the liner system, that system shall be inspected under the Waste Pile Evaluation and Repair (WPER) Plan required by paragraph (25).

(23) Whenever there is evidence of a failure of the liner system, including evidence of liquid in the detection system between the liners, deterioration, cracking, or other conditon identified that is causing or could cause a leak.

(i) The owner or operator shall notify the Department in writing within 7 days after detecting the failure.

(ii) For waste piles exempt from ground-water monitoring under paragraph (3), the Department may require that the waste pile shall comply with the ground-water monitoring requirements of subsection (n) within a specified time.

(24) If the waste pile is removed from service as required by paragraph (23), the owner or operator shall:

(i) Immediately stop adding wastes to the pile.

(ii) Immediately contain leakage which has or is occurring.

(iii) Immediately take measures which shall stop the leak.

(iv) If the leak cannot be stopped by other means, remove the waste from the liner.

(v) For waste piles with detection systems, remove accumulated liquid within a period of time or frequency specified by the Department.

(25) As part of the contingency plan required in subsection (i), the owner or operator shall specify:

(i) A procedure for complying with the requirements of paragraph (23).

(ii) A Waste Pile Evaluation and Repair (WPER) Plan describing testing and monitoring techniques; procedures to be followed to evaluate the integrity of the liner system if a failure is suspected; a schedule of actions to be taken in the event of a suspected failure; and a description of the repair techniques to be used in the event of leakage.

(26) No waste pile that has been removed from service in accordance with paragraph (23) may be restored to service unless:

(i) the liner system has been repaired; and

(ii) the liner system has been certified by a registered professional engineer as meeting the design specifications approved in the permit.

(27) A waste pile that has been removed from service in accordance with paragraph (23) and that is not being repaired shall be closed.

(28) Weighing or measuring facilities, if necessary or when required by the Department, shall be provided for weighing all hazardous wastes brought to the TSD facility, except for captive facilities that handle liquids or flowable wastes—less than 20% solids—which are amenable to accurate flow measurements, or captive facilities that possess other waste inventory controls—volume controls. All weighing facilities shall be capable of weighing the maximum anticipated load plus the weight of the transport vehicle. The precision of weighing devices shall be certified by the Pennsylvania Department of Agriculture.

(29) For off-site facilities or on-site facilities receiving waste from off-site sources, hours of operations for the site shall be prominently displayed on a sign at the entrance. The lettering shall be a minimum of four inches in height and of a color contrasting with its background.

(30) Access roads shall be paved or surfaced with such materials as asphalt or concrete or other materials approved in writing by the Department. Access roads shall be suitable for use in all types of weather by loaded transport vehicles and emergency vehicles and equipment. These roads shall have a base capable of withstanding anticipated load limits. The minimum cartway width for two-way traffic shall be 22 feet; for one-way traffic, separate roads with a minimum cartway width of 12 feet shall be provided; or if the HWM facility is a captive facility or a noncommercial off-site facility and the access is restricted to company personnel with minimal traffic volume, then the minimum cartway width for two-way traffic shall be 12 feet, provided the entire length of the roadway is visible to the driver or passing points are provided at appropriate intervals so as to not impede access. The maximum sustained grade shall not exceed 12%.

(31) Unless otherwise approved in writing by the Department, a buffer zone of a minimum of 50 feet shall be maintained between the property line and the permitted facility, within which no solid waste treatment, storage, or disposal activity shall occur.

(32) Surface water management measures on the site shall as a minimum be in conformance with the provisions of Chapter 102 (relating to Erosion Control). More stringent design standards may be required in writing by the Department based on the best engineering practices and methods outlined in "Engineering Field Manual for Conservation Practices" published by USDA-SCS.

(33) The site shall be designed and operated in a manner which prevents or minimizes surface water percolation into the hazardous waste deposits.

(34) At closure, all hazardous waste and hazardous waste residues, contaminated containment or liner sytem components, contaminated subsoils and structures and equipment contaminated with waste and leachate shall be removed and managed as a hazardous waste. A component of the waste pile containing or contaminated with hazardous waste or hazardous waste residues shall be decontaminated or removed. If, after removing or decontaminating all residues and making all reasonable efforts to affect removal or decontamination of contaminated components, subsoils, structures, and equipment, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, the owner shall close the facility and perform post-closure care under the closure and post-closure care requirements that apply to landfills—subsection (v).

(35) After removing all contaminated materials and liner during closure, the site shall be graded and revegetated as required in writing by the Department.

(36) At all times, the perimeter of the waste pile shall remain at least five feet from the outer edge of the liner.

(37) Ignitable or reactive waste shall not be placed in a pile, unless:

(i) The waste is treated, rendered, or mixed before one of the following occurs immediately after placement in the pile so that:

(A) The resulting wast, mixture, or dissolution of material no longer meeting the definition of ignitable or reactive waste under § 75.261 (relating to criteria, identification, and listing of hazardous waste).

(B) The operator complies with subsection (g)(2).

(ii) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

(38) Incompatible wastes, or incompatible wastes and materials — see Appendix IV of this section— shall not be placed in the same pile, unless subsection (g)(2) is complied with. A pile of hazardous waste that is incompatible with any waste or other material stored nearby in other containers, piles, open tanks, or a surface impoundment shall be separated or protected from the other materials by means of a dike, berm, wall, or other device.

(39) Hazardous waste shall not be piled on the same base where incompatible wastes or materials were previously piled, unless the base has been decontaminated sufficiently to ensure compliance with subsection (g)(2).

(40) Vector, odor, and/or noise control procedures shall be employed when necessary or when required in writing by the Department to prevent health hazards or nuisances. The applicant shall submit a Vector, Odor, and Noise Control (VONC) Plan for approval by the Department.

(41) Equipment provided for operation of the facility shall be maintained in operable condition, and of adequate capacity and performance capability to ensure that the facility operation will not be interrupted during normal working periods and that operation of the facility is in accordance with this subchapter.

(42) Standby equipment shall be on-site or readily available for use in the event of major equipment breakdown.

(43) Unloading areas shall be specified and shall permit vehicles to unload promptly.

(44) Provisions shall be made to prevent dust from hampering site operations or from causing health or safety hazards or nuisances.

(45) The site shall be operated so that the tracking of waste within and outside the site by equipment and machinery is eliminated or minimized.

(46) The Department shall specify or reference in the permit design and operating practices which the Department deems necessary to ensure that the requirements of this subsection are satisfied.

(u) *Land Treatment.*

(1) This subsection shall apply to owners and operators of hazardous waste land treatment facilities, except as otherwise provided in subsection (a).

(2) Hazardous waste shall be placed in or on a land treatment facility only if the waste constituents are amenable to land treatment, the waste can be degraded, transformed or immobilized within the treatment zone, and the waste will not cause adverse environmental or human health problems.

(3) The applicant shall submit for written Department approval a plan that, as a minimum, specifies the following:

(i) The wastes that are capable of being treated at the facility based on a demonstration under paragraph (7).

(ii) Design measures and operating practices necessary to maximize the success of degradation, transformation, and immobilization processes in the treatment zone under paragraph (9).

(iii) Run-on and run-off control measures meeting the requirement of paragraphs (10)-(14).

(iv) Unsaturated zone monitoring provisions meeting the requirements of paragraph (21).

(4) The applicant shall submit for written Department approval the waste constituents that shall be degraded, transformed, or immobilized under this subsection. The waste constituents identified in Appendix VIII of § 75.261 (relating to criteria, identification, and listing of hazardous waste) that are reasonably expected to be in, or derived from, waste placed in or on the treatment zone, and other waste constituents the Department deems necessary.

(5) The applicant shall submit for written Department approval the vertical and horizontal dimensions of the treatment zone. The treatment zone is the portion of the soil in the unsaturaed zone below and including the land surface in which the owner or operator intends to maintain the conditions necessary for effective degradation, transformation, or immobilization of waste constituents. The maximum depth of the treatment zone shall be:

(i) No more than 1.5 meters—5 feet—from the initial soil surface.

(ii) More than 1 meter—3 feet—above any seasonal high or permanent groundwater table. The presence of mottling shall be an indication of a seasonal high groundwater table.

(6) For each waste that will be applied to the treatment zone, the owner or operator shall determine, prior to application of the waste, whether the waste constituents can be completely degraded, transformed, or immobilized within the treatment zone.

(7) In making this determination, the owner or operator shall use field test, laboratory analyses, available data, or, in the case of existing facilities, operating data. If the owner or operator intends to conduct field tests or laboratory analyses in order to make the determination required under paragraph (6), the Department's permit shall be conditioned to allow the determination to be conducted for a limited area and for a limited period not to exceed 1 acre in size, and not to exceed 1 year in time, unless the Department agrees that a larger area and period is required to adequately make the determination. In no event will the Department approve an application for a permit unless the applicant demonstrates the financial ability to remove the waste, contaminated soils, materials, and equipment, and to clean-up contaminated surface water or ground water. If the owner or operator is successful in makng this determination to the Department's satisfaction, the facility will be allowed to operate according to the approved permit application or as subsequently modified by the Department. If the owner or operator is unsuccessful in making the determination to the Department's satisfaction, the area affected by this determination shall be closed in accordance with the facility's closure and post-closure plans, all permit conditions, and other Department requirements placed on the facility. The applicant shall submit for written Department approval the testing, analytical, design, and operating requirements—including the duration of the tests and analyses, and, in the case of field tests, the horizontal and vertical dimensions of the treatment zone, monitoring procedures, closure and clean-up activities—necessary to meet the requirements in paragraph (8).

(8) A field test or laboratory analysis conducted in order to make the determination under paragraph (6) shall:

(i) Accurately simulate the characteristics and operating conditions for the proposed land treatment facility including:

(A) The characteristics of the waste and waste constituents, including the presence of constituents listed in Appendix VIII, § 75.261 (relating to criteria, identification and listing of hazardous waste).

(B) The climate in the area.

(C) The topography of the surrounding area.

(D) The characteristics of the soil in the treatment zone, including depth.

(E) The operating practices to be used at the facility.

(ii) Be likely to show that the waste constituents in the waste to be tested will be completely degraded, transformed, or immobilized in the treatment zone of the proposed land treatment facility.

(iii) Be conducted in a manner that protects human health and the environment considering.

(A) The characteristics of the waste to be tested.

(B) The operating and monitoring measures taken during the course of the test.

(C) The duration of the test.

(D) The volume of waste used in the test.

(E) In the case of field tests, the potential for migration of waste constituents to ground water or surface water.

(9) The owner or operator shall design, construct, operate, and maintain the land treatment facility to maximize the degradation, transformation, and immobilization of waste constituents in the treatment zone. The owner or operator shall design, construct, operate and maintain the facility in accord with all design and operating conditions that were used in the treatment determination under paragraph (6). At a minimum, the following requirements shall be met for all hazardous waste land treatment facilities, unless otherwise approved in writing by the Department, and shall be specified in the plan as required by paragraph (3).

(i) The pH of the soil affected by the waste shall be maintained between 6.5 and 8.0 during the operating life of the facility and as required in the closure and post-closure plans approved by the Department or as otherwise specified by the Department. The method of pH control shall be described in detail.

(ii) The application rates shall be consistent, where applicable, with the Deparment's guidelines for *Sewage Septic Tank, and Holding Tank Waste Use on Agricultural Land.* Otherwise, the Department may approve application rates based on the determination made under paragraph (6) and other information required of the applicant by the Department or available in the literature or both. In no case shall the application rates for cadmium through December 31, 1986 exceed an annual application rate of one pound per acre (lb/acre), and beginning January 1, 1987 the annual application rate shall not exceed 0.45 lbs/acre. The cumulative lifetime maximim-loading for cadmium shall not exceed 3 lbs/acre. The method of waste application shall be described in detail.

(iii) Methods to enhance microbial or chemical reactions shall be described in detail.

(iv) Methods to control the moisture content of the treatment zone shall be described in detail.

(v) The hazardous waste shall be mixed into or turned under the soil surface within 24 hours of application, unless it is spray irrigated and the spray irrigated hazardous waste:

(A) Is used for top dressing.

(B) Has plant nutrient value.

(C) Is applied with proper spray irrigation equipment and through proper spray irrigation methods.

(D) Is to transported off-site by aerosol transport while being spray irrigated.

(vi) Hazardous waste shall be spread or sprayed in thin layers to prevent ponding and standing accumulations of liquids or sludges.

(vii) .Hazardous waste may not be applied when the ground is saturated, covered with snow, frozen, or during periods of rain.

(viii) Hazardous waste may not be applied in quantities which will result in vector or odor problems:

(ix) Hazardous waste shall only be applied to those soils which fall within the United State Department of Agriculture (USDA) textural classes of sandy loam, loam, sandy clay loam, silty clay loam, and silt loam.

(x) The soils shall have sola with a minimum depth of 20 inches and at least 40 inches of soil depth.

(xi) The site may not have closed depressions present.

(xii) The existing slopes on the site may not exceed 12%.

(xiii) The site may not be used as pasture land.

(xiv) Hazardous wastes may not be applied within:

(A) One hundred feet of intermittent or perennial streams.

(B) Three hundred feet of public or private water supplies.

(C) Twenty-five of bedrock outcrops.

(D) Fifty feet of property lines.

(E) One hundred feet from a sinkholes or a closed depression.

(10) The owner or operator shall design, construct, operate, and maintain a run-on control system capable of preventing flow onto the treatment zone during peak discharge from at least a 25-year storm. The design and operation of this run-on control system shall comply with Chapter 102 (relating to erosion control), and shall comply with all other applicable State and Federal statutes.

(11) The owner or operator shall design, construct, operate, and maintain the treatment zone to minimize run-off of waste constituents during the active life of the land treatment facility.

(12) The owner or operator shall design, construct, operate, and maintain a run-off management system to collect at least the water volume resulting from a 24-hour, 25-year storm.

(15) The design and operation of the run-off control system shall be based on requirements specified in Chapter 102 (relating to erosion control), and shall comply with other applicable State and Federal statutes. The design and operation of this system shall reflect a consideration of:

(i) The volume of contaminated run-off produced at the facility.

(ii) The capacity of any run-off collection device at the facility.

(iii) Climatic conditions in the area.

(iv) The quality of the run-off produced and the available options for managing any contaminated run-off from the facility.

(v) The physical and chemical characteristics of the waste in the facility.

(14) Collection and holding facilities, such as tanks or basins, associated with run-on and run-off control systems shall be emptied or otherwise managed expeditiously after storms to maintain the design capacity of the system.

(15) If the treatment zone contains particulate matter which may be subject to wind dispersal, the owner or operator shall manage the facility to control wind dispersal.

(16) The owner or operator shall inspect the facility weekly and after storms to detect evidence of:

(i) Deterioration, malfunctions, or improper operation of run-on and run-off control systems.

(ii) Improper functioning of wind dispersal control measures.

(17) Tobacco and crops intended for direct human consumption may not be grown on hazardous waste land treatment facilities.

(18) Food chain crops may not be grown on a hazardous waste land treatment facility unless the owner or operator can verify, based on testing, that arsenic, lead, mercury, cadmium, or other waste constituents present:

(i) Will not present a substantial risk to human health caused by the growth of the crops in or on the treatment zone by determining, prior to the planting of crops, that waste constituents will not do one of the following:

(A) Be transferred to the food or feed portions of the crop by plant uptake or direct contact, and will not otherwise be ingested by food-chain animals, such as by grazing.

(B) Occur in greater concentrations in or on the food or feed portions of crops grown on the treatment zone than in or on identical portions of the same crops grown on untreated soils under similar conditions in the same region.

(ii) The owner or operator shall make the determination required under this paragraph prior to the planting of crops at the facility for all constituents identified in Appendix VIII of § 75.261 (relating to criteria, identification and listing of hazardous waste) and other waste constituents the Department deems necessary and that are reasonably expected to be in, or derived from, waste placed in or on the treatment zone.

(iii) In making a determination under this paragraph, the owner or operator may use field tests, greenhouse studies, available data, or, in the case of existing facilities, operating data, and shall:

(A) Base the determination on conditions similar to those present in the treatment zone, including soil characteristics, such as pH, cation exchange capacity, specific waste, application rates, application methods, and crops to be grown.

(B) Include plant tissue analysis, soil profile descriptions from test pits dug in representative areas of all soil series mapped on the facility by the United States Department of Agriculture Soil Conservation Service or a qualified soil scientist, soil chemical analysis, sample selection criteria, sample size determination, analytical methods, and statistical procedures.

(C) Describe the procedures used in conducting test, including the sample selection criteria, sample size, analytical methods, and statistical procedures.

(iv) If the owner or operator intends to conduct field tests or greenhouse studies in order to make the determination required under this paragraph, the Department's permit will be conditioned to allow the determination to be conducted for a limited area and for a limited period not to exceed 1 acre in size, and not to exceed 1 year in time, unless the Department agrees that a larger area or period is required to adequately make the determination. In no event, will the Department approve an application for a permit, unless the applicant demonstrated the financial ability to remove the waste, contaminated soils, materials and equipment, and to clean up contaminated surface water or ground water. If the owner or operator is successful in making this demonstration to the Department's satisfaction, the facility will be allowed to operate as per the approved permit application or as subsequently modified by the Department. If the owner or operator is unsuccessful in making the determination to the Department's satisfaction, the area affected by this determination shall be closed in accordance with the facility's closure and post-closure plans, all permit conditions, and other Department requirements placed on the facility.

(19) The owner or operator of a hazardous waste land treatment facility who intends to grow food chain crops shall comply with the following additional requirements:

(i) Animal feed shall be the only food-chain crop produced.

(ii) An operating plan shall be submitted for written Department approval which describes how the animal feed will be distributed to preclude ingestion by humans. The operating plan shall describe the measures to be taken to safeguard against possible health hazards from waste constituents entering the food chain, which may result from alternative land uses.

(20) The applicant shall submit a detailed plan for crop management through and including the post-closure care period. The plan shall include a schedule and sequence for planting, crop rotation, harvesting, and ultimate disposition of crops. Harvested crops and harvested crops residues not intended for use in the food chain shall be managed as hazardous waste subject to this title and Federal law, unless otherwise approved in writing by the Department.

(21) The applicant, in addition to requirements listed in subsection (n) shall submit for written Department approval an Unsaturated Zone Monitoring Plan, In this plan, the applicant shall provide for:

(i) Monitoring the soil and soil-pore liquid to determine whether waste constituents migrate out of the treatment zone.

(A) The applicant shall submit for written Department approval the waste constituents to be monitored. The waste constituents to be monitored are those specified in paragraph (4).

(B) The Department may require monitoring for principal waste constituent (PWC's) in lieu of the constituents specified in paragraph (4). PWC's are waste constituents contained in the wastes to be applied at the facility that are the most difficult to treat, considering the combined effects of degradation, transformation, and immobilization. The Department will establish PWC's if it finds, based on waste analyses, treatment determinations, or other data, that effective degradation, transformation, or immobilization of the PWC's will assure treatment to at least equivalent levels of the other waste constituents in the wastes.

(ii) Installing an unsaturated zone monitoring system that includes soil monitoring using soil cores and soil-pore liquid monitoring using devices such as lysimeters. The unsaturated zone monitoring system shall consist of a sufficient number of sampling points at appropriate locations and depths to yield samples that:

(A) Represent the quality of background soil-pore liquid and the chemical make-up of soil that has not been affected by leakage from the treatment zone.

(B) Indicate the quality of soil-pore liquid and the chemical make-up of the soil below the treatment zone.

(iii) Establishing a background value for each waste constituent to be monitored under this paragraph. The applicant shall submit for written Department approval the background values for each constituent or specify the procedures to be used to calculated the background values.

(A) Background soil values may be based on a one-time sampling at an on-site background plot having characteristics similar to those of the treatment zone.

(B) Background soil-pore liquid values shall be based on at least quarterly sampling for 1 year at an on-site background plot having characteristics similar to those of the treatment zone.

(C) The owner or operator shall express all background values in a form necessary for the determination of statistically significant increases as set forth in paragraph (21)(vi).

(D) In taking samples used in the determination of all background values, the owner or operator shall use an unsaturated zone monitoring system that complies with paragraph (21)(ii)(A).

(iv) Conducting soil monitoring and soil-pore liquid monitoring immediately below the treatment zone. The applicant shall submit or written Department approval the frequency and timing of soil and soil-pore liquid monitoring and the reporting of the data to the Department after considering the frequency, timing, and rate of waste application, and the soil permeability. The owner or operator shall express the results of soil and soil-pore liquid monitoring in a form necessary for the determination of statistically significant increases as set forth in paragraph (21)(vi).

(v) Using consistent sampling and analysis procedures that are designated to ensure sampling results that provide a reliable indication of soil-pore liquid quality and the chemical make-up of the soil below the treatment zone. At a minimum, the owner or operator shall implement procedures and techniques for:

(A) Sample collection.

(B) Sample preservation and shipment.

(C) Analytical procedures.

(D) Chain of custody control.

(vi) Determining whether there is a statistically significant change over background values for any waste constituent to be monitored under paragraph (21)(i) below the treatment zone each time he conducts soil monitoring and soil-pore liquid monitoring under paragraph (21)(iv).

(A) In determining whether a statistically significant increase has occurred, the owner or operator shall compare the value of each constituent, as determined under paragraph (21)(iv), to the background value for the constituent according to the statistical procedure approved in writing by the Department under this paragraph.

(B) The owner or operator shall, within a reasonable period of time after completion of sampling, detrmine whether there has been a statistically significant increse below the treatment zone. The time period shall be based on a consideration of the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of soil and soil-pore liquid samples, and will be approved in writing by the Department.

(C) The owner or operator shall determine whether there is a statistically significant increase below the treatment zone using a statistical procedure that provides reasonable confidence that migration from the treatment zone will be identified. The statistical procedure shall meet Departmental approval and it shall:

(I) Be appropriate for the distribution of the data used to establish background values.

(II) Provide a reasonable balance between the probability of falsely identifying migration from the treatment zone, and the probability of failing to identify real migration from the treatment zone.

(vii) Notifying the Department in writing within 7 days after the owner or operator determines, under paragraph (21)(vi), that there is a statistically significant increase of waste constituents below the treatment zone. The notification shall include the chemical analyses used, and shall specify which constituents have shown statistically significant increases. Following the notification, and dependent on the results of the analyses, the Department may require cleanup, closure, or both. The owner or operator shall submit to the Department, within 90 days of determining a significant increase, an application for a permit modification to modify the operating practices at the facility in order to maximize the success of degradation, transformation, or immobilization processes in the treatment zone.

(viii) Demonstrating, if desired by the owner or operator, in the determination made under paragraph (21)(vi) that a source other than facility caused the increase or that the increase resulted from error in sampling, analysis, or evaluation. In making a demonstration under this subparagraph the owner or operator shall:

(A) Notify the Department in writing within 7 days of determining a statistically significant increase below the treatment zone that he intends to make a demonstration.

(B) Within 90 days of determining a significant increase occurred, submit a report to the Department demonstrating whether or not a source other than the facility caused the increase or whether the increase resulted from error in sampling, analysis or evaluation.

(C) Within 90 days of determining a significant increase occurred, submit to the Department an application for a permit modification to make appropriate changes to the unsaturated zone monitoring program at the facility. The permit modification shall be submitted only if a source other than the facility caused the increase or if the increase resulted from error in sampling, analysis or evaluation. If the Department does not concur with the results of the report submitted under paragraph (21)(viii)(B) the Department may require facility cleanup, closure or both under paragraph (21)(vii).

(D) Continue to monitor in accordance with the unsaturated zone monitoring program established under this subsection.

(22) The owner or operator shall retain the Unsaturated Zone Monitoring Plan at the facility.

(23) The owner or operator of a land treatment facility shall maintain records of the application dates, application rates, quantities, and location of each hazardous waste placed in the facility. This information shall be part of the operating record required in subsection (k).

(24) In addition to the closure care requirements of subsection (o), the owner or operator shall, during the closure period:

(i) Continue all operations including—pH control—necessary to maximize degradation transformation or immobilization of waste constituents within the treatment zone as required by paragraph (9), except to the extent the measure are inconsistent with paragraph (24)(viii).

(ii) Continue all operations in the treatment zone to minimize run-off of waste constituents as required by paragraph (11).

(iii) Maintain the run-on control system required by paragraph (10).

(iv) Maintain the run-off management system required by paragraph (12) and (13).

(v) Control wind dispersal of hazardous waste if required under paragraph (15).

(vi) Continue to comply with prohibitions or conditions concerning growth of food-chain crops under paragraph (18) and (19).

(vii) Continue unsaturated zone monitoring in compliance with paragraph (21), except that soil-pore liquid monitoring may be terminated 90 days after the last application of waste to the treatment zone if approved in writing by the Department.

(viii) Establish a vegetative cover on the portion of the facility being closed at such time that the cover will not substantially impede degradation, transformation, or immobilization of waste constituents in the treatment zone. The vegetative cover shall be capable of maintaining growth without extensive maintenance.

(25) In addition to the post-closure care requirements of subsection (o), the owner or operator shall durng the post-closure period:

(i) Continue all operations including pH control necessary to enhance degradation and transformation, and sustain immobilization of waste constituents in the treatment zone to the extent that the measures are consistent with other post-closure care activities

(ii) Maintain a vegetative cover over closed portions of the facility.

(iii) Maintain the run-on control system required by paragraph (10).

(iv) Maintain the run-off management system required by paragraph (12) and (13).

(v) Control wind dispersal of waste constituents if required by paragraph (15).

(vi) Continue to comply with prohibitions or conditions concerning growth of food-chain crops under paragraph (18) and (19).

(vii) Continue unsaturated zone monitoring in compliance with paragraph (21), except that soil-pore liquid monitoring may be terminated 90 days after the last application of waste to the treatment zone if approved in writing by the Department.

(26) The owner or operator is not subject to paragraphs (24)(viii) and (25) if the Department finds that the level of waste constituents in the treatment zone does not exceed the background value of those constituents by an amount that is statistically significant when using the test specified in paragraph (26)(iii). The owner or operator may submit the results of the analysis made under paragraph (26)(iii) to the Department at any time during the closure or post-closure care periods. For the purposes of this paragraph:

(i) The owner or operator shall establish background soil values and determine whether there is a statistically significant increase over those values for all waste constituents specified in paragraph (4).

(A) Background soil values may be based on a one-time sampling of an on-site background plot having characteristics similar to those of the treatment zone.

(B) The owner or operator shall express background values and values for waste constituents in the treatment zone in a form necessary for the determination of statistically significant increases under paragraph (26)(iii).

(ii) In taking soil samples used in the determination of background and treatment zone values, the owner or operator shall take samples at a sufficient number of sampling points and at appropriate locations and depths to yield samples that represent the chemical make-up of soil that has not been affected by leakage from the treatment zone and the soil within the treatment zone, respectively.

(iii) In determining whether a statistically significant increase has occurred, the owner or operator shall compare the value of each constituent in the treatment zone to the background value for the constituent using a statistical procedure that provides reasonable confidence that the constituent's presence in the treatment zone will be identified. The owner or operator shall use a statistical procedure that:

(A) Is appropriate for the distribution of the data used to establish background values.

(B) Provides a reasonable balance between the probability of falsely identifying a waste constituent's presence in the treatment zone and the probability of failing to identify real presence in the treatment zone.

(27) The owner or operator may not be subject to subsection (n) if he is in compliance with that subsection and if the Department finds that the owner or operator complies with paragraph (26) and if unsaturated zone monitoring under paragraph (21) indicates that waste constituents have not migrated beyond the treatment zone.

(28) The owner or operator may not apply ignitable or reactive waste to the treatment zone unless one of the following occurs:

(i) The waste is immediately incorporated into the soil so that:

(A) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under § 75.261(g) (relating to criteria, identification and listing of hazardous waste).

(B) Subsection (g)(2) is complied with.

(ii) The waste is managed so it is protected from material or conditions which may cause it to ignite or react.

(29) The owner or operator may not place incompatible wastes, or incompatible wastes and materials—see Appendix IV of this section for examples—in or on the same treatment zone, unless subsection (g)(2) is complied with.

(30) Equipment provided for operation of the land treatment facility shall be maintained in operable condition, and be of adequate capacity and performance capability to ensure that the facility operation will not be interrupted during normal working periods and that the operation of the facility is in accordance with this section.

(31) Standby equipment shall be on-site or readily available for use in the event of major equipment breakdown.

(32) Unloading areas shall be specified and restricted to the proximity of the working face and and shall permit collection vehicles to unload promptly.

(33) An attendant shall direct vehicles to the unloading area or clearly marked signs shall be located prominently to direct vehicles to the unloading area.

(34) The facility shall be operated so that the tracking of waste within and outside the site by equipment and machinery is eliminated or minimized.

(35) Provisions shall be made to prevent dust from hampering facility operations or from causing health or safety hazards or nuisances.

(36) Access roads shall be paved or surfaced with materials such as asphalt or concrete or other materials approved in writing by the Department. Access roads shall be suitable for use in all types of weather by loaded transport vehicles and emergency vehicles and equipment. These roads shall have a base capable of withstanding anticipated load limits. The minimum cartway width for two-way traffic shall be 22 feet. For one-way traffic, separate roads with a minimum cartway width of 12 feet shall be provided. If the HWM facility is a captive facility or a noncommercial off-site facility and the access is restricted to company personnel with minimal traffic volume, then the minimum cart-away width for two-way traffic shall be 12 feet, if the entire length of the roadway is visible to the driver or passing points are provided at appropriate intervals so as to not impede access. The maximum sustained graded may not exceed 12%.

(37) Weighing or measuring facilities if necessary, or when required by the Department, shall be provided for weighing all hazardous wastes brought to the TSD facility, except for captive facilities that handle liquids or flowable wastes—less than 20% solids—which are amenable to accumrate flow measurements, or captive facilities that possess other waste inventory controls—volume controls. Weighting facilities shall be capable of weighing the maximum anticipated load plus the weight of the transport vehicle. The precision of weighing devices shall be certified by the Department of Agriculture.

(38) For off-site facilities or on-site facilities receiving waste from off-site sources, hours of operation for the site shall be prominently displayed on a sign at the entrance. The lettering shall be a minimum of 4 inches in height and of a color contrasting with its background.

(39) Vector, odor, and noise control procedures, shall be employed when necessary, or, when required by the Department, to prevent health hazards or nuisances. The applicant shall submit a Vector, Odor, and Noise Control (VONC) Plan for approval by the Department.

(40) Future property owners shall be notified by a stipulation in the land records and property deed which states that the property has received hazardous waste and that food chain crops may not be grown due to a possible health hazard, unless otherwise approved in writing by the Department.

(v) *Landfills.*

(1) This subsection applies to owners and operators of new hazardous waste landfills and existing hazardous waste landfills having interim status and applying for permit under § 75.265, (relating to interim status standards for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities), except as otherwise provided in subsection (a). A waste pile used as a disposal facility is a landfill and shall meet the requirements of this section.

management of hazardous waste disposal in landfills.

(3) The following are the minimum general design standards required:

(i) Access roads shall be paved or surfaced with such materials as asphalt or concrete or other materials approved in writing by the Department. Access roads shall be suitable for use in all types of weather by loaded transport vehicles and emergency vehicles and equipment. These roads shall have a base capable of withstanding anticipated load limits. The minimum cartway width for two-way traffic shall be 22 feet; for one-way traffic, separate roads with a minimum cartway width of 12 feet shall be provided; or if the HWM facility is a captive facility or a non-commercial off-site facility and the access is restricted to company personnel with minimal traffic volume, then the minimum cartway width for two-way traffic shall be 12 feet, provided the entire length of the roadway is visible to the driver or passing points are provided at appropriate intervals so as to not impede access. The maximum sustained grade shall not exceed 12%.

(ii) Weighing or measuring facilities, if necessary or when required by the Department, shall be provided for weighing all hazardous wastes brought to the TSD facility, except for captive facilities that handle liquids or flowable wastes—less than 20% solids—which are amenable to accurate flow measurements, or captive facilities that possess other waste inventory controls (volume controls). All weighing facilities shall be capable of weighing the maximum anticipated load plus the weight of the transport vehicle. The precision of weighing devices shall be certified by the Pennsylvania Department of Agriculture.

(iii) For off-site facilities or on-site facilities receiving waste from off-site sources, hours of operations for the site shall be prominently displayed on a sign at the entrance. The lettering shall be a minimum of four inches in height and of a color contrasting with its background.

(iv) A minimum buffer zone of 50 feet shall be maintained between the property line and the permitted facility within which no solid waste treatment, storage, or disposal activity shall occur. No building or structure shall be constructed or placed within 25 feet of the disposal area unless the structures or buildings are necessary to conduct the monitoring and testing requirements of this subchapter and are approved in writing by the Department. In addition, no placement of waste shall be made within three feet of the effective edge of the liner.

(v) Final surface grades of the fill area shall provide a slope of not less than 2.0% but not exceeding 15%, except as otherwise approved by the Department.

(vi) Where final grades approved in writing by the Department exceed 15%, but in no case exceeding 25%, a horizontal terrace ten feet minimum in width shall be constructed on the slope for every 20 feet maximum in vertical rise of the slope. The gradient of the terrace shall be 1.0% toward the center of the landfill to eliminate overflow of the run-off onto the next terrace. The terrace shall be graded with a minimum 3.0% slope to remove any run-off to the sedimentation pond. The side slope of the terrace shall be a maximum 28.5% or the angle of repose of the landfilled waste, whichever is less. This shall be supported with testing and/or calculations.

(vii) Surface water management measures on the site shall at a minimum be in conformance with the provisions of Chapter 102, (relating to erosion control). More stringent design standards may be required by the Department based on the best engineering practices and methods outlined in "Engineering Field Manual for Conservation Practices" published by USDA-SCS.

(viii) All surface water run-off from active areas of the site shall be collected. It shall then be managed as a hazardous waste unless it has been determined not to be a hazardous waste. Necessary measures and structures shall be designed to handle water quantities based on the 24-hour rainfall in inches to be expected once in 25-years. Supporting calculations shall be provided.

(ix) Run-on shall be diverted away from the site, with all the necessary measures and structures designed to handle water quantities based on the 24-hour rainfall in inches, expected once in 100 years, and be supported by calculations.

(x) Daily and intermediate cover, when and if required in writing by the Department, shall be soils that fall within the United States Department of Agriculture (USDA) textural classes sandy loam, loam, sandy clay loam, silty clay loam, and silt loam. All other cover materials shall be approved by the Department. The coarse fragment content (fragments not passing the No. 10 mesh sieve, 2mm.) shall not exceed 50% by volume and the combustible and/or coal content shall not exceed 12% by volume. Boulders and stones as classified by USDA shall be excluded from soils to be used for any type of cover material. The source and volumes of daily and intermediate cover necessary and available shall be specified and supported by calculations.

(xi) Daily cover, when and if required by the Department, shall be a minimum uniform six-inch compacted layer and intermediate cover shall be a minimum uniform 12-inch graded and compacted layer.

(xii) Gas venting systems and gas monitoring systems shall be installed at all sites when necessary or when required by the Department. Gas venting may be accomplished by construction of either lateral and/or vertical venting. The maximum center to center spacing between the lateral lines or vertical trenches shall be 100 feet. Pipe vents located within 100 feet of any building, mechanical structure, or roadway shall be constructed so as to discharge above the roof line of said building or mechanical structure and a minimum of 12 feet above the roadway surface. A forced gas venting system shall be installed when and if required in writing by the Department. Appropriate safety measures shall be included in the design and installation of any gas venting, collection, storage, or processing system.

(xiii) Landfilled waste shall be capable of withstanding anticipated static and dynamic loadings with a minimum factor of safety of 1.5.

(xiv) Hazardous waste disposed of in a landfill during its active life shall be underlain by a liner system and completely enclosed by a liner and cap system at closure. The liner shall be installed to cover all surrounding earth likely to be in contact with the waste or leachate. The landfill liner and cap system shall be constructed or materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients, including static head and external hydrogeologic forces, physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation and the stress of daily installation and the stress of daily operations. The landfill liner and cap system shall also be designed and constructed with the following components, starting from the bottom of the system:

(A) A subbase, a prepared six-inch thick layer of the ground upon which the liner system is constructed. The subbase shall be capable of supporting the expected static and dynamic loadings with a minimum factor of safety of 1.5. The subbase shall be compacted to 95% of the standard Proctor density. The subbase shall prevent damage to the bottom liner, be true to cross section, and uniform. The subbase shall have a surface which is smooth and free of all debris, plant materials, or other foreign materials. The minimum slope for all subbase surfaces including side slopes shall be 2.0%, and the maximum slope shall be (20%). Any subbase slopes greater than 20% shall be only as approved in writing by the Department.

(B) A bottom liner—secondary liner—meeting the requirements specified in Appendix V, Table 3 of this section, and capable of detecting and diverting any leachate that may bypass or leak through the primary liner. The secondary liner shall be constructed so as to divert all leachate or waste to a collection sump or point where it can be collected for proper treatment, storage, or disposal with sufficient frequency to prevent backup into the flow zone. The slope requirements shall conform to the slope of the subbase.

