STATE OF WEST VIRGINIA

OFFICE OF THE SECRETARY OF STATE

CHARLESTON 25305

A. JAMES MANCHIN
SECRETARY OF STATE

STATE REGISTER FILING

I, John C. Ailes, Chairman
Title or Position

Water Resources Board, hereby submit to record in
Department or Division

the State Register on 8 1/2 x 11" paper two (2) copies of

( ) proposed rules and regulations concerning topics of material not covered by existing rules and regulations;

( ) proposed rules and regulations superseding rules and regulations already on file;

( ) notice of hearing;

( ) findings and determinations;

(X) rules and regulations; or

( ) other - specify ( ).

This filing pertains to

Chapter 20
Article 5E
Series VII
Section
Page No.

FILED IN THE OFFICE OF
A. JAMES MANCHIN
SECRETARY OF STATE
THIS DATE 3/24/82

( ) proposed rules and regulations are required to go to Legislative Rule Making Committee;

( ) proposed rules and regulations are excluded from Legislative Rule Making Committee;

March 24, 1982
Date Submitted

John C. Ailes
Signature of Person Authorizing this Filing

STATE OF WEST VIRGINIA
DEPARTMENT OF NATURAL RESOURCES
CHARLESTON 25305

JOHN D. ROCKEFELLER IV
Governor

March 24, 1982

DAVID C. CALLAGHAN
Director

WILLIS H. HERTIG, JR.
Deputy Director

The Honorable A. James Manchin
Secretary of State
State Capitol Building
Charleston, West Virginia 25305

Dear Secretary Manchin:

Enclosed for filing are three copies of the Hazardous Waste Management Regulations promulgated by the Director of Natural Resources and the Water Resources Board, Department of Natural Resources Series XV and Water Resources Board Series VII. The effective date of these regulations shall be April 24, 1982.

We hereby certify that the enclosed regulations are true and accurate copies of the official regulations adopted by the Department of Natural Resources and the Water Resources Board.

FILED IN THE OFFICE OF
A. JAMES MANCHIN
SECRETARY OF STATE
THIS DATE 3/24/82

Sincerely,

David C. Callaghan, Director
Department of Natural Resources

John C. Ailes, Chairman
Water Resources Board

DCC/JCA/ab

cc: The Honorable John D. Rockefeller IV
Legislative Rule-Making Review Committee

WEST VIRGINIA ADMINISTRATIVE REGULATIONS

CHAPTER 20 - 5E

1982

SERIES VII AND XV

HAZARDOUS WASTE MANAGEMENT REGULATIONS

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WEST VIRGINIA ADMINISTRATIVE REGULATIONS

STATE WATER RESOURCES BOARD

Chapter 20 - 5E
Series VII and XV
(1982)

SUBJECT: *Hazardous Waste Management Regulations (these regulations are Combined with the Director of the Department of Natural Resources' Regulations

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*Legislative Rule

PREAMBLE

Introduction

In recognition of the express statutory provisions contained in § 20-5E et seq., regarding duplication and consultation, and for the purpose of achieving maximum effectiveness while imposing the least burden of duplicative requirements on those persons subject to these regulations, the Director has attempted in these regulations to create a workable hazardous waste management program. The complexity of the regulations and the number of rule-making agencies involved made this a difficult task, and there is likely to remain a number of areas which will require continued cooperation, coordination, and consultation among the agencies. Towards this effort, the Director of the Department of Natural Resources expects to employ the use of Memorandums of Agreement which will outline the specific areas of responsibilities between the various agencies, particularly with regard to the permits to be issued by the Chief of the Division of Water Resources and the Director of the Air Pollution Control Commission.

Summary of Specific Sections

Section 2 of these regulations contains the definitions of the words and phrases used in these regulations.

Section 3 of these regulations is promulgated by the Director of the Department of Natural Resources and provides the criteria for identifying a hazardous waste and a list of hazardous wastes that have been identified by the Director.

Section 4 of these regulations is promulgated by the Director of the Department of Natural Resources and contains the notification requirements applicable to those persons engaged in hazardous waste activities, and is promulgated pursuant to authority contained in § 20-5E-6(a)(12). The purpose of Section 4.00 is to provide a means for the State of West Virginia to obtain information from all persons who engage in hazardous waste activities.

Section 5 of these regulations, in its proposed form, established manifest requirements. In the final regulations, it has been deleted and all manifest requirements are contained in Section 6.

Section 6 of these regulations is being promulgated by the Director of the Department of Natural Resources and contains requirements for generators of hazardous waste which include recordkeeping, reporting, and originating a manifest for off-site shipments.

Section 7, in its proposed form, contained the requirements on transporters in the event of a discharge during the transportation of hazardous waste. These requirements have been deleted in the final regulations because the Director believes that the regulations promulgated by the Public Service Commission and the Department of Highways relating to spills during the transportation of hazardous waste provide adequate coverage.

In the final regulations, no provisions are made by the Director which specifically deal with the transportation of hazardous waste by aircraft or watercraft. The State Act specifically provided for rule-making related to transportation by highway and rail. It was silent as to the rule-making authority for requirements of the transporters of hazardous waste by aircraft and watercraft. However, the Director believes he has the general

authority to promulgate such requirements under the authority contained in § 20-5E-6(11) and intends, in the very near future, to propose requirements relating to the transportation of hazardous waste by aircraft and watercraft. Consequently, Section 7 has been reserved for this purpose.

Section 8 is promulgated jointly by the Department of Natural Resources and the Water Resources Board and establishes the standards for owners and operators of hazardous waste treatment, storage, and disposal facilities. Joint promulgation of these regulations was necessary because the standards in Section 8 apply to all facilities, not just facilities with discharges to the waters of the State. Initially, the Director and the Water Resources Board attempted to delineate the respective jurisdiction and responsibilities of the two rule-making bodies. However, it became apparent that promulgating rules and regulations along these lines would have made the final rules extremely complex and difficult to read and comprehend. Consequently, for the benefit of the regulated community, it was decided to jointly promulgate these rules and regulations with the Board.

Section 9, in its proposed form, contained standards for facility owners and operators to comply with during interim-status. These standards have been deleted in the final regulations inasmuch as § 20-5E-10 governs the hazardous waste activities of facilities during interim status. Section 9 has been reserved for future regulations to be promulgated either by the Board or Department of Natural Resources.

Section 10 is promulgated jointly by the Director of the Department of Natural Resources under authority of § 20-5E-6(a)(1), (a)(4), and (a)(12) and the Water Resources Board under authority of § 20-5E-7(i), and establishes the minimum national standards

that define the acceptable management of hazardous waste for new land disposal facilities. The reason for the joint promulgation is the same as was explained above in the summary of Section 8.

Section 11 of these regulations is also being promulgated jointly by the Director of the Department of Natural Resources and by the Water Resources Board. § 20-5E-6(a)(4) requires the Director to promulgate rules and regulations respecting compliance with permits for treatment, storage, or disposal under § 20-5E-8. Additionally, the Director is required by § 20-5E-6(a)(5) to promulgate rules and regulations specifying the terms and conditions under which the Chief shall issue, modify, suspend, revoke, or deny permits. The Water Resources Board is also given rule-making authority in § 20-5E-7(i) to promulgate rules and regulations respecting the issuance, modification, suspension, revocation or denial of permits relating to discharges into the waters of the State from the treatment, storage, or disposal of hazardous waste. Because these statutory provisions are somewhat ambiguous as to who should actually promulgate rules and regulations relating to the Chief's permit, the Director has decided that the best way to reconcile these provisions is to promulgate the rules and regulations jointly with the Board. This approach will also spare the regulated community of having to cope with two and possibly three (depending on the approach taken by the Air Pollution Control Commission) sets of permitting requirements for different kinds of facilities or activities. Consequently, the Director and the Water Resources Board have agreed to promulgate Section 11 together.

Section 12 is promulgated jointly by the Director of the Department of Natural Resources under § 20-5E-6(a)(1), (a)(4), and (a)(12), and by the Water Resources Board under § 20-5E-7(i). This

section establishes the location standards for all hazardous waste management facilities.

Sections 13 and 14 establish financial responsibility requirements for existing and new facilities. These sections were reproposed on February 3, 1982, and will be promulgated in final form as soon as the Director reviews the public comments.

Section 15 establishes the requirements on deed and lease disclosures, and approvals for land disturbance.

Section 16 provides a mechanism for persons desiring to notify the Board or the Director of changes in the federal Solid Waste Disposal Act, or the regulations promulgated thereunder.

Section 1.00 General

1.01 Scope and Purpose.

The purpose of these regulations is to provide for the regulation of the generation, treatment, storage, and disposal of hazardous waste to the extent necessary for the protection of the public health and safety and the environment.

1.02 Authority.

These regulations are promulgated under the authority of the West Virginia Code Chapter 20, Article 5E, Sections 4, 5, 6, and 7.

1.03 Effective Date.

These regulations will become effective on

1.04 Filing Date.

These regulations were filed in the Office of the Secretary of State on

1.05 Certification.

These regulations are certified authentic by the Chairman of the State Water Resources Board and the Director of the Department of Natural Resources.

Section 2.00 Definitions.

For the purposes of these regulations, the following words and phrases shall have the meanings ascribed to them in this section unless the context of the regulations indicate otherwise.

(1) "Active portion" means that portion of a facility where treatment, storage or disposal operations are being conducted. It includes the treated area of a landfarm and the active face of a landfill, but does not include those portions of a facility which have been closed in accordance with all applicable closure requirements;

(2) "Administrator" means the administrator of the United States Environmental Protection Agency or his designee;

(3) "Approved form" means any Environmental Protection Agency standard national form for administering the hazardous waste provisions of RCRA, or a form approved by the Chief of the Division of Water Resources or the Director of the Department of Natural Resources;

(4) "Aquifer" means a geologic formation, group of formations, or part of a formation that is capable of yielding a significant amount of groundwater to wells or springs;

(5) "Application, Part A" means that part of the application which a permit applicant must complete to qualify for interim status under Section 3005(e) of RCRA or these regulations and for consideration for a permit;

(6) "Application, Part B" means that part of the application which a permit applicant must complete to be considered for a permit;

(7) "Calendar year" means January 1 through December 31;

(8) "Cell" means a discrete volume of a hazardous waste landfill which uses a liner to provide isolation of wastes from adjacent cells or wastes;

(9) "Chief" means the Chief of the Division of Water Resources of the Department of Natural Resources;

(10) "Closed facility" means a facility which has been properly closed in accordance with the facility closure plan and all applicable regulations and requirements;

(11) "Closed portion" means that portion of a facility which an owner or operator has closed in accordance with the facility closure plan and all applicable closure requirements;

(12) "Closure" means the act of securing a hazardous waste management facility pursuant to the requirements of these regulations;

(13) "Constituent or hazardous waste constituent" means a component which caused the Administrator or the Director to list the waste as hazardous;

(14) "Container" means any portable device in which a material is stored, transported, treated, disposed of or otherwise handled;

(15) "Contingency plan" means a document setting out an organized, planned and coordinated course of actions to be followed in the event of a fire, explosion or release of hazardous waste or hazardous constituents which could threaten human health or environment;

(16) "Common code" means the unique code assigned by the Chemical Abstract Services (also known as the CAS Registry Number)

to each EPA hazardous waste and to each Department of Transportation hazardous waste material;

(17) "CWA" means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act), Public Law 92-500, as amended by Public Law 95-217 and Public Law 95-576; 33 U.S.C. 1251 et seq.;

(18) "Designated facility (Designated hazardous waste management facility)" means a hazardous waste treatment, storage or disposal facility which has received a permit from the Environmental Protection Agency, this State, or another authorized state hazardous waste program or which has been granted interim status and has been designated on the manifest by the generator to receive a specific hazardous waste shipment;

(19) "Dike" means an embankment or ridge of either natural or man-made materials used to contain liquids, sludges, solids, or other materials;

(20) "Director" means the Director of the Department of Natural Resources;

(21) "Discharge or hazardous waste discharge" means the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying or dumping of hazardous waste into or on any land or State waters;

(22) "Disposal" means the discharge, deposit, injection, dumping, spilling, leaking or placing of any hazardous waste into or on any land or water so that such hazardous waste or any constituent thereof

may enter the environment or be emitted into the air or discharged into any State waters;

(23) "Disposal facility" means a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which the waste will remain after closure;

(24) "Division" means the Division of Water Resources of the Department of Natural Resources;

(25) "Domestic sewage" means untreated sanitary wastes that pass through a sewer system;

(26) "DOT" means the United States Department of Transportation;

(27) "Elementary neutralization unit" means a device which: (i) is used for neutralizing wastes which are hazardous only because they exhibit the corrosivity characteristic defined in Section 3.11 of these regulations, or are listed in Sections 3.14 through 3.17 only for this reason; and, (ii) meets the definition of a tank, container, or transport vehicle in this section;

(28) "Emergency permit" means a permit issued where an imminent and substantial endangerment to human health or the environment is determined to exist by the Director, or the Chief;

(29) "EPA" means the United States Environmental Protection Agency;

(30) "EPA hazardous waste number" means the number assigned by EPA to each hazardous waste listed in Section 3.04 of these regulations and to each characteristic identified in Section 3.03 of these regulations;

(31) "EPA identification number" means the number assigned by EPA to each hazardous waste generator, hazardous waste transporter or hazardous waste facility;

(32) "Equivalent method" means any testing or analytical method approved by the EPA Administrator under 40 C.F.R. Section 260.21;

(33) "Existing hazardous waste management facility or existing facility" means a facility which was in operation or for which construction commenced on or before July 10, 1981. Under this authority a facility has commenced construction if:

1. The owner or operator has obtained all necessary Federal, State and local approvals or permits to begin physical construction; and either
   a. A continuous physical, on-site construction program has begun, or
   b. The owner or operator has entered into contractural obligations (which cannot be cancelled or modified without substantial loss) for construction of the facility to be completed within a reasonable time;

(34) "Facility" - see, "hazardous waste management facility;"

(35) "Federal agency" means any department, agency, or other instrumentality of the Federal government, any independant agency or establishment of the Federal government including any government corporation and the Government Printing Office;

(36) "Federal, state, and local approvals or permits necessary to begin physical construction" means permits and approvals required

under federal, state, or local hazardous waste control statutes, regulations, or ordinances;

(37) "Final cover" means cover material that is applied upon closure of a landfill and is permanently exposed at the surface;

(38) "Flash point" means the minimum temperature at which a liquid or solid gives off sufficient vapor to form an ignitable vaper-air mixture near the surface of the liquid or solid. An ignitable mixture is one that, when ignited, is capable of the initiation and propagation of flame away from the source of ignition. Propagation of flame means the spread of the flame from layer to layer independant of the source of ignition;

(39) "Food chain crops" means tobacco, crops grown for human consumption, or crops grown for pasture, forage or feed for animals whose products are consumed by humans;

(40) "Foreign source" means a source outside the geographical boundaries of the continental United States;

(41) "Freeboard" means the vertical distance between the top of a surface impoundment, open tank, or other containment device and the surface of the waste contained therein;

(42) "Free liquids" means liquids which readily separate from the solid portion of a waste under ambient temperature and pressure;

(43) "Generator" means any person, by site location, whose act or process produces hazardous waste identified or listed in Section 3.00 of these regulations or whose act first causes a hazardous waste to become subject to these regulations;

(44) "Groundwater" means water below the land surface in a zone of saturation;

(45) "Hazardous waste" means a hazardous waste as defined in Section 3.01.02 except as 3.01(b) provides otherwise.

(46) "Hazardous waste activity" means the handling of hazardous waste as in the generation, transportation, treatment, storage, or disposal of any hazardous waste;

(47) "Hazardous waste generation" means the act or process of producing hazardous waste materials;

(48) "Hazardous waste management" means the systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery and disposal of hazardous wastes;

(49) "Hazardous waste management facility (facility)" means all contiguous land and structures, other appurtenances, and improvements on the land used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage or disposal operational units;

(50) "Incompatible waste" means 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; 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;

(51) "Individual generation site" means 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;

(52) "In operation" means facilities that are treating, storing or disposing of hazardous waste;

(53) "Injection well" means a well or bore hole into which fluids are injected;

(54) "Inner liner" means a continuous layer of material placed inside a tank or container which protects the construction materials of the tank or container from the contained waste or reagents used to treat the waste;

(55) "Interim status" means the status obtained by any person who owns or operates a facility in existence, or existing, on July 10, 1981, and required to have a permit under these regulations. Such facilities will be treated as having been issued a permit until such time as final administrative disposition is made with respect to an application for such permit provided that such facility is operating and continues to operate in compliance with interim status requirements of Section 3005 of the Federal Solid Waste Disposal Act, and in such a manner as will not cause or create a substantial risk of

a health hazard or public nuisance or a significant adverse effect upon the environment;

(56) "International shipment" means the transportation of hazardous waste, into or out of the jurisdiction of the United States;

(57) "Landfill" means 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;

(58) "Landfill cell" - see, "cell;"

(59) "Land treatment facility" means a facility or part of a facility at which hazardous waste is applied onto or incorporated into the soil surface; such facilities are disposal facilities if the waste will remain after closure;

(60) "Leachate" means liquid, including any suspended components in the liquid, that has percolated through or drained from hazardous waste;

(61) "Liner" means a continuous layer of natural or man-made materials beneath or on the sides of a surface impoundment, landfill, or landfill cell which restricts the downward or lateral escape of hazardous waste, hazardous waste constituents or leachate;

(62) "Major facility" means a disposal or treatment facility which disposes or treats an amount of hazardous waste exceeding or equal to 1,000 tons during a calendar year, and any storage facility having a storage capacity for 1,000 tons of hazardous waste or more;

(63) "Manifest" means the form used for identifying the quantity, composition and the origin, routing and destination of hazardous waste during its transportation off-site from the point of generation to the point of disposal, treatment or storage;

(64) "Manifest document number" means the serial number assigned to the manifest by the generator for recordkeeping and reporting purposes;

(65) "Mining overburden returned to the mine site" means any material overlying an economic mineral deposit which is removed to gain accesss to that deposit and is then used for reclamation of a surface mine;

(66) "Monitoring" means all procedures used to inspect and quantify the chemical or physical characteristics of the air, State waters or soils;

(67) "Movement" means transportation of hazardous waste to a facility in an individual transportation vehicle;

(68) "New hazardous waste management facility or new facility" means a facility which began operation, or for which construction commenced after July 10, 1981. (See also, "existing hazardous waste management facility");

(69) "NPDES (National Pollutant Discharge Elimination System)" means the national program for issuing, modifying, revoking, re-issuing, terminating, monitoring and enforcing permits and imposing and enforcing pre-treatment requirements pursuant to Sections 307, 402, 318 and 405 of CWA. The term includes any approved state program;