(C) A flow zone—leachate detection zone—between the secondary and primary liners capable of allowing free flow of liquids and providing a stable, uniform, smooth layer, free of all debris, plant materials, or other foreign material, and which will prevent damage to either the primary or secondary liners. The maximum particle size for the flow zone material shall be 0.25 inches and the permeability of the flow zone shall be greater than 1×10^{-4} cm/sec. The flow zone shall be a minimum one foot thick under the entire primary liner. A perforated piping system shall be installed within the flow zone which is capable of intercepting the liquids or leachate within the zone and transmitting them to

a collection sump or point, and capable of withstanding all anticipated loads. The piping system design and pipe grade, size, and spacing shall ensure that all liquids will exit the landfill in less than six months. This shall be supported by calculations and drawings. A positive projecting installation design of the piping system shall be used unless otherwise approved in writing by the Department. Stones or aggregate surrounding the pipes shall be large enough to prevent clogging of the pipe and fine enough to prevent damage to the liners. Any other method of preventing the pipes from clogging shall meet the approval of the Department.

(D) A top liner—primary—which meets the requirements specified in Appendix V, Table 3 of this section. Liners shall be constructed of materials that prevent wastes from migrating into the liner during the active life of the facility and shall be capable of diverting to a collection sump or point, all liquids or leachate passing through or generated within the hazardous waste, where it can be collected for proper treatment, storage, or disposal with sufficient frequency to prevent backup into the landfill.

(E) A protective cover zone/leachate collection zone, a minimum of 1 foot thick, capable of protecting the primary liner from the hazardous waste and capable of allowing free flow of all liquids and leachate passing through or generated within the hazardous waste. The protective cover shall be stable, uniform, smooth, free of debris, plant material, or other foreign material and shall be constructed of materials that are chemically resistant to the waste managed in the landfill and the leachate expected to be generated. The permeability of this zone shall be greater than 1×10^{-4} cm/sec and the maximum particle size shall be 0.25 inches. A perforated piping system shall be installed within the protective cover which is capable of intercepting the liquids and leachate within the protective cover zone and transmitting them to a collection sump or point, and capable of withstanding all anticipated loads. The piping system design and the pipe spacing, grade, and size shall insure that all liquids and leachate drain through the protective cover at a rate twice the maximum expected rate of infiltration through the waste above. This shall be supported with calculations and drawings. A positive projecting installation design of the piping system shall be used, unless otherwise approved in writing by the Department. Stones or aggregate surrounding the pipes shall be large enough to prevent clogging of the pipe and fine enough to prevent damage to the liner. Further measures to prevent clogging or damage to the pipe and additional measures to prevent damage to the liner shall be installed if required by the Department.

(F) A cap which is capable of preventing the infiltration of liquid into closed portions of the landfill. The cap shall have a permeability less than or equal to the permeability of the primary liner. The cap shall meet the minimum requirements specified in Appendix V, Table 3 of this section. It shall be placed on a stable 1 foot thick layer of intermediate cover material which has been compacted and graded to prevent damage to the cap. This requirement may be altered or waived if it is determined by the Department that capping is not necessary.

(xv) For all landfills, a minimum distance of four feet shall be maintained between the top of the subbase and any seasonal high water table without the use of any artificial or manmade groundwater drainage or dewatering systems. Soil mottling shall indicate the presence of a seasonal high groundwater table. The distance between the top of the subbase and the ground water table shall be a minimum of eight feet.

(xvi) The outer perimeter of all liners, caps and liner and cover systems shall be well protected and well marked through all stages of construction, closure, and final closure.

(xvii) All new hazardous waste landfill disposal areas shall be designed to preclude any leachate from existing landfill disposal areas not meeting the requirements of this section from entering into the lined landfill disposal areas that are permitted as new facilities.

(xviii) The conveyance system and storage system for the leachate from the leachate collection zone and run-off shall meet as a minimum the following design standards:

(A) The minimum storage capacity for leachate shall be 25,000 gallons per acre of active portions of the landfill plus an additional 1000 gallons per acre of closed landfill portions.

(B) The minimum storage capacity for run-off shall be based on the 24-hour rainfall in inches expected once in 25 years per acre of active portions of the landfill.

(C) All such storage tanks or surface impoundments shall meet the applicable requirements of this section for tanks and surface impoundments.

(D) The piping system conveying the leachate or run-off from the landfill to the collection point—tank or surface impoundment—shall be: sized to convey the leachate flow as calculated in subparagraph (xiv), chemically compatible with the leachate, of sufficient strength to withstand all anticipated loads, equipped with cleanouts where necessary or as required in writing by the Department, and sealed to prevent any loss of leachate.

(E) The liner collection pipe and the conveyance pipe shall be connected such that all leachate is directed into the conveyance pipe.

(xix) Leachate detection zone tanks shall be a minimum of 100 gallons in capacity and connected to the leachate detection zone by means of a piping system. The piping system conveying the detected leachate shall be sized to convey the leachate flow as calculated in subparagraph (xiv), chemically compatible, of sufficient strength to withstand all anticipated loads, sealed to prevent any loss of leachate, and designed to intercept and convey all the leachate detected.

(xx) Best engineering construction practices shall be employed for all phases of construction.

(xxi) Quality control measures and tests shall be specified and employed to ensure that construction conforms to all design materials and construction specifications. In addition during and after construction or installation, liner systems and cover systems shall be inspected for uniformity, damage, and imperfections such as holes, cracks, thin spots, and foreign materials. Earth material liner systems shall be inspected for imperfections including lenses, cracks, channels, root holes, or other structural nonuniformities and shall be tested for compaction density, moisture content, and permeability after placement. Manufactured liner materials shall be inspected to ensure tight seams and joints and the absence of tears or blisters.

(xxii) A registered professional engineer shall certify in writing, for each phase of construction, under penalty of law, that he has personally examined the construction of the said phase and it is constructed and prepared in accordance with the documents, statements, designs, and plans submitted as part of the application as approved by the Department.

(xxiii) Design of treatment facilities to receive the leachate and run-off from storage, if such facilities are needed or are required in writing by the Department, shall be submitted to the Department for written approval prior to issuance of a permit. The treatment facilities shall be constructed prior to the acceptance of any hazardous waste at the landfill.

(xxiv) The design flow rate for the treatment facility shall be a minimum of 15,000 gallons per day for each acre of active area. The design standards for the treatment facilities shall meet the requirements of § 75.265 (y).

(xxv) The treatment facilities shall be compatible with and capable of treating the waste constituents expected to be present in the leachate and run-off and the anticipated volumes of waste.

(xxvi) Closure of a landfill shall conform to subsection (o) and the following specific requirements:

(A) A final layer of cover material compacted to a minimum uniform depth of two feet shall be placed over the entire surface of the landfill. The final cover shall be soils that fall within the United States Department of Agriculture (USDA) textural

classes of sandy loam, loam, sandy clay loam, silty clay loam, and silt loam. All other final cover materials shall be approved in writing by the Department. The soil shall compact well, not crack excessively when dry, and support a vegetative cover. The coarse fragment content (fragments not passing the No. 10 mesh sieve, 2mm.) shall not exceed 50% by volume, and the combustible and/or coal content shall not exceed 12% by volume. Boulders and stones as classified by USDA shall be excluded from soils used for any type of cover material. The source and volume of final cover necessary and available shall be specified and supported by calculations.

(B) The final cover layer shall be completed within 30 days after disposing of the final volume of hazardous waste, or as otherwise approved in writing by the Department. Completion shall include permanent stabilization of all slopes.

(C) Completed portions of the landfill shall be graded as specified in this subsection within two weeks of completion.

(D) Seedbed preparation and planting operations to promote stabilization of the final soil cover shall be done as soon as weather permits and seasonal conditions are suitable for the establishment of the type of vegetation to be used. Reseeding and maintenance of cover material shall be mandatory until adequate vegetative cover is established to prevent erosion. Applicable revegetation procedures as published in PennDOT Form 408 or the current "Agronomy Guide" of The College of Agriculture, Pennsylvania State University, may be utilized.

(E) The cover system in conjunction with the cap shall also:

(I) Minimize the migration of liquids for the life of the facility through the closed landfill.

(II) Function with minimum maintenance.

(III) Promote drainage and minimize erosion or abrasion of the cover.

(IV) Accommodate settling and subsidence of the landfill so that the cover's integrity is maintained.

(F) After final closure, the owner or operator shall comply with all post-closure requirements contained in subsection (o), including maintenance and monitoring, throughout the post-closure care period. The owner or operator shall also:

(I) Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events.

(II) Maintain and monitor the leachate detection zone as required by permit or regulation.

(III) Continue to operate the leachate collection and removal system until leachate is no longer detected.

(IV) Maintain and monitor the ground-water monitoring system and comply with all other applicable requirements of subsection (n).

(V) Prevent run-on and run-off from eroding or otherwise damaging the final cover.

(VI) Protect and maintain all permanent surveyed benchmarks.

(G) During the post-closure care period, if liquid leaks into a leachate detection zone, the owner or operator shall notify the Department of the leak in writing within 7 days after detecting the leak.

(xxvii) Collection and holding facilities associated with run-on and run-off control systems shall be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(4) The following are the minimum general operating standards required:

(i) Landfill contents subject to dispersal by wind shall be covered or otherwise managed at the landfill so that wind dispersal of the hazardous waste and all other solid waste is controlled.

(ii) Incompatible wastes, or incompatible wastes and materials—see Appendix IV of this section —may not be placed in the same landfill unless paragraph (g)(2) is complied with and written approval from the Department is obtained. Incompatible wastes may not be mixed together in a landfill unless approved in writing by the Department.

(iii) Ignitable or reactive waste may not be placed in a landfill unless the waste is treated, rendered, or mixed before or immediately after placement in a landfill so that the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under §75.261(g) (relating to criteria, identification and listing of hazardous waste).

(iv) No hazardous waste shall be codisposed with municipal waste unless approved by the Department.

(v) Liquid waste and waste containing free liquids shall not be placed in a landfill. Any hazardous waste to be disposed of in a landfill shall have greater than 20% solids content by dry weight and shall not be flowable. Flowable refers to flow in the sense of pourable as a liquid.

(vi) An empty container shall be crushed flat, shredded, or similarly reduced in volume; otherwise, the container shall be at least 90% full before it is buried in the landfill.

(vii) Vector, odor, or noise control procedures shall be employed when necessary or when required by the Department to prevent health hazards and nuisances. The applicant shall submit a Vector, Odor, and Noise Control (VONC) Plan for the written approval by the Department.

(viii) The site shall be designed and operated in a manner which prevents or minimizes surface water percolation into the hazardous waste deposits.

(ix) Equipment provided for operation of the HWM landfill shall be maintained in operable condition and be of adequate capacity and performance capability to ensure that the facility operation will not be interrupted during normal working periods and that operation of the facility is in accordance with these regulations.

(x) All solid waste shall be spread and compacted in shallow layers, not exceeding a depth of two feet, unless otherwise approved in writing by the Department. Compacting of the solid waste shall be accomplished by repeated passages of landfill equipment.

(xi) Standby equipment shall be on-site or readily available for use in the event of major equipment breakdown.

(xii) Unloading areas shall be specified and restricted to the proximity of the working face and shall permit collection vehicles to unload promptly.

(xiii) An attendant shall direct vehicles to the unloading area or clearly marked signs shall be located prominently to direct vehicles to the unloading area, unless otherwise approved in writing by the Department.

(xiv) Burning of solid waste is prohibited at a hazardous waste landfill.

(xv) Provisions shall be made to prevent dust from hampering landfill operations or from causing health or safety hazards and nuisances.

(xvi) Portable litter control fences constructed of wire mesh, snow-fencing or other suitable material, when necessary or when required in writing by the Department, shall be located in the immediate operating area, approximately 50 to 75 feet downwind from the working face. The nature of the solid waste or excessive winds may require additional litter control measures which shall be provided. The entire landfill shall be adequately policed, and litter shall be collected routinely at no greater than weekly intervals from fences, roadways, and tree line barriers, and incorporated into the solid waste cells.

(xvii) The landfill shall be operated in such a manner that the tracking of waste within and outside the site by equipment and machinery is eliminated or minimized.

(xviii) The application of leachate or run-off onto the landfill shall not be permitted unless approved by the Department.

(xix) While a landfill is in operation, the owner or operator shall inspect the following as specified and after storms:

(A) The run-on and run-off control systems at least weekly, for deterioration, malfunctions, or improper operation.

(B) The collection sump or point, at least daily, to detect leakage through the top liner. However, the owner or operator is not required to inspect the collection sump or point daily if:

(I) The collection sump or point is equipped with an alarm system capable of detecting any accumulation of liquids in the sump of one inch or greater.

(II) The alarm system is maintained in proper working order.

(III) The owner or operator has received prior written approval from the Department.

(C) Proper functioning of wind dispersal control systems, where present, at least weekly.

(D) The leachate collection and removal systems, at least weekly, for the presence of leachate and the proper functioning of the system.

(5) The Department will specify or reference in the permit design and operating practices which the Department deems necessary to ensure the requirements of this subsection are satisfied.

(w) *Incinerators.* Incinerators shall comply with the following:

(1) This subsection applies to owners or operators of facilities that incinerate or trial burn hazardous waste, except as otherwise provided in subsection (a).

(2) A permit shall be required for the construction and operation of an incinerator and related appurtenances. The permit shall include provisions for a trial burn as necessary to meet the requirements of paragraphs (27)-(30), except as otherwise provided for by paragraph (5) or (26).

(3) Before an owner or operator incinerates his own specific hazardous waste or a specific hazardous waste from a specific generator for the first time, he shall submit to the Department an analysis of the waste including the following information, either with the permit application or on a form specified by the Department. The following parameters of the waste feed shall be analyzed and quantified, along with additional parameters as may be required by the Department, in order to provide data as required by paragraph (9). Each analysis shall include sample data, sample methods, sample description and collection conditions, analysis data, and laboratory name, address, contact, and telephone number. All analyses submitted shall specify the analytical techniques utilized, along with special preparation or deviation from accepted techniques:

(i) General properties.

(A) Moisture (percent by weight).

(B) Ash (percent by weight).

(C) Heat value (BTU/lb.).

(D) Density (lb./cubic foot at 70°F).

(E) Viscosity (Centipoise at 70°F).

(F) PCB (ppm by weight).

(G) Identification of any hazardous organic constituents listed in § 75.261, Appendix VIII (relating to criteria, identification and listing of hazardous waste) which are present in the waste to be burned, except that the applicant need not analyze for constituents listed in §75.261, Appendix VIII which would reasonably not be expected to be found in the waste. The constituents excluded from analysis shall be identified and the basis for the exclusion stated. The waste analysis shall rely on analytical techniques specified in Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods (SW-846) or other equivalent method, under § 75.260(c) (relating to definitions and request for determination).

(H) Flash point (°F).

(I) An approximate quantification of the hazardous constituents identified in the waste, within the precision produced by the analytical methods specified in Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, (SW-846) or other equivalent method under § 75.260(c)

(ii) Ultimate Analysis.

(A) Carbon (percent by weight).
(B) Hydrogen as H_2 (percent by weight).
(C) Oxygen as O_2 (percent by weight).
(D) Nitrogen as N_2 (percent by weight).
(E) Water (percent by weight).
(F) Phosphorus (percent by weight).
(G) Bromine as Br_2 (percent by weight).
(H) Chlorine as Cl_2 (percent by weight).
(I) Fluorine as F_2 (percent by weight).
(J) Arsenic (percent by weight).
(K) Beryllium (percent by weight).
(L) Lead (percent by weight).
(M) Mercury (percent by weight).
(N) Cadmium (percent by weight).
(O) Chromium as hexavalent chrome (percent by weight).
(P) Remainder as ash (percent by weight).

(4) Throughout normal operation, the owner or operator shall conduct sufficient waste analyses to verify that the waste feed to the incinerator is within the physical and chemical composition limits specified in the permit.

(5) The owner or operator of a hazardous waste incinerator shall burn only wastes specified in his permit and only under operating conditions specified for those wastes. Other hazardous wastes shall be burned only after operating conditions have been specified in a new permit or a permit modification, or as otherwise approved by the Department in writing. Operating requirements for new wastes shall be based on the analyses required in paragraph (3) and trial burn results. In lieu of actual trial burn of the waste to be incinerated, alternative data from operational or other trial burns in which similar waste has been incinerated under similar conditions may be substituted to support the contention that a trial burn is not needed. The data shall demonstrate that the wastes and the incinerator units are sufficiently similar and shall include:

(i) A quantification of the Principal Organic Hazardous Constituents (POHC's) which the applicant has identified in the waste for which permit or approval is sought, and differences from the POHC's in the waste for which burn data are provided. The data shall demonstrate compliance with the performance standards in paragraph (6).

(ii) The engineering design and operating conditions of the incinerator unit to be used, compared with that for which comparative burn data are available including:

(A) Manufacturer's name and model number of incinerator.
(B) Type of incinerator.
(C) Linear dimension of incinerator unit, including cross sectional area of combustion chamber.
(D) Description of auxiliary fuel system (type/feed).
(E) Capacity of prime mover.
(F) Description of automatic waste feed cutoff systems.
(G) Stack gas monitoring and pollution control monitoring system.
(H) Nozzle and burner design.
(I) Construction materials.
(J) Location and description of temperature, pressure, and flow indicating devices and control devices.

(iii) A description of the results submitted from previously conducted trial burns including:

(A) Sampling and analysis techniques used to calculate performance standards.

(B) Methods and results of monitoring temperatures, waste feed rates, combustion gas velocity, and carbon monoxide.

(C) Identification of any hazardous combustion by-products detected.

(iv) A description and analysis of the waste to be burned compared with the waste for which data from operational or trial burns are provided to support the contention that a trial burn is not needed. The data shall include those items listed in paragraph (3).

(v) The expected incinerator operation information to demonstrate compliance with paragraphs (6) and (7), including:

(A) Expected carbon monoxide (CO) level in the stack exhaust gas.

(B) Waste feed rate.

(C) Combustion zone temperature.

(D) Indication of combustion gas velocity.

(E) Expected stack gas volume, flow rate, and temperature.

(F) Computed residence time for waste in the combustion zone.

(G) Expected hydrogen halide removal efficiency.

(H) Expected fugitive emissions and their control procedures.

(I) Proposed waste feed cut-off limits based on the identified significant operating parameters.

(vi) Supplemental information the Department finds necessary to achieve the purposes of this subparagraph.

(6) An incinerator burning hazardous waste shall be designed, constructed, and maintained so that, when operated under operating requirements specified in paragraph (7), it will meet the following performance standards:

(i) An incinerator burning hazardous waste shall achieve a destruction and removal efficiency (DRE) of 99.99% for each Principal Organic Hazardous Constituent (POHC) designated in its permit or approval for each waste feed. DRE is determined for each POHC from the following equation:

$$DRE = \left(1 - \frac{Wout}{Win}\right) \times 100\%.$$

Where:
Win = Mass feed rate of one POHC in the waste stream feeding the incinerator; and
Wout = Mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(ii) An incinerator burning hazardous waste and producing stack emissions of more than 1.8 kilograms per hour—4 pounds per hour—of hydrogen halide shall control hydrogen halide emissions so that the rate of emission is no greater than the larger of either 1.8 kilograms per hour or 1.0% of the hydrogen halide in the stack gas prior to entering any pollution control equipment.

(iii) An incinerator burning hazardous waste may not emit particulate matter in excess of the most stringent of the following requirements:

(A) One hundred eighty milligrams per dry standard cubic meter—0.08 grains per dry standard cubic foot—when corrected to 12% CO_2, when stack tested in accordance with the provisions of Chapter 139 (relating to sampling and testing).

(B) One hundred eighty milligrams per dry standard cubic meter—0.08 grains per standard cubic foot—when corrected for the amount of oxgyen in the stack gas according to the formula:

$$P_4 = P_m \frac{14}{21-Y}$$

Where P_4 is the corrected concentration of particulate matter, P_m is the measured concentration of particulate matter, and Y is the measured concentration of oxygen in the stack gas, using the Orsat method for oxygen analysis of dry flue gas, 40 CFR Part 60, Appendix A (Method 3) (relating to standards of performance for new stationary sources). This correction procedure is to be used by all hazardous waste incinerators except those operating under conditions of oxygen enrichment.

(C) An alternate emission standards which the Department may require under § 141.1 (relating to variances and alternate standards) should particulate emissions of metals be inadequate to protect public health or ambient air quality standards as specified in Chapter 131 (relating to ambient air quality standards).

(7) An incinerator shall be operated in accordance with operating requirements specified in the permit. These shall be specified on a case-by-case basis as those demonstrated to be sufficient to comply with the performance standards specified in paragraph (6), and shall include the following, unless otherwise specified in writing by the Department.

(i) Each set of operating requirements shall specify the composition of the waste feed—including acceptable variations in the physical or chemical properties of the waste feed which will not affect compliance with the performance requirements—to which operating requirements apply. For each waste feed, the permit shall specify acceptable operating limits, including the following conditions:

(A) Carbon monoxide (CO) level in the stack exhaust gas.

(B) Waste feed rate.

(C) Combustion temperature and residence time.

(D) An appropriate indicator of combustion gas velocity.

(E) Allowable variations in incinerator system design or operating procedures.

(F) Opacity of the plume which shall not be in excess of the standards set forth in § 123.41 (relating to limitations) when measured in accordance with the techniques specified in § 123.43 (relating to measuring techniques).

(G) Such other operating requirements as are necessary to ensure that the performance standards are met.

(ii) During start-up and shut-down of an incinerator, hazardous waste shall not be fed into the incinerator unless the incinerator is operating within the conditions of operation and achieves a steady state condition.

(iii) Fugitive emissions from the combustion zone shall be controlled by:

(A) keeping the combustion zone totally sealed against fugitive emissions;

(B) maintaining a combustion zone pressure lower than atmospheric pressure; or

(C) an alternate means of control demonstrated to provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure.

(iv) An incinerator shall be operated with a functioning system to automatically cut off waste feed to the incinerator when operating conditions deviate from limits established in a permit or upon the failure of:

(A) Elements of input control systems.

(B) Combustion or atomizing air blower.

(C) Current from the flame detector and other safety devices.

(D) Electrical power to the facility.

(v) An incinerator shall cease operation when changes in waste feed, incinerator design, or operating conditions exceed limits designated in its permit.

(8) Principal Organic Hazardous Constituents (POHC's) in the waste feed shall be treated to the extent required by the performance standards and shall be designated based on the following:

(i) One or more POHC's shall be specified in the facility's permit, from among those constituents listed in Appendix VIII of § 75.261 (relating to crieria, identification, and listing of hazardous waste) for each waste feed to be burned. The Department may designate POHC's from constituents other than those listed in Appendix VIII of § 75.261 (relating to criteria, identification and listing of hazardous waste) if necessary to protect the release of such constituents into the environment.

(ii) The POHC's shall be specified based on the degree of difficulty of incineration of the organic constituents in the waste and on their concentraion or mass in the waste feed. Organic constituents which represent the greatest degree of difficulty of incineration, or those present in large quantities or concentrations, are those most likely to be designated as POHCs.

(iii) The POHCs may also be determined based upon an acceptable ambient concentration (AAC) of the POHCs or by-products or both, and the physical characteristics of the incinerator and the surrounding environment. An AAC for a POHC is an ambient air quality standard as referenced in Chapter 131 (relating to ambient air quality standards) or the threshold limit value (TLV/100) as contained in the Registry of Toxic Effects of Chemical Substances, or cited, or in the absence of either, the most stringent mammalian lethal dose-50 percentile-as contained in the Registry of Toxic Effects of Chemical Substances and modified as follows:

(A) AAC ($\mu g/m^3$) = LC_{50} (mg/m^3)/50; or

(B) AAC ($\mu g/m^3$) = LD_{50}(mg/kg)/123

(9) The owner or operator shall conduct, as a minimum, the following monitoring and inspection while incinerating hazardous waste, and record the data:

(i) Combustion temperature, waste feed rate, air feed rate, and combustion gas velocity on a continuous basis.

(ii) CO on a continuous basis at a point in the incinerator downstream of the combustion zone and prior to release to the atmosphere.

(iii) Sampling and analysis of the waste and exhaust emissions to verify that the operating requirements established in the permit achieve the performance standards at a frequency specified in the permit. Such sampling and analysis shall, as a minimum, provide the following:

(A) A quantitative analysis of the exhaust gas for the concentration and mass emissions of POHC's, CO_2, O_2, and hazardous combustion byproducts.

(B) A quantitative analysis of the scrubber water, ash residues and other residues for POHC's.

(C) A total mass balance of POHC's.

(D) The ambient air quality impact of a POHC, utilizing modeling techniques approved by the Department. The guidelines for air quality maintenance, planning and analysis Volume 10 (revised): Procedures for Evaluating Air Quality Impact of New Stationary Sources (EPA-450/477-001 AQA PS No. 1.2-029R).

(E) A computation of DRE.

(F) If the waste feed contains more than 0.5% halogens, a computation of halogen removal efficiency.

(G) A computation of particulate emissions.

(iv) An identification of sources of fugitive emissions and their means of control.

(v) The incinerator and associated equipment shall be inspected at least daily for leaks, spills, and fugitive emissions. All emergency waste feed cut-off controls and system alarms shall be checked daily to verify proper operation.

(10) At closure, the owner or operator shall remove all hazardous waste and hazardous waste residues, including, but not limited to, ash, scrubber waters, and scrubber sludges from the incinerator site.

(11) Hazardous waste incineration shall not be placed in operation unless the owner or operator has made provisions for and has received the Departmental permit and written approval for the disposal of ash, scrubber water residues, scrubber water, and other residues.

(12) An owner or operator of a combustion unit or process, as defined in Chapter 121 (relating to general provisions), which thermally destructs a hazardous waste shall not be required to obtain a Solid Waste Management permit for the construction and operation of a boiler or process, but shall be required to obtain an air quality plan approval pursuant to Chapter 127 (relating to construction, modification, reactivation, and operation of sources), and shall also be subject to the following requirements:

(i) Submission of an analysis along with the information on forms specified by the Department as indicated in paragraph (3).

(ii) Submission of forms specified by the Department for approval to dispose of ash, scrubber water residues, scrubber water, and other residues.

(iii) An approved air quality plan shall be deemed to constitute a solid waste management permit under this subsection.

(13) A buffer zone of a minimum 50 feet shall be maintained between the property line and the permitted facility within which no solid waste treatment, storage, or disposal activity shall occur.

(14) Best engineering construction practices shall be employed for all phases of construction.

(15) Quality control measures and tests shall be specified and employed to ensure that construction conforms to all design, materials, and construction specifications.

(16) A registered professional engineer shall certify in writing, for each phase of construction or installation, under penalty of law, that he has personally examined the construction and installation of said phase and that it is constructed or installed in accordance with the documents, statements, design, and plans submitted as part of the permit application as approved by the Department.

(17) Odor and noise control procedures shall be utilized when necessary or as required by the Department to prevent health hazards or nuisances. The applicant shall submit an odor and noise control program for approval by the Department.

(18) Equipment provided for operation of the facility shall be maintained in operable condition and be of adequate capacity and performance capability to ensure that the facility operation will not be interrupted during normal working periods and that operation of the facility is in accordance with these regulations.

(19) Standby equipment shall be on-site or readily available for use in the event of major equipment breakdown.

(20) Unloading areas shall be specified and shall permit vehicles to unload promptly.

(21) The site shall be operated in such a manner that the tracking of waste within and outside the site by equipment and machinery is eliminated or minimized.

(22) Access roads shall be paved or surfaced with such materials as asphalt or concrete or other materials approved in writing by the Department. Access roads shall be suitable for use in all types of weather by loaded transport vehicles and emergency vehicles and equipment. These roads shall have a base capable of withstanding anticipated load limits. The minimum car way width for two-way traffic shall be 22 feet; for one-way traffic, separate roads with a minimum cartway width of 12 feet shall be provided; or if the HWM facility is a captive facility or a non-commercial off-site facility and the access is restricted to company personnel with minimal traffic volume, then the minimum cartway width for two-way traffic shall be 12 feet, provided the entire length of the roadway is visible to the driver or passing points are provided at appropriate intervals so as to not impede access. The maximum sustained grade shall not exceed 12%.

(23) Weighing or measuring facilities if necessary or when required by the Department shall be provided for weighing all hazardous wastes brought to the TSD facility, except for captive facilities that handle liquids or flowable wastes—less than 20% solids—which are amenable to accurate flow measurements, or captive facilities that possess other waste inventory controls—volume controls. All weighing facilities shall be capable of weighing the maximum anticipated load plus the weight of the transport vehicle. The precision of weighing devices shall be certified by the Pennsylvania Department of Agriculture.

(24) For off-site facilities or on-site facilities receiving waste from off-site sources, the hours of operation for the facility shall be prominently displayed on a sign at the entrance. The lettering shall be a minimum of four inches in height and of a color contrasting with its background.

(25) The owner or operator of a new hazardous waste incinerator shall comply with all permit conditions for each of the applicable requirements of this subsection, including, but not limited to, allowable waste feeds and operating conditions necessary to meet the requirements of paragraph (7). The owner or operator shall also comply with the following standards:

(i) For the period beginning with initial introduction of hazardous waste to the incinerator and ending with initiation of the trial burn, and only for the minimum time required to establish operating conditions required in subparagraph (25)(ii), not to exceed a duration of 720 hours operating time for treatment of hazardous waste, the operating requirements shall be those which will ensure compliance with the performance standards of paragraph (6), based on the Department's engineering judgment. The Department may extend the duration of this period once for up to 720 additional hours when good cause for the extension is demonstrated by the applicant.

(ii) For the duration of the trial burn, the operating requirements shall be sufficient to demonstrate compliance with the performance standards of paragraph (6) and operating requirements of paragraph (7) and shall be in accordance with the approved trial burn plan.

(iii) For the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation, and submission of the trial burn results by the applicant, and review of the trial burn results and modification of the facility permit by the Department, the operating requirements shall be those most likely to ensure compliance with the performance standards of paragraph (6) based on the Department's engineering judgment.

(iv) For the remaining duration of the permit, the operating requirements shall be those demonstrated, in a trial burn or by alternative data specified in paragraph (5), as sufficient to ensure compliance with the performance standards of paragraph (6).

(26) After consideration of the waste analysis included with Part B of the permit application, and documentation the applicant may include to demonstrate that the conditions in subparagraphs (i) and (ii), or the conditions of subparagraph (iii) are met, the Department, in establishing the permit conditions, may exempt the applicant from requirements of this subsection, except paragraphs (3), (4) and (10) if the applicant submits documentation that demonstrates that the following conditions are met:

(i) The Department finds that the waste to be burned is one of the following:

(A) Listed as a hazardous waste in § 75.261 (relating to criteria, identification, and listing of hazardous waste) solely because it is ignitable (Hazard Code I), corrosive (Hazard Code C), or both.

(B) Listed as a hazardous waste in § 75.261 solely because it is reactive (Hazard Code R) for characteristics other than those in § 75.261(g)(4)(i)(D) and (E), and will not be burned when other hazardous wastes are present in the combustion zone.

(C) A hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the test for characteristics of hazardous wastes under § 75.261.

(D) A hazardous waste solely because it possesses a reactivity characteristic described by § 75.261(g)(4)(i)(A)—(C), and (F)—(H), and will not be burned when other hazardous wastes are present in the combustion zone.

(ii) The waste analysis shows that the waste contains none of the hazardous constituents listed in § 75.261, Appendix VIII (relating to hazardous constituents), which would reasonably be expected to be in the waste.

(iii) The waste to be burned is one which is described by subparagraph (i)(A), (B), (C) or (D) and contains insignificant concentrations of the hazardous constituents listed in § 75.261, Appendix VIII. The Department may, in establishing permit conditions, exempt the applicant from requirements of this subsection, except paragraphs (3) and (4)—Waste analysis—and paragraph (10)—Closure—, after consideration of the waste analysis included with Part B of the permit application, unless the Department finds that the waste will pose a threat to human health or the environment when burned in an incinerator.

(27) Except as otherwise provided by paragraphs (5) or (26), a trial burn plan for conducting trial burns shall be submitted with the application for a permit. This plan shall include the following:

(i) An analysis of the waste as specified in paragraph (3).

(ii) A detailed engineering description of the incinerator for which the permit is sought including the following information:

(A) Manufacturer's name and model number of incinerator (if available).

(B) Type of incinerator.

(C) Linear dimensions of the incinerator unit including the cross sectional area of the combustion chamber.

(D) Description of the auxiliary fuel system—type/feed.

(E) Capacity of prime mover.

(F) Description of automatic waste feed cut-off systems.

(G) Stack gas monitoring and pollution control equipment.

(H) Nozzle and burner design.

(I) Construction materials.

(J) Location and description of temperature, pressure, and flow indicating and control devices.

(iii) A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(iv) A detailed test schedule for the waste for which the trial burn is planned including date, duration, quantity of waste to be burned, and other factors relevant to the Department's decision under paragraph (28)(ii).

(v) A detailed test protocol, including, for the waste identified, the ranges of temperature, waste feed rate, combustion gas velocity, use of auxiliary fuel, and any other relevant parameters that will be varied to affect the destruction and removal efficiency of the incinerator.

(vi) A description of, and planned operating conditions for, any emission control equipment which will be used.

(vii) Procedures for rapidly stopping waste feed, shutting down the incinerator, and controlling emissions in the event of an equipment malfunction.

(viii) For new incinerators, a statement identifying suggested conditions to comply with paragraphs (6) and (7) in accordance with paragraphs (25)(i) and (iii).

(ix) Additional or supplemental information as the Department reasonably finds necessary to determine whether to approve the trial burn plan in light of the purposes of this paragraph and the criteria in paragraph (28)(ii).

(28) After review of a trial burn plan, the Department will do the following:

(i) Based on the waste analysis data in the trial burn plan, specify as trial Principal Organic Hazardous Constituents (POHC's), those constituents for which destruction and removal efficiencies shall be calculated during the trial burn. These trial POHC's will be specified by the Department in accordance with paragraph (8).

(ii) Approve a trial burn plan if it finds the following:

(A) The trial burn is likely to determine whether the incinerator performance standard required by paragraph (6) can be met.

(B) The trial burn itself will not present an imminent hazard to human health or the environment.

(C) The trial burn will help the Department to determine operating requirements to be specified under paragraph (7).

(D) The information sought in subparagraphs (ii)(A) and (B) cannot reasonably be developed through other means.

(29) After Department approval of the trial burn plan, the applicant shall do the following:

(i) During each approved trial burn (or as soon after the burn as is practicable), make the following determinations:

(A) A quantitative analysis of the trial POHC's in the waste feed to the incinerator.

(B) A quantitative analysis of the exhaust gas for the concentration and mass emissions of the trial POHC's, oxygen (O_2) and hydrogen halide.

(C) A quantitative analysis of the scrubber water—if any—ash residues and other residues, for the purpose of estimating the fate of the trial POHC's.

(D) A computation of destruction and removal efficiency (DRE), under the DRE formula specified in paragraph (6)(i).

(E) If the hydrogen halide emission rate exceeds 1.8 kilograms of hydrogen halide per hour (4 pounds per hour), a computation of hydrogen halide removal efficiency under paragraph (6)(ii).

(F) A computation of particulate emissions, under paragraph (6)(iii).

(G) An identification of sources of fugitive emissions and their means of control.

(H) A measurement of average, maximum, and minimum temperatures and combustion gas velocity.

(I) A continuous measurement of carbon monoxide (CO) in the exhaust gas.

(J) Other information as the Department may specify as necessary to ensure that the trial burn will determine compliance with the performance standards in paragraph (6) and to establish the operating conditions required by paragraph (7) as necessary to meet that performance standard.

(ii) Submit to the Department a certification that the trial burn has been carried out in accordance with the approved trial burn plan, and the results of all the determinations required in subparagraph (i). This submission shall be made within 90 days of completion of the trail burn or later if approved by the Department.

(iii) After completion of the trial burn, submit to the Department data collected during any trial burn.

(iv) Certify data and reports under § 75.265(z)(13) (relating to interim status standards for new and existing hazardous waste management facilities and permit program for new and existing hazardous waste management facilities).

(30) Based on the results of the trial burn, the Department will set the operating requirements in the final permit in accordance with paragraph (7). The permit modification shall be treated as a minor modification under § 75.278(c)(1) (relating to causes for permit modification or revocation and reissuance).

APPENDIX I

Recordkeeping Instructions

The recordkeeping provisions of § 75.264 (k) (relating to new and existing hazardous waste management facilities applying for a permit) and §75.265 (k) (relating to interim status for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities) specify that an owner or operator shall keep a written operating record at his facility. This appendix provides additional instructions for keeping portions of the operating record.

The following information shall be recorded, as it becomes available, and maintained in the operating record until closure of the facility in the following manner:

Records of each hazardous waste received, treated, stored, or disposed of at the facility which include the following:

(1) A description by its common name and the Hazardous Waste Number from § 75.261 (relating to criteria, identification and listing of hazardous waste) which apply to the waste. The waste description also shall include: the waste's physical form, that is, liquid, sludge, solid, or contained gas. If the waste is not listed in § 75.261(h) (relating to criteria, identification and listing of hazardous waste) the description also shall include the process that produced it, for example, solid filter cake from the production of _____, Hazardous Waste Number D007.

Each hazardous waste listed in § 75.261 (relating to criteria, identification and listing of hazardous waste) and each hazardous waste characteristic defined in § 75.261 (relating to criteria, identification and listing of hazardous waste) has a four-digit Hazardous Waste Number assigned to it. This number shall be used for recordkeeping and reporting purposes. Where a hazardous waste contains more than one listed hazardous waste, the waste description shall include all applicable Hazardous Waste Numbers.

(2) The estimated or manifest-reported weight or volume and density, where applicable, in one of the units of measure specified in Table 1 of this Appendix I.

(3) The methods — by handling codes as specified in Table 2 of this Appendix I — and dates of treatment, storage, or disposal.

TABLE 1

Units of Measure	*Symbol**	*Density*
Pounds	P	
Short tons (2,000 lbs)	T	
Gallons (U.S.)	G	P/G
Cubic Yards	Y	T/Y
Kilograms	K	
Tonnes (1,000 kg)	M	
Liters	L	K/L
Cubic meters	C	M/C

*Single-digit symbols are used here for data processing purposes.

TABLE 2

Handling Codes for Treatment, Storage, and Disposal Methods

Enter the handling codes listed below that most closely represent the techniques used at the facility to treat, store, or dispose of each quantity of hazardous waste received.

(1) *Storage*

S01 Container (barrel, drum, and the like)
S02 Tank
S03 Waste pile
S04 Surface impoundment
S05 Other (specify)

(2) *Treatment*

(a) *Thermal Treatment*

T06 Liquid injection incinerator
T07 Rotary kiln incinerator
T08 Fluidized bed incinerator
T09 Multiple hearth incinerator
T10 Infrared furnace incinerator
T11 Molten salt destructor
T12 Pyrolysis
T13 Wet air oxidation
T14 Calcination
T15 Microwave discharge
T16 Cement kiln
T17 Lime kiln
T18 Other (specify)

(b) *Chemical Treatment*

T19 Absorption mound
T20 Absorption field
T21 Chemical fixation
T22 Chemical oxidation
T23 Chemical precipitation
T24 Chemical reduction
T25 Chlorination
T26 Chlorinolysis
T27 Cyanide destruction
T28 Degradation
T29 Detoxification
T30 Ion exchange
T31 Neutralization
T32 Ozonation
T33 Photolysis
T34 Other (specify)

(c) *Physical Treatment*

(i) *Separation of Components*

T35 Centrifugation
T36 Clarification
T37 Coagulation
T38 Decanting
T39 Encapsulation
T40 Filtration
T41 Flocculation
T42 Flotation
T43 Foaming
T44 Sedimentation
T45 Thickening
T46 Ultrafiltration
T47 Other (specify)

(ii) *Removal of specific components*

T48 Absorption-molecular sieve
T49 Activated carbon
T50 Blending
T51 Catalysis
T52 Crystallization
T53 Dialysis
T54 Distillation
T55 Electrodialysis
T56 Electrolysis
T57 Evaporation
T58 High gradient magnetic separation
T59 Leaching
T60 Liquid ion exchange
T61 Liquid-liquid extraction
T62 Reverse osmosis
T63 Solvent recovery
T64 Stripping
T65 Sand filter
T66 Other (specify)

(d) *Biological Treatment*

T67 Activated sludge
T68 Aerobic lagoon
T69 Aerobic tank
T70 Anaerobic lagoon
T71 Composting
T72 Septic tank
T73 Spray irrigation
T74 Thickening filter

T75 Trickling filter
T76 Waste stabilization pond
T77 Other (specify)
T78-79 (Reserved)

(3) *Disposal*

D80 Underground injection
D81 Landfill
D82 Land treatment
D83 Ocean disposal
D84 Surface impoundment (to be closed as a landfill)
D85 Other (specify)

APPENDIX II

EPA Interim Primary Drinking Water Standards

Parameter	*Maximum Level (mg/l)*
Arsenic	0.05
Barium	1.0
Cadmium	0.01
Chromium	0.05
Fluoride	1.4 - 2.4
Lead	0.05
Mercury	0.002
Nitrate (as N)	10.
Selenium	0.01
Silver	0.05
Endrin	0.0002
Lindane	0.004
Methoxychlor	0.1
Toxaphene	0.005
2,4-D	0.1
2,4,5-TP (Silvex)	0.01
Radium	5 pCi/l
Gross Alpha	15 pCi/l
Gross Beta	4 millirem/yr
Turbidity	1/TU
Coliform Bacteria	1/100 ml

Appendix III

Tests for Significance

The owner or operation shall use Cochran's Approximation to the Behrens-Fisher Student's t-test to determine statistically significant changes in the concentration or value of an indicator parameter in periodic ground-water samples when compared to the initial background concentration or value of that indicator parameter. The comparison shall consider individually each of the wells in the monitoring system. For three of the indicator parmeters-specific conductance, total organic carbon and total organic halogen-a single-tailed Student's t-test shall be used to test at the appropriate level of significance for significant increases over background. The difference test for pH shall be a two-tailed Student's t-test at the appropriate level of significance.

For those facilities regulated by § 75.265 (relating to interim status for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities), the appropriate level of significance is 0.01. For those facilities regulated by §75.264 (relating to new and existing hazardous waste management facilities applying for a permit), the appropriate level of significance is 0.05

The Student's t-test involves calculations of the value of a t-statistic for each comparison of the mean-average-concentration or value-based on a minimum of four replicate measurements-of an indicator parameter with its initial background concentration or value. The calculated value of the t-statistic shall then be compared to the value of the t-statistic found in a table for t-test of significance at the specified level of significance. A calculated value of "t" which exceeds the value of "t" found in the table indicates a statistically significant change in the concentration or value of the indicator parameter.

The Cochran's Approximation to the Behren's-Fisher Student's t-test is calculated as follows:

Using all the available background data (n_b readings), calculate the background mean ($\overline{X}_B$) and background variance (S_B^2). For the single monitoring well under investigation (n_m reading), calculate the monitoring mean ($\overline{x}_m$)and monitoring variance (s_m^2).

For any set of data (X_1, X_2 . . . X_n) the mean is calculated by:

$$\overline{X} = \frac{X_1 + X_2 \ldots + X_n}{n}$$

and the variance is calculated by:

$$s^2 = \frac{(X_1 + \overline{X})^2 + (X_2 \cdot\cdot \overline{X})^2 \ldots + (X_n - \overline{X})^2}{n-1}$$

where "n" denotes the number of observations in the set of data.

The t-test uses these data summary measures to calculate a t-statistic (t*) and a comparison t-statistic (t_c). The t* value is compared to the t_c value and a conclusion is reached as to whether there has been a statistically significant change in any indicator parameter.

The t-statistic for all parameters except pH and similar monitoring parameters is:

$$t^* = \frac{\bar{x}_m - \bar{x}_B}{\left[\frac{s_m^2}{n_m} + \frac{s_B^2}{n_B}\right]^{1/2}}$$

If the value of this t-statistic is negative then there is no significant difference between the monitoring data and background data. It should be noted that significantly small negative values may be indicative of a failure of the assumption made for test validity or errors have been made in collecting the background data.

The t-statistic (t_c), against which t* will be compared, necessitates finding t_B and t_m from standard (one-tailed) tables where,

t_B = t-tables with (n_B -1) degrees of freedom, at the appropriate level of significance.

t_m = t-tables with (n_m -1) degrees of freedom, at the appropriate level of significance.

Finally, the special weightings W_B and W_m are defined as:

$$W_B = \frac{s_B^2}{n_B} \quad \text{and} \quad W_m = \frac{s_m^2}{n_m}$$

and so the comparison t-statistic is:

$$t_c = \frac{W_B t_B + W_m t_m}{W_B + W_m}$$

The t-statistic (t*) is now compared with the comparison t-statistic (t_c) using the following decision-rule:

If t* is equal to or larger than t_c, then conclude that there most likely has been a significant increase in this specific parameter.

if t* is less than t_c, then conclude that most likely there has not been a change in this specific parameter.

The t-statistic for testing pH and similar monitoring parameters is constructed in the same manner as previously described except the negative sign (if any) is discarded and the caveat concerning the negative value is ignored. The standard (two-tailed) tables are used in the construciton t_c for pH and similar monitoring parameters.

If t* is equal to or larger than t_c, then conclude that there most likely has been a significant increase (if the initial t* had been negative, this would imply a significant decrease). If t* is less than t_c, then conclude that there most likely has been no change.

A further discussion of the test may be found in Statistical Methods (6th Edition, Section 4.14) by G. W. Snedecor and W. G. Cochran, or Principles and Procedures of Statistic (1st Edition, Section 5.8) by R. G. D. Steel and J. H. Torrie.

Standard T-Tables 0.05 Level of Significance under § 75.264 Facilities

Degress of Freedom	T-Values (One-Tail)	T-Values (Two-Tail)
1	6.314	12.706
2	2.920	4.303
3	2.353	3.182
4	2.132	2.776
5	2.015	2.571
6	1.943	2.447
7	1.895	2.365
8	1.860	2.306
9	1.833	2.262
10	1.812	2.228
11	1.796	2.201
12	1.782	2.179
13	1.771	2.160
14	1.761	2.145
15	1.753	2.131
16	1.746	2.120
17	1.740	2.110
18	1.734	2.101
19	1.729	2.093
20	1.725	2.086
21	1.721	2.080
22	1.717	2.074
23	1.714	2.069
24	1.711	2.064
25	1.708	2.060
30	1.697	2.042
40	1.684	2.021

Adopted from Table III of "Statistical Tables for Biological, Agricultural, and Medical Research" (1947, R. A. Fisher and F. Yates).

Standard T-Tables 0.01 Level of Significance under § 75.265 Facilities

Degress of Freedom	T-Values (One-Tail)	T-Values (Two-Tail)
1	31.821	63.657
2	6.965	9.925
3	4.541	5.841
4	3.747	4.604
5	3.365	4.032
6	3.143	3.707
7	2.998	3.499
8	2.896	3.355
9	2.821	3.250
10	2.764	3.169
11	2.718	3.106
12	2.681	3.055
13	2.650	3.012
14	2.624	2.977
15	2.602	2.927
16	2.583	2.921
17	2.567	2.898
18	2.552	2.878
19	2.539	2.861
20	2.528	2.845
21	2.518	2.831
22	2.508	2.819
23	2.500	2.807
24	2.492	2.797
25	2.485	2.787
30	2.457	2.750
40	2.423	2.704

Adopted from Table III of "Statistical Tables for Biological, Agricultural, and Medical Research" (1947, R. A. Fisher and F. Yates).

Appendix IV

Examples of Potentially Incompatible Waste

Many hazardous wastes, when mixed with other wastes or materials, can produce effects which are harmful to human health or the environment, such as (1) heat or pressure, (2) fire or explosion, (3) violent reaction, (4) toxic dusts, mists, fumes, or gases, or (5) flammable fumes or gases.

Below are examples of potentially incompatible wastes, waste components, and materials, along with the harmful consequences which result from mixing materials in one group with materials in another group. The list is intended as a guide to owners or operators of treatment, storage, and disposal facilities, and to enforcement and permit granting officials, to indicate the need for special precautions when managing these potentially incompatible waste materials or components.

This list is not intended to be exhaustive. An owner or operator shall, as the regulations require, adequately analyze his wastes so that he can avoid creating uncontrolled substances or reactions of the types listed below, whether they are listed below or not.

It is possible for potentially incompatible wastes to be mixed in a way that precludes a reaction—such as adding acid to water rather than water to acid—or that neutralizes them—such as a strong acid mixed with a stong base—or that substances produced are controlled—such as by generating flammable gases in a closed tank equipped so that ignition cannot occur, and burning the gases in an incinerator.

In the lists below, the mixing of a Group A material with a Group B material may have the potential consequences as noted:

Group 1-A	*Group 1-B*
Acetylene sludge	Acid sludge
Alkaline caustic liquids	Acid and water
Alkaline cleaner	Battery acid
Alkaline corrosive liquids	Chemical cleaners
Alkaline corrosive battery fluid	Electrolyte, acid
Caustic waste water	Etching acid liquid or solvent
Lime sludge and other corrosive alkalies	Pickling liquor and other corrosive acids
Lime wastewater	Spent acid
Lime and water	Spent mixed acid
Spent caustic	Spent sulfuric acid

Potential consequences: Heat generation; violent reaction.

Group 2-A	*Group 2-B*
Aluminum Beryllium Calcium Lithium Magnesium Potassium Sodium Zinc powder Other reactive metals and metal hydrides	Any waste in Group 1-A or 1-B

Potential consequences: Fire or explosion, generation of flammable hydrogen gas.

Group 3-A	*Group 3-B*
Alcohols Water	Any concentrated waste in Groups 1-A or 1-B Calcium Lithium Metal hydrides Potassium SO_2, CL_2, $SOCL_2$, PCl_3, CH_3SiCl_3 Other water-reactive waste

Potential consequences: Fire, explosion, or heat generation of flammable or toxic gases.

Group 4-A	*Group 4-B*
Alcohols Aldehydes Halogenated hydrocarbons Nitrated hydrocarbons Unsaturated hydrocarbons Other reactive organic compounds and solvents	Concentrated Group 1-A or 1-B wastes Group 2-A wastes

Potential consequences: Fire, explosion, or violent reaction.

Group 5-A	*Group 5-B*
Spent cyanide and sulfide solutions	Group 1-B wastes

Potential consequences: Generation of toxic hydrogen cyanide or hydrogen sulfide gas.

Group 6-A	*Group 6-B*
Chlorates	Acetic acid and other organic acids
Chlorine	Concentrated mineral acids
Chlorites	Group 2-A wastes
Chromic acid	Group 4-A wastes
Hypochlorites	Other flammable and combustible wastes
Nitrates	
Nitric acid, fuming	
Perchlorates	
Permanganates	
Peroxides	
Other strong oxidizers	

Potential consequences: Fire, explosion, or violent reaction.

APPENDIX V

TABLE 3.
MINIMUM LINER DESIGN AND PERFORMANCE STANDARDS

Liner Material*	Liner Function**	Field/Lab Liner Permeability (cm/sec)	Liner Thickness (minimum)	Liner Density# (test as noted)	Remarks***
Natural clays or inplace confining layers	Primary	Not acceptable for primary liner			Field verification of continuity of confining layer shall be evaluated through borings or backhoe pits. Also must have a minimum of 20% clay as classified by the USDA grain-size classification system.
	Secondary	$<1 \times 10^{-7}$	4 +0.5 ft.	NA	
	Cap	Not acceptable for Cap			
Hydraulic Asphalt Concrete	Primary	Not acceptable for primary liner			Minimum asphalt content shall be 6.5 — 9.0% by weight. All asphalt liners and joints shall be sealed with a seal coat of AC-20 or equivalent, applied in one or more applications for a total rate of at least 0.6 gallons/yd², and applied with at least a one foot wide overlap. Sections of asphalt shall be joined to adjacent sections by cutting a new edge on the existing section, coating the new edge with AC-20 or equivalent, butting the new section of asphalt against the coated edge, and sealing with AC-20 or equivalent.
	Secondary	$<1 \times 10^{-7}$	2 inches	>96%	
	Cap	Not acceptable for Cap			
Soil Cement	Primary	$<1 \times 10^{-7}$	12 inches	>97%	Minimum cement content shall be 10% by weight. Wet-dry and freeze-thaw cycle tests (ASTM D559 and ASTM D560) shall be performed to determine optimum cement content. The type of cement used shall be the type best suited to the type of soil to be used. A seal coat of AC-20 or equivalent shall be applied.
	Secondary	$<1 \times 10^{-7}$	6 inches	>97%	
	Cap	$<1 \times 10^{-7}$	12 inches	>97% (Standard Proctor method)	
Soil Asphalt	Primary	Not acceptable for primary liner			A seal coat of AC-20 or equivalent applied at a minimum total rate of 0.6 gal/yd² in two applications of 0.3 gal/yd² each. No cut back asphalt shall be used as a liner material. Sealer shall be applied with a minimum one foot overlap.
	Secondary	$<1 \times 10^{-7}$	6 inches	>96% (Marshall method)	
	Cap	Not acceptable for Cap			

Liner Material*	Liner Function**	Field/Lab Liner Permeability (cm/sec)	Liner Thickness (minimum)	Liner Density# (test as noted)	Remarks***
Sprayed Asphalt	Primary	Not acceptable for Primary Liner			Liner shall be AC-20 or equivalent applied in at least 3 applications of 0.5 gal/yd², with two-foot overlap. MC-30 shall be applied to the subbase at a minimum rate of 0.5 gal/yd², with one-foot over lap.
	Secondary	$<1 \times 10^{-7}$	1.5 gal/yd² (0.25 inch)	3 applications 0.5 gal/yd² each	
	Cap	Not acceptable for Cap			
Fabric Asphalt Emulsion	Primary	Not acceptable for Cap			MC-30 shall be applied to the subbase at a minimum rate of 0.5 gal/yd², with one-foot overlap.
	Secondary	$<1 \times 10^{-7}$	0.3 inch	NA	
	Cap	Not acceptable for Cap			
Natural Remolded Clay##	Primary	$<1 \times 10^{-7}$	2 feet	>95%	Must have a minimum of 25% clay as classified by the by the USDA grain-size classification system. No coarse fragments greater than ¼ inch may be present.
	Secondary	$<1 \times 10^{-7}$	1 foot	>95%	
	Cap	$<1 \times 10^{-7}$	2 feet	>95% (standard Proctor method)	
Bentonite and Bentonite-like Materials##	Primary	$<1 \times 10^{-7}$	12 inches	>95%	Soil material shall not have have any coarse fragments greater than ¼ inch present.
	Seondary	$<1 \times 10^{-7}$	6 inches	>95%	
	Cap	$<1 \times 10^{-7}$	12 inches	>95% (standard Proctor method)	
Flexible Synthetic Polymeric Materials	Primary	$<1 \times 10^{-7}$	50 mil	NA	
	Secondary	$<1 \times 10^{-7}$	20 mil	NA	
	Cap	$<1 \times 10^{-7}$	50 mil	NA	

*All liner materials and liner construction shall meet manufacturer's specification unless a more stringent specifications is given in this table.

**Liner shall be compatible with waste it will contain.

***Other tests relevant to the type of liner shall be performed if required by the Department.

#Percentage is of maximum theoretical density when using Marshall method, and percentage of maximum density when using standard Proctor method

##Not acceptable for use as a primary liner or cap for landfills or surface impoundments used for disposal unless otherwise approved in writing by the Department.

NA — Not applicable

§ 75.265. **Interim status standards for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities.**

(a) *Scope.*

(1) This section establishes acceptable minimum standards for management of hazardous waste as defined in § 75.261 (relating to criteria, identification and listing of hazardous waste) during the period of interim status and the permit program for new and existing hazardous waste management facilities.

(2) The standards of this section apply to a person or municipality who treats, stores, or disposes of hazardous waste who has fully complied with the requirements for interim status until either final administrative disposition of their permit application is made or until applicable § 75.265 closure and post-closure responsibilities are fulfilled unless otherwise specified in this section or in § 75.261 (relating to criteria, identification and listing of hazardous waste). The standards of this section also apply to an owner or operator of a facility in existence on November 19, 1980, who have failed to provide timely notification as required by § 75.267 (relating to notification of hazardous waste activities) or failed to file a timely Part A of the permit application as required by this subchapter.

(3) The requirements of this section do not apply to the following:

(i) The owner or operator of a POTW which treats, stores, or disposes of hazardous waste, provided that the permit by rule provision in subsection (z)(14) is complied with.

(ii) A person or municipality who owns or operates a facility permitted by the Department to manage municipal or residual solid waste, if the only hazardous waste the facility treats, stores, or disposes of is excluded from regulation under § 75.261(d) (relating to criteria, identification and listing of hazardous waste) provided that:

(A) the facility receives written approval to accept such wastes from the Department in compliance with subsection (c); and

(B) the total hazardous wastes received at the facility during any quarter is less than 1.0% by weight of the total amount of nonhazardous wastes landfilled at the facility during the previous quarter.

(iii) The owner or operator of a facility which treats or stores hazardous waste, if such treatment or storage meets the criteria in § 75.261(e)(1) (relating to criteria, identication and listing of hazardous waste), except to the extent that § 75.261(e)(2) (relating to criteria, identification and listing of hazardous waste) provides otherwise.

(iv) A generator accumulating waste for less than 90 days on-site in compliance with § 75.262(g) (relating to generators of hazardous waste).

(v) A farmer disposing of waste pesticides from his own use in compliance with § 75.262(n) (relating to generators of hazardous waste).

(vi) The owner or operator of a totally enclosed treatment facility as defined in § 75.260 (relating to definitions and requests for determinations).

(vii) Persons or municipalities with respect to those activities which are carried out to immediately contain or treat a spill of hazardous waste, hazardous waste constituents, or material which, when spilled, becomes a hazardous waste, except that, with respect to such activities, the appropriate requirements of subsection (h) and (i) are applicable to owners and operators of treatment, storage, and disposal facilities otherwise subject to this section. This paragraph only applies to activities taken in immediate response to a spill. After the immediate response activities are completed, the regulations of this title apply fully to the management of any spill residue or debris which is a hazardous waste under § 75.261 (relating to criteria, identification and listing of hazardous waste).

(viii) A person or municipality disposing of hazardous waste by means of ocean disposal subject to a permit issued under the Federal Marine Protection, Research and Sanctuaries Act of 1972 33 U.S.C.A., §§1401—1445. The requirements of this section do apply to the treatment or storage of hazardous waste before it is loaded onto an ocean vessel for incineration or disposal at sea, as provided in paragraph (2).

(ix) A person or municipality disposing of hazardous waste underground by means of a Class I injection well which has received a permit under the Underground Injection Control (UIC) program approved or promulgated under the Safe Drinking Water Act 42 U.S.C.A. §§300f—300j-10. (A Class I injection well is a well injecting hazardous waste beneath the lowest known underground source of drinking water.) The requirements of this section do apply to the above ground treatment or storage of hazardous waste before it is injected underground and to all other wells used to inject hazardous waste underground.

(x) A licensed transporter storing manifested shipments of hazardous waste in containers that meet the requirements of § 75.262(f) (relating to generators of hazardous waste) at a transfer facility for a period of 5 days or less.

(b) *Identification numbers.*

(1) Any person or municipality who owns or operates a hazardous waste management facility shall not accept hazardous waste for treatment, storage, or disposal without having received an identification number from the Department and shall not accept hazardous waste from a transporter who has not received an identification number and license, except as otherwise provided.

(2) An owner or operator of a hazardous waste management facility who has not received an identification number may obtain one by applying to the Department using the notification form. Upon receiving the request, the Department will assign an identification number to the owner or operator.

(3) An identification number received as a result of notification to EPA pursuant to Section 3010 of the Resource Conservation and Recovery Act shall be deemed to satisfy the requirements of this section when furnished to the Department upon request.

(c) *General requirements for hazardous waste management approvals and analyses.*

(1) Before an owner or operator treats, stores, or disposes of a specific hazardous waste from a specific generator for the first time, he shall submit to the Department for approval, on a form provided by the Department, a report which the owner or operator shall retain for 20 years, and which shall include the following information: a detailed chemical and physical analysis of the waste, a description of the waste and the process generating the waste, name and address of the HWM facility, description of the HWM facility's treatment, storage or disposal methods, results of liner compatibility testing, an assessment of the impact of the waste on the HWM facility, and any other information which the Department may prescribe in order for the Department to determine whether the waste will be treated, stored, or disposed of in accordance with this section. The chemical and physical analysis of the waste shall be repeated under any of the following circumstances:

(i) when necessary to ensure that it is accurate and up to date;

(ii) when the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous waste has changed; and

(iii) when the results of the inspection or analysis or both of each hazardous waste for off-site facilities or on-site facilities receiving hazardous waste from off-site sources indicates that the waste received at the facility does not match the description of waste on the accompanying manifest or shipping paper.

(2) The owner or operator of an off-site facility or an on-site facility receiving hazardous waste from off-site sources shall inspect and, if necessary, analyze each hazardous waste received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.

(3) The owner or operator shall develop and follow a written waste analysis plan which shall be submitted to the Department for approval at such time in the application process as the Department may prescribe. The plan shall be retained at the facility. At a minimum, the plan shall specify:

(i) The parameters for which each hazardous waste will be analyzed and the rationale for the selection of those parameters.

(ii) The test methods which will be used to test for these parameters;

(iii) The sampling methods which will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using either:

(A) one of the sampling methods described in Appendix I of § 75.261 (relating to criteria, identification, and listing of hazardous waste); or

(B) an equivalent sampling method approved by the Department.

(iv) The frequency with which the initial analysis of the waste will be received or repeated to ensure that the analysis is accurate and up to date;

(v) For off-site facilities or on-site facilities receiving hazardous waste from off-site sources, the waste analyses that the hazardous waste generators supply in accordance with the requirements of this subsection;

(vi) Where applicable, the testing procedures which will be used to meet the additional waste analysis requirements for the following hazardous waste management methods: tanks, surface impoundments, waste piles, land treatment, landfills, incineration, thermal treatment, and chemical, physical, and biological treatment; and

(vii) For off-site facilities or on-site facilities receiving hazardous waste from off-site sources, the procedures which will be used to determine the identity of each hazardous waste managed at the facility and the sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling.

(4) The owner or operator of a facility utilizing a liner shall conduct an evaluation of liner compatibility with the hazardous waste before accepting such waste for emplacement in a waste pile, surface impoundment, or a landfill unless the approval to accept such a waste is granted in the permit. The evaluation procedure shall meet the approval of the Department prior to its commencement. The evaluation of the liner shall consist of testing the liner in the presence of the waste for a minimum of 30 days or as otherwise approved by the Department. In lieu of actual testing, existing published or documented data on the hazardous waste or waste generated from similar processes proving the liner compatibility may be substituted if approved by the Department. The results of evaluation of the liner compatibility shall be furnished to the Department for written approval of the waste before acceptance by the facility.

(d) *Security.*

(1) The owner or operator shall prevent unknowing entry, and minimize the possibility for unauthorized entry by persons or livestock onto the active portions of a facility, unless:

(i) physical contact with the waste, structures, or equipment within the active portion of the facility will not injure unknowing or unauthorized persons or livestock which may enter the active portion of the facility; and

(ii) disturbance of the waste or equipment by the unknowing or unauthorized entry of persons or livestock onto the active portion of the facility, will not cause a violation of the requirements of this section.

(2) Unless exempt under paragraph (1) a facility shall have:

(i) A 24-hour surveillance system which continuously monitors and controls entry onto the active portion of the facility; or

(ii) An artificial barrier which completely surrounds the active portion of the facility, and a means to control entry, at all times, through gates or other entrances to the active portion of the facility. A natural barrier may be substituted if approved by the Department.

(iii) The requirements of paragraph (2)(i) and (ii) shall be considered satisfied if the facility within which the active portion is located has a surveillance system or a barrier and a means to control entry in accordance with the requirements of paragraph (2)(i) and (ii).

(3) Unless exempt under paragraph (1), a sign with the legend, "Danger - Unauthorized Personnel Keep Out" shall be posted at each entrance to the active portion of a facility, and at other locations, in sufficient numbers to be seen from any approach to the active portion. The legend must be written in English and any other language predominant in the area surrounding the facility. The lettering shall be a minimum of four inches in height and of a color contrasting with its background. Existing signs with other legends may be used provided that the legend in the sign indicates that only authorized personnel are allowed to enter the active portion and entry onto the active portion can be dangerous.

(e) *General inspection and construction inspection requirements.*

(1) The owner or operator shall inspect his facility for malfunctions and deterioration, operator errors, and discharges which may cause or lead to an emission or discharge of hazardous waste constituents to the environment or a threat to human health. The owner or operator shall conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

(2) The owner or operator shall develop a written schedule for inspecting all monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment that are important to preventing, detecting, or responding to environmental or human health hazards. This schedule shall be submitted to the Department for approval at such time in the application process as the Department may prescribe.

(i) The schedule shall be retained at the facility.

(ii) The schedule shall identify the types of problems which are to be looked for during the inspection.

(3) The frequency of the inspection may vary for the items on the schedule. However, it should be based on the rate of possible deterioration of the equipment and the probability of an environmental or human health incident of the deterioration or malfunction or any operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, shall be inspected daily when in use. At a minimum, the inspection schedule shall include the items and frequencies called for in subsections (d) and (q)—(y).

(4) The owner or operator shall remedy deterioration or malfunction of equipment or structures which the inspection reveals on a schedule that ensures the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action shall be taken immediately.

(5) The owner or operator shall record inspections in an inspection log or summary. He shall keep these records for the operating life of the facility. At a minimum, these records shall include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions. These records shall be furnished to the Department upon request.

(6) A schedule for construction of a HWM facility shall be submitted to the Department for approval. At a minimum, the schedule shall provide for Department inspection and approval of each phase of construction.

(f) *Personnel training.*

(1) Facility personnel shall successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of this section. The owner or operator shall ensure that this program includes as a minimum all the elements required under this subsection. This training program shall be outlined and submitted to the Department for approval at such time in the application process as the Department may prescribe.

(2) This program shall be directed by a person trained in hazardous waste management procedures, and shall include instruction which teaches facility personnel hazardous waste management procedures, including contingency plan implementation, relevant to the positions in which they are employed.

(3) At a minimum, the training program shall be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures and emergency equipment systems including, when applicable:

(i) procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;

(ii) key parameters for automatic waste feed cut-off system;

(iii) communications or alarm systems;

(iv) response to fire or explosion;

(v) response to groundwater contamination incidents; and

(vi) shutdown of operations.

(4) Facility personnel shall successfully complete the program required in paragraph (1) within six months after the effective date of this chapter or six months after the date of their employment or assignment to a facility, or to a new position at a facility, whichever is later. Employees hired after the effective date of this chapter shall not work in unsupervised positions until they have completed the training requirements of paragraph (1).

(5) Facility personnel shall participate in an annual review and evaluation of the elements of the initial training program required in paragraph (1).

(6) The owner or operator shall maintain the following documents and records at the facility which shall be furnished to the Department upon request:

(i) The job title for each position at the facility related to hazardous waste management, and the name of the employee holding each position.

(ii) A written job description for each position listed under subparagraph (i). This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but must include the requisite skill, education or other qualifications, and duties of facility personnel assigned to each position.

(iii) A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under subparagraph (i).

(iv) Records that document that the training or job experience required under paragraphs (1)—(5) has been given to, and completed by, facility personnel.

(7) Training records on current personnel shall be retained until closure of the facility. Training records on former employees shall be retained for the operating life of the facility. Personnel training records may accompany personnel transferred within the same company.

(g) *General requirements for ignitable, reactive, or incompatible wastes.*

(1) The owner or operator shall take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. Such waste shall be separated and protected from sources of ignition or reaction including but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks—static, electrical, or mechanical, spontaneous ignition, and radiant heat. While ignitable or reactive waste is being handled, the owner or operator shall confine smoking and open flame to specially designated locations. "No Smoking" signs shall be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

(2) Where specifically required by other subsections of this section, the treatment, storage, or disposal of ignitable or reactive waste, and the mixture or commingling of incompatible wastes, or incompatible wastes and materials, shall be conducted so that they do not:

(i) generate extreme heat or pressure, fire or explosion, or violent reaction;

(ii) produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health;

(iii) produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosion;

(iv) damage the structural integrity of the device or facility containing the waste; or

(v) through other like means threaten human health or the environment.

(h) *Preparedness and prevention.*

(1) Facilities shall be maintained and operated to minimize the possibility of a fire, explosion, or discharge of hazardous waste or hazardous waste constituents to air, soil, surface water, or ground water which could threaten human health or the environment.

(2) All facilities shall be equipped with the following, unless none of the hazards posed by waste handled at the facility could require a particular kind of equipment in this paragraph:

(i) an internal communications or alarm system capable of providing immediate emergency instruction—voice or signal—to facility personnel;

(ii) a device, such as a telephone, immediately available at the scene of operations, or a hand-held two-way radio capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams;

(iii) portable fire extinguishers, fire control equipment—including special extinguishing equipment such as that using foam, inert gas, or dry chemicals—spill control equipment, and decontamination equipment; and

(iv) water at adequate volume and pressure to supply water hose streams, foam producing equipment, automatic sprinklers, or water spray systems.

(3) All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, when required, shall be tested and maintained as necessary to assure its proper operation in time of emergency.

(4) Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation shall have immediate access to an on-site internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless such a device is not required under paragraph (2).

(5) An employee working alone on the premises while the facility is operating shall have immediate access to a device, such as a telephone, immediately available at the scene of operation, or a hand-held two-way radio capable of summoning external emergency assistance, unless the Department has determined that such a device is not required under paragraph (2).

(6) The owner or operator shall maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes.

(7) The owner or operator shall attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for services as follows:

(i) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes.

(ii) Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority.

(iii) Agreements with State and local emergency response teams, emergency response contractors, and equipment suppliers.

(iv) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fire, explosion, or discharge at the facility.

(8) Where State or local authorities decline to enter into such arrangements, the owner or operator shall document the refusal in the operating record.

(i) *Preparedness, Prevention, and Contingency (PPC) Plan and emergency procedures.*

(1) Each owner or operator shall be responsible for developing and implementing a contingency plan for effective action to minimize and abate hazards to human health and the environment from fire, explosion, emission or discharge of hazardous waste or hazardous waste constituents to air, soil, surface water, or ground water.

(2) The provisions of the plan shall be carried out immediately whenever there is a fire, explosion, emission or discharge of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

(3) The contingency plan shall describe the actions facility personnel shall take to comply with paragraphs (1), (2), and (12)—(21) in response to fire, explosion, emissions or discharges of hazardous waste or hazardous waste constituents to air, soil, surface water, or ground water.

(4) The contingency plan and all revisions and amendments thereof shall be prepared and implemented in accordance with the Department guidelines and submitted to the Department for approval at such time in the application process as the Department may prescribe.

(5) The plan shall describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and State and local emergency response teams to coordinate emergency services, pursuant to subsection (h).

(6) The plan shall list names, addresses, and phone numbers—office and home—of all persons qualified to act as emergency coordinator, and this list shall be kept up to date. When more than one person is listed, one shall be named as primary emergency coordinator and others shall be listed in the order in which they will assume responsibility as alternates.

(7) The plan shall include a list of all required emergency equipment at the facility. This list shall be kept up to date. In addition, the plan shall include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(8) The plan shall include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan shall describe signals to be used to begin evacuation, evacuation routes, and alternate evacuation routes in cases where the primary routes could be blocked by fire or emissions and discharges of hazardous waste or hazardous waste constituents.

(9) A copy of the contingency plan and all revisions to the plan shall be:

(i) maintained at the facility; and

(ii) submitted to all local police departments, fire departments, hospitals, and emergency response teams that may be called upon to provide emergency services.

(10) The contingency plan shall be reviewed, and immediately amended, if necessary, whenever:

(i) applicable regulations are revised;

(ii) the plan fails in an emergency;

(iii) the facility changes, in its design, construction, operation, maintenance, or other circumstances, in a manner that materially increases the potential for fire, explosion, emissions or discharges of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;

(iv) the list of emergency coordinators changes; or

(v) the list of emergency equipment changes.

(11) At all times, there shall be at least one employee either on the facility premises or on call with the responsibility for coordinating all emergency response measures. This emergency coordinator shall be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person shall have the authority to commit the resources needed to carry out the contingency plan.

(12) Whenever there is an imminent or actual emergency situation, the emergency coordinator shall immediately:

(i) activate facility alarms or communication systems, where applicable, to notify all facility personnel; and

(ii) Notify State and local agencies with designated response roles if their help is needed.

(13) Whenever there is a fire, explosion, emission or discharge, the emergency coordinator shall immediately identify the character, exact source, amount, and areal extent of emitted or discharged materials. He may do this by observation or review of facility records or manifests and, if necessary, by chemical analysis.

(14) Concurrently, the emergency coordinator shall assess possible hazards to human health or the environment that may result from the fire, explosion, emission or discharge. This assessment shall consider both direct and indirect effects of the fire, or explosion, emission or discharge.

(15) If the emergency coordinator determines that the facility has had a fire, explosion, emission or discharge which could threaten human health or the environment, he shall report his findings as follows:

(i) If his assessment indicates that evacuation of local areas may be advisable, he shall immediately notify appropriate authorities. He shall be available to help appropriate officials decide whether local areas should be evacuated.

(ii) He shall immediately notify the Department by telephone at 717-787-4343 and the National Response Center at 800-424-8802. The report shall include:

(A) name of the person reporting the incident;

(B) name, address, and identification number of facility;

(C) phone number where the person reporting the spill can be reached;

(D) date, time, and location of the incident;

(E) a brief description of the incident, including type of incident, nature of hazardous material involvement, and possible hazards to human health or the environment outside the facility;

(F) the extent of injuries, if any; and

(G) for each waste involved in the incident, the shipping name, hazard class, U.N. number of the waste, and quantity of the waste involved.

(16) During an emergency, the emergency coordinator shall take all reasonable measures necessary to ensure that fire, explosion, and emission or discharge do not occur, recur, or spread to other hazardous waste at the facility. These measures shall include, when applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers.

(17) If the facility stops operations in response to a fire, explosion, emission or discharge, the emergency coordinator shall monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

(18) Immediately after an emergency, the emergency coordinator shall with Department approval, provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or other material that results from a fire, explosion, emission or discharge at the facility.