(70) "On-site" means on the same or geographically contiguous property which may be divided by public or private rights-of-way, provided the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing as opposed to going along the rights-of-way. Non-contiguous properties owned by the same person but connected by a right-of-way which the person controls and to which the public does not have access, is also considered on-site property;

(71) "Operator" means the person responsible for the overall operation of a hazardous waste management facility;

(72) "Owner" means the person who owns a hazardous waste management facility or part of a hazardous waste management facility;

(73) "Packaging" means the assembly of one or more containers and any other components necessary to assure compliance with the minimum packaging requirements under 49 C.F.R. 173, 178, and 179 and includes containers (other than freight containers or overpacks), portable tanks, cargo tanks, tank cars and multi-unit tank car units;

(74) "Partial closure" means the closure of a discrete part of a facility in accordance with the applicable closure requirements of these regulations;

(75) "Permit by rule" means the provision of these regulations stating that a "facility or activity" is deemed to have a permit if it meets the requirements of such provision;

(76) "Permit" means a control document issued by this State pursuant to the Act and these regulations, or by other states having an authorized program pursuant to Section 3006 of RCRA or by the

EPA Aministrator pursuant to applicable Federal regulations, or a facility having "interim status;"

(77) "Permitted hazardous waste managment facility (or permitted facility)" means a hazardous waste treatment, storage, or disposal facility that has received an EPA RCRA permit, a RCRA permit from an authorized state pursuant to Section 3006 of RCRA, or a State permit in accordance with the requirements of these regulations, or a facility having "interim status;"

(78) "Person" means an individual, trust, firm, joint stock company, public, private or government corporation, partnership, association, State or Federal agency, the United States government, this State or any other State, municipality, county commission or any other political subdivision of a State or any interstate body;

(79) "Personnel or facility personnel" means all persons who work at, or oversee the operations of a hazardous waste management facility, and whose actions or failure to act may result in non-compliance with the requirements of these regulations;

(80) "Physical construction" or "construct" means excavation, movement of earth, erection of forms or structures, or similar activity involving the actual preparation of a hazardous waste management facility;

(81) "Pile" means any non-containerized accumulation of solid, non-flowing hazardous waste that is used for treatment or storage;

(82) "Point source" means any discernible, confined and discrete conveyance, including, but not limited to, any 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;

(83) "Publicly owned treatment works (POTW)" means any 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 CWA). This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment;

(84) "Representative sample" means a sample of a universe or whole which can be expected to exhibit the average properties of the universe or whole;

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

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

(87) "Saturated zone (zone of saturation)" means that part of the earth's crust in which all voids are filled with water;

(88) "SDWA" means the Safe Drinking Water Act (Public Law 95-523, as amended by Public Law 95-1900);

(89) "SIC" means Standard Industrial Classification;

(90) "Sludge" means any solid, semi-solid or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility, exclusive of the treated effluent from a wastewater treatment plant;

(91) "Spill" means the accidental spilling, leaking, pumping, pouring, emitting, emptying, or dumping of hazardous wastes or materials which, when spilled, become hazardous wastes into or on any land or water;

(92) "State Act" means the Hazardous Waste Management Act, § 20-5E-1, et seq.;

(93) "State waters" or "waters" means any and all water on or beneath the surface of the ground, whether percolating, standing, diffused or flowing, wholly or partially within this State, or bordering this State and within its jurisdiction, and shall include, without limiting the generality of the foregoing, natural or artificial lakes, rivers, streams, creeks, branches, brooks, ponds (except farm ponds, industrial settling basins and ponds and water treatment facilities), impounding reservoirs, springs, wells, watercourses and wetlands;

(94) "Storage" means the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere;

(95) "Storm" means the 10-year, 24-hour rainfall event for a particular location as defined by the National Weather Service in Technical Paper # 40, "Rainfall Frequency Atlas of the United States," May 1961, and subsequent amendments thereto or equivalent region or state rainfall probability information developed therefrom;

(96) "Surface impoundment or impoundment" means 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 man-made 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;

(97) "Tank" means a stationary device, designed to contain an accumulation of hazardous waste which is constructed primarily of non-earthen materials which provide structural support;

(98) "Totally enclosed treatment facility" means 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 release of any hazardous waste or any constituent thereof into the environment during treatment;

(99) "Transfer facility" means any 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;

(100) "Transportation" means the movement of hazardous waste by air, rail, highway or water;

(101) "Transporter" means a person engaged in the off-site transportation of hazardous waste by air, rail, highway or water;

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

(103) "Treatment" means any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste or so as to render such waste non-hazardous, safer to transport, store or dispose of, or amenable to recovery, amenable for storage or reduced in volume. Such term includes any activity or processing designed to change the physical form or chemical composition of hazardous waste as to render it non-hazardous;

(104) "Triple rinsed" means containers which have been flushed three (3) times, each time using a volume of dilutant at least equal to ten percent (10%) of the container's capacity;

(105) "Unsaturated zone" or "zone of aeration" means the zone between topographic surface and the water table;

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

(107) "Wastewater treatment unit" means a device which:

(i) Is part of a wastewater treatment facility which is subject to regulation under the CWA;

(ii) Receives and treats or stores an influent wastewater which is a hazardous waste as defined in this section, or generates and accumulates, or treats or stores a wastewater treatment sludge that is defined as a hazardous waste; and

(iii) Meets the definition of a tank as defined in this section;

(108) "Water (bulk shipment)" means the bulk transportation of hazardous waste which is loaded or carried on board a vessel without containers or labels;

(109) "Water table" means the upper surface of the zone of saturation in groundwaters in which the hydrostatic pressure is equal to atmospheric pressure;

(110) "Well" means any shaft or pit dug, drilled, jetted, driven, or bored into the earth, generally of a cylindrical form, and often cased with bricks or tubing to prevent the earth from caving-in, whose depth is greater than the largest surface dimension.

IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

Section 3.00 General.

Section 3.01 Purpose and Scope.

(a) This section identifies those wastes which are subject to regulation as hazardous wastes.

(b) This section identifies only some of the materials which are hazardous wastes for purposes of Sections 5, 12, 13, and 17 of the West Virginia Code, Chapter 20, Article 5E. A material which is not a hazardous waste identified or listed in this section may still be a hazardous waste for purposes of those sections if the Director has reason to believe that the material may be a hazardous waste within the meaning of 20-5E-3(6) of the State Act.

3.01.01 Definitions of Waste.

(a) A waste is any garbage, refuse, sludge or any other waste material which is not excluded under 3.01.03(a).

(b) An "other waste material" is any solid, liquid, semi-solid or contained gaseous material, resulting from industrial, commercial, mining or agricultural operations, or from community activities which:

(1) Is discarded or is being accumulated, stored or physically, chemically or biologically treated prior to being discarded;

(2) Has served its original intended use and sometimes is discarded; and

(3) Is a manufacturing or mining by-product and sometimes is discarded.

(c) A material is "discarded" if it is abandoned (and not used, re-used, reclaimed or recycled) by being:

(1) Disposed of; or

(2) Burned or incinerated, except where the material is being burned as a fuel for the purpose of recovering usable energy; or

(3) Physically, chemically, or biologically treated (other than burned or incinerated) in lieu of or prior to being disposed of.

(d) A material is "disposed of" if it is discharged, deposited, injected, dumped, spilled, leaked or placed into or on any land or water so that such material or any constituent thereof may enter the environment or be emitted into the air or discharged into ground or surface waters.

(e) A "manufacturing or mining by-product" is a material that is not one of the primary products of a particular manufacturing or mining operation, is a secondary and incidental product of the particular operation and would not be solely and separately manufactured or mined by the particular manufacturing or mining operation. The term does not include an intermediate manufacturing or mining product which results from one of the steps in a manufacturing or mining process and is typically processed through the next step of the process within a short time.

[Note: This definition of waste currently excludes from regulations materials which are burned as fuel for the purpose of recovering usable energy. The Director believes that elimination of this exclusion may, at some future time, be necessary in order to protect the public health and safety and the environment, as required by statute.]

3.01.02 Definition of Hazardous Waste.

(a) A waste as defined in 3.01.01 is a hazardous waste if:

(1) It is not excluded from regulation as a hazardous waste under 3.01.03(b); and

(2) It meets any of the following criteria:

(i) It is listed in 3.04 and has not been excluded from the list in 3.04 pursuant to 40 C.F.R. §§ 260.20 and 260.22.

(ii) It is a mixture of waste and one or more hazardous wastes listed in 3.04 and has not been excluded under 40 C.F.R. §§ 260.20 and 260.22.

(iii) It exhibits any of the characteristics of hazardous waste identified in 3.03.

(b) A waste which is not excluded from regulation under paragraph (a)(1) of this section becomes a hazardous waste when any of the following events occur:

(1) In the case of a waste listed in 3.04 when the waste first meets the listing description set forth in 3.04.

(2) In the case of a mixture of a waste and one or more listed hazardous wastes, when a hazardous waste listed in 3.04 is first added to the waste;

(3) In the case of any other waste (including a waste mixture), when the waste exhibits any of the characteristics identified in 3.03.

(c) Unless and until it meets the criteria of (d):

(1) A hazardous waste will remain a hazardous waste.

(2) Any 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.

(d) Any waste described in paragraph (c) is not a hazardous waste if it meets the following criteria:

(1) In the case of any waste, it does not exhibit any of the characteristics identified in 3.03.