(19) The emergency coordinator shall ensure that, in the affected areas of the facility:

(i) no waste that may be incompatible with the emitted or discharged material is treated, stored, or disposed of until cleanup procedures are completed; and

(ii) all emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

(20) The owner or operator shall notify the Department and the appropriate State or local authorities that the facility is in compliance with paragraph (19) before operations are resumed in the affected areas of the facility.

(21) The owner or operator shall note in the operating record the time, date, and details of an incident that requires implementing the contingency plan. Within 15 days after the incident, he shall submit a written report of the incident to the Department. The report shall include the following:

(i) name, address, and telephone number of the owner or operator;

(ii) name, address, and telephone number of the facility;

(iii) date, time, and type of incident;

(iv) name and quantity of materials involved;

(v) the extent of injuries, if any;

(vi) an assessment of actual or potential hazards to human health or the environment, when this is applicable; and

(vii) estimated quantity and disposition of recovered material that resulted from the incident.

(j) *Manifest system and discrepancy reporting.*

(1) The requirements in this subsection apply to an owner or operator of an off-site facility or on-site facility receiving hazardous waste from an off-site source, except as specified in subsection § 75.265(a). This subsection does not apply to an owner or operator of an on-site facility that does not receive hazardous waste from off-site sources.

(2) A hazardous waste shipment received from an off-site source shall be accompanied by the Department's manifest, except as under paragraph (4).

(3) The owner or operator of the facility, or his authorized representative, shall do the following:

(i) Print or type his name, sign and date each copy of the manifest at the time the shipment is received to certify that the hazardous waste covered by the manifest was received.

(ii) Note significant discrepancies in the manifest (as defined in paragraphs (9) and (10)) on each copy of the manifest.

(iii) Immediately give the transporter at least one copy of the signed manifest.

(iv) Detach copies 1, 2, 3, and 4 of the manifest.

(v) Within 7 days after the date of delivery, send copy 3 of the manifest to the generator.

(vi) If the generator is located within this Commonwealth, retain copies 1 and 2 for the owner or operator's records under paragraph (5).

(vii) If the generator is located outside of this Commonwealth, within 7 days after the date of delivery, send copy 1 of the manifest to the Department and copy 2 to the generator State.

(viii) Retain at the facility copy 4 of the manifest for the owner or operator's records under paragraph (5).

(4) If a facility receives, from a rail or water (bulk shipment) transporter, hazardous waste which is accompanied by a shipping paper containing the information required on the manifest (excluding EPA ID Numbers, generator's certification, and signatures, and optional State Information), the owner or operator, or his authorized representative, shall do the following:

(i) Sign and date each copy of the manifest or shipping paper at the time the shipment is received to certify that the hazardous waste covered by the manifest shipping paper was received.

(ii) Note significant discrepancies in the manifest or shipping paper (defined in paragraphs (9) and (10)) on each copy of the manifest or shipping paper.

(iii) Immediately give the rail or water (bulk shipment) transporter at least one copy of the manifest or shipping paper.

(iv) Within 7 days after the date of delivery, send a copy of the manifest or shipping paper to the generator.

(v) Detach copies 1, 2, 3 and 4 of the manifest.

(vi) Within 7 days after the date of delivery, send copy 3 of the manifest to the generator.

(vii) If the generator is located within this Commonwealth, retain copies 1 and 2 for the owner or operator's records under paragraph (5).

(viii) If the generator is located outside of this Commonwealth, within 7 days after the date of delivery, send copy 1 of the manifest to the Department and copy 2 to the generator State.

(ix) Retain a copy of each shipping paper and manifest for the owner or operator's records under paragraph (5).

(5) The owner or operator of the facility shall retain the required copies of the manifest and shipping paper (if signed in lieu of the manifest at the time of delivery) for at least 20 years from the date of delivery.

(6) Copies of the manifest and shipping paper retained by the owner or operator under this subsection shall be furnished to the Department upon request.

(7) The owner or operator of a facility, or an authorized representative, who transports, or offers for transportation, hazardous waste for off-site treatment, storage, or disposal shall comply with § 75.262 (relating to generators of hazardous waste) and prepare a manifest in accordance with the instructions supplied with the manifest.

(8) The owner or operator of a facility that has arranged to receive hazardous waste from a foreign source shall notify the Department in writing at least 4 weeks in advance of the date the waste is expected to arrive at the facility. Notice of subsequent shipments of the same waste from the same foreign source is not required.

(9) Manifest discrepancies are differences between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity or type of hazardous waste a facility actually received. Significant discrepancies in quantity include the following:

(i) For bulk waste, variations greater than 2.0% in weight.

(ii) For batch waste, a variation in piece count, such as a discrepancy of one drum in a truckload. Significant discrepancies in type are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper, or differences in physical state, color, odor, and the like.

(10) Upon discovering a significant manifest discrepancy as defined in paragraph (9), the owner or operator shall attempt to reconcile the discrepancy with the waste generator or transporter—for example with telephone conversations—before the waste is treated, stored, or disposed at the facility. If the discrepancy is not resolved within 3 days after receiving the waste, the owner or operator shall immediately notify the appropriate Regional Office of the Department by telephone and send a letter to the Department describing the discrepancy and attempts to reconcile it, and include a copy of the manifest or shipping paper at issue.

(k) *Operating record.*

(1) The owner or operator of an on-site or off-site facility shall keep a written operating record at his facility.

(2) The following information shall be recorded, as it becomes available, and maintained in the operating record until closure of the facility:

(i) A description and the quantity of each hazardous waste received, and the methods and dates of its treatment, storage, or disposal at the facility as required by Appendix I of § 75.264. The Quarterly Report form may be used to record this information.

(ii) The location of each hazardous waste within the facility and the quantity at each location. For disposal facilities, the location and quantity of each hazardous waste shall be recorded on a map or diagram of each cell or disposal area. For all facilities, this information shall include cross-references to specific manifest document numbers, if the waste was accompanied by a manifest.

(iii) Records and results of waste analyses and trial tests performed as specified in subsections (c) and (r)—(y).

(iv) Summary reports and details of all incidents that require implementing the contingency plan as specified in subsection (i)(21).

(v) Records and results of inspections as required by subsection (e)(5).

(vi) Monitoring, testing, or analytical data where required by subsections (n), (u), (w), and (x).

(vii) All closure cost estimates and, for disposal facilities, all post-closure estimates under subsection (p).

(l) *Availability, retention, and disposition of records.*

(1) All records, including plans, required under this section shall be furnished to the Department upon request, and made available at all reasonable times for inspection by the Department.

(2) The retention period for all records required under this section shall be extended automatically during the course of any enforcement action regarding the facility or as requested by the Department.

(3) A copy of records of waste disposal locations and quantities under subsection (k)(2)(ii) shall be submitted to the Department and the local land authority upon closure of the facility or as otherwise prescribed by the Department.

(4) The reports, plans, outlines, and any other documents retained at a facility which require the Department's approval shall be replaced by the most recently approved copy of the reports, plans, and documents.

(m) *Quarterly facility report and additional reports.*

(1) The owner or operator of an off-site facility or on-site facility receiving hazardous waste from off-site sources shall submit quarterly reports:

(i) To the Department on a form designated by the Department. The form shall contain as a minimum the following information:

(A) The name, identification number, mailing address, and the location of the facility.

(B) The name and telephone number of the facility's contact person.

(C) The identification number and hazardous waste transporter (HWT) license number of each transporter.

(D) The name, identification number, and address of each generator; for imported shipments of hazardous waste, the report shall give the name and address of the foreign generator.

(E) The description, Department of Transportation hazard class, and hazardous waste number of the hazardous waste. For off-site facilities, this information shall be listed by the identification number of each generator.

(F) The amount and units of measure of each hazardous waste in a shipment, and the date and method of treatment, storage, or disposal for each hazardous waste.

(G) The manifest document number for each hazardous waste shipment.

(H) Signature and certification of the facility's owner or operator or his authorized representative.

(I) The information required by clauses (C)—(G) shall be provided for each shipment of hazardous waste and each waste stream within the shipment.

(J) The most recent closure cost estimate under subsection (p), and § 75.319, and for disposal facilities, the most recent post-closure cost estimate under subsection (p) and § 75.319.

(K) Monitoring data as required under paragraph (n)(15),(18) and (19).

(L) The quarter and calendar year covered by the report.

(ii) No later than the last day of the following month for the quarters: January through March due on or before April 30; April through June, due on or before July 31; July through September due on or before October 31; October through December, due on or before January 31.

(2) The owner or operator of an on-site or off-site facility shall report to the Department:

(i) Emissions, discharges, fires, and explosions as required in subsection (i)(21).

(ii) Ground-water contamination and monitoring data as required in subsection (n).

(iii) Facility closure as required in subsection (o).

(3) The owner or operator of a captive treatment or disposal facility or an on-site storage facility shall not submit quarterly reports to the Department. The owner or operator of a facility shall submit a single copy of an annual report to the Department, on a form specified by the Department, by March 1 of each year. The report shall describe facility activities during the previous calendar year and shall include, along with the dates of the calendar year covered by the report, the information required in paragraph (1)(i)(A), (B), (E), (H), and (J), a description of each hazardous waste managed, the amount and units of measure of each hazardous waste managed, and the method of treatment, storage, or disposal for each hazardous waste. This form shall be maintained for the life of the facility as a part of its operating record. These records shall be made available to the Department upon request.

(4) The owner or operator of a captive treatment or disposal facility or on-site storage facility shall submit reports to the Department as required under paragraph (n)(15), (18) and (19).

(n) *Ground-water monitoring.*

(1) By November 19, 1981, the owner or operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste shall implement a groundwater monitoring program capable of determining the facility's impact on the quality of any groundwater system which the facility has the potential to affect, or as otherwise deemed necessary by the Department.

(2) The owner or operator shall install, operate, and maintain a groundwater monitoring system which meets the requirements of paragraphs (3)—(6) and shall comply with paragraphs (7)—(19). This groundwater monitoring program shall be conducted during the active life of the facility, and for disposal facilities, during the post-closure care period.

(3) A groundwater monitoring system shall be capable of yielding groundwater samples for analysis and shall consist of the following:

(i) At least one monitoring well installed hydraulically upgradient, that is, in the direction of increasing static head, from the limit of the waste management area. Their number, locations, and depths shall be sufficient to yield groundwater samples that are:

(A) representative of background groundwater quality; and

(B) not affected by the facility.

(ii) At least three monitoring wells installed hydraulically downgradient, that is, in the direction of decreasing static head, at the perimeter of the waste management area. Their number, locations, and depths shall ensure that they immediately detect any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the ground water.

(ii) The locations of the monitoring wells shall be approved by the Department before they are constructed.

(4) Separate monitoring systems for each waste management component of a facility are not required, provided that provisions for sampling upgradient and downgradient groundwater quality will detect a discharge from the waste management area.

(i) In the case of a facility consisting of only one surface impoundment, landfill, or land treatment area, the waste management area is described by the waste boundary or perimeter.

(ii) In the case of a facility consisting of more than one surface impoundment, landfill, or land treatment area, the waste management area is described by an imaginary boundary line which circumscribes the several waste management components.

(5) All monitoring wells shall be cased in a manner that maintains the integrity of the monitoring well borehole. This casing shall be screened or perforated, and packed with gravel or sand where necesary, to enable sample collection at depths where appropriate aquifer flow zones exist. The annular space above the sampling depth shall be sealed with a suitable material to prevent contamination of samples and the ground water.

(6) All monitoring wells shall be protected from damage by heavy equipment in the normal operations of the facility and from vandals. The protective installation shall include:

(i) A length of steel casing several inches larger in diameter and height than the monitoring well and at least ten feet in length, installed around the monitoring well casing. The height of this steel casing shall be at a minimum one foot above final grade and at least several inches above the monitoring well casing. This length of protective steel casing shall be grouted and placed with a cement collar at least three feet deep to hold it firmly in position. The steel casing shall be painted a highly visible color and be numbered.

(ii) A cap on the monitoring well casing which will allow the well to be locked and secured from acts of vandalism.

(7) The owner or operator shall obtain and analyze samples of groundwater from the installed groundwater monitoring system. The owner or operator shall develop and follow a groundwater sampling and analysis plan which shall be submitted to the Department for approval at such time in the application process as the Department may prescribe, and which shall be retained at the facility for the life of the facility. The plan shall include procedures and techniques for the following:

(i) Sample collection.
(ii) Sample preservation and shipment.
(iii) Analytical procedures.
(iv) Chain of custody control.

(8) The owner or operator at a minimum, shall determine the concentrations or values of the following parameters in groundwater samples in accordance with paragraphs (9)—(11):

(i) Parameters characterizing the suitability of the groundwater as a drinking water supply, as specified in Appendix II of § 75.264.

(ii) Parameters establishing groundwater quality:
- (A) Chloride.
- (B) Iron.
- (C) Manganese.
- (D) Phenols.
- (E) Sodium.
- (F) Sulfate.
- (G) Additional parameters as required by the Department.

(iii) Parameters used as indicators of groundwater contamination:
- (A) pH.
- (B) Total Organic Carbon.
- (C) Total Organic Halogen.
- (D) Specific Conductance
- (E) Additional parameters as required by the Department.

(9) For all monitoring wells, the owner or operator shall establish initial background concentrations or values of all parameters specified in paragraph (8) quarterly for one year.

(10) For each upgradient monitoring well, each of the indicator parameters specified in paragraph (8)(iii) shall have at least four replicate measurements obtained for each sample. The initial background arithmetic mean and variance shall be determined by pooling these replicate measurements obtained during the first year.

(11) After the first year, all monitoring wells shall be sampled and the samples analyzed as follows:

(i) Samples collected to establish groundwater quality shall be obtained and analyzed for the parameters specified in paragraph (8)(ii) at least semi-annually. Results of analyses shall be submitted to the Department.

(ii) Samples collected to indicate groundwater contamination shall be obtained and analyzed for the parameters specified in paragraph (8)(iii) at least quarterly. Results of these analyses shall be submitted to the Department.

(12) The elevation of the groundwater surface at each monitoring well shall be determined when the well is sampled. The elevation of the water in the respective wells shall be included with the analytical results for each well submitted to the Department in accordance with paragraph (11).

(13) By November 19, 1981, the owner or operator shall prepare and submit to the Department for written approval an outline of a groundwater quality assessment and abatement program. The outline shall be retained at the facility throughout the life and post-closure care period of the facility and shall describe a more comprehensive groundwater monitoring program capable of the following:

(i) Determining which hazardous waste or hazardous waste constituents have entered the ground water.

(ii) Determining the rate and extent of migration of hazardous waste or hazardous waste constituents in the ground water.

(iii) Determining the concentrations of hazardous waste or hazardous waste constituents in the ground water.

(iv) Abating any groundwater contamination attributable to the hazardous waste management facility.

(14) For each indicator parameter specified in paragraph (8)(iii), the owner or operator shall calculate the arithmetic mean and variance, based on at least four replicate measurements on each sample for each well monitored in accordance with paragraph (11)(ii) and compare these results with its initial background arithmetic mean—calculated from the upgradient well, during the first year. The comparison shall consider individually each of the wells in the monitoring system, and shall use the Student's t-test at the 0.01 level of significance — see Appendix III of § 75.264—to determine statistically significant increase or decrease of pH or increase of other parameters over initial background.

(i) If the comparisons for an upgradient well under paragraph (14) show a significant increase or decrease of pH or increase of other parameters, the owner or operator shall submit this information in accordance with paragraph (18) (ii) (B).

(ii) If the comparisons for downgradient wells made under this paragraph (14) show a significant increase or decrease of pH or increase of other parameters, the owner or operator shall then immediately obtain additional groundwater samples from those downgradient wells where a significant difference was detected, split the samples in two, and obtain analyses of all additional samples to determine whether the significant difference was a result of laboratory error.

(15) If the analyses performed under paragraph (14) (ii) confirm the significant increase or decrease of pH or increase of other parameters, the owner or operator shall provide written notice to the Department within 7 days of the date of the confirmation that the facility may be affecting groundwater quality.

(i) Within 15 days after the notification required by this paragraph, the owner or operator shall develop and submit to the Department for written approval a specific plan, based on the outline required under paragraph (13) and certified by a qualified geologist or geotechnical engineer, for a groundwater quality assessment and abatement program at the facility.

(ii) The plan to be submitted shall specify the following:

(A) The number, location, size, and depth of wells.

(B) Sampling and analytical methods for those hazardous wastes or hazardous waste constituents in the facility.

(C) Evaluation procedures, including any use of previously gathered groundwater quality information.

(D) Abatement procedures.

(E) A schedule of implementation.

(iii) The owner or operator shall implement the groundwater quality assessment plan which satisfies the requirements of subparagraph (ii) and, at a minimum, determine the following:

(A) The rate and extent of migration of the hazardous waste or hazardous waste constituents in the groundwater.

(B) The concentrations of the hazardous waste or hazardous waste constituents in the groundwater.

(iv) The owner or operator shall make his first determination under subparagraph (iii) as soon as technically feasible, and within 15 days after that determination, submit to the Department a written report containing an assessment of the groundwater quality.

(v) If the owner or operator determines, based on the results of the first determination under subparagraph (iii) that no hazardous waste or hazardous waste constituents from the facility have entered the groundwater, then he may reinstate the indicator evaluation program described in paragraph (7)—(12) and (14). If the owner or operator reinstates the indicator evaluation program, he shall so notify the Department in the report submitted under paragraph (iv).

(vi) If the owner or operator determines, based on the first determination under subparagraph (iii), that hazardous waste or hazardous waste constituents from the facility have entered the groundwater, then he:

(A) shall continue to make the determinations required under subparagraph (iii) on a quarterly basis until final closure of the facility, if the groundwater quality assessment plan was implemented prior to final closure of the facility;

(B) may cease to make the determinations required under subparagraph (iii) if the groundwater quality assessment plan was implemented during the post-closure care period; and

(C) shall submit for Department approval the abatement plan to be used to abate any groundwater contamination.

(16) Notwithstanding any other provision of this subsection, a ground-water quality assessment to satisfy the requirements of paragraph (15)(iii) which is initiated prior to final closure of the facility shall be completed and reported in accordance with paragraph (15)(iv).

(17) Unless the ground water is monitored to satisfy the requirements of paragraph (15)(iii), at least annually by January 31, the owner or operator shall evaluate the data on groundwater surface elevations obtained under paragraph (12) to determine whether the requirements under paragraph (3) for locating the monitoring wells continues to be satisfied. If the evaluation shows that paragraph (3) is no longer satisfied or the Department determines that paragraph (3) is no longer satisfied, the owner or operator shall modify the number, location, or depth of the monitoring wells to bring the groundwater monitoring system into compliance with this requirement. These changes and a required schedule for such changes shall be approved in writing by the Department before any construction begins.

(18) Unless the ground water is monitored to satisfy the requirements of paragraph (15)(iii), the owner or operator shall:

(i) keep records of the analyses required in paragraphs (9)—(11), the associated groundwater surface elevations required in paragraph (12), and the evaluations required in paragraph (14) throughout the active life of the facility, and, for disposal facilities, throughout the post-closure care period as well; and

(ii) report the following groundwater monitoring information to the Department.

(A) During the first year, when initial background concentrations are being established for the facility, measurements of the parameters listed in paragraph (8) (i), for each groundwater monitoring well within 15 days after completing each quarterly analysis. The owner or operator shall separately identify for each monitoring well any parameters whose measurements were found to exceed the maximum contaminant levels listed in Appendix II of § 75.264.

(B) Semiannually: measurements of the parameters listed in paragraph (8)(ii), for each groundwater monitoring well. The owner or operator shall separately identify any significant differences from initial background found in the wells. During the active life of the facility, this information shall be submitted as part of the quarterly report required under subsection (m).

(C) Quarterly: measurements of the parameters listed in paragraph (8)(iii), for each groundwater monitoring well, along with the required evaluations for these parameters under paragraph (14). The owner or operator shall separately identify any significant differences from initial background found in the upgradient wells, in accordance with paragraph (14)(i). During the active life of the facility, this information shall be submitted quarterly.

(D) Also quarterly: results of the evaluation of groundwater surface elevations under paragraph (17), and a description of the response to that evaluation, where applicable.

(19) If the ground water is monitored to satisfy the requirements of paragraph (15)(iii), the owner or operator shall:

(i) submit to the Department quarterly and keep records of the analyses and evaluations specified in the plan, which satisfies the requirements of paragraph (15)(ii) throughout the active life of the facility, and, for disposal facilities, throughout the post-closure care period also;and

(ii) annually, until final closure of the facility, submit to the Department by January 31 a report containing the results of his ground-water quality assessment program which includes, but is not limited to, the measured rate of migration of hazardous waste or hazardous waste constituents in the ground water during the reporting period and volumes of hazardous waste or hazardous waste constituents removed from the ground water using the abatement procedures specified in paragraph (15) (vi).

(o) *Closure and Post-Closure.*

(1) Except as subsection (a) provides otherwise:

(i) paragraphs (1)—(10), which concern closure, apply to the owners and operators of all hazardous waste management facilities; and

(ii) paragraphs (11)—(21), which concern post-closure care, apply to the owners and operators of all hazardous waste disposal facilities except incinerators.

(2) The owner or operator shall close his facility in a manner that:

(i) minimizes the need for further maintenance, and

(ii) controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous waste constituents, leachate, contaminated rainfall, or waste decomposition products to the groundwater or surface water, or to the atmosphere.

(3) By May 19, 1981, the owner or operator shall have a written closure plan. This plan shall be submitted to the Department for written approval at such time in the application process as the Department may prescribe or as specified in paragraph (5), whichever is sooner. He shall retain a copy of the closure plan and revisions to the plan

at the facility until closure is completed and certified. This plan shall identify the steps necessary to completely or partially close the facility at any point during its intended operating life and to completely close the facility at the end of its intended operating life. The closure plan shall include at least:

(i) A description of how and when the facility will be partially closed, if applicable, and ultimately closed. The description shall identify the maximum extent of the operation which will be unclosed during the life of the facility, and how the requirements of paragraphs (2), (7), (9), and (10) and the applicable closure requirements of subsections (q)—(y) will be met.

(ii) An estimate of the maximum inventory of waste in storage and in treatment at any time during the life of the facility.

(iii) A description of the steps needed to decontaminate facility equipment during closure.

(iv) An estimate of the expected year of closure and a schedule for final closure. The schedule shall include, at a minimum, the total time required to close the facility and the time required for intervening closure activities which will allow tracking of the progress of closure. For example, in the case of a landfill, estimates of the time required to treat and dispose of all waste inventory and of the time required to place a final cover shall be included.

(4) The owner or operator may amend his closure plan at any time during the active life of the facility. The active life of the facility is that period during which wastes are periodically received. The owner or operator shall amend the plan whenever changes in operating plans or facility design affect the closure plan or whenever there is a change in the expected year of closure of the facility. The plan shall be amended and submitted to the Department for written approval within 60 days of the proposed changes to the plan.

(5) The owner or operator shall submit his closure plan to the Department at least 180 days before the date he expects to receive the final volume of waste. The owner or operator shall submit his closure plan to the Department no later than 15 days after:

(i) termination of interim status—except when a permit is issued to the facility simultaneously with termination of interim status; or

(ii) issuance of a judicial decree or Department compliance order to cease receiving wastes or close.

(6) The Department will provide the owner or operator and the public, through a newspaper notice, and the host municipality by letter, the opportunity to submit written comments on the closure plan and request modifications of the plan within 30 days of the date of the notice. The Department will also, in response to a request or at its own discretion, hold a public hearing whenever such a hearing might clarify one or more issues concerning a closure plan. The Department will give public notice of the hearing at least 30 days before it occurs. Public notice of the hearing may be given at the same time as notice of the opportunity for the public to submit written comments, and the two notices may be combined. The Department will in writing modify, approve, or disapprove the plan within 90 days of receipt. If the closure plan is disapproved by the Department, the owner or operator shall modify the plan or devise a new plan, either of which shall be submitted for written Department approval within 30 days of notice of disapproval. The Department will approve or modify this plan in writing within 60 days. If the Department modifies the plan, this modified plan shall become the approved closure plan. The Department's decision shall assure that the approved closure plan is consistent with the closure requirements of this subsection and the applicable closure requirements of subsections (r), (s), (t), (u), (v), (w), (x), and (y). A copy of this modified plan shall be mailed to the owner or operator.

(7) Within 90 days after receiving the final volume of hazardous waste, or 90 days after approval of the closure plan, whichever is later, the owner or operator shall treat, remove from the site, or dispose of on-site all hazardous waste in accordance with the approved closure plan. The Department may approve in writing a longer period if the owner or operator demonstrates one of the following:

(i) The activities required to comply with this subsection will, of necessity, take longer than 90 days to complete and the owner or operator will continue to take all measures necessary to ensure safety to human health and the environment.

(ii) the facility has additional capacity under its permit, someone other than the present owner or operator will obtain a permit to recommence operation of the site, closure would be incompatible with continued operation of the site, and the owner or operator will continue to take all measures necessary to ensure safety to human health and the environment.

(8) The owner or operator shall complete closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of wastes, or 180 days after approval of the closure plan, whichever is later. The Department may in writing approve a longer closure period if the owner or operator demonstrates the following:

(i) the closure activities will, of necessity, take longer than 180 days to complete, and the owner or operator will continue to take measures necessary to ensure safety to human health and the environment.

(ii) the facility has additional capacity under its permit, someone other than the owner or operator will obtain a permit to recommence operation of the site, closure would be incompatible with continued operation of the site, and the owner or operator will continue to take all measures necessary to ensure safety to human health and the environment.

(9) When closure is complete, all facility equipment and structures shall have been properly disposed of, or decontaminated by removing all hazardous waste and hazardous residues.

(10) When closure is completed, the owner or operator shall submit to the Department certification both by the owner or operator and by an independent registered professional engineer that the facility has been closed in accordance with the specifications in the approved closure plan.

(11) Post-closure care shall continue for 30 years after the date of completing closure and shall consist of at least the following:

(i) groundwater monitoring and reporting in accordance with the requirements of subsection (n); and

(ii) maintenance of monitoring and waste containment systems as specified in subsections (n), (s), (u) and (v) of this section, where applicable.

(12) The Department may require continuation of any of the security requirements for 30 years after the date closure has been completed, when:

(i) wastes may remain exposed after completion of closure; or

(ii) access by the public or domestic livestock may pose a hazard to human health.

(13) Post-closure use of property on or in which hazardous waste remains after closure shall never be allowed to disturb the integrity of the final cover, liner(s), or any other components of any hazardous waste management facility or the function of the facility's monitoring systems, unless the owner or operator can demonstrate to the Department that the disturbance:

(i) is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or

(ii) is necessary to reduce a threat to human health or the environment.

(14) The owner or operator of a disposal facility shall provide post-closure care in accordance with the approved post-closure plan for at least 30 years after the date of completing closure. However, the owner or operator may request the Department to allow some or all of the requirements for post-closure care to be discontinued or altered prior to

the end of the 30 year period. The request shall include evidence demonstrating the secure nature of the facility that makes continuing the specified post-closure requirements unnecessary. Alternately, the Department may require the owner or operator to continue one or more of the post-closure care and maintenance requirements contained in the facility's post-closure plan for a specified period of time. The Department may do this if it finds there has been noncompliance with any applicable standards or requirements, or that such continuation is necessary to protect human health or the environment. At the end of the specified period of time, the Department will determine whether to continue or terminate post-closure care and maintenance at the facility. A person or municipality may request the Department to extend or reduce the post-closure care period based on cause. Requests for extension in the post-closure care period or alteration of post-closure care requirements must provide evidence that the extension is necessary to prevent threats to human health and the environment. These requests shall be considered by the Department only when they present new and relevant information not previously considered by the Department in accordance with the public notice and public hearing procedures specified in paragraph (18). After considering the comments, the Department will issue a final determination, based upon the criteria set forth in this paragraph. If the Department denies a request for modification of post-closure care requirements, the Department will send the owner or operator or person or municipality a brief written response giving a reason for the denial.

(15) By May 19, 1981, the owner or operator of a disposal facility shall have a written post-closure plan which shall be submitted to the Department for written approval as the Department may prescribe, or as specified in paragraph (17), whichever is sooner. He shall keep this plan at the facility. This plan shall identify the activities which will be conducted after final closure and the frequency of those activities. The post-closure plan shall include at least:

(i) A description of the planned groundwater monitoring activities and frequencies at which they will be performed to comply with subsection (n) during the post-closure period;

(ii) A description of the planned maintenance activities and frequencies at which they will be performed, to ensure:

(A) the integrity of the cap and final cover or other facility structures as specified in subsections (s), (u), and (v) where applicable; and

(B) the function of the facility monitoring equipment; and

(iii) The name, address, and phone number of the person or office to contact about the disposal facility during the post-closure care period. This person or office shall keep an updated post-closure plan during the post-closure care period.

(16) The owner or operator may amend his post-closure plan at any time during the life, which includes post-closure care, of the disposal facility. The owner or operator shall amend his plan any time changes in operating plans or facility design, or in monitoring or maintenance plans, or events which occur during the life of the facility, affect his post-closure plan. The plan shall be amended and submitted for written Departmental approval within 60 days of the proposed changes to the plan.

(17) The owner or operator of a disposal facility shall submit his post-closure plan to the Department at least 180 days before he expects to receive the final volume of waste. The owner or operator shall submit his post-closure plan to the Department no later than 15 days after:

(i) termination of interim status—except when a permit is issued to the facility simultaneously with termination of interim status; or

(ii) issuance of a judicial decree or Department compliance order to cease receiving waste or to close.

(18) The Department will provide the owner or operator and the public, through a newspaper notice, and the host municipality by letter, the opportunity to submit written comments on the post-closure plan and request modifications of the plan, including modification of the 30 year post-closure period required in paragraph (11), within 30 days of the date of the notice. The Department may also, in response to a request or at its own discretion, hold a public hearing whenever a hearing might clarify one or more issues concerning the post-closure plan. The Department will give the public notice of the hearing at least 30 days before it occurs. Public notice of the hearing may be given at the same time as notice of the opportunity for written public comments, and the two notices may be combined. The Department will approve, modify, or disapprove the plan within 90 days of its receipt. If the Department does not approve the plan, the owner or operator shall modify the plan or submit a new plan for approval within 30 days of the disapproval. The Department will approve or modify this plan in writing within 60 days. If the Department modifies the plan, the Department will provide the owner or operator and the affected public, through a newspaper notice, the opportunity to submit written comments within 30 days of the date of the notice and the opportunity for a public hearing as specified in this paragraph. After considering the comments the Department will issue a final determination in the form of a modified plan, this modified plan shall become the approved post-closure plan. The Department shall base its decision upon the criteria required of the request under paragraph (14). A copy of the modified plan shall be mailed to the owner or operator.

(19) Within 90 days after closure is completed, the owner or operator of a disposal facility shall submit to the municipality in which the facility is located and to the Department a survey plat indicating the location and dimensions of landfill cells or other disposal areas with respect to permanently surveyed benchmarks. This plat shall be prepared and certified by a registered land surveyor. The plat filed with the municipality shall contain a note, prominently displayed, which states the owner's or operator's obligation to restrict disturbance of the site as specified in paragraph (13). In addition, the owner or operator shall submit to the Department and to the municipality a record of the type, location, and quantity of hazardous waste disposed of within each cell or area of the facility. The owner or operator shall identify the type, location, and quantity of hazardous waste disposed of within each cell or area of the facility. For waste disposed of before November 19, 1980, the owner or operator shall identify the type, location and quantity of the wastes to the best of his knowledge and in accordance with any records he has kept.

(20) The grantor in every deed for the conveyance of property on which hazardous waste is presently being disposed, or has ever been disposed by the grantor or to the grantor's actual knowledge, shall include in the property description of such deed an acknowledgement of such hazardous waste disposal and that the use of such property is restricted under paragraph (13). Such acknowledgement is to include, but not be limited to, the surface area size and exact location of the disposed waste and a description of the types of hazardous waste contained therein. Such amended property descriptions shall be made a part of the deed for all future conveyances or transfers of the subject property. The warranty in such deed shall not be applicable to the surface area size and exact location of the disposed waste and a description of the types of hazardous waste contained therein.

(21) Before transferring ownership or operation of a facility during its operating life, or of a disposal facility during the post-closure care period, the owner or operator shall notify the new owner or operator in writing of the requirements of this section. An owner's or operator's failure to notify the new owner or operator of the requirements of this section in no way relieves the new owner or operator of his obligation to comply with all applicable requirements.

(22) All post-closure care activities shall be performed in accordance with the provisions of the approved post-closure plan.

(p) *Financial Requirements*

(1) Paragraph (2) applies to owners and operators of all hazardous waste facilities except as otherwise provided in subsection (a). Paragraph (5) applies only to owners and operators of disposal facilities.

(2) On the effective date of this section, each facility owner or operator shall have a written estimate of the cost of closing the facility. The owner or operator shall keep this estimate, and all subsequent estimates required in this subsection at the facility. The estimate shall equal the cost of closure at the point in the facility's operating life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan.

(3) The owner or operator shall prepare a new closure cost estimate whenever a change in the closure plan affects the cost of closure.

(4) On each anniversary of the effective date of this section, the owner or operator shall adjust the latest closure cost estimate using an inflation factor derived from the annual Implicit Price Deflator for Gross National Product as published by the U.S. Department of Commerce in its Survey of Current Business. The inflation factor shall be calculated by dividing the latest published annual Deflator by the Deflator for the previous year. The result is the inflation factor. The adjusted closure cost estimate shall equal the latest closure cost estimate times the inflation factor.

(5) On the effective date of this section, the owner or operator of a disposal facility shall have a written estimate of the annual cost of post-closure monitoring and maintenance of the facility. The owner or operator shall keep this estimate, and all subsequent estimates required in this subsection, at the facility.

(6) The owner or operator shall prepare a new annual post-closure cost estimate whenever a change in the post-closure plan affects the cost of post-closure care. The latest post-closure cost estimate is calculated by multiplying the latest annual post-closure cost estimate by 30.

(7) On each anniversary of the effective date of this section, during the operating life of the facility, the owner or operator shall adjust the latest post-closure cost estimate using the inflation factor calculated in accordance with paragraph (4). The adjusted post-closure cost estimate shall equal the latest post-closure cost estimate times the inflation factor.

(q) *Use and management of containers.*

(1) If a container holding hazardous waste is not in good condition, or if it begins to leak, the owner or operator shall transfer the hazardous waste from the defective container to a container that is in good condition or manage the waste in some way that complies with this section.

(2) The owner or operator shall use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored so that the ability of the container to contain the waste is not impaired.

(3) A container holding hazardous waste shall be kept closed during storage, except when it is necessary to add or remove waste.

(4) A container holding hazardous waste shall not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

(5) The owner or operator shall inspect areas where containers are stored, at least weekly, for leaks and for deterioration caused by corrosion or other factors.

(6) Containers holding ignitable or reactive waste shall be set back at least 50 feet—15 meters—from the facility's property line.

(7) Incompatible wastes, or incompatible wastes and materials — see Appendix IV of § 75.264—shall not be placed in the same container, unless subsection (g)(2) is complied with.

(8) Hazardous waste shall not be placed in an unwashed container that previously held an incompatible waste or material—see Appendix IV of § 75.264—unless subsection (g)(2) is complied with.

(9) A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments, shall be separated from the other materials or protected from them by means of an impermeable dike, berm, wall, or other device.

(10) Container storage areas shall have a containment system capable of collecting and holding spills, leaks, and precipitation. The containment system shall:

(i) Have an impervious base underlying the containers which is free of cracks or gaps so as to contain leaks, spills, and accumulated rainfall. All joints in an impervious base shall be sealed with appropriate sealants.

(ii) Provide efficient drainage from the base to a sump or collection system.

(iii) Have sufficient capacity to contain the entire volume of the largest container, or 10% of the total volume of all the containers, whichever is greater.

(11) Run-on into the containment system shall be prevented.

(12) Spilled or leaked waste and accumulated precipitation shall be removed from the sump or collection system with sufficient frequency to prevent overflow.

(13) At closure, all hazardous waste and hazardous waste residues shall be removed from the containment and collection systems. Remaining containers, liners, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues shall be decontaminated or removed.

(14) Storage of flowable liquid wastes—less than 20% solids by dry weight and flowable—in containers of less than 110 gallons capacity shall be in accordance with the following criteria, unless otherwise approved by the Department:

(i) For indoor storage of reactive or ignitable hazardous waste, the total maximum container height shall not exceed 6 feet. The containers shall be grouped so that the maximum width and depth of a group is no greater than the area that would contain four 55 gallon drums wide by four 55 gallon drums deep—approximately eight feet by eight feet—or the containers shall be grouped so that the maximum width of a group is no greater than the area that would contain two 55 gallon drums deep, with the length of the group so limited that at least a five foot wide aisle surrounds the group. Each eight foot by eight foot group shall be separated by at least a five foot wide aisle.

(ii) For outdoor storage of reactive or ignitable hazardous waste, the total container height shall not exceed nine feet. The maximum width and depth of a group of such containers shall not exceed the equivalent of eight 55 gallon drums wide by eight 55 gallon drums deep. Each group shall be separated by at least a five foot wide aisle from any adjacent group. A main aisle or accessway at least 12 feet wide shall be maintained through a container storage area. A minimum 40 foot setback from a building shall be maintained for all outdoor container storage of reactive or ignitable hazardous wastes.