(2) In the case of a waste which is a listed waste under 3.04, contains a waste listed under 3.04 or is derived from a waste listed in 3.04, it also has been excluded from paragraph (c) under 40 C.F.R. §§ 260.20 and 260.22.

3.01.03 Exclusions.

(a) Materials which are not wastes.

The following materials are not wastes for the purposes of this section:

(1)(i) Domestic sewage; and

(ii) Any mixture of domestic sewage and other wastes that passes through a sewer system to a publicly-owned treatment works for treatment. "Domestic sewage" means untreated sanitary wastes that pass through a sewer system.

(2) Industrial wastewater discharges that are point source discharges subject to regulation under Section 402 of the Clean Water Act, as amended.

[Comment: This exclusion applies only to the actual point source discharge. It does not exclude industrial wastewaters while they are being collected, stored or treated before discharge, nor does it exclude sludges that are generated by industrial wastewater treatment.]

(3) Irrigation return flows.

(4) Source, special nuclear, or by-product material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011, et seq.

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

(b) Wastes which are not hazardous wastes.

The following wastes are not hazardous wastes:

(1) Household waste, including household waste that has been collected, transported, stored, treated, disposed, recovered (e.g., refuse/derived fuel) or reused. "Household waste" means any waste material (including garbage, trash and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels and motels).

(2) 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.

(3) Mining overburden returned to the mine site.

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

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

(6)(i) Wastes which fail the test for the characteristic of EP toxicity because chromium is present or are listed in 3.04 due to the presence of chromium which do not fail the test for the characteristic of EP toxicity for any other constituent or are not listed due to the presence of any other constituent, and which do not fail the test for any other characteristic, if it is shown by a waste generator or by waste generators that:

(A) The chromium in the waste is exclusively (or nearly exclusively) trivalent chromium;

(B) The waste is generated from an industrial process which uses trivalent chromium exclusively (or nearly exclusively) and the process does not generate hexavalent chromium; and

(C) The waste is typically and frequently managed in non-oxidizing environments.

(ii) Specific wastes which meet the standard in paragraphs (b)(6)(i), (A), (B), and (C), (so long as they do not fail the test for the characteristic of EP toxicity, and do not fail the test for any other characteristic) are:

(A) Chrome (blue) trimmings generated by the following sub-categories of the leather tanning and finishing industry; hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(B) Chrome (blue) shavings generated by the following sub-categories of the leather tanning and finishing industry; hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(C) Buffing dust generated by the following sub-categories of the leather tanning and finishing industry; hair pulp/ chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue.

(D) Sewer screenings generated by the following sub-categories of the leather tanning and finishing industry; hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(E) Wastewater treatment sludges generated by the following sub-categories of the leather tanning and finishing industry; hair

pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(F) Wastewater treatment sludges generated by the following sub-categories of the leather tanning and finishing industry; hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; and through-the-blue.

(G) Waste scrap leather from the leather tanning industry, the shoe manufacturing industry, and other leather product manufacturing industries.

(H) Wastewater treatment sludges from the production of TiO_2 pigment using chromium-bearing ores by the chloride process.

(7) Waste from the extraction, beneficiation and processing of ores and minerals (including coal), including phosphate rock and overburden from the mining of uranium ore.

(8) Cement kiln dust waste.

(9) Waste which consists of discarded wood or wood products which fails 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.

(c) Hazardous wastes which are exempted from certain regulations. 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 Sections 4.00, 6.00, 8.00, 40 C.F.R. Part 265, or Section 11 of these regulations until it exits the unit in which it was generated, unless the unit is a surface impoundment, or unless the hazardous waste remains in the

unit more than ninety (90) days after the unit ceases to be operated for manufacturing, or for storage or transportation of the product or raw materials.

(d) Samples.

(1) Except as provided in paragraph (d)(2) of this section, a sample of 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 these regulations when:

(i) The sample is being transported to a laboratory for the purpose of testing; or

(ii) The sample is being transported back to the sample collector after testing; or

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

(iv) The sample is being stored in a laboratory before testing; or

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

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

(2) In order to qualify for the exemption in paragraph (d)(1)(i) and (ii) of this section, a sample collector shipping samples to a laboratory and a laboratory returning samples to a sample collector must:

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

(ii) 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:

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

(1) The sample collector's name, mailing address, and telephone number;

(2) The laboratory's name, mailing address, and telephone number;

(3) The quantity of the sample;

(4) The date of shipment; and

(5) A description of the sample.

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

(3) This exemption does not apply if the laboratory determines that the waste is hazardous but the laboratory is no longer meeting any of the conditions stated in paragraph (d)(1) of this section.

3.01.04 Special Requirements for Hazardous Waste Generated by Small Quantity Generators.

(a) A generator is a small quantity generator in a calendar month if he generates less than 1000 kilograms of hazardous waste in that month.

(b) Except for those wastes identified in paragraphs (e) and (f) of this section, a small quantity generator's hazardous wastes are not subject to regulation under Sections 6.00, 8.00 and 11.00 of these regulations and 40 C.F.R. Part 265, provided the generator complies with the requirements of paragraph (g) of this section.

(c) Hazardous waste that is beneficially used or re-used or legitimately recycled or reclaimed and that is excluded from regulation by Section 3.01.05(a) is not included in the quantity determinations of this section, and is not subject to any requirements of this section if the notification requirements of Section 4.00 are complied with. Hazardous waste that is subject to the special requirements of Section 3.01.05(b) is included in the quantity determinations of this section and is subject to the requirements of this section.

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

(1) His hazardous waste when it is removed from on-site storage; or

(2) Hazardous waste produced by on-site treatment of his hazardous waste.

(e) If a small quantity generator generates acutely hazardous waste in a calendar month in quantities greater than set forth below, all quantities of that acutely hazardous waste are fully subject to these regulations:

(1) A total of one kilogram of commercial chemical products and manufacturing chemical intermediates having the generic names listed in 3.04.04(e), and off-specification commercial chemical products and manufacturing chemical intermediates which, if they met specifications, would have the generic names listed in 3.04.04(e);

(2) 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 3.04.04(e), 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 products or manufacturing chemical intermediates which, if they met specifications, would have the generic names listed in 3.04.04(e).

(f) A small quantity generator may accumulate hazardous waste on-site. If he accumulates at any time more than a total of 1000 kilograms of his hazardous waste, or his acutely hazardous wastes in quantities greater than those set forth in paragraphs (e)(1) or (e)(2) of this section all of those accumulated wastes for which the accumulation limit was exceeded are fully subject to these regulations. The time period of Section 6.03.05 for accumulation of wastes on-site begins for a small quantity generator when the accumulated wastes exceed the applicable exclusion level.

(g) In order for hazardous waste generated by a small quantity generator to be excluded from full regulation under this section, the generator must:

(1) Comply with Sections 4.00 and 6.01.01 of these regulations;

(2) If he stores his hazardous waste on-site, store it in compliance with the requirements of paragraph (f) of this section;

(3) Establish and maintain on-site a written record specifying the quantity and types of hazardous wastes disposed of, the dates the wastes were transported off-site, and the final disposition of the wastes; and

[Comment: This recordkeeping requirement is only applicable to manufacturing facilities. Non-manufacturing facilities such as schools, service stations, etc. are not required to comply with this subsection.]

(4) Either treat or dispose of his hazardous waste in an on-site facility, or ensure delivery to an off-site storage, treatment or disposal facility, either of which is:

(i) Permitted under 40 C.F.R. Part 122 of the federal Code;

(ii) In interim status under 40 C.F.R. Parts 122 and 265 and 20-5E-10 of the West Virginia Code;

(iii) Permitted by this State under Section 11.00 of these regulations;

(iv) Permitted by this State to manage industrial wastes under the Water Pollution Control Act;

(v) Authorized to manage hazardous waste by a state with a hazardous waste program approved under 40 C.F.R. Part 123;

(vi) A facility which:

(A) Beneficially uses or re-uses, or legitimately recycles or reclaims his waste; or

(B) Treats his waste prior to beneficial use or re-use, or legitimate recycling or reclamation.

(h) Hazardous waste subject to the reduced requirements of this section may be mixed with non-hazardous waste and remain subject to these reduced requirements even though the resultant mixture exceeds the quantity limitations identified in this section, unless the mixture meets any of the characteristics of hazardous wastes identified in Sections 3.03.

(i) If a small quantity generator mixes a waste with a hazardous waste that exceeds a quantity exclusion level of this section, the mixture is subject to full regulation.

3.01.05 Special Requirements for Hazardous Waste Which is Used, Reused, Recycled or Reclaimed.

(a) Except as otherwise provided in paragraph (b) of this section, a hazardous waste which meets any of the following criteria is not subject to the full requirements of these

regulations until such time as the Director promulgates regulations to the contrary:

(1) It is beneficially used or reused or legitimately recycled or reclaimed;

(2) It is being accumulated, stored or physically, chemically or biologically treated prior to beneficial use or reuse or legitimate recycling or reclamation;

(3) It is one of the following materials being used, reused, recycled or reclaimed in the specified manner:

(i) Spent pickle liquor which is reused in wastewater treatment at a facility holding a National Pollutant Discharge Elimination System (NPDES) permit, or which is being accumulated, stored, or physically, chemically, or biologically treated before such reuse.

(b) Except for those wastes listed in paragraph (a)(3), a hazardous waste which is a sludge, or which is listed in 3.04 , or which contains one or more hazardous wastes listed in 3.04 and which is transported or stored prior to being used, reused, recycled, or reclaimed is subject to the following requirements with respect to such transportation or storage:

(1) Notification requirements under Section 4.00;

(2) Requirements for generators under Section 6.00;

(3) Sections 8.01, 8.02, 8.03, 8.04, and 8.05;

(4) Storage facility requirements of Section 11.00;

(5) 40 C.F.R. 265 Subpart A, B, C, D, E, G, H, I, J, and L;

(6) Location standards in Section 12.00 where applicable; and

(7) Transportation regulations promulgated by the Public Service Commission and the Department of Highways and the Director.

3.01.06 Residues of Hazardous Waste in Empty Containers.

(a)(1) Any hazardous waste remaining in either (i) an empty container or (ii) an inner liner removed from an empty container, as defined in paragraph (b) of this section, is not subject to these regulations.

(2) Any hazardous waste in either (i) a container that is not empty or (ii) an inner liner removed from a container that is not empty, as defined in paragraph (b) of this section, is subject to these regulations.

(b)(1) A container or an inner liner removed from a container that has held any hazardous waste, except a waste that is a compressed gas or that is identified in 3.04.04(c) of this section, is empty if:

(i) All wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, and aspirating, and

(ii) No more than 2.5 centimeters (one-inch) of residue remain on the bottom of the container or inner liner.

(2) A container that has held a hazardous waste that is a compressed gas is empty when the pressure in the container approaches atmospheric.

(3) A container or an inner liner removed from a container that has held a hazardous waste identified in 3.04.04(c) of this section is empty if:

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

(ii) 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; or

(iii) 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.

Section 3.02 Criteria for Identifying the Characteristics of Hazardous Waste and for Listing Hazardous Waste.

3.02.01 Criteria for Identifying the Characteristics of Hazardous Waste.

(a) The Director shall identify and define a characteristic of hazardous waste upon determining that:

(1) A waste that exhibits the characteristic may:

(i) Cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or

(ii) Pose 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

(b) The characteristic can be:

(i) Measured by an available standardized test method which is reasonably within the capability of generators of waste or private sector laboratories that are available to serve generators of waste; or

(ii) Reasonably detected by generators of waste through their knowledge of their waste.

3.02.02 Criteria for Listing Hazardous Waste.

(a) The Director may list a waste as being hazardous upon determining that the waste meets one of the following criteria:

(1) It exhibits any of the characteristics of hazardous waste identified in 3.03.

(2) It has been found to be fatal to humans in low doses or, in the absence of 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 2 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. (Waste listed in accordance with these criteria will be designated Acute Hazardous Waste.)

(3) It contains any of the toxic constituents listed in Appendix VIII, unless, after considering any of the following factors, the Director 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:

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

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

(iii) 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 paragraph (a)(3)(vii) of this section.

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

(v) The potential for the constituent or any toxic degradation product of the constituent to degrade into non-harmful constituents and the rate of degradation.

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

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

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

(ix) 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.

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

(xi) Such other factors as may be appropriate.

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. (Wastes listed in accordance with these criteria will be designated Toxic wastes.)

(b) The Director may list classes or types of wastes as hazardous waste if he has reason to believe that individual wastes, within the class or type of waste, typically or frequently are hazardous under the definition of hazardous waste found in 20-5E-3(6) of the State Act.

(c) The Director will use the criteria for listing, specified in this section, to establish the exclusion limits referred to in 3.01.04(c).

Section 3.03 Characteristics of Hazardous Waste.

3.03.01 General.

(a) A waste as defined in 3.01.01 which is not excluded from regulation as a hazardous waste under 3.01.03(b) is a hazardous

waste if it exhibits any of the characteristics identified in this section.

(b) A hazardous waste which is identified by a characteristic in this section, but is not listed as a hazardous waste in 3.04 is assigned the EPA Hazardous Waste Number set forth in the respective characteristic in this section. This number shall be used in complying with the notification requirements of 4.00 of these regulations and certain recordkeeping and reporting requirements under these regulations.

(c) For purposes of Section 3.03, the Director will consider a sample obtained using any of the applicable sampling methods specified in Appendix I to be a representative sample within the meaning of Section 2.00 of these regulations.

3.03.02 Characteristic of Ignitability.

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

(1) It is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume, and has a flashpoint 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, 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 Administrator under the procedures set forth in 40 C.F.R. §§ 260.20 and 260.21.

(2) 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.

(3) It is an ignitable compressed gas as defined in 49 C.F.R. Section 173.300 and as determined by the test methods described in that regulation or equivalent test methods approved by the Administrator under 40 C.F.R. §§ 260.20 and 260.21.

(4) It is an oxidizer as defined in 40 C.F.R. § 173.51.

(b) A waste that exhibits the characteristic of ignitability, but is not listed as a hazardous waste by the Administrator, or the Director has the Hazardous Waste Number of D001.

3.03.03 Characteristic of Corrositivity.

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

(1) It is aqueous and has a pH less than or equal to 2 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," or an equivalent test method approved by the Administrator under the procedures set forth in 40 C.F.R. §§ 260.20 and 260.21.

(2) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (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 Administrator under the procedures set forth in 40 C.F.R. §§ 260.20 and 260.21.

(b) A waste that exhibits the characteristics of corrositivity, but is not listed as a hazardous waste by the Administrator, or Director has the Hazardous Waste Number of D002.

3.03.04 Characteristic of Reactivity.

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

(1) It is normally unstable and readily undergoes violent changes without detonating;

(2) It reacts violently with water;

(3) It forms potentially explosive mixtures with water;

(4) 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;

(5) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment;

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

(7) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure;

(8) 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.

(b) A waste that exhibits the characteristic of reactivity, but is not listed as a hazardous waste by the Administrator or Director has the Hazardous Waste Number of D003.

3.03.05 Characteristic of EP Toxicity.

(a) A waste exhibits the characteristic of EP toxicity if, using the test methods described in Appendix II or equivalent

methods approved by the Administrator under the procedures set forth in 40 C.F.R. §§ 260.20 and 260.21, 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. Where the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering, is considered to be the extract for the purposes of this section.

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

TABLE I. - MAXIMUM CONCENTRATION OF CONTAMINANTS FOR CHARACTERISTIC OF EP TOXICITY

EPA Hazardous Waste Number	Contaminant	Maximum Concentration (Milligrams per liter)
D004	Arsenic	5.0
D005	Barium	100.0
D006	Cadmium	1.0
D007	Chromium (VI)	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-octa-	

	hydro-1 4-endo, endo-5, 8-dimethano napththalene.	0.02
D013	Lindane (1,2,3,4,5,6-hexachloro-cyclohexane, 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 champhene, 67-69 percent chlorine).	0.5
D016	2,4-D, (2,4-Dichlorophenoxyacetic acid).	10.0
D017	2,4,5-TP Silvex (2,4,5-Trichloro-phenoxypropionic acid).	1.0

Section 3.04 Lists of Hazardous Wastes.

3.04.01 General.

(a) A waste is a hazardous waste if it is listed in this Section unless it has been excluded from this list under 40 C.F.R. 260.20 and 260.22.

(b) The Director will indicate his basis for listing the classes or types of wastes listed in this Section by employing one or more of the following Hazard Codes:

Ignitable Waste	(I)
Corrosive Waste	(C)
Reactive Waste	(R)
EP Toxic Waste	(E)
Acute Hazardous Waste	(H)
Toxic Waste	(T)

Appendix VII identifies the constituent which caused the Director to list the waste as an EP Toxic Waste (E) or Toxic Waste (T) in §§ 3.04.02 and 3.04.03.

(c) Each hazardous waste listed in this Section is assigned an Hazardous Waste Number which precedes the name of the waste. This number must be used in complying with the notification requirements of § 4.00 of these regulations and certain recordkeeping and reporting requirements under § 6.00, 8.00 and § 11.00 of these regulations.

(d) The following hazardous wastes listed in § 3.04.02 or 3.04.03 are subject to the exclusion limits for acutely hazardous wastes established in § 3.01.04: [Reserved]

3.04.02 Hazardous Waste from Non-specific sources.

Hazardous Waste No.	Hazardous Waste	Hazard Code
Generic:		
F001	The following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichoroethane, carbon tetrachloride, and chlorinated fluorocarbons; and sludges from	

	the recovery of these solvents in degreasing operations.	(T)
F002.....	The following spent haloengated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, orthodichlorobenzene, and trichlorofluoromethane; and the still bottoms from the recovery of these solvents.	(T)
F003.....	The following spent non-halogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; and the still bottoms from the recovery of these solvents.	(I)
F004.....	The following spent non-halogenated solvents: cresols and cresylic acid, and nitrobenzene; and the still bottoms from the recovery of these solvents.	(T)
F005.....	The following spent non-halogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, and pyridine; and the still bottoms from the recovery of these solvents.	(I, T)
F006.....	Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.	(T)

F019.....Wastewater treatment sludges from the chemical conversion coating of aluminum..... (T)

F007.....Spent cyanide plating bath solutions from electroplating operations (except for precious metals electroplating spent cyanide plating bath solutions). (R, T)

F008.....Plating bath sludges from the bottom of plating baths from electroplating operations where cyanides are used in the process (except for precious metals electroplating plating bath sludges). (R, T)

F009.....Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process (except for precious metals electo-plating spent stripping and cleaning bath solutions). (R, T)

F010.....Quenching bath sludge from oil baths from metal heat treating operations where cyanides are used in the process (except for precious metals heat-treating quenching bath sludges). (R, T)