(iii) For indoor or outdoor storage of nonreactive or nonignitable hazardous waste, the total container height shall not exceed nine feet. The maximum width and depth of a group of containers shall provide a configuration and aisle space which insures access for purposes of inspection, containment, and remedial action with emergency vehicles. The configuration shall be specified in the permit application and shall be approved in writing by the Department.

(r) *Tanks.*

(1) This subsection shall apply to owners and operators of facilities that use tanks to treat or store hazardous waste, except as otherwise provided in subsection (a) of this section.

(2) Treatment or storage of hazardous waste in tanks shall comply with subsection (g)(2).

(3) Hazardous waste or treatment reagents shall not be placed in a tank if they could cause the tank or its inner liner to rupture, leak, corrode, or otherwise fail before the end of its intended life.

(4) Uncovered tanks shall be operated to ensure at least 60 centimeters (two feet) of freeboard unless the tank is equipped with an overflow alarm and an overflow device to a standby tank with a capacity equal to or exceeding the volume of the top 60 centimeters (two feet) of the uncovered tank.

(5) Where hazardous waste is continuously fed into a tank, the tank shall be equipped with a means to stop the inflow.

(6) For liquid storage in above ground tanks or partially above ground tanks, there shall be a containment structure with a capacity that equals or exceeds the largest above ground tank volume plus a reasonable allowance for precipitation based on local weather conditions and plant operation. The requirements of this paragraph shall be complied with within six months after the effective date of this section.

(7) Whenever a tank is to be used to chemically treat or store a hazardous waste which is substantially different from waste previously treated or stored in that tank, or chemically treat hazardous waste with a substantially different process than any previously used in that tank, the owner or operator shall, before treating or storing the different waste or using the different process, conduct waste analyses and trial treatment or storage tests, or obtain written documented information on similar storage or treatment of similar waste under similar operating conditions to show that this proposed treatment or storage will meet all applicable requirements of paragraphs (1)—(3).

(8) The owner or operator of a tank shall inspect, where present:

(i) Discharge control equipment at least once each operating day, to ensure that it is in good working order.

(ii) Data gathered from monitoring equipment at least once each operating day, to ensure that the tank is being operated according to its design.

(iii) The level of waste in the tank, at least once each operating day, to ensure compliance with paragraph (4).

(iv) The construction materials of the tank, at least weekly, to detect corrosion or leaking of fixtures or seams.

(v) The construction materials of, and the area immediately surrounding, discharge confinement structures at least weekly to detect erosion or obvious signs of leakage.

(9) At closure, all hazardous waste and hazardous waste residues shall be removed from tanks, discharge control equipment, and discharge confinement structures.

(10) Ignitable or reactive waste shall not be placed in a tank, unless:

(i) The waste is treated, rendered, or mixed before or immediately after placement in the tank so that the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste and paragraph (g)(2) is complied with; or

(ii) The waste is stored or treated in such a way that it is protected from material or conditions which may cause the waste to ignite or react; or

(iii) The tank, by written Department approval, is used solely for emergencies.

(11) The owner or operator of a facility which treats or stores ignitable or reactive waste in covered tanks shall comply with National Fire Protection Association (NFPA) buffer zone requirements for tanks, contained in Tables 2-1 through 2-6 of the "Flammable and Combustible Code - 1977".

(12) Incompatible waste, or incompatible waste and materials—see Appendix IV of § 75.264—shall not be placed in the same tank, unless in compliance with subsection (g)(2).

(13) Hazardous waste shall not be placed in an unwashed tank which previously held an incompatible waste or material unless in compliance with subsection (g)(2).

(s) *Surface impoundments.*

(1) This subsection shall apply to owners and operators of facilities that use surface impoundments to treat, store, or dispose of hazardous waste unless otherwise provided in subsection (a).

(2) Sufficient freeboard shall be maintained in a surface impoundment to prevent any overtopping of the dike by overfilling, wave action, or a storm. There shall be at least 60 centimeters (two feet) of freeboard.

(3) All earthen dikes shall have a protective cover, such as suitable vegetation, rock riprap, or non-erodible material to minimize wind and water erosion and preserve structural integrity.

(4) Whenever a surface impoundment is to be used to chemically treat a hazardous waste which is substantially different from waste previously treated in that impoundment, or chemically treat hazardous waste with a substantially different process than any previously used in that impoundment, the owner or operator shall, before treating the different waste or using the different process, conduct waste analyses and trial treatment tests, or obtain written, documented information on similar treatment of similar waste under similar operating conditions to show that this treatment will comply with subsection (g)(2).

(5) The owner or operator shall comply with the requirements of subsection (g)(2).

(6) The owner or operator shall inspect the following:

(i) The freeboard level at least once each operating day.

(ii) The surface impoundment, including dikes and vegetation surrounding the dike, at least once a week to detect leaks, deterioration, or failures in the impoundment.

(7) At closure, the owner or operator may elect to remove from the impoundment the following:

(i) Standing liquids.

(ii) Waste and waste residues.

(iii) The liner, if any.

(iv) Underlying and surrounding contaminated soil.

(8) If the owner or operator removes all the impoundment materials listed in paragraph (7), or can demonstrate that none of the materials listed in paragraph (7) remaining at any state of removal are hazardous wastes, the impoundment is not further subject to the requirements of this subsection.

(9) If the owner or operator does not remove all the impoundment materials listed in paragraph (7), or does not make the demonstration described in paragraph (8), he shall close the impoundment and provide post-closure care as for a landfill under subsections (o) and (v)(7). If necessary to support the final cover specified in the approved closure plan, the owner or operator shall treat remaining liquids, residues, and soils by removal of liquids, drying, or other means.

(10) Ignitable or reactive waste shall not be placed in a surface impoundment, unless:

(i) the waste is treated, rendered, or mixed before or immediately after placement in the impoundment so that the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste, and subsection (g)(2) is complied with; or

(ii) the surface impoundment is used solely for emergencies after approval by the Department.

(11) Incompatible wastes, or incompatible wastes and materials, see Appendix IV of § 75.264, shall not be placed in the same surface impoundment, unless subsection (g)(2) is complied with.

(t) *Waste piles.*

(1) This subsection shall apply to owners and operators of facilities that treat or store hazardous waste in piles except as otherwise provided in subsection (a). A pile of hazardous waste shall be managed as a landfill under subsection (v) if the pile is used as a disposal facility..

(2) The owner or operator of a pile containing hazardous waste which could be subject to dispersal by wind shall cover or otherwise manage the pile so that wind dispersal is controlled.

(3) The owner or operator shall analyze a representative sample of waste from each incoming shipment before adding the waste to an existing pile, unless:

(i) the only wastes the facility receives are amenable to piling and are compatible with each other; or

(ii) the waste received is compatible with the waste in the pile to which it is to be added.

(4) The analysis conducted shall be capable of differentiating between the types of hazardous waste the owner or operator places in piles, so that mixing of incompatible waste does not inadvertently occur. The analysis shall include a visual comparison of color and texture.

(5) If leachate or run-off from a pile is a hazardous waste, then either:

(i) the facility owner or operator shall do the following:

(A) Place the pile on an impermeable base that is compatible with the waste under the conditions of treatment or storage.

(B) Design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a 25-year storm.

(C) Design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(D) Ensure that collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems shall be emptied or otherwise managed expeditiously to maintain design capacity of the system; or

(ii) the pile shall be protected from precipitation and run-on by some other means; and

(iii) no liquids or wastes containing free liquids shall be placed in the pile.

(6) The date for compliance with paragraph (5)(i) and (ii) is 12 months after the effective date of these regulations or earlier date as specified by the Department.

(7) Ignitable or reactive waste shall not be placed in a pile, unless:

(i) addition of the waste to an existing pile results in the waste or mixture no longer meeting the definition of ignitable or reactive waste, and complies with subsection (g)(2), or

(ii) the waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

(8) Incompatible wastes and materials, see Appendix IV of § 75.264, shall not be placed in the same pile, unless subsection (g)(2) is complied with.

(9) A pile of hazardous waste that is incompatible with any waste or other material stored nearby in other containers, piles, open tanks, or surface impoundments shall be separated from the other materials, or protected from them by means of a dike, berm, wall, or other device.

(10) Hazardous waste shall not be piled on the same area where incompatible wastes or materials were previously piled, unless the area has been decontaminated sufficiently to ensure compliance with subsection (g)(2).

(11) At closure, the owner or operator shall remove or decontaminate all waste residues, contaminated containment system components—for example liners, contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste, unless § 75.261(b)(4) (relating to criteria, identification and listing of hazardous waste) applies; or if after removing or decontaminating residues and making reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he shall close the facility and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills in subsection (v).

(u) *Land treatment.*

(1) This subsection shall apply to owners and operators of hazardous waste land treatment facilities except as otherwise provided in subsection (a).

(2) Hazardous waste shall not be placed in or on a land treatment facility unless the waste can be made nonhazardous by biological degradation or chemical reactions occurring in or on the soil.

(3) The owner or operator shall do the following:

(i) Design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portions of the facility during peak discharge from at least a 25-year storm.

(ii) Design, construct, operate, and maintain a run-off management system capable of collecting and controlling a water volume at least equivalent to a 24-hour, 25-year storm.

(iii) Ensure that collection and holding facilities—for example tanks or basins—associated with run-on and run-off control system shall be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system; and

(iv) Manage the facility to control wind dispersal if particulate matter may be subject to wind dispersal.

(4) Run-off from a land treatment facility shall be collected. If the collected run-off is a hazardous waste under § 75.261 (relating to criteria, identification, and listing of hazardous waste), it shall be managed as a hazardous waste in accordance with all applicable requirements.

(5) The date for compliance with paragraphs (3) and (4) is 12 months after the effective date of this section or an earlier date as specified by the Department.

(6) Before placing a hazardous waste in or on a land treatment facility, the owner or operator shall:

(i) determine the concentrations in the waste of any substances which exceed the maximum concentrations contained in Table I of § 75.261 (relating to criteria, identification, and listing of hazardous wastes) that cause a waste to exhibit the EP toxicity characteristic;

(ii) for any waste listed in § 75.261 (relating to criteria, identification, and listing of hazardous wastes) determine the concentrations of substances which caused the waste to be listed as a hazardous waste; and

(iii) if food-chain crops are grown, determine the concentrations in the waste of arsenic, cadmium, lead, and mercury, unless the owner or operator has written, documented data that show that these constituents are not present.

(7) An owner or operator of a hazardous waste land treatment facility on which food-chain crops are being grown, or have been grown, or will be grown in the future, shall notify the Department within 60 days after the effective date of this section.

(8) Food-chain crops shall not be grown on the treated area of a hazardous waste land treatment facility unless the owner or operator can demonstrate to the Department, based on field testing, that any arsenic, lead, mercury, or other constituents identified under paragraph (6)(ii):

(i) will not be transferred to the food portion of the crop by plant uptake or direct contact, and will not otherwise be ingested by food-chain animals; and

(ii) will not occur in greater concentrations in the crops grown on the land treatment facility than in the same crops grown on untreated similar soils under similar conditions in the same region.

(9) The information necessary to make the demonstration required by paragraph (8) shall be retained at the facility and shall at a minimum:

(i) be based upon tests for the specific waste and application rates being used at the facility; and

(ii) include plant tissue analysis, soil profile descriptions from test pits dug in representative areas of all soil series mapped on the facility by the USDA Soil Conservation Service or a qualified soil scientist, soil chemical analysis, sample selection criteria, sample size determination, analytical methods, and statistical procedures.

(10) Food-chain crops shall not be grown on a land treatment facility receiving waste that contains cadmium unless the requirements of subparagraphs (i)—(iii) or the requirements of subparagraphs (iv)—(ix) are met:

(i) The pH of the soil affected by the waste is 6.5 or greater at the time of each waste application, except for waste containing cadmium at concentrations of 2 mg/kg (dry weight) or less.

(ii) The annual application of cadmium from waste does not exceed 0.5 kilograms per hectare (kg/ha) on land used for production of tobacco, or leafy vegetables or root crops grown for human consumption. For other food-chain crops, the annual cadmium application rate shall not exceed:

Time Period	*Annual Cd Application Rate (kg/ha)*	*(lb/ac)*
Present to June 30, 1984	2.0	2.78
July 1, 1984 to December 31, 1986	1.25	1.12

(iii) The cumulative lifetime application of cadmium from waste shall not exceed the levels in either clauses (A) or (B).

(A) Maximum cumulative lifetime application (kg/ha)

Soil cation exchange capacity (meq/100 g)	*Background soil pH less than 6.5*	*Background soil pH greater than 6.5*
less than 5	5	5
5-15	5	10
greater than 15	5	20

(B) For soils with a background pH of less than 6.5, the cumulative lifetime cadmium application rate shall not exceed the levels in the following table, provided that the pH of the soil affected by the waste is adjusted to and maintained at 6.5 or greater whenever food-chain crops are grown.

Soil cation exchange capacity (meq/100 g)	*Maximum cumulative application (kg/ha)*
less than 5	5
5-15	10
greater than 15	20

(iv) The only food-chain crop produced is animal feed.

(v) The pH of the waste and the soil (mixture) is 6.5 or greater at the time of waste application and at the time the crop is planted, and this pH level is maintained whenever food-chain crops are grown.

(vi) There is a facility operating plan which demonstrates how the animal feed will be distributed to preclude ingestion by humans. The facility operating plan shall describe the measures to be taken to safeguard against possible health hazards from cadmium entering the food chain, which may result from alternative land uses.

(vii) Future property owners are notified by a stipulation in the property deed which states that the property has received waste at high cadmium application rates and that food-chain crops should not be grown due to a possible health hazard.

(viii) The Department as it deems necessary may require additional conditions and restrictions for the demonstration project depending on the design and the site.

(ix) A conceptual design of the plan shall be approved by the Department prior to the commencement of the demonstration project.

(11) The owner or operator shall implement a written Unsaturated Zone Monitoring (UZM) Plan which is designed to:

(i) Detect the vertical migration of hazardous waste and hazardous waste constituents under the active portion of the land treatment facility; and

(ii) Provide information on the background concentrations of the hazardous waste and hazardous waste constituents in similar but untreated soils nearby; this background monitoring shall be conducted before or in conjunction with the monitoring required under paragraph 11 (i) of this subsection.

(12) The Unsaturated Zone Monitoring Plan shall include, at a minimum:

(i) soil monitoring using soil samples; and

(ii) soil-pore water monitoring using devices such as lysimeters.

(13) To comply with paragraph (11)(i), the owner or operator shall demonstrate in his Unsaturated Zone Monitoring Plan that:

(i) the depth at which soil and soil-pore water samples are to be taken is below the depth to which the waste is incorporated into the soil;

(ii) the number of soil and soil-pore water samples to be taken is based on the variability of:

(A) the hazardous waste constituents in the waste and in the soil; and

(B) the soil series and phases in the land treatment area; and

(iii) the frequency and timing of soil and soil-pore water sampling is based on the frequency, time and rate of waste application, proximity to ground water, and soil permeability.

(14) The owner or operator shall retain at the facility his Unsaturated Zone Monitoring Plan, and the rationale used in developing the plan.

(15) The owner or operator shall analyze the soil and soil-pore water samples for the hazardous waste constituents that were found in the waste during the waste analysis under paragraphs (6)(i) and (ii).

(16) The owner or operator of a land treatment facility shall maintain records of the application dates, application rates, quantities, and location of each hazardous waste placed in the facility, in the operating record required in subsection (k).

(17) In the closure and post-closure plan required in subsection (o), the owner or operator shall address the following objectives and indicate how they will be achieved:

(i) control of the migration of hazardous waste and hazardous waste constituents from the treated area into the ground water;

(ii) control of the discharge of contaminated run-off from the facility into surface water or ground water;

(iii) control of the emission of airborne particulate contaminants caused by wind erosion; and

(iv) compliance with paragraphs (7)—(10) concerning the growth of food chain crops.

(18) The owner or operator shall consider at least the following factors in addressing the closure and post-closure care objectives of paragraph (17).

(i) type and amount of hazardous waste and hazardous waste constituents applied to the land treatment facility;

(ii) the mobility and the expected rate of migration of the hazardous waste and hazardous waste constituents;

(iii) site location, topography, and surrounding land use, with respect to the potential effects of pollutant migration;

(iv) climate, including amount, frequency, and pH of precipitation;

(v) geological and soil profiles, surface and subsurface hydrology of the site, and soil chemical characteristics, including at least cation exchange capacity, total organic carbon, and pH;

(vi) unsaturated zone monitoring information obtained under paragraphs (11)—(15); and

(vii) type, concentration, and depth of migration of hazardous waste constituents in the soil as compared to their background concentrations.

(19) The owner or operator shall consider at least the following methods in addressing the closure and post-closure care objectives of paragraph (17):

(i) removal of contaminated soils;

(ii) placement of a final cover, considering:

(A) functions of the soil cover; and

(B) characteristics of the soil cover, including material, final surface contours, thickness, porosity and permeability, slope, length of slope, and type of vegetation on the cover;

(iii) collection and treatment of run-off;

(iv) diversion structures to prevent surface water run-on from entering the treated area; and

(v) monitoring of soil, soil-pore water, and ground water.

(20) In addition to the requirements of subsection (o), during the closure and post-closure care period the owner or operator of a land treatment facility shall do the following:

(i) Maintain an unsaturated zone monitoring system, and collect and analyze samples from this system in a manner and frequency specified in the closure and post-closure plans, except that soil pore liquid monitoring may be terminated, if approved in writing by the Department, 90 days after the last application of waste.

(ii) Restrict access to the facility as appropriate for its post-closure use.

(iii) Assure that growth of food-chain crops complies with paragraphs (7)—(10).

(iv) Control wind dispersal of hazardous waste.

(21) Ignitable or reactive waste shall not be land treated unless approved by the Department and the following conditions are met.

(i) The waste is immediately incorpated into the soil so that the following applies:

(A) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste.

(B) Subsection (g)(2) is complied with.

(ii) The waste is managed in a way that it is protected from any material or conditions which may cause it to ignite or react.

(22) Incompatible wastes, or incompatible wastes and materials, see Appendix IV of § 75.264, shall not be placed in the same land treatment area, unless subsection (g)(2) is complied with.

(v) *Landfills.*

(1) This subsection applies to owners and operators of facilities that dispose of hazardous waste in landfills except as otherwise provided in subsection (a). A waste pile used as a disposal facility is a landfill and is governed by this subsection.

(2) The owner or operator of a landfill shall do the following:

(i) Design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portions of the landfill during peak discharge from at least a 25-year storm.

(ii) The owner or operator shall design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(iii) Ensure that collection and holding facilities—for example tanks or basins—associated with run-on and run-off control systems shall be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(3) Run-off from active portions of a landfill shall be collected. If the collected run-off is a hazardous waste, it shall be managed as a hazardous waste in accordance with all applicable requirements.

(4) The date for compliance with paragraphs (2) and (3) shall be 12 months after the effective date of this section or earlier as determined by the Department.

(5) The owner or operator of a landfill containing hazardous waste which is subject to dispersal by wind shall cover or otherwise manage the landfill so that wind dispersal of the hazardous waste is controlled.

(6) The owner or operator of a landfill shall maintain the following items in the operating record required in subsection (k):

(i) On a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks; and

(ii) The contents of each cell and the approximate location of each hazardous waste type within each cell.

(7) The owner or operator shall place a final cover over the landfill, and the closure plan under subsections (o)(3)—(5) shall specify the function and design of the cover. In the post-closure plan under subsection (o)(15)—(17), the owner or operator shall include the post-closure care requirements of paragraph (10).

(8) In the closure and post-closure plans, the owner or operator shall address the following objectives and indicate how they will be achieved:

(i) control of pollutant migration from the facility by ground water, surface water, and air;

(ii) control of surface water infiltration, including prevention of ponding; and

(iii) prevention of erosion.

(9) The owner or operator shall consider at least the following factors in addressing the closure and post-closure care objectives of paragraph (8):

(i) type and amount of hazardous waste and hazardous waste constituents in the landfill;

(ii) the mobility and the expected rate of migration of the hazardous waste and hazardous waste constituents;

(iii) site location, topography, and surrounding land use, with respect to the potential effects of pollutant migration;

(iv) climate, including amount, frequency, and pH of precipitation;

(v) characteristics of the cover including material, final surface contours, thickness, porosity and permeability, slope, length of slope, and type of vegetation on the cover; and

(vi) geological and soil profiles and surface and subsurface hydrology of the site.

(10) In addition to the requirements of subsection (o), during the post-closure care period, the owner or operator of a hazardous waste landfill shall:

(i) maintain the function and integrity of the final cover as specified in the approved closure plan;

(ii) maintain and monitor the leachate collection, removal, and treatment system, if there is one present in the landfill, to prevent excess accumulation of leachate in the system. The collected leachate is a hazardous waste, unless it is determined to be non-hazardous in accordance with § 75.261(b)(4) (relating to criteria, identification and listing of hazardous waste), and shall be managed as a hazardous waste in accordance with all applicable requirements;

(iii) maintain and monitor the gas collection and control system, if there is one present in the landfill, to control the vertical and horizontal escape of gases;

(iv) protect and maintain surveyed benchmarks; and

(v) restrict access to the landfill as appropriate for its post-closure use.

(11) Ignitable or reactive waste shall not be placed in a landfill, unless approved by the Department and the following conditions are met;

(i) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under § 75.261(g).

(ii) subsection (g)(2) is complied with.

(12) Incompatible wastes, or incompatible wastes and materials, see Appendix IV of § 75.264, shall not be placed in the same landfill cell unless paragraph (g)(2) is complied with.

(13) Liquid waste and waste containing free liquids shall not be placed in a landfill. Any hazardous waste to be disposed of in a landfill shall have greater than 20% solids content by dry weight and shall not be flowable. Flowable refers to flow in the sense of pourable as a liquid. The date for compliance with this requirement shall be 12 months after the effective date of these regulations or earlier as determined by the Department. Written approval shall be obtained from the Department to continue such disposal activities during this 12-month period.

(14) No hazardous waste shall be co-disposed with municipal waste unless approved by the Department.

(15) An empty container shall be crushed flat, shredded, or similarly reduced in volume before it is buried in the landfill.

(w) *Incinerators.*

(1) The requirements of this subsection apply to owners and operators of facilities that dispose of hazardous waste in incinerators, except as otherwise provided in subsection (a).

(2) Before adding hazardous waste in an incinerator, the owner or operator shall bring the incinerator to steady state (normal) conditions of operation, including steady state operating temperature and air flow, using auxiliary fuel or other means.

(3) The owner or operator shall sufficiently analyze any type of waste which has not been previously burned in the incinerator to enable him to establish steady state (normal) operating conditions, including waste and auxiliary fuel feed and air flow, to determine the type of pollutants which might be emitted. At a minimum, the analysis shall determine:

(i) heating value of the waste;

(ii) halogen content and sulfur content; and

(iii) Concentrations in the waste of lead and mercury, unless the owner or operator has written, documented data that show that the element is not present.

(4) The owner or operator shall conduct, as a minimum, the following monitoring and inspections when incinerating hazardous waste:

(i) Existing instruments which relate to combustion and emission control shall be monitored at least every 15 minutes. Appropriate corrections to maintain steady state combustion conditions shall be made immediately either automatically or by the operator. Instruments which relate to combustion and emission control would normally include those measuring waste feed, auxiliary fuel feed, air flow, incinerator temperature, scrubber flow, scrubber pH, and relevant level controls.

(ii) The stack plume emissions shall be observed visually at least hourly for normal appearance, color, and opacity. The operator shall immediately make any indicated operating corrections necessary to return visible emissions to their normal appearance.

(iii) The complete incinerator and associated equipment—pumps, valves, conveyors, pipes, and the like—shall be inspected at least daily for leaks, spills, and fugitive emissions, and all emergency shutdown controls and system alarms shall be checked to assure proper operation.

(5) At closure, the owner or operator shall remove all hazardous waste and hazardous waste residues, including but not limited to ash, scrubber waters, and scrubber sludges from the incinerator.

(6) An owner or operator of a combustion unit or process, as defined in Chapter 121 (relating to general provisions), which thermally destructs a hazardous waste shall not be required to obtain a solid waste management permit for the construction and operation of a boiler process, but shall be required to obtain an air quality plan approval pursuant to Chapter 127 (relating to construction, modification, reactivation, and operation of sources), and shall also be subject to the following requirements:

(i) Submission of an analysis along with the information on forms specified by the Department as indicated in paragraph (3).

(ii) Submission of forms specified by the Department for approval to dispose of ash, scrubber water residues, scrubber water, and other residues.

(iii) An approved air quality plan shall be deemed to constitute a solid waste management permit under this section.

(x) *Thermal treatment.*

(1) This subsection applies to owners and operators of facilities that thermally treat hazardous waste in devices other than incinerators unless otherwise provided in subsection (a). Thermal treatment in incinerators is subject to the requirements of subsection (w).

(2) Before adding hazardous waste, the owner or operator shall bring his thermal process to steady state (normal) conditions of operation, including steady state operating temperature, using auxiliary fuel or other means, unless the process is a non-continuous (batch) thermal treatment process which requires a complete thermal cycle to treat a discrete quantity of hazardous waste.

(3) The owner or operator shall sufficiently analyze any type of waste which has not been previously treated in his thermal treatment process to enable him to establish steady state (normal) or other operating conditions appropriate for a non-continuous process, including waste and auxiliary fuel feed, and to determine the type of pollutants which might be emitted. At a minimum, the analysis shall determine:

(i) Heating value of the waste;

(ii) Halogen content and sulfur content in the waste; and

(iii) Concentrations in the waste of lead and mercury, unless the owner or operator has written, documented data that show that the element is not present.

(4) The owner or operator shall conduct, as a minimum, the following monitoring and inspections when thermally treating hazardous waste:

(i) Existing instruments which relate to temperature and emission control—if an emission control device is present—shall be monitored at least every 15 minutes. Appropriate corrections to maintain steady state or other appropriate thermal treatment conditions shall be made immediately either automatically or by the operator. Instruments which relate to temperature and emission control would normally include those measuring waste feed, auxiliary fuel feed, treatment process temperature, and relevant process flow and level controls.

(ii) The stack plume (emissions) where present, shall be observed visually at least hourly for normal appearance (color and opacity). The operator shall immediately make any indicated operating corrections necessary to return any visible emissions to their normal appearance.

(iii) The complete thermal treatment process and associated equipment—pumps, valves, conveyors, pipes, and the like—shall be inspected at least daily for leaks, spills, and fugitive emissions, and all emergency shutdown controls and system alarms shall be checked to assure proper operation.

(5) At closure, the owner or operator shall remove all hazardous waste residues, including but not limited to, ash from the thermal treatment process or equipment.

(6) Open burning of hazardous waste is prohibited except for the open burning and detonation of waste explosives. Waste explosives include waste which has the potential to detonate and bulk military propellants which cannot safely be disposed of through other modes of treatment. Detonation is an explosion in which chemical transformation passes through the material faster than the speed of sound—0.33 kilometers/second at sea level. Owners or operators choosing to openly burn or detonate waste explosives shall do so in accordance with the following table and in a manner that does not threaten human health or the environment:

Pounds of Waste Explosives or Propellants	*Minimum Distance from Open Burning or Detonation to the Property of Others*
0-100	204 meters (670 feet)
101-1,000	380 meters (1,250 feet)
1,001-10,000	530 meters (1,730 feet)
10,001-30,000	690 meters (2,260 feet)

(7) The open burning of waste explosives as specified in paragraph (6) shall not be permitted in air basins as defined in §121.1 (relating to definitions).

(y) *Chemical, physical, and biological treatment.*

(1) This subsection applies to owners and operators of facilities which treat hazardous waste by chemical, physical or biological treatment processes in other than tanks, surface impoundments, and land treatment facilities, except as otherwise provided in subsection (a). Chemical, physical, and biological treatment of hazardous waste in tanks, surface impoundments, and land treatment facilities shall be conducted in accordance with subsections (r), (s), and (u), respectively.

(2) Chemical, physical, or biological treatment of hazardous waste shall comply with paragraph (g)(2).

(3) Hazardous waste or treatment reagents shall not be placed in the treatment process or equipment if they could cause the treatment process or equipment to rupture, leak, corrode, or otherwise fail before the end of its intended life.

(4) When hazardous waste is continuously fed into a treatment process or equipment, the process or equipment shall be equipped with a means to stop the inflow.

(5) When a hazardous waste which is substantially different from waste previously treated in a treatment process or equipment at the facility is to be treated in that process or equipment, or a substantially different process than any previously used at the facility is to be used to chemically treat hazardous waste, the owner or operator shall, before treating the different waste or using the different process or equipment:

(i) Conduct waste analyses and trial treatment tests; or

(ii) Obtain written, documented information on similar treatment of similar waste under similar operating conditions to show that this proposed treatment will meet all applicable requirements of paragraphs (2) and (3).

(6) The owner or operator of a treatment facility shall inspect:

(i) Discharge control and safety equipment at least once each operating day, to ensure that it is in good working order;

(ii) Data gathered from monitoring equipment such as pressure and temperature gauges, at least once each operating day, to ensure that the treatment process or equipment is being operated according to its design;

(iii) The construction materials of the treatment process or equipment, at least weekly, to detect corrosion or leaking of fixtures or seams; and

(iv) The construction materials of and the area immediately surrounding, discharge confinement structures, at least weekly, to detect erosion or obvious signs of leakage.

(7) At closure, all hazardous waste and hazardous waste residues shall be removed from treatment processes or equipment, discharge control equipment, and discharge confinement structures.

(8) Ignitable or reactive waste shall not be placed in a treatment process or equipment unless:

(i) The waste is treated, rendered, or mixed before or immediately after placement in the treatment process or equipment so that the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste, or subsection (g)(2) is complied with.

(ii) The waste is treated in such a way that it is protected from material or conditions which may cause the waste to ignite or react.

(9) Incompatible wastes, or incompatible wastes and materials — see Appendix IV of § 75.264, shall not be placed in the same treatment process or equipment unless subsection (g)(2) is complied with.

(10) Hazardous waste shall not be placed in unwashed treatment equipment which previously held an incompatible waste or material unless subsection (g)(2) is complied with.

(z) *Hazardous waste management permit program.*

(1) This subsection sets forth specific requirements for the hazardous waste management (HWM) permit program. In addition to these requirements the following sections have been added which each HWM facility owner or operator of a new or existing HWM facility is subject to:

(i) § 75.270 (relating to the hazardous waste management permit program).

(ii) § 75.271 (relating to exclusions from permit requirements).

(iii) § 75.272 (relating to interim status facilities).

(iv) § 75.273 (relating to general application requirements).

(v) § 75.274 (relating to contents of Part A permit applications).

(vi) § 75.275 (relating to standard conditions for permits).

(vii) § 75.276 (relating to requirements for recording and reporting of monitoring results).

(viii) § 75.277 (relating of schedules to compliance).

(ix) § 75.278 (relating to cause for permit modfication or revocation and reissuance).

(x) § 75.279 (relating to revocation of permits).

(xi) § 75.280 (relating to procedures for permit issuance, modification, revocation and reissuance, or revocation).

(xii) § 75.281 (relating to public notice requirements).

(xiii) § 75.282 (relating to public hearings).

(2) Any person or municipality who owns or operates an existing hazardous waste storage or treatment facility shall be regarded as having interim status provided that:

(i) the notification requirements of § 75.267 (relating to notification of hazardous waste activities) have been complied with;

(ii) Part A of the permit application has been submitted; and

(iii) this section has been complied with.

(3) A person or municipality who owns or operates an existing hazardous waste disposal facility shall be regarded as having interim status provided that:

(i) the facility has a current solid waste permit issued by the Department; and

(ii) the requirements of paragraph (2) are complied with.

(4) For an existing facility, timely notification completed under section 3010 of the Resource Conservation and Recovery Act (42 U.S.C. §6930) and timely submission of Part A of the Consolidated Permit Application forms to EPA under to 40 C.F.R. Part 122, (relating to national pollutant discharge elimination system) shall be deemed to satisfy the requirements of paragraphs (2)(i) and (ii) and (3)(i) and (ii).

(5) HWM facility owners or operators having interim status shall be treated as having been issued a permit until such time as final departmental action on Part B of the permit application is made. During the Department's revision or subsequent review of Part A of the permit application, if it is determined that the HWM facility fails to meet the standards under this section, or if the application is deficient, the Department will notify the owner or operator of the determination and may notify the HWM facility that it is no longer entitled to interim status.

(6) At any time after promulgation of § 75.264 (relating to new and existing hazardous waste management facilities applying for a permit), the owner or operator of an existing HWM facility may be required to submit Part B of the permit application. An owner or operator shall be allowed at least six months from the date of request to submit Part B of the application before the application is due to the Department. Any owner or operator of an existing HWM facility may voluntarily submit Part B of the application at any time. In no instance shall a HWM facility owner or operator continue to store or treat hazardous waste under interim status without obtaining a HWM permit from the Department before September 5, 1982.

(7) Failure to furnish a requested Part A or Part B application on time, or to furnish in full the information required by the Part A or Part B application, shall be grounds for termination of interim status.

(8) An owner or operator of an existing hazardous waste management facility shall submit Part A of the permit application to the Department no later than 6 months after the date of publication of regulations which first require compliance with the standards under § 75.265 or shall submit Part A 30 days after the date a facility's owner or operator first becomes subject to the standards under §75.265 whichever first occurs. If an owner or operator of a HWM facility has filed Part A of a permit application and has not yet filed Part B, the owner or operator shall file an amended Part A application no later than the effective date of regulatory provisions listing or designating wastes as hazardous if the facility is treating, storing, or disposing of any of those newly listed or designated wastes. The owner or operator of a HWM facility who fails to comply with this requirement may not receive interim status as to wastes not covered by a filed Part A permit application.

(9) No person or municipality shall begin physical construction on a new HWM facility without having submitted Part A and Part B of the permit application and received a HWM permit from the Department. An application for a permit for a new HWM facility including both Part A and Part B shall be filed with the Department any time after promulgation of § 75.264 (relating to new and existing hazardous waste management facilities applying for a permit).

(10) Applications for a permit shall be made by a person or municipality who is required to have a permit, including new applicants and permittees with expiring permits, and shall complete, sign, and submit an application to the Department as described in paragraph (13). Persons or municipalities currently authorized with interim status under the act shall apply for permits when required by the Department. Publicly owned treatment works meeting the requirements of paragraph (14) need not apply.

(11) An applicant for a HWM permit shall at a minimum provide the information required in the Part A application form (hazardous waste permit application—Part A) and the Part B application forms. The Department may require additional information. The Department will return incomplete applications to the applicant. An incomplete application does not contain the information required in paragraphs (18)—(21); the Part A and Part B application forms; and the information required in § 75.274. The Part B application form is comprised of the following properly completed modules and forms:

(i) The TSD Application checklist

(ii) The Module 9 form provided by the Department (general environmental, social and economic information).

(iii) The contractual consent of landowner (landowner consent form provided by the Department).

(iv) Other modules and forms the Department deems necessary for submitting a complete application.

(v) An application fee in the amount specified in paragraph (26).

(12) Applicants shall keep records of all data used to complete Part A and Part B permit applications for a period of at least three years from the date the application is signed.

(13) It shall be the operator's duty to obtain a permit and the owner and operator shall sign the permit application.

(i) The owner and operator shall sign the permit application as follows:

(A) If the owner or operator is a corporation, a responsible corporate officer shall sign the application. For the purpose of this subparagraph (i), a responsible corporate officer is one of the following:

(I) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function or another person who performs similar policy—or decision making functions for the corporation.

(II) The manager of a manufacturing, production or operating facility employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million—in second—quarter 1980 dollars,—if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(B) If the owner or operator is a partnership or sole proprietor, the general partner or the proprietorship shall sign the application.

(C) If the owner or operator is a business entity or government agency other than a corporation, partnership, or sole proprietorship, a principal executive officer or ranking elected official shall sign the application. For purposes of this clause, a principal executive officer of a Federal agency includes one of the following:

(I) The chief executive officer of the agency.

(II) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

(ii) Reports required by permits and other information requested by the Department shall be signed by a permittee or municipality described in subparagraph (13)(i), or by an authorized representative. The Department shall be notified in writing of change in authorization. A person is an authorized representative only if the following applies:

(A) The authorization is made in writing by a person described in subparagraph (13)(i).

(B) The authorization specifies either an individual or a position having responsibility for overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position).

(C) The written authorization is submitted to the Department.

(iii) For certification, a person signing a document under subparagraph (13)(i) and (ii) of this section shall certify as follows:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

(iv) If an authorization under subparagraph (13)(ii) is no longer accurate because a different individual or a person in a different position has responsibility for the overall operation of the facility, a new authorizartion satisfying the requirements of subparagraph (13)(ii) shall be submitted to the Department prior to or together with a report, information, or an application to be signed by an authorized representative.

(14) A publicly-owned treatment works (POTW) which accepts hazardous waste for treatment shall be deemed to have a HWM permit if the following conditions are met:

(i) Has an NPDES permit.

(ii) Complies with the conditions of that permit.

(iii) Complies with the following provisions.