F011.....Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations (except for precious metals heat treating spent cyanide solutions from salt bath pot cleaning). (R, T)

F012.....Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process (except for precious metals heat treating quenching wastewater treatment sludges). (T)

3.04.03 Hazardous Waste from Specific Sources.

Hazardous Waste No.	Hazardous Waste	Hazard Code
Wood Preservation:		
K001	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol	(T)
Inorganic Pigments:		
K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments	(T)
K003	Wastewater treatment sludge from the production of molybdate orange pigments	(T)
K004	Wastewater treatment sludge from the production of zinc yellow pigments	(T)
K005	Wastewater treatment sludge from the production of chrome green pigments	(T)
K006	Wastewater treatment sludge from the production of chrome ioxide green pigments (anhydrous and hydrated)	(T)
K007	Wastewater treatment sludge from the production of iron blue pigments	(T)
K008	Oven residue from the production of chrome oxide green pigments	(T)
Organic Chemicals:		
K009	Distillation bottoms from the production of acetaldehyde from ethylene	(T)

K010	Distillation side cuts from the production of acetaldehyde from ethylene.	(T)
K011	Bottom stream from the wastewater stripper in the production of acrylonitrile	(R, T)
K013	Bottom stream from the acetonitrile column in the production of acrylonitrile	(R, T)
K014	Bottoms from the acetonitrile purification column in the production of acrylonitrile	(T)
K015	Still bottoms from the distillation of benzyl chloride	(T)
K016	Heavy ends or distillation residues from the production of carbon tetrachloride	(T)
K017	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin	(T)
K018	Heavy ends from the fractionation column in ethyl chloride production	(T)
K019	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production	(T)
K020	Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production	(T)
K021	Aqueous spent antimony catalyst waste from fluoromethanes production	(T)
K022	Distillation bottom tars from the production of phenol/acetone from cumene	(T)

K023	Distillation light ends from the production of phthalic anhydride from naphthalene	(T)
K024	Distillation bottoms from the production of phthalic anhydride from naphthalene	(T)
K093	Distillation light ends from the production of phthalic anhydride from ortho-xylene	(T)
K094	Distillation bottoms from the production of phthalic anhydride from ortho-xylene	(T)
K025	Distillation bottoms from production of nitrobenzene by the nitration of benzene	(T)
K026	Stripping still tails from the production of methyl ethyl pyridines	(T)
K027	Centrifuge and distillation residues from toluene diisocyanate production	(R, T)
K028	Spent catalyst from the hydrochnorinator reactor in the production of 1,1,1-trichloroethane	(T)
K029	Waste from the product stream stripper in the production 1,1,1-trichloroethane	(T)
K095	Distillation bottoms from the production of 1,1,1-trichloroethane	(T)
K096	Heavy ends from the heavy ends column from the production 1,1,1-trichloroethane	(T)
K030	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene	(T)

K083	Distillation bottoms from aniline production	(T)
K103	Process residues from aniline extraction from the production of aniline	(T)
K104	Combined wastewater streams generated from nitrobenzene/aniline production	(T)
K085	Distillation or fractionation column bottoms from the production of chlorobenzenes	(T)
K105	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes	(T)

Inorganic Chemicals:

K071	Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used	(T)
K073	Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production	(T)
K106	Wastewater treatment sludge form the mercury cell process in chlorine production	(T)

Pesticides:

K031	By-product salts generated in the production of MSMA and cacodylic acid	(T)
K032	Wastewater treatment sludge from the production of chlordane	(T)
K033	Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane	(T)

K034	Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane	(T)
K097	Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane	(T)
K035	Wastewater treatment sludges generated in the production of creosote	(T)
K036	Still bottoms from toluene reclamation distillation in the production of disulfoton	(T)
K037	Wastewater treatment sludges from the production of disulfoton	(T)
K038	Wastewater from the washing and stripping of phorate production	(T)
K039	Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate	(T)
K040	Wastewater treatment sludge from the production of phorate	(T)
K041	Wastewater treatment sludge from the production of toxaphene	(T)
K098	Untreated process wastewater from the production of toxaphene	(T)
K042	Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T	(T)
K043	2,6-Dichlorophenol waste from the production of 2,4-D	(T)
K099	Untreated wastewater from the production of 2,4-D	(T)

Explosives:

K044	Wastewater treatment sludges from the manufacturing and processing of explosives	(R)
K045	Spent carbon from the treatment of wastewater containing explosives	(R)
K046	Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds	(T)
K047	Pink/red water from TNT operations	(R)

Petroleum Refining:

K048	Dissolved air flotation (DAF) float from the petroleum refining industry	(T)
K049	Slop oil emulsion solids from the petroleum refining industry	(T)
K050	Heat exchanger bundle cleaning sludge from the petroleum refining industry	(T)
K051	API separator sludge from the petroleum refining industry	(T)
K052	Tank bottoms (leaded) from the petroleum refining industry	(T)

Iron and Steel:

K061	Emission control dust/sludge from the primary production of steel in electric furnaces	(T)
K062	Spent pickle liquor from steel finishing operations	(C, T)

Secondary Lead:

K069	Emission control dust/sludge from secondary lead smelting	(T)

K100.....Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting..... (T)

Veterinary Pharmaceuticals:

K084.....Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds..... (T)

K101.....Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds..... (T)

K102.....Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds..... (T)

Ink Formulation:

K086.....Solvent washes and sludges, caustic washes an sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead..... (T)

Coking:

K060.....Ammonia still lime sludge from coking operations..... (T)

K087.....Decanter tank tar sludge from coking operations..... (T)

3.04.04 Discarded Commercial Chemical Products, Off-Specification Species, Container Residues, and Spill Residues Thereof.

The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded:

(a) Any commercial chemical product, or manufacturing chemical intermediate having the generic name listed in paragraphs (e) or (f) of this section.

(b) Any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraphs (e) or (f) of this section.

(c) Any residue remaining in a container or an inner liner removed from a container that has held any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraph (e) of this section, unless the container is empty as defined in § 3.01.06(b)(3) of this chapter.

[Comment: Unless the residue is being beneficially used or reused, or legitimately recycled or reclaimed; or being accumulated, stored, transported or treated prior to such use, re-use, recycling or reclamation, the Director considers the residue to be intended for discard, and thus a hazardous waste. An example of a legitimate re-use of the residue would be where the residue remains in the container and the container is used to hold the same commercial chemical product or manufacturing chemical product or manufacturing chemical intermediate it previously held. An example of the discard of the residue would be where the drum is sent to a drum reconditioner who reconditions the drum but discards the residue.]

(d) 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 the generic name listed in paragraph (e) or (f) of this section, 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 chemical product and manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraph (e) or (f) of this section.

[Comment: The phrase "commercial chemical 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. It does not refer to a material, such as a manufacturing process waste, that contains any of the substance listed in paragraphs (e) or (f). Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in paragraphs (e) or (f), such waste will be listed in either §§ 3.04.02 or 3.04.03 or will be identified as a hazardous waste by the characteristics set forth in § 3.03 of these regulations.]

(e) The commercial chemical products, manufacturing chemical intermediates or off-specification commercial chemical products or manufacturing chemical intermediates referred to in paragraphs (a) through (d) of this section, are identified as acute hazardous wastes (H) and are subject to be the small quantity exclusion defined in § 3.01.04(a).

[Comment: For the convenience of the regulated community the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), and R (Reactivity). Absence of a letter indicates that the compound only is listed for acute toxicity.]

These wastes and their corresponding Hazardous Waste Numbers are:

Hazardous Waste No.	Substance
P023.....	Acetaldehyde, chloro-
P002.....	Acetamide, N-(aminothioxomethyl)-
P057.....	Acetamide, 2-fluoro-
P058.....	Acetic acid, fluoro-, sodium salt
P066.....	Acetimidic acid, N-[(methylcarbamoyl)oxy] thio-, methyl ester
P001.....	3-(alpha-acetonylbenzyl)-4-hydroxycoumarin and salts
P002.....	1-Acetyl-2-thiourea
P003.....	Acrolein
P070.....	Aldicarb

P004.....	Aldrin
P005.....	Allyl alcohol
P006.....	Aluminum phosphide
P007.....	5-(Aminomethyl)-3-isoxazolol
P008.....	4-aAminopyridine
P009.....	Ammonium picrate (R)
P119.....	Ammonium vanadate
P010.....	Arsenic acid
P012.....	Arsenic (iii) oxide
P011.....	Arsenic (V) oxide
P011.....	Arsenic pentoxide
P012.....	Arsenic trioxide
P038.....	Arsine, diethyl-
P054.....	Aziridine
P013.....	Barium cyanide
P024.....	Benzenamine, 4-chloro-
P077.....	Benzenamine, 4-nitro-
P028.....	Benzene, (chloromethyl)-
P042.....	1,2-Benzenediol, 4-[1-hydroxy-2-(methyl-amino)ethyl]-
P014.....	Benzenethiol
P028.....	Benzyl chloride
P015.....	Beryllium dust
P016.....	Bis(chloromethyl) ether
P017.....	Bromoacetone
P018.....	Brucine
P021.....	Calcium cyanide
P123.....	Camphene, octachloro-
P103.....	Carbamimidoselenoic acid
P022.....	Carbon bisulfide
P022.....	Carbon disulfide
P095.....	Carbonyl chloride
P033.....	Chlorine cyanide
P023.....	Chloroacetaldehyde
P024.....	p-Chloroaniline
P026.....	1-(o-Chlorophenyl)thiourea
P027.....	3-Chloropropionitrile
P029.....	Copper cyanides
P030.....	Cyanides (soluble cyanide salts), not elsewhere specified
P031.....	Cyanogen
P033.....	Cyanogen chloride
P036.....	Dichlorophenylarsine
P037.....	Dieldrin
P038.....	Diethylarsine
P039.....	O,O-Diethyl S-[2-(ethylthio)ethyl] phosphorodithioate
P041.....	Diethyl-p-nitrophenyl phosphate
P040.....	O,)-Diethyl O-pyrazinyl phosphorothioate