(A) § 75.264(b) (relating to new and existing hazardous waste management facilities applying for a permit);

(B) § 75.264(j).

(C) § 75.264(k).

(D) § 75.264(m) (relating to new and existing hazardous waste management facilities applying for a permit).

(iv) The waste meets all Federal, State and local pretreatment requirements which would be applicable to the waste if it were being discharged into the POTW through a sewer, pipe, or similar conveyance.

(15) A HWM permit shall be effective for a fixed term not to exceed ten years. The Department may issue a permit for a duration that is less than the full allowable term.

(16) Confidentiality of information shall be as follows:

(i) Information submitted to the Department pursuant to this subsection may be claimed as confidential by the applicant. Any such claim shall be asserted at the time of submission in the manner prescribed in paragraph (ii) and the application form or instructions by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, the Department shall make the information available to the public without further notice.

(ii) Claims of confidentiality for permit application information shall be substantiated at the time the application is submitted and shall address the following:

(A) the portions of the information claimed to be confidential;

(B) the length of time the information is to be treated as confidential;

(C) the measures taken to guard against undesired disclosure of the information to others;

(D) the extent the information has been disclosed to others and the precautions taken in connection with that disclosure;

(E) a copy of any pertinent confidentiality determinations by EPA or other Federal agency; and

(F) the nature of the substantial harm to the competitive position by disclosure of the information, the reasons it should be viewed as substantial, and the relationship between the disclosure and the harm.

(iii) The Department will keep confidential information in a secure repository and shall not make such information available for inspection by the general public.

(iv) The Department will make confidential information available to any State or Federal agency for the purpose of administration of any State or Federal law.

(17) The owner or operator of an elementary neutralization unit or a wastewater-treatment unit shall be deemed to have an HWM permit if the following requirements are complied with:

(i) the facility is a captive facility and the only waste treated is generated on-site;

(ii) has an NPDES permit, if required, and complies with the conditions of that permit;

(iii) subsections (b), (d), (e), (h), (i), (k), and (m) of sections 75.264 and 75.265(y) (2)—(10).

(18) The following general information, at a minimum, shall accompany the submission of Part B applications for new and existing HWM facilities. The application shall also contain the information required under paragraph (11).

(i) A written report describing the operational concept of treatment, storage, or disposal. This report shall be organized by addressing all applicable sections and subsections of these regulations. The report shall include all applicable written operational plans required by regulations, a description explaining the daily operational methodology of the proposed facility, expected waste types, sources, and volumes, and detailed descriptions of all unit processes of all treatment, storage, and/or disposal facilities.

(ii) Maps and design drawings, including a title sheet, a 7.5 minute USGS topographic map showing the site location, site plan, and general arrangement plans and elevations. Adequate plans and maps shall be submitted in the number prescribed by the Department and shall be drawn to the scale of one inch equals 200 feet, or larger for plan views and shall contain ten-foot contour intervals. Maps shall be limited in physical size to no greater than 30 inches vertical height and 36 inches horizontal width, and be clear and legible. Sections and elevations shall have a horizontal scale of not more than 200 feet to the inch and a vertical scale of not more than ten feet to the inch. A grid and/or coordinate control system for the entire site shall also be included on the design drawings. This horizontal control system shall consist of a grid not to exceed 200 foot square sections. The grid shall be controlled and tied to a permanent, physical marker or other object located on site. The vertical control shall be tied to a benchmark elevation established for the permanent marker. Further information may be required by the Department to insure that the proposed hazardous waste management facility complies with the provisions of this chapter.

(iii) Construction and manufacturing design specifications and supporting design calculations. These specifications shall include quality control methods, procedures, and tests to be used during construction of the HWM facility.

(iv) An environmental assessment report presented on forms specified by the Department.

(v) A compliance history of the site owner and operator presented on forms provided by the Department.

(19) All drawings, reports, and specifications shall bear the imprint of the seal of the registered professional engineer, and the title sheet shall bear the imprint of the seal and the engineer's signature. All design drawings shall show the scale in feet, the title, the north point, date prepared, date revised, datum, and sheet number.

(20) The following specific information is required to be submitted with Part B of the application for all waste piles, landfills, surface impoundments, and land treatment facilities. For these HWM facilities, the application shall be submitted in two phases (Phases I and II) for written Department approval. These phases may be submitted separately or together.

(i) Phase I application requirements:

(A) Information on topographic maps shall include as a minimum, the following:

(I) Borrow areas, on-site or off-site. Borrow shall be the material excavated for the construction of fills, use as cover material, or other construction purposes.

(II) Location of public and private water supplies, wells, springs, streams, swamps, or other bodies of water within ¼ mile of the proposed landfill surface impoundment, or land treatment site property lines.

(B) Certain factors may serve to limit HWM facility operations and information pertaining to these factors on-site and within ¼ mile of the landfill surface impoundment, or land treatment site property lines shall be included as follows:

(I) Location of underground and surface mines and maps showing the extent of deep mine workings, elevation of the mine pool, and location of mine pool discharges.

(II) Location of gas and oil wells.

(III) Location of high-tension power line rights-of-way.

(IV) Location of pipeline rights-of-way.

(V) Location of geologic and hydrologic features.

(C) A soils, geologic, and ground water report of the characteristics of the site shall be included as required by the Department. This report shall be based on a soils, geology, and hydrology investigation and on a published standard soil survey or equivalent data, and shall encompass the criteria below:

(I) A sufficient number of excavations and borings or wells shall be provided to validly and conclusively determine the soil, geology, and ground water characteristics of the site. Exploratory borings or wells shall be provided. These borings or wells shall be drilled ten feet into the ground water or bedrock; or, in the absence of groundwater or bedrock, a distance equal to at least twice the planned depth of hazardous waste to be deposited. A minimum of three borings or wells shall be drilled ten feet into the groundwater to delineate groundwater flow systems. A water table contour map shall be interpreted and drawn based on these borings or wells that will accurately depict the depth and directions of groundwater movement and contour elevations based on the benchmark elevation established under subparagraph (18)(ii). Any boring not cased and capped or used for groundwater monitoring purposes shall be filled with grout.

(II) Detailed soil descriptions taken from on-site test excavations and those from any other source of soil material proposed for use at the facility. Descriptions shall be written by professionals knowledgeable in the field of soil morphology and classification, and shall be written following the format generally accepted for soil descriptions in this field, and at a minimum shall include for each horizon: depth and thickness, matrix color, texture, structure, consistence, degree of mottling if present, mottle colors if present, and coarse fragment content. All classifications and interpretations on soil materials shall be based on criteria as specified in soil taxonomy and the USDA Soil Survey Manual. Locations of all test excavations shall be indicated on the plans. Detailed soil descriptions from all test excavations shall be provided.

(D) An environmental assessment report upon forms specified by the Department.

(E) A written description of the general operations, methods, and practices to be utilized at the facility.

(F) Such further information as necessary or as may be required by the Department to insure the proposed facility complies with the provisions of this chapter.

(G) When the Department has determined that the information required under this subparagraph is verified and complete, the applicant shall be notified in writing that the Phase I site evaluation has shown the site is acceptable or unacceptable. If the site is shown to be acceptable under the Phase I evaluation, this shall not assure that a hazardous waste facility permit will be issued. Written Phase I approval shall serve to notify the applicant that he may proceed with the development of the Phase II application, subject to any conditions addressed in the Phase I evaluation.

(ii) Phase II Application. Design drawings, reports, and specifications shall include:

(A) Design drawings or specifications that include details relative to:

(I) Compaction of solid waste.

(II) Application of daily cover material.

(III) Elevations and grades of final cover.

(IV) Management of surface water.

(V) Erosion control.

(VI) Revegetation procedures to be used.

(VII) Schedule of fillings.

(VIII) Site preparations.

(IX) Monitoring and measuring devices.

(X) Location and limits of areas previously filled.

(XI) Cross sections indicating the interface details between areas previously filled and areas to be filled, where applicable.

(XII) Limits of construction defined by grid controls.

(XIII) Borrow areas on-site defined by grid controls.

(XIV) Location, description, and purpose of all easements existing on-site and a definition of all title, deed, or usage restrictions relative to the site.

(XV) Location of gas, oil and other wells and all utilities on-site.

(XVI) Location of public and private water supplies on-site.

(XVII) Location of underground and surface mines on-site.

(XVIII) Cross sections shown on the plans and referenced to the grid system for horizontal location, whenever applicable.

(XIX) Grades required for required drainage of the facility.

(XX) Cross sections of the access roads and all weather roads, identifying construction materials, slopes, grades, and distances.

(XXI) Cross sections, grades and/or profiles of surface drainage diversion ditches, capacities and calculations for ditch volume.

(XXII) Grades indicating the depth of soil available at the site for suitable cover material.

(XXIII) A construction schedule in a format established by the Department.

(XXIV) Process and instrumentation diagrams for unit processes to be employed at the facility.

(XXV) Groundwater contour map.

(XXVI) Other drawings, diagrams, or maps as necessary or as required by the Department to fully detail the operation of the facility provided that such additional information is pertinent to protection of human health and/or the environment.

(B) Reports or narratives and specifications that fully detail:

(I) The operations, methods and practices, and all unit processes to be employed at the facility.

(II) Waste types, volumes, and sources.

(III) All plans required by these regulations that affect the proposed facility and its operations.

(IV) Quality control methods, procedures, and tests to be used during construction.

(V) Specifications including, but not limited to, all construction information not shown on the drawings but which is necessary to inform the

contractor and Department in detail of the design requirements as to the quality of materials, workmanship of fabrication of the project, and the type, size, strength, operating characteristics, and ratings of all major mechanical and electrical equipment. After completion of construction or installation and prior to operation of the facility, specifications shall be submitted to the Department showing all "as-built" specifications, including any and all modifications to the design and operation as originally submitted in the Phase II application. These "as-built" specifications shall be subject to Department review and be approved in writing by the Department before operation of the HWM facility shall begin.

(VI) Other reports, narratives, or specifications as necessary or as required by the Department, provided that the additional information is pertinent to protection of human health and/or the environment.

(21) The following specific information is required to be submitted with Part B of the application for incinerators, tanks, thermal treatment facilities, chemical, physical, and biological treatment facilities, and storage facilities.

(i) Information on topographic maps shall include as a minimum the following that occur within ¼ mile of the facility's property lines.

(A) Location of public and private water supplies, wells, springs, streams, swamps or other bodies of water.

(B) Location of gas and oil wells.

(C) Location of high-tension power line rights-of-ways.

(D) Location of pipeline rights-of-ways.

(E) Location of geologic and hydrologic features.

(F) Such further information as necessary or as required by the Department to insure the proposed facility complies with the provisions of this chapter.

(ii) Detailed information on design drawings and specifications relative to:

(A) Management of surface water.

(B) Erosion control.

(C) Revegetation procedures to be used.

(D) Site preparation.

(E) Monitoring and measuring devices.

(F) Location and limits of construction defined by grid controls.

(G) Location, description, and purpose of all easements existing on-site and a definition of all title, deed, or usage restrictions relative to the site.

(H) Location of gas, oil and other wells and all utilities on-site.

(I) Location of public and private water supplies on-site.

(J) Cross sections shown on the drawings and referenced to the grid system for horizontal location, whenever applicable.

(K) Grades required for required drainage of the facility.

(L) Cross sections of the access roads and all-weather roads, identifying construction materials, slopes, grades, and distances.

(M) Cross sections, grades and/or profiles of surface drainage diversion ditches, capacities and calculations for ditch volume.

(N) Process and instrumentation diagrams for unit processes to be employed at the facility.

(O) Such further information as necessary or as required by the Department to insure the proposed facility complies with the provisions of this chapter.

(iii) Reports or narratives, and specifications that fully detail:

(A) The operations, methods and practices, and all unit processes to be employed at the facility.

(B) Waste types, volumes, and sources.

(C) All plans required by these regulations that affect the proposed facility and its operations.

(D) Quality control methods, procedures, and tests to be used during construction.

(E) Specifications including, but not limited to, all construction information not shown on the drawings but which is necessary to inform the contractor and Department in detail of the design requirements as to the quality of materials, workmanship of fabrication of the project, and the type, size, strength, operating characteristics, and ratings of all major mechanical and electrical equipment. After completion of construction or installation and prior to operation of the facility, specifications shall be submitted to the Department showing all "as-built" specifications, including any and all modifications to the design and operation as originally submitted in the Phase II application. These "as-built" specifications shall be subject to Department review and be approved in writing by the Department before operation of the HWM facility shall begin.

(F) Other reports, narratives, or specifications as necessary or as required by the Department provided that the additional information is pertinent to protection of human health and/or the environment.

(22) All facilities shall comply with the following:

(i) Be constructed, operated, and maintained according to the plans, design standards, and specifications approved by the Department, and the plans, design standards and specifications shall be incorporated as part of the permit.

(ii) If located in a 100-year floodplain, be designed, constructed, operated and maintained to prevent washout of hazardous waste by a 100-year flood unless the owner or operator can demonstrate to the Department that procedures are in effect which will cause the waste to be removed safely before flood waters can reach the facility to a location where the wastes will not be vulnerable to flood waters. The owner or operator of a facility located in a 100-year flood plain shall provide the following information:

(A) Engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected to result at the site as consequence of a 100-year flood.

(B) Structural or other engineering studies showing the design of operational units such as tanks and incinerators and flood protection devices such as floodwalls and dikes at the facility and how these will prevent washout.

(C) If applicable, and in lieu of subparagraphs (ii)(A) and (B) a detailed description of procedures to be followed to remove hazardous waste to safety before the facility is flooded, including:

(I) Timing of the movement relative to flood levels, including estimated time to move the waste, to show that the movement can be completed before floodwaters reach the facility.

(II) A description of the locations to which the waste will be moved and demonstration that those facilities will be eligible to receive hazardous waste under §§ 75.260—75.267.

(III) The planned procedures, equipment, and personnel to be used and the means to ensure that the resources shall be available in time for use.

(IV) The potential for accidental discharges of the waste during movement.

(23) Any change to the design or operation that the Department deems does not need a permit modification under § 75.278(c) (relating to causes for permit modification or revocation and reissuance) shall be considered minor and shall be shown on "as-built" drawings and indicated in the report required by subsection (z) (21)(iii)(E) and shall be made available to the Department upon request. Minor modifications shall require approval of the Department in writing.

(24) Except under paragraph (23), any modification to the design or operation of a facility shall require a permit amendment under § 75.278.

(25) The Department shall amend the permit or impose additional permit conditions whenever it determines there is a need to further protect the public health or the environment.

(26) Applications for a permit for hazardous waste storage, treatment, and disposal facilities shall be accompanied by a check payable to the Commonwealth of Pennsylvania according to the following schedule:

(i) Storage facilities — $1000.
(ii) Surface impoundments — $3500.
(iii) Waste piles — $1000.
(iv) Land treatment — $3500.
(v) Landfills — $5000.
(vi) Thermal treatment — $2000.
(vii) Chemical, physical, and biological treatment — $2500.
(viii) Incinerators — $2500.

§ 75.266. [Reserved].

§ 75.267. Notification of hazardous waste activities.

(a) *Scope.* This section applies to any person or municipality who generates, transports, stores, treats, or disposes of hazardous waste within the Commonwealth.

(b) *Notification requirements.*

(1) Not later than 90 days after promulgation or revision of regulations under § 75.261 (relating to criteria, identification, and listing of hazardous wastes) a person or municipality generating or transporting hazardous waste or owning or operating a facility for treatment, storage, or disposal of hazardous waste shall file with the Department a notification of such activity on a form designated by the Department.

(2) Not more than one such notification shall be required to be filed with respect to the same waste substance.

(3) No identified or listed hazardous waste shall be transported, treated, stored, or disposed of unless notification has been given as required in paragraph (1).

(4) A person or municipality who begins to generate hazardous waste within this Comonwealth after the initial notification period shall file with the Department a completed notification for such hazardous waste before the waste is transported, treated, stored, or disposed of.

(5) A person or municipality who owns or operates a facility where hazardous waste is treated, stored, or disposed and has not filed a notification during the 90 day period following the promulgation or revision of § 75.261 (relating to criteria, identification, and listing of hazardous waste) shall not continue hazardous waste activities until a hazardous waste permit has been obtained. Similarly, a person or municipality who plans to open a new hazardous waste treatment, storage, or disposal facility shall obtain a hazardous waste permit before commencing operations. Owners or operators of new facilities need not submit a notification, since the permit application will fulfill the notification requirements.

(6) No person or municipality shall transport hazardous waste within the Commonwealth after the initial notification period without filing a notification form with the Department.

(7) A person or municipality who modifies hazardous waste identification characteristics, ceases production of hazardous waste, changes his status from a small quantity generator to a large quantity generator or vice-versa, or whose waste is removed from a listing in § 75.261 (relating to criteria, identification and listing of hazardous waste) shall file a notification form with the Department.

(8) A notification to the Department shall provide the following information:

(i) Name and address of installation.
(ii) Location of installation.
(iii) Name, title, and phone number of installation contact.
(iv) Name of installation's legal owner.
(v) Type of hazardous waste activity.
(vi) Description of hazardous waste.
(vii) Such other information as the Department may require.

(9) Notification completed pursuant to Section 3010 of the Resource Conservation and Recovery Act of 1976 (42 U.S. C. §6930) shall be deemed to satisfy the requirements of this section when furnished to the Department upon request.

(10) Upon receiving the notification, the Department shall assign an identification number.

§ 75.268. (Reserved)

§ 75.269. (Reserved)

§ 75.270. The hazardous waste permit program.

(a) A person or municipality may not own or operate a hazardous waste storage, treatment, or disposal facility unless the person or municipality has first obtained a permit for the facility from the Department, or as otherwise provided by § 75.265(z)(5) (relating to interim status standards for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities).

(b) A hazardous waste treatment, storage, or disposal facility which has an NPDES permit shall also obtain a HWM permit issued under the act. However, a publicly owned treatment works (POTWs) receiving hazardous waste will be deemed to have a HWM permit for that waste if the facility complies with the requirements of § 75.265(z)(14).

(c) The owner or operator of an elementary neutralization unit or a wastewater treatment unit shall be deemed to have a HWM permit if the facility complies with the requirements of § 75.265(z)(17).

(d) Ocean disposal barges or vessels which accept hazardous waste for ocean disposal shall be deemed to have a HWM permit if the owner or operator:

(1) Has a permit for ocean dumping issued under 40 CFR Part 220 (Ocean Dumping, authorized by the Marine Protection, Research, and Sanctuaries Act, as amended, 33 U.S.C. 1420 *et seq.*);

(2) Complies with the conditions of that permit; and

(3) Complies with the following hazardous waste regulations:

(i) § 75.264(b) (relating to identification numbers);

(ii) § 75.264(j) (relating to manifest system and discrepancy reporting);

(iii) § 75.264(k)(1) and (2)(i) (relating to operating record); and

(iv) § 75.264(m) (relating to quarterly facility report and additional reports).

(e) Injection wells which accept hazardous waste for disposal shall be deemed to have a HWM permit if the owner or operator:

(1) Has a permit for underground injection issued under the Federal rules at 40 CFR Part 144 or 145;

(2) Complies with the conditions of that permit; and

(3) Complies with the following:

(i) § 75.267 (relating to notification of hazardous waste activities);

(ii) § 75.264(b) (relating to identification numbers);

(iii) § 75.264(j) (relating to manifest system and discrepancy reporting);

(iv) § 75.264(k)(1) and (2) (relating to operating record);

(v) § 75.264(m) (relating to quarterly facility report and additional reports);

(vi) § 75.264(f) (relating to personnel training); and

(vii) When abandonment is completed, the owner or operator must submit to the appropriate Regional Office of the Department a copy of the certification required by 40 CFR §144.52(a)(6).

(f) The issuance of a permit does not convey any property rights, or any exclusive privilege.

(g) A permit is not transferable or assignable to another person or municipality.

§ 75.271. Exclusions from permit requirements.

(a) In addition to exclusions under §§ 75.264(a) (relating to new and existing hazardous waste management facilities applying for a permit) and § 75.265(a) (relating to interim status standards for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities), the Department will waive the HWM permit requirement for treatment, cleanup, or containment activities if the Department finds they were taken during an immediate response to the following situations:

(1) A discharge of a hazardous waste.

(2) An imminent and substantial threat of a discharge of hazardous waste.

(3) A discharge of a material which, when discharged, is a hazardous waste.

(b) A person or municipality who initiates or continues hazardous waste treatment, cleanup, or containment activities after the immediate response is over is subject to applicable requirements of § 75.265(z), §§ 75.270—75.282, and §§75.301—75.335.

§ 75.272. Interim status facilities.

(a) *Requirements for interim status.* The owner or operator of an existing HWM facility as defined in §75.260 (relating to definitions and requests for determinations) shall have interim status and be treated as having been issued a permit so long as the owner or operator has complied with the following:

(1) The requirements of § 75.267 (relating to notification of hazardous waste activities).

(2) The requirements of § 75.273 (relating to general application requirements) governing submission of Part A applications and the applicable requirements of § 75.265(z) (relating to interim status standards for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities).

(b) *Deficiency of Application.* If the Department has reason to believe upon examination of a Part A application that it fails to meet an applicable provision of this subchapter, it will notify the owner or operator in writing of the apparent deficiency. The notice will specify the grounds for the Department's belief that the application is deficient. The owner or operator shall have 30 days from receipt to respond to the notification and to explain or

cure the alleged deficiency in the Part A application. If after the notification and opportunity for response the Department determines that the application is deficient, it may take appropriate enforcement action including termination of the facility's interim status.

(c) *Operation during interim status.*

(1) The facility may not do the following during interim status:

(i) Treat, store, or dispose of hazardous waste not specified in Part A of the permit application.

(ii) Employ processes not specified in Part A of the permit application.

(iii) Exceed the design capacities specified in Part A of the permit application.

(2) During interim status, an owner or operator shall comply with the interim status standards set forth in § 75.265.

(d) *Termination of interim status.* Interim status shall terminate when one of the following occurs:

(1) The Department makes a final administrative disposition of the permit application.

(2) The owner or operator fails to furnish a requested Part B application by the date specified by the Department, or fails to furnish in full the information required by the Part B application.

(3) The owner or operator fails to comply with the applicable interim status standards of § 75.265.

(4) The facility poses a substantial present or potential hazard to human health or the environment.

(5) The owner or operator fails to submit a Part A application or fails to furnish in full the information required by the Part A application.

§ 75.273. General application requirements.

(a) A person or municipality required to have a permit (including a new applicant and permittee with an expiring permit), shall complete, sign, and submit an application to the Department as described in § 75.265(z) (relating to interim status standards for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities) and in §§ 75.270—75.282. A person or municipality owning or operating a facility currently having interim status shall apply for permits when required by the Department. A person or municipality covered by HWM permits-by-rule need not apply for individual permits so long as they comply with applicable requirements for a permit-by-rule.

(b) The permit applicant shall comply with the signature and certification requirements of § 75.265(z)(13).

(c) When a facility or activity is owned by one person or municipality but is operated by another person or municipality, the operator shall obtain a permit. However, the owner shall also sign the permit application submitted by the operator.

(d) An applicant for HWM permits shall provide applicable information required in § 75.265(z) and § 75.274 (relating to contents of the Part A permit applications) and shall supply the information on application forms specified by the Department.

(e) The Department will not process a permit unless it has received a complete applicaiton for a permit. An application for a permit is complete when the Department receives the information required by § 75.265(z)(11).

(f) The owner or operator of a HWM facility with an effective permit shall submit a new complete application to the Department at least 180 days before the expiration date of the effective permit, unless permission for a later date is obtained in writing by the Department. However, an application may not be submitted later than the expiration date of the existing permit.

§ 75.274. Contents of Part A permit applications.

(a) An applicant for a HWM permit shall submit Part A of the HWM application.

(b) Part A of the HWM application shall include but not be limited to the following:

(1) A description of the activities conducted by the applicant for which it is required to obtain a HWM permit.

(2) The name, mailing address, and location, including latitute and longitude, of the facility for which the application is submitted.

(3) Up to four Standard Industrial Codes (SIC) which best reflect the principal products or services provided by the facility.

(4) The operator's name, address, telephone number, ownership status, and whether the operator is a Federal, State, private, public, or other entity.

(5) The name, address, and phone number of the owner of the facility.

(6) Whether the facility is located on Indian lands.

(7) An indication of whether the facility is new or existing and whether it is a first or revised application.

(8) For existing facilities the following shall be included:

(i) A scale drawing of the facility showing the location of past, present, and future treatment, storage, and disposal areas.

(ii) Photographs of the facility clearly delineating existing structures; existing treatment, storage, and disposal areas; and sites of future treatment, storage, and disposal areas.

(9) A description of the processes to be used for treating, storing, and disposing of hazardous waste, and the design capacity of these items.

(10) A specification of the hazardous wastes listed or designated under § 75.261 (relating to criteria, identification and listing of hazardous waste) to be treated, stored, or disposed of at the facility, an estimate of the quantity of the wastes to be treated, stored, or disposed annually, and a general description of the processes to be used for the wastes.

(11) A listing of permits or construction approvals received or applied for under the following programs:

(i) The Hazardous Waste Management program under the Act;

(ii) The Underground Injection Control program under the Safe Drinking Water Act 42 U.S.C.A. §§300h-4, 300j-1—300j-10 (relating to Underground Injection Control).

(iii) The NPDES program under Chapter 92 (relating to National Pollutant Discharge Elimination System).

(iv) The Prevention of Significant Deterioration (PSD) program under Chapter 127.

(v) The nonattainment program under Chapter 121 (relating to general programs).

(vi) The National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under Chapter 124.

(vii) Ocean dumping permits under the Marine Protection Research and Sanctuaries Act of 1972, 33 U.S.C.A. §§1401-1445.

(viii) Dredge or fill permits under section 404 of the Federal Water Pollution Control Act, 33 U.S.C.A. §1344.

(ix) Other relevant environmental Federal and State permits.

(12) A topographic map (or other map if a topographic map is unavailable) extending 1 mile beyond the property boundaries of the facility, depicting the facility and its intake and discharge structures; its hazardous waste treatment, storage, or disposal facilities; wells where fluids from the facility are injected underground; and those wells, springs, other surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant within ¼ mile of the facility property boundary.

(13) A brief description of the nature of the business.

(14) Other information as the Department may require.

§ 75.275. Standard conditions for permits.

(a) A HWM permit shall include either expressly or through incorporation by reference, permit conditions necessary to achieve compliance with the act and this subchapter including the applicable requirements specified in §§ 75.264—75.282 and 75.301—75.335 (relating to financial responsibility). In satisfying this provision, the Department may incorporate applicable requirements of §§ 75.264—75.282 and 75.301—75.335 (relating to financial responsibility) directly into the permit or establish other permit conditions that are based on these sections. In addition to conditions required in all permits, the Department shall establish conditions, on a case-by-case basis, in permits under § 75.265(z)(15) (relating to the hazardous waste management permit program), § 75.277 (relating to schedules of compliance), and § 75.276 (relating to requirements for recording and reporting of monitoring results).

(b) The following conditions apply to all HWM permits, and shall be incorporated into permits either expressly or by reference. If incorporated by reference, a specific citation to this subchapter shall be given in the permit.

(1) The permittee shall comply with conditions of the permit. Noncompliance with a condition of the permit constitutes a violation of the act and this subchapter and is grounds for enforcement action; for permit modification, revocation and reissuance, or revocation; or for denial of a permit renewal application.

(2) If the permittee wishes to continue an activity regulated by the permit after the expiration date of the permit, the permittee shall apply for and obtain a new permit under § 75.265(z) (relating to interim status standards for hazardous waste management facilities and permit program for new and existing hazardous waste management facilities) §§ 75.270—75.282 and §§ 75.301—75.335 (relating to financial responsibility).

(3) It may not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

(4) The permittee shall take necessary steps to prevent and abate the release of hazardous waste to the environment and shall carry out measures necessary to prevent significant adverse impacts on human health or the environment, upon noncompliance with the act, this subchapter or the permit.

(5) The permittee shall properly operate and maintain facilities and systems of storage, treatment and control (and related appurtenances) which are installed or used by the permittee required under the act, this subchapter, and the conditions of the permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. The permittee shall provide and operate back-up or auxiliary facilities or similar systems if required under the act, this subchapter and the conditions of the permit.

(6) The permit may be modified, revoked and reissued, or revoked by the Department for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or a notification of planned changes or anticipated noncompliance may not stay or supersede a permit condition.

(7) The permit does not convey a property right; or exclusive privilege. A permit may not be transferred or assigned to another person or municipality.

(8) The permittee shall furnish to the Department, within a reasonable time, relevant information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or revoking the permit, or to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by the permittee pursuant to the act, this subchapter, or a permit condition.

(9) The permittee shall allow the Department, its agent and authorized representatives, upon the presentation of credentials and other documents as may be required by statute to do the following:

(i) Enter at reasonable times upon the permittee's premises where a regulated facility or activity is located or conducted, or where records concerning the regulated facility or activity are kept.

(ii) Have access to and copy, at reasonable times, records that are kept concerning the regulated facility or activity.

(iii) Inspect at reasonable times facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under the act, this subchapter, or the permit.

(iv) Sample or monitor substances or parameters at a location for the purposes of assuring permit compliance or as otherwise authorized by the act or this subchapter.

(10) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(11) The permittee shall retain records of monitoring information, including calibration and maintenance records and original strip chart recordings for continuous monitoring instrumentation, copies of reports required by the act, this subchapter or the permit, and records of data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. The permittee shall retain the records for a longer period of time if requested by the Department. The permittee shall maintain records of ground-water quality and ground-water surface elevations for the active life of the facility and during the post-closure care period as well.

(12) The permittee shall keep monitoring records which include the following information:

(i) The date, exact place, and time of sampling or measurements.
(ii) The individual who performed the sampling or measurements.
(iii) The date analyses were performed.
(iv) The individual who performed the analyses.
(v) The analytical techniques or methods used.
(vi) The results of the analyses.
(vii) Other information the Department may require.

(13) Applications, reports, or information submitted to the Department shall be signed and certified by the applicant under this subchapter.

(14) The permittee shall give notice to the Department as soon as possible of planned physical alterations or additions to the permitted facility; the permittee may not modify the facility without first obtaining a permit or modified permit from the Department.

(15) The permittee shall report monitoring results to the Department at the intervals specified in paragraph (17) and as required in the permit or by this subchapter.

(16) The permittee shall submit written reports of compliance or noncompliance with interim and final requirements contained in a compliance schedule of the permit to the Department no later than 14 days following the schedule date.

(17) The permittee shall report the following:

(i) Noncompliance with the act, this subchapter or a condition of the permit or an occurrence or event at the HWM facility which may endanger health or the environment orally to the Department as soon as reasonably possible but in no case shall the time exceed 24 hours from the time the permittee becomes aware of the circumstances, including the following:

(A) Information concerning release or potential release of any hazardous waste from the HWM facility that may cause an endangerment to public drinking water supplies under Chapter 109 of this title (relating to safe drinking water).

(B) Information of a release, potential release or discharge of hazardous waste from the HWM facility or information of a potential or actual fire or explosion at the HWM facility, which may threaten the environment or human health.

(ii) The description of the occurrence and its cause shall include the following:

(A) The name, address, and telephone number of the owner or operator.
(B) The name, address, and telephone number of the facility.
(C) The date, time, and type of incident.
(D) The name and quantity of material involved.
(E) The extent of injuries.

(F) An assessment of actual or potential hazards to the environment and human health at or near the facility.

(G) The estimated quantity and disposition of recovered material that resulted from the incident.

(iii) The permittee shall also submit to the Department within 5 days of the time the permittee becomes aware of the circumstances a written report containing a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The Department may extend the 5 day requirement to 15 days upon good cause shown in writing to the Department.

(18) The permittee shall report to the Department instances of noncompliance not reported under paragraphs (15)—(17) at the time monitoring reports are submitted. A monitoring report shall contain the information listed in paragraph (17).

(19) Where the permittee becomes aware that it failed to submit relevant facts in a permit application, or submitted incorrect information in a permit application or in a report to the Department, it shall promptly submit the facts or information to the Department.

(20) The permittee shall give advance notice to the Department of planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. For a new facility, the permittee may not treat, store, or dispose of hazardous waste; and for a facility being modified, the permittee may not treat, store, or dispose of hazardous waste in the modified portion of the facility, until the permittee has submitted to the Department by certified mail or hand delivery a letter signed by the permittee and a registered professional engineer stating that the facility has been constructed or modified in compliance with the permit.

§ 75.276. Requirements for recording and reporting of monitoring results.

(a) The permittee shall comply with all recordkeeping, reporting, and monitoring requirements specified in this subchapter or in the permit.

(b) The recordkeeping, reporting and monitoring requirements shall include but not be limited to the following:

(1) Requirements concerning the proper use, maintenance, and installation of monitoring equipment or methods including biological monitoring methods when appropriate.

(2) Monitoring requirements, including type, intervals, and frequency of monitoring sufficient to yield data which are representative of the monitored activity including, when appropriate, continuous monitoring.

(3) Applicable reporting requirements based upon the impact of the regulated activity and as specified in §§ 75.264—75.267. Reporting shall be as frequent as specified in this subchapter.

(4) Requirements for establishing background values of the groundwater monitoring parameters or procedures to be used to determine these values.

§ 75.277. Schedules of compliance.

(a) The permit may, when necessary, specify a schedule of compliance leading to compliance with the act and this subchapter.

(1) Schedules of compliance under this section shall require compliance as soon as possible.

(2) Except as provided in subsection (b)(1)(ii), if a permit establishes a schedule of compliance which exceeds 1 year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement.

(i) The time between interim dates may not exceed 1 year.

(ii) If the time necessary for completion of an interim requirement is more than 1 year and is not readily divisible into stages for completion, the permit shall specify interim dates for the submission of reports of progress toward completion of the interim requirements and indicate a projected completion date.

(3) The permit shall be written to require that no later than 14 days following an interim date and the final date of compliance, the permittee shall notify the Department, in writing, of its compliance or noncompliance with the interim or final requirements.

(b) A permit applicant or permittee may cease conducting regulated activities -by receiving the final volume of hazardous waste and, for treatment and storage HWM facilities, closing under applicable requirements; and, for disposal HWM facilities, closing and conducting post-closure care under applicable requirements- rather than continue to operate and meet permit requirements as follows:

(1) If the permittee decides to cease conducting regulated activities at a given time within the term of a permit which has already been issued one of the following shall apply:

(i) The permit may be modified to contain a new or additional schedule leading to timely cessation of activites.

(ii) The permittee shall cease conducting permitted activities before noncompliance with an interim or final compliance schedule requirement already specified in the permit.

(2) If the decision to cease conducting regulated activities is made before issuance of a permit whose term will include the termination date, the permit shall contain a schedule leading to termination which will ensure timely compliance with applicable requirements.

(3) If the permittee is undecided whether to cease conducting regulated activities, the Department may issue or modify a permit to contain two schedules as follows:

(i) Both schedules shall contain an identical interim deadline requiring a final decision on whether to cease conducting regulated activities no later than a date which ensures sufficient time to comply with applicable requirements in a timely manner if the decision is to continue conducting regulated activities.

(ii) One schedule shall lead to timely compliance with applicable requirements.

(iii) The second schedule shall lead to cessation of regulated activities by a date which will ensure timely compliance with applicable requirements.

(iv) A permit containing two schedules shall include a requirement that after the permittee has made a final decision under subparagraph (i), it shall follow the schedule leading to compliance if the decision is to continue conducting regulated activities, and follow the schedule leading to termination if the decision is to cease conducting regulated activities.

(v) The applicant's or permittee's decision to cease conducting regulated activities shall be evidenced by a firm public commitment satisfactory to the Department, such as resolution of the board of directors of a corporation.

§ 75.278. Causes for permit modification or revocation and reissuance.

(a) The Department may modify, or alternatively revoke and reissue a permit for cause which includes, but is not limited to the following:

(1) If a circumstance set forth in § 75.279 (relating to revocation of permits) exists and the Department determines that modification, or revocation and reissuance is appropriate.

(2) If the Department has received information which was not available at the time of permit issuance and would have justified the application of different permit conditions at the time of issuance.

(3) If the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations.

(4) If the Department determines good cause exists for changing a compliance schedule, such as an act of God, strike, flood, or materials shortage or other events over which the permittee has little or no control and for which there is no reasonably available remedy.

(5) If the permittee fails to comply with Subchapter E (relating to financial responsibility for hazardous waste, storage, treatment and disposal facilities).

(b) The Department may also modify a permit in the following instances:

(1) When modification of a closure plan is authorized under § 75.264(o)(4) (relating to new and existing hazardous waste management facilities applying for a permit) or (17).

(2) When necessary to include conditions applicable to a facility that were not previously included in the facility's permit.

(3) When the Department: receives the notification of the expected closure date under § 75.264(o)(5); determines that extension of the 90 to 180 day period under § 75.264(o)(6) and (7), modification of the 30-year post-closure period under § 75.264(o)(10), continuation of security requirements under § 75.264(o)(13), or permission to disturb the integrity of the containment system under § 75.264(o)(14), is unwarranted.

(4) When the permittee has filed a request under § 75.332(f) (relating to insurance coverage) for a variance to the level of financial responsibility or when the Department demonstrates under § 75.332(b) that an upward adjustment to the level of financial responsibility is required.