P043.....	Diisopropyl fluorophosphate
P044.....	Diemthoate
P045.....	3,3-Dimethyl-1-(methylthio)-2-butanone, O-[(methylamino)carbonyl)] oxime
P071.....	O,O-Dimethyl O-p-nitrophenyl phosphorothioate
P082.....	Dimethylnitrosamine
P046.....	alpha, alpha-Dimethylphenethylamine
P047.....	4,6-Dinitro-o-cresol and salts
P034.....	4,6-Dinitro-o-cyclohexylphenol
P048.....	2,4-Dinitrophenol
P020.....	Dinoseb
P085.....	Diphosphoramide, octamethyl-
P039.....	Disulfoton
P049.....	2,4-Dithiobiuret
P109.....	Dithiopyrophosphoric acid, tetraethyl ester
P050.....	Endosulfan
P088.....	Endothall
P051.....	Endrin
P042.....	Epinephrine
P046.....	Ethanamine, 1,1-dimethyl-1-phenyl
P084.....	Ethenamine, N-methyl-N-nitroso-
P101.....	Ethyl cyanide
P054.....	Ethylenimine
P097.....	Famphur
P056.....	Fluorine
P057.....	Fluoroacetamide
P058.....	Fluoroacetic acid, sodium salt
P065.....	Fulminic acid, mercury (ii) salt (R,T)
P059.....	Heptachlor
P051.....	1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo, endo-1,4:5,8-dimethanonaphthalene
P037.....	1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo-exo-1,4:5,8-dimethanonapthalene
P060.....	1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo, endo-dimethanonapthalene
P004.....	1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo, exo-dimethanonapthalene
P060.....	Hexachlorohexahydro-exo,exo-dimethanonapthalene
P062.....	Hexaethyl tetraphosphate
P116.....	Hydrazinecarbothioamide
P068.....	Hydrazine, methyl-
P063.....	Hydrocyanic acid

P063.....	Hydrogen cyanide
P096.....	Hydrogen phosphide
P064.....	Isocyanic acid, methyl ester
P007.....	3(2H)-Isoxazolone, 5-(aminomethyl)-
P092.....	Mercury, (acetato-O)phenyl
P065.....	Mercury fulminate (R,T)
P016.....	Methane, oxybis(chloro-
P112.....	Methane, tetranitro- (R)
P118.....	Methanethiol, trichloro-
P059.....	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-
P066.....	Methomyl
P067.....	2-Methylaziridine
P068.....	Methyl hydrazine
P064.....	Methyl isocyanate
P069.....	2-Methyllactonitrile
P071.....	Methyl parathion
P072.....	alpha-Naphthylthiourea
P073.....	Nickel carbonyl
P074.....	Nickel(ii) cyanide
P073.....	Nickel tetracarbonyl
P075.....	Nicotine and salts
P076.....	Nitric oxide
P077.....	p-Nitroaniline
P078.....	Nitrogen dioxide
P076.....	Nitrogen(ii) oxide
P078.....	Nitrogen(IV) oxide
P081.....	Nitroglycerine (R)
P082.....	N-Nitrosodimethylamine
P084.....	N-Nitrosomethylvinylamine
P050.....	5-Norbornene-2,3-dimethanol, 1,4,5,6,7,7-hexachloro, cyclic sulfite
P085.....	Octamethylpyrophosphoramide
P087.....	Osmium oxide
P087.....	Osmium tetroxide
P088.....	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
P089.....	Parathion
P034.....	Phenol, 2-cyclohexyl-4,6-dinitro-
P048.....	Phenol, 2,4-dinitro-
P047.....	Phenol, 2,4-dinitro-6-methyl-
P020.....	Phenol, 2,4-dinitro-6-(1-methylpropyl)-
P009.....	Phenol, 2,4,6-dinitro-, ammonium salt (R)
P036.....	Phenyl dichloroarsine
P092.....	Phenylmercuric acetate
P093.....	N-Phenylthiourea
P094.....	Phorate
P095.....	Phosgene
P096.....	Phosphine

P041.....	Phosphoric acid, diethyl p-nitrophenyl ester
P044.....	Phosphorodithioic acid, O,O-dmiethyl S-[2-(methylamino)-2-oxoethyl]ester
P043.....	Phosphorofluoric acid, bis(1-methylethyl)-ester
P094.....	Phosphorothioic acid, O,O-diethyl S-(ethylthio)methyl ester
P089.....	Phosphorothioci acid, O,O-diethyl O-(p-nitrophenyl)ester
P040.....	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
P097.....	Phosphorothioic acid, O,O-dmiethyl O-[p-((dimethylamino)-sulfonyl)phenyl]ester
P110.....	Plumbane, tetraethyl-
P098.....	Potassium cyanide
P099.....	Potassium silver cyanide
P070.....	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime
P101.....	Propanenitrile
P027.....	Propanenitrile, 3-chloro-
P069.....	Propanenitrile, 2-hydroxy-2-methyl-
P081.....	1,2,3-Propanetriol, trinitrate- (R)
P017.....	1-Propanone, 1-bromo-
P102.....	Propargyl alcohol
P003.....	2-Propenal
P005.....	2-Propen-1-ol
P067.....	1,2-Propylenimine
P102.....	2-Propyn-1-ol
P008.....	4-Pyridinamine
P075.....	Pyridine, (S)-3-(1-methyl-2-pyrrolidinyl)-, and salts
P111.....	Pyrophosphoric acid, tetraethyl ester
P103.....	Selenourea
P104.....	Silver cyanide
P105.....	Sodium azide
P106.....	Sodium cyanide
P107.....	Strontium sulfide
P108.....	Strychnidin-10-one, and salts
P018.....	Strychnidin-10-one, 2,3-dimethoxy-
P108.....	Strychnine and salts
P115.....	Sulfuric acid, thallium(i) salt
P109.....	Tetraethyldithiopyrophosphate
P110.....	Tetraethyl lead
P111.....	Tetraethylpyrophosphate
P112.....	Tetranitromethane (R)
P062.....	Tetraphosphoric acid, hexaethyl ester
P113.....	Thallic oxide
P113.....	Thallium (iii) oxide

P114.....	Thallium (i) selenite
P115.....	Thallium (i) sulfate
P045.....	Thiofanox
P049.....	Thioimidodicarbonic diamide
P014.....	Thiophenol
P116.....	Thiosemicarbazide
P026.....	Thiourea, (2-chlorophenyl)-
P072.....	Thiourea, 1-naphthalenyl-
P093.....	Thiourea, phenyl-
P123.....	Toxaphene
P118.....	Trichloromethanethiol
P119.....	Vanadic acid, ammonium salt
P120.....	Vanadium penetoxide
P120.....	Vanadium(V) oxide
P001.....	Warfarin
P121.....	Zinc cyanide
P122.....	Zinc phosphide (R,T)

(f) The commercial chemical products, manufacturing chemical intermediates, or off-specification commercial chemical products referred to in paragraphs (a) through (d) of this section, are identified as toxic wastes (T) unless otherwise designated and are subject to the small quantity exclusion defined in § 13.03 of these regulations.

[Comment: For the convenience of the regulated community, the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), R (Reactivity), I (Ignitability) and C (Corrosivity). Absence of a letter indicates that the compound is only listed for toxicity.]

These wastes and their corresponding EPA Hazardous Waste Numbers are:

U001.....	Acetaldehyde (i)
U034.....	Acetaldehyde, trichloro-
U187.....	Acetamide, N-(4-ethoxyphenyl)-
U005.....	Acetamide, N-9-H-fluoren-2-yl-
U112.....	Acetic acid, ethyl ester (i)
U144.....	Acetic acid, lead salt
U214.....	Acetic acid, thallium(i) salt
U002.....	Acetone(i)
U003.....	Acetonitrile (I,T)
U004.....	Acetophenone
U005.....	2-Acetylaminofluorene
U006.....	Acetyl chloride (C,R,T)
U007.....	Acrylamide
U008.....	Acrylic acid (i)
U009.....	Acrylonitrile