(5) When necessary to include conditions applicable to the ground-water detection, assessment, and abatement programs required by § 75.264(n) (relating to ground-water monitoring).

(6) When a land treatment unit is not achieving complete treatment of hazardous constituents under its current permit conditions.

(c) The Department may also modify a permit without following the procedures under § 75.280 (relating to procedures for permit issuance, modification, revocation and reissuance, or revocation) where:

(1) The modification is considered a minor modification. Minor modifications are changes to the design or operation of a facility for which the Department determines that no actual change to the permit is needed. The changes shall only include the following:

(i) Typographical errors.

(ii) Monitoring or reporting changes on a more frequent basis.

(iii) Interim compliance date changes in compliance schedules that are not more than 120 days after the date specified in the existing permit and do not interfere with attainment of the final compliance date requirement.

(iv) Emergency coordinator or equipment list changes in the permit's contingency plan.

(v) Maximum inventory estimate changes.

(vi) Changes that the Department determines are minor, are consistent with and no less stringent than modifications listed in 40 CFR §270.42(g) through (n), and will enhance or improve the treatment, storage or disposal operation at the facility; and

(2) The modification is approved in writing by Department.

§ 75.279. Revocation of permits.

(a) The Department may revoke a permit at any time or deny a permit renewal application for cause, including but not limited to the following causes:

(1) Noncompliance by the permittee with a provision of the act, this subchapter or a condition of the permit.

(2) The permittee's misrepresentation or failure in the application or during the permit issuance process to disclose fully a relevant fact or the permittee's misrepresentation or nondisclosure of a relevant fact at any time.

(3) A determination by the Department that the permitted activity or facility endangers human health or the environment.

(4) Another reason authorized under the act or this subchapter.

(b) The Department will follow the applicable procedures in § 75.280 (relating to procedures for permit issuance, modification, revocation and reissuance, and revocation) in revoking a permit.

§ 75.280. Procedures for permit issuance, modification, revocation and reissuance, or revocation.

(a) A person who requires a permit under the hazardous waste program shall complete, sign, and submit to the Department an application for a hazardous waste permit.

(b) The Department will not begin the processing of a permit until the applicant has complied with the application requirements for that permit and complied with the signature and certification requirements of § 75.265(z)(13) (relating to interim status standards for hazardous waste management facilities and permit program for existing hazardous waste management facilities).

(c) The Department will review for completeness every hazardous waste permit application for a new or existing HWM facility (both Parts A and B of the application). Upon completing the review, the Department will notify the applicant in writing whether the application is complete. If the application is incomplete, the Department will list the information necessary to make the application complete. When the application is for an existing HWM facility, the Department will specify in the notice of deficiency a date for submitting the necessary information. If the applicant thereafter submits a complete application, the Department will notify the applicant that the application is complete. After the application is completed, the Department may request additional information from an applicant if necessary to clarify, modify, or supplement previously submitted material. Requests for additional information will not render an application incomplete.

(d) If an applicant fails or refuses to correct deficiencies in the application, the permit may be denied and appropriate enforcement actions may be taken under applicable statutory provisions.

(e) If the Department decides that a site visit is necessary in conjunction with the processing of an application, it will notify the applicant; the applicant shall provide the Department access for a site visit at a reasonable time.

(f) The effective date of an application is the date on which the Department notifies the applicant that the application is complete as provided in subsection (c).

(g) Once an application is complete, the Department will tentatively decide whether to prepare a draft permit or to deny the application.

(h) If the Department tentatively decides to deny the permit application, it will issue a notice of intent to deny the application. A notice of intent to deny the permit application is a type of draft permit which follows the same procedures as a draft permit prepared under this section. If, after issuing a notice of intent to deny, the Department's final decision is to issue the permit, the notice of intent to deny will be withdrawn and the Department will proceed to prepare a draft permit under subsection (i).

(i) A draft permit prepared by the Department will contain the following information:

(1) Conditions under § 75.275 (relating to standard conditions for permits).

(1) Conditions under § 75.275 (relating to standard conditions for permits).

(2) Proposed compliance schedules under § 75.277 (relating to schedules of compliance).

(3) Monitoring requirements under § 75.264 (relating to new and existing hazardous waste management facilities applying for a permit), § 75.265(z) (relating to interim status standards for hazardous waste management facilities and the permit program for new and existing hazardous waste management facilities), and § 75.276 (relating to requirements for recording and reporting of monitoring results).

(4) Hazardous waste permit standards for treatment, storage, and disposal and other permit conditions under § 75.275.

(j) A draft permit prepared under this section shall be accompanied by a statement of basis, under subsection (k) or a fact sheet under subsection (l), publicly noticed under § 75.281 (relating to public notice and comment requirements) and made available for public comment under § 75.282 (relating to public hearings). The Department will give notice of the opportunity for a public hearing under § 75.282 and respond to comments under subsection (m).

(k) The Department will prepare a statement of basis for every draft permit for which a fact sheet under subsection (l) is not prepared. The statement of basis will briefly describe the derivation of the conditions of the draft permit and the reasons for them or, in the case of notices of intent to deny or revoke, reasons supporting the tentative decision. The statement of basis will be sent to the applicant and, on request, to other persons.

(l) Preparation of fact sheets.

(1) A fact sheet will be prepared by the Department for every draft permit for a major HWM facility or activity, and for every draft permit which the Department determines is the subject of widespread public interest or raises major issues. The fact sheet will briefly set forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. The Department will send this fact sheet to the applicant and, on request, to other persons.

(2) The fact sheet shall include the following when applicable:

(i) A brief description of the type of facility or activity which is the subject of the draft permit.

(ii) The type and quantity of wastes which are proposed to be or are being treated, stored, or disposed of.

(iii) A brief summary of the basis for the draft permit conditions, including references to applicable statutory or regulatory provisions.

(iv) Reasons why requested variances or alternatives to required standards do or do not appear justified.

(v) A description of the procedures for reaching a final decision on the draft permit including the following:

(A) The beginning and ending dates of the comment period under § 75.281 and the address where comments will be received.

(B) Procedures for requesting a hearing and the nature of that hearing.

(C) Other procedures by which the public may participate in the final decision.

(vi) The name and telephone number of a person to contact for additional information.

(m) At the time that a final permit is issued, the Department will also issue a response to comments. This response will state the following:

(1) Specify which provisions, if any, of the draft permit have been changed in the final permit decisions, and the reasons for the change.

(2) Briefly describe the response to significant comments on the draft permit raised during the public comment period or during a hearing.

(n) The Department will make available to the public its response to public comments.

(o) The Department will follow the following procedures if it modifies, revokes and reissues, or revokes a permit:

(1) The Department may modify, revoke and reissue, or revoke a permit either at the request of an interested person (including the permittee) or upon the Department's initiative for reasons specified under §75.278 (relating to causes for permit modification or revocation and reissuance) or §75.279 (relating to revocation of permits) and for a reason authorized under the act, this subchapter or the terms and conditions of the permit. A request shall be in writing and contain facts or reasons supporting the request.

(2) If the Department decides the request is not justified, the Department will send a brief written response giving a reason for the decision to the requestor. The Department's refusal to modify, revoke and reissue, or revoke a permit pursuant to a request is not subject to public notice, comment, or hearings.

(3) If the Department tentatively decides to modify or revoke and reissue a permit, under § 75.278 (a) and (b), it will prepare a draft permit under § 75.280(g)—(i) incorporating the proposed changes. The Department may request additional information from the permittee and may require the permittee to submit an updated permit application. In the case of revoked and reissued permits the Department will require the submission of a new application. The permittee shall submit additional information or an updated or new application under a request by the Department within the time specified by the Department.

(4) In a permit modification under this section, only those conditions to be modified shall be reopened when a new draft permit is prepared. Other aspects of the existing permit shall remain in effect for the duration of the permit. When the permit is revoked and reissued, the entire permit is reopened just as if the permit had expired and was being reissued. During any revocation and reissuance proceeding the permittee shall comply with all conditions of the existing permit until a new final permit is issued.

(5) If the Department tentatively decides to revoke a permit under § 75.279 it will issue a notice of intent to revoke. A notice of intent to revoke is a type of draft permit which follows the same procedures as a draft permit prepared under §75.280(g)-(i).

(6) Minor modifications §75.278 are not subject to the requirements of this section.

§ 75.281. Public notice and comment requirements.

(a) The Department will give public notice that the following actions have occurred:

(1) A permit application has been tentatively denied under § 75.280(h) (relating to procedures for permit issuance, modification, revocation and reissuance or revocation).

(2) A draft permit has been prepared under § 75.280 (i).

(3) A hearing has been scheduled under § 75.282 (b) (relating to public hearings).

(4) A closure/post-closure plan has been received under §§ 75.265(o)(6) or (18) (relating to closure and post-closure plans).

(b) A public notice of the preparation of a draft permit (including a notice of intent to deny a permit application) required under subsection (a) will provide for at least 45 days for public comment.

(c) The Department will give public notice of a public hearing at least 30 days before the hearing. Public notice of the hearing may be given at the same time as public notice of the draft permit, and the two notices may be combined.

(d) The Department will give public notice of activities described in subsection (a) by the following methods:

(1) By mailing a copy of a notice to the following (persons otherwise entitled to receive notice under this paragraph may waive the right to receive notice for any classes and categories of permits):

(i) The applicant.

(ii) An agency which the Department knows has issued or is required to issue a RCRA, UIC, PSD, NPDES, or 404 permit for the same facility or activity (including EPA).

(iii) An appropriate Federal or State agency with jurisdiction over fish, shellfish, and wildlife resources or coastal zone management plans, State Historic Preservation Officers, Advisory Council on Historic Preservation, and other appropriate government authorities, including affected states.

(iv) A person on a mailing list developed by the Department, which will include a person who submits to the Department a request in writing to be on the list, a person solicited for area lists from participants in past permit proceedings in that area, and by notifying the public of the opportunity to be put on the mailing list through periodic publication in the public press and in regional and State funded newsletters, environmental bulletins, or State law journals. The Department may update the mailing list from time to time by requesting written indication of continued interest from those listed. The Department may delete from the list the name of a person who fails to respond to the request.

(v) A unit of local government having jurisdiction over the area where the facility is proposed to be located.

(vi) A State agency having any authority under State statute with respect to the construction or operation of such facility.

(2) Publication of a notice in a daily or weekly major local newspaper of general circulation and broadcast over local radio stations.

(3) In a manner constituting legal notice to the public under State statute.

(4) By other methods reasonably calculated to give actual notice of the action in question to a person potentially affected by it, including press releases or another form or medium to elicit public participation.

(e) The content of a public notice issued under this section shall contain the following minimum information:

(1) The name and address of the office processing the permit action for which notice is being given.

(2) The name and address of the permittee or permit applicant and, if different, of the facility or activity regulated by the permit.

(3) A brief description of the business conducted at the facility or activity described in the permit application or the draft permit.

(4) The name, address and telephone number of a person from whom an interested person may obtain further information, including copies of the draft permit, the statement of basis or fact sheet, and the application.

(5) A brief description of the comment procedures required by § 75.282 (relating to public hearings) and the time and place of a hearing that will be held, including a statement of procedures to request a hearing (unless a hearing has already been scheduled) and other procedures by which the public may participate in the final permit decision.

(6) Additional information which the Department considers necessary or proper.

(f) In addition to the general public notice described in subsection (e), the public notice of a hearing under § 75.282 (relating to public hearings) shall contain the following information:

(1) A reference to the date of previous public notices relating to the permit.

(2) The date, time, and place of the hearing.

(3) A brief description of the nature and purpose of the hearing, including the applicable procedures.

(g) In addition to the general public notice described in subsection (e), a person identified in subsection (d)(1)(i)—(iii) will be mailed a copy of the fact sheet or statement of basis, the draft permit and, if applicable, the permit application.

§ 75.282. Public hearings.

(a) During the public comment period provided under § 75.281 (relating to public notice and comment requirements), an interested person may submit written comments on the draft permit and may request a public hearing, if a hearing has not already been scheduled. A request for a public hearing must be in writing and state the nature of the issues proposed to be raised in the hearing. The Department will consider comments in making its final decision and will answer these comments as provided in § 75.280 (m) (relating to procedures for permit issuance, modification, revocation and reissuance, or revocation).

(b) The Department will follow the following procedures in a public hearing held under this subchapter:

(1) The Department will hold a public hearing whenever, on the basis of requests received under subsection (a), it determines that a significant degree of public interest in a draft permit exists.

(2) The Department may, in its discretion, hold a public hearing whenever a hearing might clarify issues involved in the permit decision.

(3) The Department will hold a public hearing whenever it receives written notice of opposition to a draft permit and a request for a hearing within 45 days of public notice, under § 75.281.

(4) The Department will, when possible, schedule a hearing under this section at a location convenient to the nearest population center to the proposed facility.

(5) The Department will give public notice of the hearing under 75.281.

(6) A person may submit oral or written statements and data concerning the draft permit before, during, or after the public hearing. The Department may set reasonable limits upon the time allowed for oral statements and may require the submission of statements in writing. The public comment period under § 75.281 will automatically be extended to the close of a public hearing under this section. The Department's hearing officer may also extend the comment period by so stating at the hearing.

(7) The Department will make a tape recording or written transcript of the hearing available to the public.

Subchapter E. HAZARDOUS WASTE

Authority

These regulations are adopted under the authority of the Solid Waste Management Act, Act of July 7, 1980 (P.L. 380, No. 97), Sections 105 and 506 (35 P.S. §6018.105 and 6018.506); The Clean Streams Law, Act of June 22, 1937 (P.L. 1987, No. 394), as amended, Sections 5 and 402 (35 P.S. §§691.5 and 691. 402); and the Administrative Code, Act of April 9, 1929 (P.L. 177), as amended, Section 1920-A (71 P.S. §510-20).

Source

The provisions of this Subchapter E were adopted December 18, 1984 and were effective March 9, 1985, 15 Pa. B. 895.

§ 75.301. Definitions.

The definitions set forth is section 103 of the act (35 P.S. §6018.103) and § 75.260 (relating to definitions and requests for determinations) shall apply to this subchapter. In addition, the following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise:

Act - the Solid Waste Management Act (35 P.S. §§ 6018.101 — 6018.1003).

Collateral bond - A penal bond agreement in a sum certain, payable to the Department, executed by the permittee and which is supported by the deposit with the Department of cash, negotiable bonds of the United States, the Commonwealth, the Pennsylvania Turnpike Commission, the General State Authority, the State Public School building Authority, or a commonwealth municipality, Pennsylvania bank certificates of deposit, or irrevocable letters of credit of a bank organized or authorized to transact business in the United States.

Department - The Department of Environmental Resources of the Commonwealth.

Final closure - Successful completion of all requirements for closure and post-closure care as required by § 75.264(o) (relating to new and existing hazardous waste management facilities applying for a permit).

Financial institutions - Banks organized or authorized to transact business in the Commonwealth or the United States, and insurance companies or associations licensed and authorized to transact business in this commonwealth or designated by the Insurance Commissioner as an eligible surplus lines insurer.

Legal defense costs - Expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

Surety bond - A penal bond agreement in a sum certain payable to the Department, executed by the permitee, and which is supported by the guarantee of payment on the bond by a corporation licensed to do business as a surety in this Commonwealth.

§ 75.302. Scope.

This subchapter sets forth the minimum requirements for demonstrating sufficient financial responsibility to operate a hazardous waste storage, treatment or disposal facility by providing bond guarantees for the operation, closure and post-closure requirements of a hazardous waste storage, treatment or disposal facility, and providing insurance protection for personal injury and property damage arising out of operation of a hazardous waste storage, treatment or disposal facility.

TITLE 25. RULES AND REGULATIONS
PART I. DEPARTMENT OF ENVIRONMENTAL RESOURCES

TRANSMITTAL SHEET NO. 94

SEPTEMBER 1985

Transmitted herewith are additional or substitute pages to the Rules and Regulations of the Department of Environmental Resources, identified by the month and year of revision, which contain additions or amendments as a result of the action taken by the Environmental Quality Board. The nature of the changes may be determined by comparing the old and new texts.

Section Affected	*Action Taken*	*Date of Adoption*	*Effective Date*	*Pa. Bulletin Citation*
CHAPTER 75				
Subchapter D, E, F				
Subchapter D	Amended	7-30-85	9-14-85	15 Pa.B. 3289
Subchapter E	Adopted	12-18-84	3-9-85	15 Pa.B. 895
Subchapter F	Adopted	7-30-85	9-21-85	15 Pa.B. 3334

Instructions

Remove the following pages	*Insert the following pages*
75.41 thru 75.220	75.41 thru 75.234

Note

File this transmittal sheet at the front of the Rules and Regulations of the Department (Part I) and retain prior transmittal sheets. It provides a reference authority for changes, a method for determining that all amendments have been received, and a check for determining if the Rules and Regulations contain the proper pages. Additional information may be obtained from the Bureau of Regulatory Counsel, Department of Environmental Resources, Room 505, Executive House, P. O. Box 2357, Harrisburg, PA 17120 (Telephone Area Code 717-787-7060).

§ 75.311. Requirement to file a bond.

(a) All hazardous waste storage, treatment and disposal facilities which have been permitted under the Pennsylvania Solid Waste Management Act (35 P.S. §§6001 - 6017) (Repealed 1980), or which are being treated as having been issued a permit under the act, shall file a bond in accordance with this part, payable to the Department, on a form prepared and provided by the Department, before September 9, 1985.

(b) The Department will not issue a new, revised, amended, modified or renewed permit for the storage, treatment or disposal of hazardous waste after March 9, 1985 unless the applicant has filed with the Department a bond under this part, payable to the Department, on a form prepared and provided by the Department, and the bond has been approved by the Department.

(c) An applicant for a new, revised, amended, modified or renewed permit shall not disturb surface acreage, start construction of facilities for the storage, treatment or disposal of hazardous waste, or accept hazardous waste prior to receipt from the Department of approval of bond and issuance of a permit to conduct a hazardous waste storage, treatment or disposal operation.

(d) After September 9, 1985, a hazardous waste storage, treatment or disposal facility which was permitted before March 9, 1985, or is being treated as having been issued a permit, shall cease accepting hazardous waste unless the permittee has submitted a bond under this part. The Department will review and determine whether or not to approve the bond within 1 year after submittal. If, on review, the Department determines the permittee has submitted an insufficient bond amount, the Department will require the permittee to deposit additional bond amounts under § 75.321 (relating to bond amount adjustments).

§ 75.312 Form, terms and conditions of bond.

(a) The Department will accept one of the following types of bond:

(1) A surety bond.

(2) A collateral bond.

(3) A phased deposit collateral bond as provided in § 75.315 (relating to phased deposits of collateral).

(b) The Department will prescribe and furnish the forms for bond instruments.

(c) Bonds shall be payable to the Department and conditioned upon the faithful performance of the requirements of the act, the Clean Streams Law (35 P.S. §§691.1 — 691.1001), the Surface Mining Conservation and Reclamation Act (52 P.S. §§1396.1 — 1396.4c, 1396.4e, and 1396.15c — 1396.25), the Air Pollution Control Act (35 P.S. §§4001 — 4015), the Dam Safety and Encroachments Act (32 P.S. §§693.1 — 693.27), the regulations adopted thereunder, the terms and conditions of any permit issued thereunder, orders of the Department, and amendments, revisions and changes to the acts, the regulations and the terms and conditions of the hazardous waste storage, treatment and disposal facility permit as may be lawfully made in the future.

(d) The bond shall cover the hazardous waste storage, treatment or disposal operations from the initiation of the operations until the bond is released as provided in this subchapter. The bond shall cover all operations and activities conducted within the permitted area and all effects caused by the hazardous waste activities within or without the permit area.

(e) Bonds will be reviewed for legality and form according to established Commonwealth procedures.

§ 75.313. Special terms and conditions for surety bonds.

(a) The Department will not accept the bond of a surety company which has failed or unduly delayed in making payment on a forfeited surety bond.

(b) The Department will accept only the bond of a surety authorized to do business in this Commonwealth and which is listed on Circular 570 of the United States Department of the Treasury.

(c) The surety may cancel the bond by sending written notice of cancellation by certified mail to the permittee and the Department. Cancellation shall not take effect until 120 days after receipt of the notice of cancellation by the principal and the Department, as evidenced by the return receipts. Within 60 days after receipt of the notice of cancellation the permittee shall provide the Department with a replacement bond under § 75.316 (relating to replacement of bond). Failure of the permittee to provide a replacement bond within the 60 day period shall constitute grounds for forfeiture of the existing bond under § 75.328 (relating to bond forfeiture).

(d) The Department will not accept surety bonds from a surety company for a permittee, on all permits held by the permittee, in excess of the company's single risk limit as provided by The Insurance Company Law of 1921 (40 P.S. §§341 — 991).

(e) The bond shall provide that full payment will be made on the bond within 30 days of receipt of a notice of forfeiture by the surety notwithstanding judicial or administrative appeal of the forfeiture and that the amount shall be confessed to judgment upon forfeiture.

(f) The bond shall provide that the surety and the permittee shall be jointly and severally liable for payment of the bond amount.

§ 75.314. Special terms and conditions for collateral bonds.

(a) The Department will obtain possession of and keep in custody collateral deposited by the permittee until authorized for release or replacement as provided in this subchapter.

(b) The Department will value governmental securities for both current market value and face value. For the purpose of establishing the value of the securities for bond deposit, the Department will use the lesser of current market value or face value. The Department will revalue the securities every year and will require additional amounts of bond if the current market value is insufficient to satisfy the bond amount requirement for the facility. Government securities must be rated at least BBB by Standard and Poor's or Baa by Moody's. If the value of the securities and accrued income exceeds the closure or post-closure cost estimate, or both, as adjusted under § 75.321 (relating to bond amount adjustments), the permittee may request and receive the interest and income accruing on negotiable bonds deposited with the Department as the same becomes due and payable. If the current market value of the securities alone exceeds the current closure or post-closure cost estimate, or both, the permittee may request release of the amount in excess of the current cost estimate. The Department will initiate release of the funds within 60 days after receipt of the written request from the permittee.

(c) Collateral bonds pledging Pennsylvania bank certificates of deposit shall be subject to the following conditions:

(1) The Department will require that certificates of deposit be assigned to the Department, in writing, and the assignment recorded upon the books of the issuing institution.

(2) The Department will not accept an individual certificate of deposit for a denomination in excess of $100,000, or maximum insurable amount as determined by the Federal Deposit Insurance Corporation (FDIC) and Federal Savings and Loan Insurance Corporation (FSLIC).

(3) The Department will require the issuing institution to waive all rights of setoff or liens which it has or might have against the certificates.

(4) The Department will only accept automatically-renewable certificates of deposit.

(5) The Department will require the permittee to deposit sufficient amounts of certificates of deposit to assure that the Department will be able to liquidate the certificates prior to maturity, upon forfeiture, for the amount of the bond determined under this subchapter.

(6) The Department will accept certificates of deposit only from banks or banking institutions licensed, chartered or otherwise authorized to do business in this Commonwealth.

(7) The Department will not accept certificates of deposit from banks which have failed or unduly delayed in making payment on defaulted certificates of deposit.

(d) Collateral bonds pledging a bank letter of credit shall be subject to the following conditions:

(1) The letter of credit may be issued only by a bank organized or authorized to do business in the United States and examined by a State or Federal agency.

(2) Letters of credit shall be irrevocable. The Department may accept a letter of credit which is irrevocable for a term of years if both of the following occur:

(i) The letter of credit is automatically renewable for additional terms unless the bank gives at least 90 days prior written notice to the Department of its intent to terminate the credit at the end of the current term.

(ii) The Department has the right to draw upon the credit before the end of its term, if the permittee fails to replace the letter of credit with other acceptable bond within 30 days of the bank's notice to terminate the credit.

(3) The letter shall be payable to the Department in part or in full upon demand and receipt from the Department of a notice of forefeiture issued under this subchapter, or demand for payment under subparagraph (ii).

(4) The Department will not accept letters of credit from a bank for a permittee, on all permits held by the permittee, in excess of 10% of the bank's capital surplus account.

(5) Letters of credit shall be subject to the Uniform Commercial Code (18 Pa. C.S. §§1101 — 9507) or the Uniform Customs and Practices for Documentary Credits, International Chamber of Commerce Publication No. 290, including amendments and successor publications.

(6) The Department will not accept letters of credit from a bank which has failed or unduly delayed in making payment on a letter of credit.

§ 75.315. Phased deposits of collateral.

(a) A permit applicant, or a permittee which obtained a permit prior to March 9, 1985, may post a collateral bond for a hazardous waste storage, treatment or disposal facility which will be continuously operated or used for at least 10 years from the date of issuance of the permit or permit amendment, according to all of the following requirements:

(1) The permittee shall submit a collateral bond to the Department.

(2) The permittee shall deposit $10,000 or 25%, whichever is greater, of the total amount of bond determined in this subchapter in approved collateral with the Department.

(3) The permittee shall submit a schedule agreeing to deposit 10% of the remaining amount of bond, in approved collateral in each of the next 10 years.

(b) The permit applicant or permittee shall deposit the full amount of bond required for the hazardous waste storage, treatment, or disposal facility within 30 days of receipt of a written demand by the Department to accelerate deposit of the bond. The Department will make the demand when one of the following occurs:

(1) The permittee has failed to make a deposit of bond amount when required for the schedule for the deposits.

(2) The permittee has violated the requirements of the act, this chapter, the terms and conditions of the permit, or orders of the Department and has failed to correct the violations within the time required for the correction.

(c) The Department will not accept phased deposit of collateral as bonded for a hazardous waste storage, treatment, or disposal facility from a permit applicant or permittee which obtained a permit prior to March 9, 1985, if one of the following occurs:

(1) The permit applicant, or permittee, has failed to pay to the Department, when due, permit fees, fines, penalties or other payments, or to deposit bond amounts with the Department when due.

(2) The permit applicant, or permittee, has established a pattern of violations of applicable statutes, this chapter, the terms and conditions of the permit, or orders of the Department, even if later corrected, which demonstrates a lack of ability or intention to comply with the requirements applicable to hazardous waste storage, treatment or disposal facilities.

(d) All interest earned by collateral on deposit shall be accumulated and become part of the bond amount until the operator completes deposit of the requisite bond amount in accordance with the schedule of deposit.

§ 75.316. Replacement of bond.

(a) The Department may allow permittees to replace existing surety or collateral bonds with other surety or collateral bonds if the liability which has accrued against the permittee of the hazardous waste storage, treatment or disposal facility is transferred to the replacement bonds. The bond amount for the replacement bond will be determined under this subchapter, but in no case shall it be less than the amount on deposit with the Department.

(b) The Department will not release existing bonds until the permittee has submitted and the Department has approved acceptable replacement bonds. A replacement of bonds under this section shall not constitute a release of bond under this subchapter.

(c) Within 60 days after approval of acceptable replacement bonds, the Department will take appropriate action to initiate the release of existing surety or collateral bonds being replaced by the permittee.

§ 75.317. Reissuance of permits.

Before a permit is reissued to a new permittee, the new permittee shall post a new bond in an appropriate amount determined by the Department under this subchapter but in no case less than the amount of bond on deposit with the Department, in the new permittee's name, assuming all accrued liability for the hazardous waste storage, treatment or disposal facility. The new permittee may use negotiable securities of the former permittee as the bond guarantee if the new permittee obtains an assignment from the former permittee and provides the Department with proof of the assignment.

§ 75.318. Bond amount determination.

(a) The Department will determine bond amount requirements for each hazardous waste storage, treatment and disposal facility based upon the total estimated cost to the Commonwealth to complete final closure of the facility in accordance with the requirements of applicable statutes, this chapter, the terms and conditions of permit and orders issued thereunder by the Department and to take measures that are necessary to prevent adverse effects upon the environment during the life of the facility and after closure until released as provided by this subchapter.

(b) This amount shall be based on factors which include, but are not limited to, the following:

(1) The costs to the Commonwealth to conduct closure and post-closure care activities as required by § 75.264(o) (relating to new and existing hazardous waste management facilities applying for a permit); monitoring, sampling and soil and leachate analysis; facility security measures; remedial abatement measures; and post-closure restoration and maintenance measures.

(2) The costs related to the differences in kinds of waste stored, treated or disposed of at the facility.

(3) The costs related to size of the surface area, the topography and geology of the area, and the land uses around the facility.

(4) The estimated costs submitted by the permit applicant or permittee in accordance with this section.

(5) The additional estimated costs to the Department which may arise from applicable public contracting requirements or the need to bring personnel and equipment to the permit area after its abandonment by the permittee to perform restoration and abatement work.

(6) The additional estimated costs necessary, expedient, and incident to the satisfactory completion of the requirements of applicable statutes, this chapter, and the conditions of the permit.

(7) The additional estimated cost for at least the next 3 years which is anticipated to be caused by inflation determined by averaging the annual Implicit Price Deflator for Gross National Product published by the United States Commerce Department, or any superseding standard, for at least the prior 3 years.

(8) Other cost information as may be required from the permittee or otherwise available to the Department.

(c) The Department will establish bonding amount guidelines for hazardous waste storage, treatment and disposal facilities based on the criteria of this section. The guidelines will be used by the Department as an aid in determining the amount of bond for each facility. The guidelines will be reviewed annually and, if necessary, revised to reflect the current costs to the Department. The guidelines and each revision of the guidelines will be published in the *Pennsylvania Bulletin* for information purposes.

§ 75.319. Cost estimate for closure and post-closure care.

(a) The permittee or permit applicant shall prepare a written estimate of the cost of closing the facility and providing post-closure care under § 75.264(o) (relating to new and existing hazardous waste management facilities applying for a permit) and taking necessary measures before, during and after closure to prevent adverse effects upon the environment. The cost estimate shall quantify the cost of closure and post-closure care at the point of the facility's life when the extent and manner of its operation or condition would make closure and post-closure care most costly.

(b) The permittee or applicant shall adjust the cost estimate for inflation within 30 days after each anniversary of the date on which the first cost estimate was made. The adjustment shall be made as provided in this section using an inflation factor derived from the annual Implicit Price Deflator for Gross National Product as published by the United States Department of Commerce in its Survey of Current Business. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(1) The first adjustment is made by multiplying the cost estimate by the inflation factor.

(2) Subsequent adjustments are made by multiplying the latest adjusted cost estimate by the latest inflation factor.

(c) The permittee shall revise the cost estimate whenever a change in the closure plan or in the measures necessary to prevent adverse effects upon the environment increases the cost. The revised cost estimate must be adjusted for inflation as specified in § 75.318(b) (relating to bond amount determination).

§ 75.320. Minimum bond amount.

The minimum amounts of bond for a hazardous waste storage, treatment or disposal facility shall be $10,000.

§ 75.321. Bond amount adjustments.

(a) The permittee shall deposit additional amounts of bond, at any time, upon demand of the Department. The Department will require a permittee to deposit additional amounts of bond if one of the following occurs:

(1) The permit is amended to increase acreage, to change the kind of waste handled or for another reason which requires an additional amount of bond determined under § 75.318 (relating to bond amount determination).

(2) Inflationary cost factors have exceeded the estimate used for the original bond amount determination under § 75.318(b)(7).

(3) The permit is to be renewed, reissued or the bond on deposit is to be replaced which requires an additional amount of bond determined under § 75.318.

(4) The Department determines that an additional amount of bond is required as determined by § 75.318 to meet the requirements of applicable statutes, this chapter, and the terms and conditions of the permit or orders of the Department.

(b) A permit applicant or permittee may request reduction of the required bond amount upon submission of satisfactory evidence proving that the method of operation or other circumstances will significantly reduce the maximum estimated cost to the Department of completing final closure and taking necessary measures to prevent adverse effects on the environment. If the request is made after permit issuance, it will be considered a request for bond release.

(c) At least every 5 years after the deadline for submitting a bond under § 75.311 (relating to requirement to file a bond) or after permit issuance, the Department will determine on a case-by-case basis the adequacy of bond amount requirements for all hazardous waste storage, treatment and disposal facilities and, if necessary, require additional bond amounts.

§ 75.322. Failure to maintain adequate bond.

If a permittee fails to post additional bond within 60 days after receipt of a request by the Department for additional bond amounts under § 75.321 (relating to bond amount adjustments), or fails to make timely deposits of bond in accordance with the schedule submitted under § 75.315 (relating to phased deposits of collateral), the Department will issue a notice of violation to the permittee, and if the permittee fails to deposit the required bond amount within 15 days of the notice, the Department will issue a cessation order for all of the hazardous waste storage, treatment and disposal facilities operated by the permittee and take additional actions that may be appropriate, including suspending or revoking permits.

§ 75.323. Period of liability.

Liability under bonds posted for a hazardous waste storage, treatment or disposal facility shall extend for the duration of the operation and closure of storage, treatment or disposal activities, and for the duration of post-closure care activities for disposal facilities as specified in § 75.264(o) (relating to new and existing hazardous waste management facilities applying for a permit), and for 1 year thereafter, except that water pollution liability shall continue for 10 full years after final closure.

§ 75.324. Separate bonding for a portion of a facility.

(a) The Department may require a separate bond to be posted for a part of a hazardous waste storage, treatment or disposal facility if that part of the facility can be separated and identified from the remainder of the facility and the bond liability for that part will continue beyond the time provided for the remainder of the facility, or the Department has determined that separate bonding of the facility is necessary to administer and apply applicable statutes, this chapter, the terms and conditions of the permit, or orders of the Department.

(b) If the Department requires a separate bond for part of a facility, the original bond amount for the facility may be adjusted under § 75.321 (relating to bond amount adjustments).

§ 75.325. Bond release.

(a) The permittee may file a written application with the Department requesting release of all or part of the bond amount posted for a hazardous waste storage, treatment or disposal facility during the operation of the facility as part of a request for bond adjustment under § 75.321 (relating to bond amount adjustments), upon completion of closure of the facility and upon expiration of the post-closure care period of liability as specified in § 75.264(o) (relating to new and existing hazardous waste management facilities applying for a permit).

(b) The application for bond release shall contain all of the following:

(1) State the name of the permittee and identify the hazardous waste storage, treatment or disposal facility for which bond release is sought.

(2) State the total amount of bond in effect or the facility and the amount for which release is sought.

(3) State in specific detail the reasons why bond release is requested including, but not limited to, the closure, post-closure care, and abatement measures taken, the permit amendments authorized or the change in facts or assumptions made during the bond amount determination which demonstrate and would authorize a release of part or all of the bond deposited for the facility.

(4) Provide a revised cost estimate for closure and post-closure care in accordance with § 75.319 (relating to cost estimate for closure and post-closure care).

(5) Provide other information as may be required by the Department.

(c) The Department will evaluate the bond release request as if it were a request for a new bond amount determination under § 75.318 (relating to bond amount determination). If the new bond amount determination would require less bond for the facility than the amount already on deposit, the Department will release the portion of the bond amount which is not required for the facility. If the new bond amount determination would require an additional amount of bond for the facility, the Department will require the additional amount to be deposited for the facility.

(d) The Department will not release a bond amount deposited for a facility if the release would reduce the total remaining amount of bond to an amount which would be insufficient for the Department to complete closure and post-closure care and to take measures that may be necessary to prevent adverse effects upon the environment or public health, safety or welfare in accordance with applicable statutes, this chapter, the terms and conditions of the permits, and orders of the Department.

(e) The Department will make a decision on a bond release application within 6 months after receipt unless additional time is authorized by the permittee.

(f) The Department will not release a bond amount for a facility which is causing adverse effects on the public health, safety or welfare or the environment, creating a public nuisance, or in violation of this chapter, the act, or the statutes set forth in section 505(a) of the act (35 P.S. §6018.505).

§ 75.326. Closure certification.

(a) The permittee shall submit a request for closure certification upon completion of closure of the facility.

(b) Within 60 days after receipt of a written request for closure certification, the Department will initiate an inspection of the facility to verify that closure has been effected in accordance with the approved facility closure and post-closure care plan and this chapter.

(c) If the Department determines that the facility has been closed in accordance with this chapter, and that there is not reasonable expectation of adverse effects upon the environment or the public health, safety, and welfare, the Department will certify in writing to the permittee that closure has been effected in accordance with this subchapter. Closure certification shall not take effect until 1 year after receipt of the Department's determination.

(d) The closure certification shall not constitute a waiver or release of bond liability or other liability existing in law for adverse environmental conditions or conditions of noncompliance existing at the time of the notice or which might occur at a future time, for which the permittee shall remain liable.

(e) The Department will not issue a closure certification for a facility which is causing adverse effects on the public health, safety or welfare or the environment, creating a public nuisance, or in violation of this chapter, the act, or the statutes set forth in section 505(a) of the act (35 P.S. §6018.505(a)).

(f) At any time after issuance of a certification of closure, if inspection by the Department indicates that additional post-closure care measures are required to abate or prevent any adverse effects upon the environment or the public health, safety and welfare, the Department will issue a written notice to the permittee setting forth the schedule of measures which the permittee shall take in order to bring the facility into compliance.

(g) At least 6 months prior to expiration of the 1 year liability period following closure and post-closure care, the Department will conduct an inspection of the facility. If the Department determines that the facility will continue to cause adverse effects upon the environment or the public health, safety and welfare after expiration of the 1-year liability period, the Department will require the permittee to deposit a separate bond under § 75.324 (relating to separate bonding for a portion of a facility), or forfeit the bond on deposit with the Department.

§ 75.327. Public notice and comment.

The original bond amount determination, a decision by the Department to release bond, a request to reduce bond amount after permit issuance and a request for closure certification shall be, for the purpose of providing public notice and comment, considered a major permit modification and shall satisfy the public notice and comment requirements for major permit modifications.

§ 75.328. Bond forfeiture.

(a) The Department may forfeit the bond for a hazardous waste storage, treatment or disposal facility where it determines that any of the following occur:

(1) The permittee has failed and continues to fail to conduct the hazardous waste storage, treatment or disposal activities in accordance with the requirements of this chapter, the act, the statutes set forth in section 505(a) of the act (35 P.S. §6018.505), the terms and conditions of the permit, or orders of the Department.

(2) The permittee has abandoned the facility without providing closure or post-closure care, or has otherwise failed to properly close the facility in accordance with the requirements of this chapter, the act, the statutes set forth in section 505(a) of the act, the terms and conditions of the permit, or orders of the Department.

(3) The permittee has failed, and continues to fail to take those measures determined necessary by the Department to prevent effects upon the environment before, during, and after closure and post-closure care.

(4) The permittee or financial institution has become insolvent, failed in business, been adjudicated a bankrupt, has a delinquency proceeding initiated under Article V of The Insurance Department Act of one thousand nine hundred and twenty-one (40 P.S. §§ 221.1—221.63), filed a petition in bankruptcy, in liquidation, for dissolution or for a receiver, or had a receiver appointed by the court, or had action initiated to suspend, revoke or refuse to renew the license or certificate of authority of the financial institution, or a creditor of the permittee has attached or executed a judgment against the permittee's equipment, materials, or facilities at the permit area or on the collateral pledged to the Department; and the permittee or financial insititution cannot demonstrate or prove the ability to continue to operate in compliance with this chapter, the act, the statutes set forth in section 505(a) of the act, the terms and conditions of the permit and orders of the Department.

(b) In the event the Department determines that bond forfeiture is appropriate, the Department will do the following:

(1) Send written notification by mail to the permittee, the host municipality and the surety on the bond, if any, of the Department's determination to forfeit the bond and the reasons for the forfeiture.

(2) Advise the permittee and surety, if any, of their right to appeal to the Environmental Hearing Board under section 1921-A of the Administrative Code of 1929 (71 P.S. §510-21).

(3) Proceed to collect on the bond as provided by applicable statutes for the collection of defaulted bonds or other debts.

(4) Deposit all money collected from defaulted bonds into the Solid Waste Abatement Fund.

(5) Forfeit all bond deposited for the facility, including all additional amounts of bond posted for the facility.

§ 75.329. Incapacity of permittees or financial institutions.

(a) A permittee shall notify the Department by certified mail within 10 days after commencement of a voluntary or involuntary proceeding under the Bankruptcy Code, 11 U.S.C.A. §§101—151104) naming the owner or operator as debtor.

(b) A financial institution which issues a surety bond, letter of credit or certificate of deposit in accordance with the requirements of this part shall notify the Department by certified mail within 10 days after commencement of a voluntary or involuntary proceeding under the Bankruptcy Code (11 U.S.C.A. §§101—151104) naming the financial institution as debtor or an action alleging violation of regulatory requirements which could result in a suspension or revocation of the authority of the issuing institution to issue the instruments.

(c) A permittee which fulfills the requirements of § 75.311 (relating to the requirement to file a bond) by obtaining a surety bond, letter of credit or certificate of deposit shall be deemed to be without the required financial assurance in the event of bankruptcy of the issuing institution, or a suspension or revocation of the authority of the issuing institution to issue the instruments. The permittee shall establish other financial assurance within 60 days after the event.

(d) A permittee which fulfills the requirements of § 75.331 (relating to the requirement for insurance coverage) by obtaining an insurance policy shall be deemed to be without the required liability coverage in the event of bankruptcy of the issuing institution, or a suspension or revocation of the authority of the issuing institution to issue the instruments. The permittee shall establish other liability coverage within 60 days after the event.

§ 75.330. Preservation of remedies.

Remedies provided or authorized by law for violation of statutes, including but not limited to, the act, the Clean Streams Law (35 P.S. §§691.1—691.1001), the Surface Mining Conservation and Reclamation Act (52 P.S. §§1396.1—1396.4c, 1396.4e, and 1396.15c—1396.25), the Air Pollution Control Act (35 P.S. §§4001—4015), the Dam Safety and Encroachments Act (32 P.S. §§693.1—693.27), this chapter, the terms and conditions of the permits and orders of the Department, are expressly preserved. Nothing in this subchapter shall be construed as an exclusive penalty or remedy for the violations. No action taken under this subchapter shall waive and impair another remedy or penalty provided in law.

INSURANCE REQUIREMENTS FOR HAZARDOUS WASTE STORAGE, TREATMENT, AND DISPOSAL FACILITIES

§ 75.331. Requirement for insurance coverage.

(a) Except for departments and agencies of the United States or of the Commonwealth, all hazardous waste storage, treatment and disposal facilities which have been permitted under the Pennsylvania Solid Waste Management Act (35 P.S. §§6001—6017) (Repealed 1980), or which are being treated as having been issued a permit under the act, shall file proof of insurance coverage for the facility under this part before September 9, 1985.

(b) Except for departments and agenices of the United States or of the Commonwealth, the Department will not issue new, revised, amended, modified, or renewed permits for the storage, treatment or disposal of hazardous waste after March 9, 1985 unless the applicant has filed proof of insurance coverage for the facility under this part.

(c) Except for departments and agencies of the United States or of the Commonwealth, an applicant for a new, revised, amended, modified, or renewed permit shall not disturb land, start construction of facilities for the storage, treatment or disposal of hazardous waste or accept hazardous waste prior to receipt from the Department of approval of insurance coverage and issuance of a permit to operate a hazardous waste storage, treatment or disposal facility. After September 9, 1985, a hazardous waste storage, treatment or disposal facility which was permitted before March 9, 1985, or is being treated as having been issued a permit, shall cease accepting hazardous waste unless the permittee has submitted proof of insurance coverage under this part. The Department will review and determine whether or not to approve the proof insurance within 1 year after submittal. If on review the Department determines the permittee has submitted an insufficient amount of insurance, the Department will require the permittee to provide proof for additional amounts of insurance under § 75.334 (relating to proof of insurance coverage).

§ 75.332. Insurance coverage.

(a) Each permit applicant, or permittee of a hazardous waste storage, treatment or disposal facility shall submit proof that the owner or operator has in force a liability insurance policy for personal injury and property damage to third parties caused by sudden accidental occurrences arising out of operation of the facility. The minimum amount of coverage for sudden accidental occurrences shall be $2 million per occurrence with an annual aggregate of at least $4 million, exclusive of legal defense costs. The insurer shall be liable for and make payment of amounts within any deductible applicable to the policy, if the insurer has a right of reimbursement by the insured for any payments made by the insurer.

(b) Each permit applicant, or permittee of a hazardous waste surface impoundment, land treatment or disposal facility shall submit proof that the owner or operator has in force a liability insurance policy for personal injury and property damage to third parties caused by nonsudden accidental occurrences arising out of operation of the facility. The minimum amount of coverage for nonsudden accidental occurrences shall be $4 million per occurrence with an annual aggregrate of at least $8 million, exclusive of legal defense costs. The insurer

shall be liable for and make payment of amounts within any deductible applicable to the policy, if the insurer has a right of reimbursement by the insured for any payments made by the insurer.

(c) The insurance requirements of this section shall be construed together to provide comprehensive coverage for personal injury and property damage to third parties from the risks associated with operation of a hazardous waste storage, treatment or disposal facility.

(d) If the Department determines that operation of a hazardous waste facility other than a hazardous waste surface impoundment, land treatment or disposal facility may present a significant risk to the public health, safety and welfare or the environment, the Department may require the permittee to comply with subsection (b).

(e) At least every 5 years after the deadline for submitting proof of insurance coverage under § 75.331, or after permit issuance, the Department will determine on a case-by-case basis whether the levels of financial responsibility required by this section are consistent with the degree and duration of risk associated with operation of the facility. If the Department determines the required levels of financial responsibility are not consistent with the degree and duration of risk associated with operation of the facility, the Department will require additional amounts of insurance coverage under § 75.335 (relating to additional amounts of insurance coverage).

(f) A permittee may request that the Department determine whether the levels of financial responsibility required by this section are consistent with the degree and duration of risk associated with operation of the facility. If the permittee demonstrates that the required levels of financial responsibilities substantially exceed the degree and duration of risk associated with operation of the facility, then the Department may adjust the level of financial responsibility as may be necessary to protect the public health, safety and welfare and the environment, but in no case shall the level be adjusted below the minimum required by this section.

§ 75.333. Period of coverage.

(a) Except as provided in subsection (b), the owner or operator shall continuously provide insurance coverage under § 75.332 (relating to insurance coverage) from the initiation of hazardous waste storage, treatment or disposal activities until the effective date of closure certification, as provided by § 75.326 (relating to closure certification).

(b) Upon certification of closure, if the Department determines that the facility may continue to present a significant risk to the public health, safety and welfare or the environment, the Department may require the owner or operator to comply with the requirements of § 75.332 (relating to insurance coverage) for a period beyond the effective date of closure certification as may be determined by the Department.

§ 75.334. Proof of insurance coverage.

(a) Each liability insurance policy for personal injury or property damage to third parties caused by sudden or non-sudden accidental occurrences shall be issued by an insurer licensed and authorized by the Insurance Commissioner to transact business in this Commonwealth, or designated by the Insurance Commissioner as an eligible surplus lines insurer under the act of January 24, 1966 (1965) (P.L. 1509, No 531) (40 P.S. §§1006.1—1006.18). More than one insurance company may provide the required coverage for a facility. The insurer shall not be a parent, subsidiary, official, director or affiliate of the permittee.

(b) Each liability insurance policy shall be evidence by a certificate of liability insurance. Each certificate shall:

(1) State the name of the insurance company, the insured and facility covered by the policy.

(2) Identify the kinds of coverage provided by the policy and the amounts of coverage exclusive of legal defense costs.

(3) Identify the beginning and ending dates for the policy and the policy number.

(4) Specify that 120 days prior written notice shall be given by the insurer to the Department before cancellation or another termination of the insurance policy is effective.

(5) State that the insurance coverage provided by the policy is for the purpose of satisfying the requirements of this subchapter.

(6) State that the insurer is liable for payment on the policy without regard for the bankruptcy or insolvency of the insured.

(c) The Department will review the certificates of insurance submitted by the permit applicant, or permittee, to determine if the coverage provided satisfies the insurance coverage requirements of the Department under this part for the facility. The Department may require additional proof, such as a copy of the policy, additional endorsements to the certificate or statements of intent from the insurer on the scope of coverage, to establish to the Department's satisfaction that the coverage provided is that which is required under this part.

(d) The permittee shall submit a new certificate of liability insurance 60 days prior to the expiration of the current certificate. If the permittee fails to submit a new certificate before the expiration of the current certificate, the permittee shall cease accepting hazardous waste material for storage, treatment or disposal at the facility.

(e) The Department will not accept proof of insurance coverage from an insurer which engages in a trade practice constituting an unfair method of competition or an unfair or deceptive act or practice, including an act constituting an unfair claim settlement or compromise practice, within the meaning of the Unfair Insurance Practices Act (40 P.S. §§1171.1—1171.15).

§ 75.335. Additional amounts of insurance coverage.

The Department will require the permittee to provide proof of additional amounts of insurance coverage if one of the following occurs:

(1) The permit is amended to increase acreage or to change the kind of hazardous waste handled.

(2) The Department determines that additional amounts of insurance coverage are required to protect the public health, safety and welfare and the environment from the risk of injury or damage arising from operation of the facility.

§ 75.336. Termination of insurance.

The insurer may cancel or otherwise terminate an insurance policy by sending written notice of cancellation by certified mail to the insured and the Department. Termination shall not take effect until 120 days after receipt of the notice of cancellation by the insured and the Department, as evidence by the return receipts. Within 60 days after receipt of the notice of termination, the permittee shall provide the Department with proof of a replacement insurance policy sufficient to meet the requirements of § 75.331 (relating to requirement for insurance coverage). Failure of the permittee to provide a replacement insurance policy within the 60 period shall constitute grounds for forfeiture of the existing bond under § 75.328 (relating to bond forfeiture).

Subchapter F. CRITERIA FOR SITING HAZARDOUS WASTE TREATMENT AND DISPOSAL FACILITIES

Authority

The provisions of this Subchapter F were adopted under the authority of the Solid Waste Management Act, Act of July 7, 1980 (P.L. 380, No. 97), sections 104, 105 and 507 (35 P.S. §§6018.104, 6018.105 and 6018.407) and section 1920-A of the Administrative Code, Act of April 9, 1929 (P.L. 177, No. 175) (71 P.S. §510-20).

Source

The provisions of this Subchapter F were adopted July 30, 1985 and were effective September 21, 1985, 15 Pa. B. 3334.

GENERAL PROVISIONS

§ 75.401. Definitions.

(a) The following words and terms when used in this subchapter shall have the meanings given to them, unless the context clearly indicates otherwise:

Active water supply — A water supply in use prior to both the receipt of a permit application and the establishment of a public participation program for a hazardous waste management facility.

Facility site — All contiguous land owned or under the control of an owner or operator of a hazardous waste facility and identified in a permit or permit application.

Wetlands — Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, and similar areas. The term includes but is not limited to wetland areas listed in the State Water Plan, the United States Forest Service Wetlands Inventory of Pennsylvania, the Pennsylvania Coastal Zone Management Plan, the U.S. Fish and Wildlife National Wetland Inventory and any wetland areas designated by a river basin commission.

(b) All other words and terms not otherwise defined in this subchapter shall have the meanings ascribed to them in § 75.260.

SCOPE AND APPLICABILITY

§ 75.411. Scope and Applicability.

The requirements of this subchapter apply to siting of hazardous waste treatment and disposal facilities. The hazardous waste treatment or disposal facility must satisfy all other applicable requirements of this Chapter. The criteria for siting hazardous waste treatment and disposal facilities are divided into two phases as described in §§ 75.412 and 75.413.

§ 75.412. Phase I.

Phase I, exclusionary criteria are established in §§ 75.421—75.429 and prohibit the siting of a hazardous waste treatment or disposal facility in an excluded area delineated under these criteria. The Department will deny a permit application without further review if the Department determines the proposed facility is located in an excluded area. Phase I criteria apply to all hazardous waste treatment or disposal facilities, except: facilities that were sited and substantially constructed in good faith prior to the effective date of these regulations; and modifications to facilities which are within the existing facility site.

§ 75.413. Phase II.

Phase II criteria are established in §§ 75.441—75.450 and identify further environmental, social and economic factors which may affect the suitability of a location for a proposed facility. Phase II criteria apply to all hazardous waste treatment or disposal facilities and modifications thereto. If a facility site does not satisfy a Phase II criteria, the applicant must submit additional information and analyses to allow the Department to assess what effect, if any, failure to satisfy the criterion has upon the acceptability of the facility site. The Department will provide notice to municipal officials and other interested persons in order to solicit further information regarding potential effects of a failure to meet Phase II criteria at the proposed facility site. The Department may undertake additional investigations and after consideration of all relevant information, will determine whether the proposed design, construction and operation of the facility will successfully mitigate adverse effects which would otherwise be associated with failure to satisfy the criterion. After evaluating each Phase II criterion individually the Department will evaluate the facility's overall compliance with the Phase II criteria, and will identify risks that have not been eliminated through mitigation measures. If risks to the public health or safety, or to significant natural, scenic, historic or aesthetic values remain, which, in the judgment of the Department, render the proposed facility site unacceptable for a hazardous waste treatment or disposal facility, the Department may include conditions in the permit which eliminate or reduce the identified risks or may deny the permit application.

§ 75.414. Distances.

The distances from a facility to a feature or structure described in these criteria shall be measured from the perimeter of the facility site.

PHASE I EXCLUSIONARY CRITERIA

§ 75.421. Water Supply.

(a) Landfill, land treatment and surface impoundment facilities shall not be sited:

(1) Within one-half mile of any well or spring used for a community water supply;

(2) Within one-half mile of either side of a stream or impoundment for a distance of five stream miles upstream of any surface water intake for a community water supply; or

(3) Within one-half mile of any off-site private or non-community public well or spring used as an active water supply, unless prior to operation of the facility the applicant demonstrates the availability of an acceptable permanent alternative supply of like quantity, yield and quality to the existing supply, and provides financial assurance that the alternate supply will be made available at no additional cost to the water supply owner for a period of time that shall be no less than the bond liability period established in § 75.323. If a permit is granted it shall include a permit condition which requires installation of the alternative water supply prior to operation of the facility.

(b) A permanent alternative supply may be provided through the development of a new well with a distribution system, interconnection with a public water supply, extention of a private water supply, or similar proposals, but does not include provision of bottled water or a water tank supplied by a bulk water hauling system.

(1) The applicant must demonstrate good faith efforts to reach agreement with the water supply owner regarding the provision of an acceptable permanent alternative water supply.

(2) In the event that the applicant is unable, despite good faith efforts, to reach agreement with the water supply owner, the applicant must demonstrate to the Department that an acceptable permanent alternative water supply is available, has been offered and will be provided to the water supply owner.

(3) The Department will determine that an alternative permanent water supply is acceptable if the quality and quantity satisfy all requirements for public water supplies established in the Pennsylvania Safe Drinking Water Act, Act of May 1, 1984, (P.L. 206, No. 43), 35 P.S. §721.1 *et seq.* and 25 Pa. Code Chapter 109 (relating to Safe Drinking Water). The Department may require the alternative water supply to provide higher quality, quantity or yield of water than that required to be delivered by public water systems if the water supply owner demonstrates that such higher quality, quantity or yield is necessary to continue a pre-existing use of substantial economic value.

§ 75.422. Flood Hazard Areas.

(a) Surface impoundment, landfill and land treatment facilities shall not be sited in the 100-year floodplain or such larger area as the flood of record has inundated.

(b) Treatment and incineration facilities shall not be sited in the 100-year floodplain or such larger area as the flood of record has inundated unless the industrial use on the proposed site was in existence as of the effective date of the Pennsylvania Flood Plain Management Act, Act of October 4, 1978 (P.L. 851, No. 166) (32 P.S. §§679.101—679.601).

§ 75.423. Wetlands.

Treatment and disposal facilities shall not be sited in wetland areas.

§ 75.424. Oil and Gas Areas.

Surface impoundment, landfill and land treatment facilities shall not be sited over active or inactive oil and gas wells or gas storage areas located within or beneath the facility site. "Active or inactive oil and gas wells or gas storage areas" shall have the same meaning as in the Oil and Gas Act of 1984 (58 P.S. §601.101 *et seq.*).

§ 75.425. Carbonate Bedrock Areas.

Surface impoundments, landfill and land treatment facilities shall not be sited over limestone or carbonate formations, where the formations are greater than five (5) feet in thickness and present at the topmost geologic unit. Areas mapped by the Pennsylvania Geologic Survey as underlain by such formations shall be excluded unless competent geologic studies demonstrate the absence of such formations under the facility site.

§ 75.426. National Natural Landmarks and Historic Places.

Treatment and disposal facilities shall not be sited within National Natural Landmarks designated by the National Park Service or historic sites listed on the National Register of Historic Places, unless the statute under which the designation or listing has been made authorizes the operation of such facilities in such areas.

§ 75.427. Dedicated Lands in Public Trust.

Treatment and disposal facilities shall not be sited on lands in public trust including state, county or municipal parks, units of the National Parks System, state forests, the Allegheny National Forest, state game lands, property owned by the Pennsylvania Historical and Museum Commission, a national wildlife refuge, national fish hatchery or national environmental center unless the agency administering such lands has been given authority by statute or ordinance to allow the operation of such facilities on such lands.

§ 75.428. Agricultural Areas.

Treatment and disposal facilities shall not be sited in agricultural areas established under the Pennsylvania Agricultural Area Security Law, 3 P.S. §§901—905, or in farmlands identified as Class I agricultural land by the Soil Conservation Service.

§ 75.429. Exceptional Value Waters.

Treatment and disposal facilities shall not be sited in watersheds of Exceptional Value Waters.

PHASE II CRITERIA

§ 75.441. Water Supply.

(a) The applicant shall determine whether a proposed surface impoundment, landfill or land treatment facility is within the ground-water recharge area for any public or private water supplies. The applicant shall delineate the position of the proposed facility site within relevant ground-water flow systems. The applicant shall identify all public and private water supplies and water treatment plants which may potentially be adversely affected by ground-water flow associated with the proposed hazardous waste facility (i.e., the water supplies located down-gradient in the flow path from the facility).

(b) For any water supplies or water treatment plants which may be affected by the proposed facility, the applicant shall submit a detailed hydrogeologic study including information addressing the following.

(1) hydraulic conductivity of the aquifer for the water supplies;

(2) hydraulic conductivity of the geologic deposits underlying the proposed facility;

(3) assessment of the influence of faults, fractures, or other structural geologic features upon hydraulic conductivity and groundwater flow directions;

(4) pumping rates of water supply wells and the areal extent and configuration of the cone of pumping depression associated with these wells in relation to the groundwater table of the surrounding areas.

(c) For any water supplies or water treatment plants which the hydrogeologic study required in paragraph (b) indicates may be adversely affected by the proposed facility, the applicant shall demonstrate:

(1) The hydrogeologic characteristics of the proposed facility site and adjacent areas assure that implementation of a groundwater monitoring well program will provide protection of water supplies or water treatment plants from potential contamination; and

(2) The feasibility of providing a permanent alternative water supply acceptable to the water supply owner of like quantity and quality to the existing supply at no additional cost to said owner.

(a) *Faults.* Landfill, land treatment and surface impoundment facilities are deemed to be acceptable if located one mile or more from a major structural feature. A major structural feature is a fault mapped by the Pennsylvania Geologic Survey or the United States Geological Survey at a scale of four miles to the inch. If the proposed facility is within one mile of a major structural feature, the applicant shall provide information and analyses to allow the Department to assess the compatibility of the proposed facility design with such faults in the area.

(b) *Bedrock Depth.* For surface impoundment, landfill and land treatment facilities, a depth to bedrock of fifteen (15) feet or more shall be considered acceptable. Where the construction of the proposed facility requires excavation, the final depth to bedrock shall be considered. The applicant shall address any lesser bedrock depths by providing information and analyses to allow the Department to assess the compatibility of the design and construction of the proposed facility with the bedrock depth.

(c) *Slopes.* Slopes less than 15% for surface impoundment, landfill and land treatment facilities shall be considered acceptable. The applicant shall address any greater slopes by submitting information and analyses to allow the Department to assess the compatibility of the design and construction measures for the proposed facility that would minimize any adverse effects.

(d) *Landslide prone areas.* If a facility site is in a landslide prone area or is adjacent to a landslide prone area, the applicant shall submit information and analyses to allow the Department to assess whether the design measures provide adequate protection from potential landslides.

(e) *Oil and Gas Wells.* Surface impoundment, landfill and land treatment facilities shall be considered acceptable if the applicant can establish that abandoned oil and gas wells and gas storage areas do not exist within the proposed facility site. "Abandoned oil and gas wells and gas storage areas" shall have the same meaning as in the Oil and Gas Act of 1984 (58 P.S. §601.101 *et seq.*). If such abandoned facilities exist, the applicant shall provide information and analyses to allow the Department to assess the probability and degree of any subsurface discharges to be expected from the existence of abandoned oil and gas wells and gas storage areas within the facility site after such wells are plugged.

(f) *Carbonate Areas.* Where surface impoundment, landfill, or land treatment and disposal facilities are proposed over areas underlain by carbonate bedrock, the applicant shall provide information and analyses to allow the Department to assess the prevalence of solution channels and the potential for sinkholes at the facility site.

(g) *Hydrogeology.* A surface impoundment, landfill or land treatment facility shall not be located in an area underlain by coarse unconsolidated deposits such as well sorted valley fill deposits and heavily fractured bedrock. If any other facility is to be located in an area underlain by coarse unconsolidated deposits the applicant shall provide information and analyses to allow the Department to further assess the facility site to determine the environmental impact of these subsurface conditions.

(h) *Seismic Risk Zones.* If a proposed treatment or disposal facility is within a five (5) mile radius of earthquake epicenters as mapped by the Pennsylvania Geologic Survey or the United States Geological Survey, the applicant shall specify design measures necessary to withstand potential seismic events, and the Department shall determine whether the proposed design measures provide adequate protection from potential earthquake damage.

§ 75.443. Soils.

(a) *pH.* Land farming facilities located so the soil pH within the proposed facility is 6.0 or greater shall be deemed to be acceptable. If the proposed facility cannot meet the above soil pH requirements, the applicant shall provide information and analyses to allow the Department to assess the ability of the proposed facility to mitigate adverse environmental effects resulting from incompatible soil pH.

(b) *Cation Exchange Capacity.* Surface impoundment, landfill and land treatment facilities located so that the capacity of the soil to exchange cations expressed as a sum for all exchangeable cations is fifteen (15) milliequivalents per 100 grams of soil or greater shall be deemed to be acceptable. If the cation exchange capacity is less than fifteen (15), the applicant shall provide information and analyses to allow the Department to assess the soil cation exchange capacity in relation to the potential for migration of contaminants from the proposed facility.

§ 75.444. Mineral Bearing Areas.

(a) *Ownership of Mineral Rights.*

(1) Surface impoundment, landfill and land treatment facilities shall be deemed to be acceptable if the applicant owns the mineral rights within the proposed facility and the area has not been previously mined.

(2) If the applicant does not own all the mineral rights within the proposed facility, the applicant shall determine the ownership of mineral rights conveyed with the property deed to the proposed facility. The applicant must further provide a certification based on a property title search, that ownership of all mineral rights including coal, oil and gas is or will be held by the applicant and that these rights will not be severed from the property as long as hazardous waste remains on the property.

(b) *Surface Subsidence Risk.* If any part of a proposed facility site has been previously mined by deep or surface mining methods the applicant shall provide the results of an engineering study of the proposed site by a competent geotechnical engineer. The study shall allow the Department to assess the probability and degree of surface subsidence and the methods which have been used or are proposed to stabilize the surface. Additionally, the applicant shall provide assurance that any minerals providing support will not be mined as long as hazardous waste remains on the site.

§ 75.445. Land Use.

(a) *New Facilities.* Treatment and disposal facilities located on lands either designated for industrial use by existing municipal zoning or indicated as industrial in officially adopted county or municipal comprehensive plans or land use maps are deemed to be acceptable. If this standard cannot be met, the applicant shall provide information and analyses to allow the Department to assess the compatibility of the design of the proposed facility with zoning or land use controls. Where no zoning exists, the applicant shall provide information and analyses to allow the Department to assess compatibility with existing land use.

(b) *Existing Facilities.* Treatment and disposal facilities located on sites where solid waste or hazardous waste operations (treatment, storage, recovery and disposal) or both are currently being conducted under authority of the Act are deemed to comply with the Land Use criterion.

§ 75.446. Transportation Standards.

(a) *Access.* Treatment and disposal facilities within five (5) miles travel distance of Interstate or limited access highways and served by roads capable of handling anticipated truck traffic or served by a dedicated limited access highway shall be deemed to be acceptable. If this standard cannot be met, the applicant shall provide information and analyses to allow the Department to assess the proximity of the proposed facility to Interstate highways, the effect upon the operation of the proposed facility and the effect of the proposed facility upon the community in the transportation corridor to and from the facility. The applicant shall further provide a plan for highway improvements, if necessary.

(b) *Structures Along Transportation Corridor.* Treatment and disposal facility sites where the transportation corridor between the entrance to a facility and the nearest Interstate or limited access highway is the primary access for less than five (5) residential dwellings per road mile with no schools, community parks or hospitals, are deemed to be acceptable. If these criteria are not met, the applicant shall provide information and analyses to allow the Department to assess the effect the proposed facility will have upon safety and traffic congestion.

(c) *Transportation Restrictions.* Treatment and disposal facility sites are deemed to be acceptable if there are less than four (4) intersections per mile between the entrance to the facility and the nearest Interstate or limited access highway. If there are four (4) or more intersections per mile, the applicant shall provide information and analyses to allow the Department to assess the effect the proposed facility will have upon safety and traffic congestion.

§ 75.447. Safety Services.

Treatment and disposal facilities are deemed to be acceptable if located within an area with adequate safety services. The applicant shall provide information and analyses to allow the Department to assess the adequacy of fire protection, police, ambulance and other necessary safety services available and willing to provide services to the proposed facility. In all cases, the applicant must also comply with the requirements of Sections 264(h) (relating to preparedness and prevention) and 264(i) (relating to contingency plans) of this Chapter.

§ 75.448. Proximity of Facilities and Structures.

Treatment and disposal facility sites are deemed to be acceptable if the distance from the facility to any airport, school, community park, hospital, church, retail center or nursing home, is greater than one mile. If this criterion cannot be met, the applicant shall provide information and analyses to allow the Department to assess the effect the proposed facility will have on the use of these facilities.

§ 75.449. Economic Criteria.

(a) A treatment or disposal facility which does not adversely effect the economy of the host and contiguous municipalities and municipalities contiguous to the transportation corridor to the nearest Interstate or limited access highway is deemed to be acceptable without further assessment. If the facility will result in a net loss of revenues to local jurisdictions, the applicant shall provide information and analyses to allow the Department to assess any compensation needed to offset actual net loss of revenues to local jurisdictions caused by the proposed facility.

(b) If a treatment or disposal facility will result in a net increase in the cost of services provided by local government, the applicant shall provide information and analyses to allow the Department to assess any compensation needed to offset net increases in cost of services.

(c) If a treatment or disposal facility will adversely impact the local economy, the applicant shall provide information and analyses to allow the Department to assess any employment and/or future economic development generated as a result of the location of the facility which may offset any decrease in the local economy.

(d) If a treatment or disposal facility will result in a net increase in cost for monitoring the facility by local government, the applicant shall provide information and analyses to allow the Department to assess the need for compensation for technical assistance which may offset these costs. The applicant shall further assess any provisions for site access by local government.

(e) The applicant shall provide information and analyses to allow the Department to assess any change in market value of property within the local government caused by operation of the treatment or disposal facility and any means by which operation of the proposed facility may offset such change.

§ 75.450. Environmental Assessment Considerations.

(a) The purpose of the following criteria is to assist the Department in evaluating the potential impact of a proposed treatment or disposal facility on natural, scenic, historic and aesthetic values of the environment, in accordance with Article I, Section 27 of the Pennsylvania Constitution. The Department will determine whether significant environmental harm will occur after reviewing the applicant's environmental assessment report submitted in compliance with 25 Pennsylvania Code, Chapter 75 and these regulations and after consulting with the applicant and relevant governmental agencies.

(b) If the Department determines that there is a significant impact on natural, scenic, historic, or aesthetic values of the environment, the Department will consult with the applicant to examine ways to reduce the environmental incursion to a minimum. If, after consideration of mitigation measures, the Department finds that significant environmental harm will occur, the Department will evaluate the social and economic benefits of the proposed facility to determine whether the harm outweighs the benefits. The evaluation of environmental harm must include at a minimum, a consideration of the impact of the proposed facility on the fifteen types of environmental resources described in this subsection at (1) through (15). There may be additional potentially affected natural, scenic, historic or aesthetic values which the Department is constitutionally obligated to protect that will be considered for proposed facilities in some locations. In those instances, the Department will identify those additional potential impacts for the applicant. The following criteria will not be construed as an attempt to limit or restrict the responsibilities of any agency of the Commonwealth under Article I, Section 27 of the Constitution.

(1) If the proposed facility is located within one mile of the corridor of a stream or river designated as a national or State wild, scenic, recreational, pastoral or modified recreation river in accordance with the National Wild and Scenic Rivers Act of 1968 (16 U.S.C.A. §§1271—1287), or the Pennsylvania Scenic Rivers Act, the Act of December 5, 1972 (P.L. 1277, No. 283) (32 P.S. §§820.21—820.29), the applicant shall provide information and analyses to allow the Department to determine whether the proposed facility conforms to the designating statutes, land management guidelines and studies or plans for the corridor.

(2) If the proposed facility is located within one mile of the nearest bank of a stream or river listed as a 1-A priority for study by the Department as a state wild, scenic, recreational, pastoral or modified recreational river; or mandated by the United States Congress for study or determined by the United States Park Service to meet the criteria for study for potential inclusion into the National Wild and Scenic Rivers System, the applicant shall provide information and analyses to allow the Department to assess the extent to which the proposed facility may create adverse environmental, visual or traffic impacts on the river or stream.

(3) If the proposed facility is located within one mile of a unit of the National Parks System; a state, county, or municipal park; a recreational facility operated by the United States Army Corps of Engineers; a state forest picnic area; or the Allegheny River Reservoir in the Allegheny National Forest; the applicant shall provide information and analyses to allow the Department to assess the extent to which the proposed facility may create adverse environmental, visual or traffic impacts on the park or other recreation areas listed in this subsection.

(4) If the facility is located within one mile of the footpath of the Appalachian Trail or other state designated trail, the applicant shall provide information and analyses to allow the Department to assess the extent to which the proposed facility may create adverse environmental, visual or traffic impacts on the Appalachian Trail or other state designated trail.

(5) If the facility is located within one mile of a National Natural Landmark designated by the United States National Park Service; or a natural area or wild area designated by the Environmental Quality Board, the applicant shall provide information and analyses to allow the Department to assess the extent to which the proposed facility may create adverse environmental, visual or traffic impacts on the National Landmark, natural area or wild area.

(6) If the facility is located within one mile of or within an identified potential impact area of a national wildlife refuge, national fish hatchery, or national environment center operated by the United States Fish and Wildlife Service, the applicant shall provide information and analyses to allow the Department to assess the extent to which the proposed facility may create adverse environmental, visual or traffic impacts on the wildlife reserve, fish hatchery, or environmental center.

(7) If the facility is located within one mile of a historic property owned by the Pennsylvania Historical and Museum Commission, the applicant shall provide information and analyses to allow the Department to assess the extent to which the proposed facility may create adverse environmental, visual or traffic impacts on the historic property.

(8) If the facility is located within one mile of a historic site listed in the National Register of Historic Places, the applicant shall provide information and analyses to allow the Department to assess the extent to which the proposed facility may create adverse impacts on such historic sites.

(9) If the facility is located within one-quarter mile of a historic site listed in the Pennsylvania Inventory of Historic Places or an archaeological site listed in the Pennsylvania Archaeological Site Survey, the applicant shall provide information and analyses to allow the Department to assess the extent to which the proposed facility may create adverse impacts on the historical or archaeological site.

(10) If the facility is located within one mile of the boundary of a state forest or state game land or the proclamation boundary of the Allegheny National Forest, the applicant shall provide information and analyses to allow the Department to assess the extent to which the proposed facility may create adverse impacts on the forest, game land or resources.

(11) If the facility is located within an area which is a habitat of a rare, threatened, or endangered species of plant or animal protected by the Federal Endangered Species Act of 1973 (17 U.S.C.A. §136 and §15 U.S.C.A. §§460K-1, 4601-9, 668 dd, 715i; 715s, 1362, 1371, 1372, 1402, 1531—1543), the Wild Resource Conservation Act, Act of June 23, 1982 (P.L. 597, No. 170) (32 P.S. §§5301—5314), or recognized by the Pennsylvania Fish Commission or Pennsylvania Game Commission; the applicant shall provide information and analyses to allow the Department to assess the extent to which the proposed facility may create adverse impacts on the species or habitat and any mitigation measures the applicant has proposed to deal with any adverse impacts.

(12) If the facility will result in an increase in the peak discharge rate of stormwater drainage from the project site, the applicant shall demonstrate that the proposed facility is in conformance with any official stormwater management plan required by the Storm Water Management Act (32 P.S. §680.1 *et seq.*), and the proposed facility will manage the run-off in a manner that otherwise adequately protects health and property from injury.

(13) If a facility is proposed to be located in a watershed for which a formal written request for designation as Exceptional Value Waters has been received by the Department or the Environmental Quality Board, the applicant shall provide information and analyses to allow the Department to assess the impact of the proposed facility on the pending designation.

(14) If the facility generates a wastewater discharge which could degrade waters designated as High Quality Waters under Chapter 93 (relating to Water Quality Standards) or waters for which a formal written request for designation as High Quality Waters has been received by the Department or the Environmental Quality Board, the applicant shall demonstrate:

(i) the discharge is justified as a result of necessary economic or social development which is of significant public value; and

(ii) the discharges, alone or in combination with any other anticipated discharges of pollutants to such waters, will not preclude any use presently possible in such waters and downstream from such waters, and will not result in a violation of any of the numerical water quality criteria specified in § 93.9 (relating to designated water uses and water quality criteria) which are applicable to the receiving waters.

(15) If a proposed facility is to be located on prime or unique agricultural land as defined by the Soil Conservation Service, lands currently in agricultural use, or lands of statewide importance as designated by the Soil Conservation Service, the applicant shall provide information and analyses to allow the Department's to assess the proposed facility's consistency with Commonwealth policy such as Executive Order 1982-3 regarding agricultural lands.