U150.....	Alanine, 3-[p-bis(2-chloroethyl)amino] phenyl-, L-
U011.....	Amitrole
U012.....	Aniline (I,T)
U014.....	Auramine
U015.....	Azaserine
U010.....	Azirino(2',3':3,4)pyrrolo(1,2-a)indole-4,7-dione, 6-amino-8-[((aminocarbonyl) oxy)methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-,
U157.....	Benz[i]aceanthrylene, 1,2-dihydro-3-methyl-
U016.....	Benz[c]acridine
U016.....	3,4-Benzacridine
U017.....	Benzal chloride
U018.....	Benz[a]anthracene
U018.....	1,2-Benzanthracene
U094.....	1,2-Benzanthracene, 7,12-dimethyl-
U012.....	Benzenamine (I,T)
U014.....	Benzenamine, 4,4'-carbonimidoylbis(N,N-dimethyl-
U049.....	Benzenamine, 4-chloro-2-methyl
U093.....	Benzenamine, N,N'-dimethyl-4-phenylazo-
U158.....	Benzenamine, 4,4'-methylenebis(2-chloro-
U222.....	Benzenamine, 2-methyl-, hydrochloride
U181.....	Bensenamine, 2-methyl-5-nitro
U019.....	Benzene (I,T)
U038.....	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy, ethyl ester
U030.....	Benzene, 1-bromo-4-phenoxy-
U037.....	Benzene, chloro-
U190.....	1,2-Benzenedicarboxylic acid anhydride
U028.....	1,2-Benzenedicarboxylic acid, [bis(2-ethyl-hexyl)] ester
U069.....	1,2-Benzenedicarboxylic acid, dibutyl ester
U088.....	1,2-Benzenedicarboxylic acid, diethyl ester
U102.....	1,2-Benzenedicarboxylic acid, dimethyl ester
U107.....	1,2-Benzenedicarboxylic acid, di-n-octyl ester
U070.....	Benzene, 1,2-dichloro-
U071.....	Benzene, 1,3-dichloro-
U072.....	Benzene, 1,4-dichloro-
U017.....	Benzene, (dichloromethyl)-
U223.....	Benzene, 1,3-disocyanatomethyl- (R,T)
U239.....	Benzene, dimethyl-(I,T)
U201.....	1,3-Benesenediol

U127.....	Benzene, hexachloro-
U056.....	Benzene, hexahydro- (I)
U188.....	Benzene, hydroxy-
U220.....	Benzene, methyl-
U105.....	Benzene, 1-methyl-1-2-4, dinitro-
U106.....	Benzene, 1-methyl-2,6-dinitro-
U203.....	Benzene, 1,2-methylenedioxy-4-allyl-
U141.....	Benzene, 1,2-methylenedioxy-4-prophenyl-
U090.....	Benzene, 1,2-methylenedioxy-4-propyl-
U055.....	Benzene, (1-methylethyl)- (I)
U169.....	Benzene, nitro- (I,T)
U183.....	Benzene, pentachloro-
U185.....	Benzene, pentachloro-nitro-
U020.....	Benzenesulfonic acid chloride (C,R)
U020.....	Benzenesulfonyl chloride (C,R)
U207.....	Benzene, 1,2,4,5-tetrachloro-
U023.....	Benzene, (trichloromethyl)-(C,R,T)
U234.....	Benzene, 1,3,5-trinitro- (R,T)
U021.....	Benzidine
U202.....	1,2-Benzisothiazolin-3-one, 1,1-dioxide
U120.....	Benzo[j,k]fluorene
U022.....	Benzo[a]pyrene
U022.....	3,4-Benzopyrene
U197.....	p-Benzoquinone
U023.....	Benzotrichloride (C,R,T)
U050.....	1,2-Benzphenanthrene
U085.....	2,2'-Bioxirane (I,T)
U021.....	(1,1'-Biphenyl)-4,4'-diamine
U073.....	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dichloro-
U091.....	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dimethoxy-
U095.....	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dimethyl-
U024.....	Bis(2-chloroethoxy) methane
U027.....	Bis(2-chloroisopropyl) ether
U244.....	Bis(dimethylthiocarbamoyl) disulfide
U028.....	Bis(2-ethylexyl) phthalate
U246.....	Bromine cyanide
U225.....	Bromoform
U030.....	4-Bromophenyl phenyl ether
U128.....	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
U172.....	1-Butanamine, N-butyl-N-nitroso-
U035.....	Butanoic acid, 4-[Bis(2-chloroethyl)amino] benzene-
U031.....	1-Butanol (I)
U159.....	2-Butanone (I,T)
U160.....	2-Butanone peroxide (R,T)
U053.....	2-Butenal

U074.....	2-Butene, 1,4-dichloro- (I,T)
U031.....	n-Butyl alcohol (I)
U136.....	Cacodylic acid
U032.....	Calcium chromate
U238.....	Carbamic acid, ethyl ester
U178.....	Carbamic acid, methylnitroso-, ethyl ester
U176.....	Carbamide, N-ethyl-N-nitroso-
U177.....	Carbamide, N-methyl-N-nitroso-
U219.....	Carbamide, thio-
U097.....	Carbamoyl chloride, dimethyl-
U215.....	Carbonic acid, dithallium (I) salt
U156.....	Carbonochloride acid, methyl ester (I,T)
U033.....	Carbon oxyfluoride (R,T)
U211.....	Carbon tetrachloride
U033.....	Carbonyl fluoride (R,T)
U034.....	Chloral
U035.....	Chlorambucil
U036.....	Chlordane, technical
U026.....	Chlornaphazine
U037.....	Chlorobenzene
U039.....	4-Chloro-m-cresol
U041.....	1-Chloro-2,3-epoxypropane
U042.....	2-Chloroethyl vinyl ether
U044.....	Chloroform
U046.....	Chloromethyl methyl ether
U047.....	beta-Chloronaphthalene
U048.....	o-Chlorophenol
U049.....	4-Chloro-o-toluidine, hydrochloride
U032.....	Chromic acid, calcium salt
U050.....	Chrysene
U051.....	Creosote
U052.....	Cresols
U052.....	Cresylic acid
U053.....	Crotonaldehyde
U055.....	Cumene (I)
U246.....	Cyanogen bromide
U197.....	1,4-Cyclohexadienedione
U056.....	Cyclohexane (I)
U057.....	Cyclohexanone (I)
U130.....	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexa-chloro-
U058.....	Cyclophosphamide
U240.....	2,44-D, salts and esters
U059.....	Daunomycin
U060.....	DDD
U061.....	DDT
U142.....	Decachlorooctahydro-1,3,4-metheno-2H-cyclobutal[c,d]-pentalen-2-one
U062.....	Diallate

U133.....	Diamine (R,T)
U221.....	Diaminotoluene
U063.....	Dibenz[a,h]anthracene
U063.....	1,2:5,6-Dibenzanthracene
U064.....	1,2,7,8-Dibenzopyrene
U064.....	Dibenz[a,i]pyrene
U066.....	1,2-Dibromo-3-chloropropane
U069.....	Dibutyl phthalate
U062.....	S-(2,3-Dichloroallyl) diisopropylthiocarbamate
U070.....	o-Dichlorobenzene
U071.....	m-Dichlorobenzene
U072.....	p-Dichlorobenzene
U073.....	3,3'-Dichlorobenzidine
U074.....	1,4-Dichloro-2-butene (I,T)
U075.....	Dichlorodifluoromethane
U192.....	3,5-Dichloro-N-(1,1-dimethyl-1-propynyl) benzamide
U060.....	Dichloro diphenyl dichloroethane
U061.....	Dichloro diphenyl trichloroethane
U078.....	1,1-Dichloroethylene
U079.....	1,2-Dichloroethylene
U025.....	Dichloroethyl ether
U081.....	2,4-Dichlorophenol
U082.....	2,6-Dichlorophenol
U240.....	2,4-Dichlorophenoxyacetic acid, salts and esters
U083.....	1,2-Dichloropropane
U084.....	1,3-Dichloropropane
U085.....	1,2:3,4-Diepoxybutane (I,T)
U108.....	1,4-Diethylene dioxide
U086.....	N,N=Diethylhydrazine
U087.....	O,O-Diethyl-S-methyl-dithiophosphate
U088.....	Diethyl phthalate
U089.....	Diethylstilbestrol
U148.....	1,2-Dihydro-3,6-pyradizinedione
U090.....	Dihydrosafrole
U091.....	3,3'-Dimethoxybenzidine
U092.....	Dimethylamine (I)
U093.....	Dimethylaminoazobenzene
U094.....	7,12-Dimethylbenz[a]anthracene
U095.....	3,3'-Dimethylbenzidine
U096.....	alpha, alpha-Dimethylbenzyhydroperoxide (R)
U097.....	Dimethylcarbamoyl chloride
U098.....	1,1-Dimethylhydrazine
U099.....	1,2-Dimethylhydrazine
U101.....	2,4-Dimethylphenol
U102.....	Dimethyl phthalate

U103.....	Dimethyl sulfate
U105.....	2,4-Dinitrotoluene
U106.....	2,6-Dinitrotoluene
U107.....	Di-n-octyl phthalate
U108.....	1,4-Dioxane
U109.....	1,2-Diphenylhydrazine
U110.....	Dipropylamine (I)
U111.....	Di-N-propylnitrosamine
U001.....	Ethanal (I)
U174.....	Ethanamine, N-ethyl-N-nitroso-
U067.....	Ethane, 1,2-dibromo-
U076.....	Ethane, 1,1-dichloro-
U077.....	Ethane, 1,2-dichloro-
U114.....	1,2-Ethanediylbiscarbamodithioic acid
U131.....	Ethane, 1,1,1,2,2,2-hexachloro-
U024.....	Ethane, 1,1'-[methylenebix(oxy)] bis[2-chloro-
U003.....	Ethanenitrile (I,T)
U117.....	Ethane,1,1'-oxybis- (I)
U025.....	EThane, 1,1'-oxybis[2-chloro-
U184.....	Ethane, pentachloro-
U208.....	Ethane, 1,1,1,2-tetrachloro-
U209.....	Ethane, 1,1,2,2-tetrachloro-
U218.....	Ethanethioamide
U227.....	Ethane, 1,1,2-trichloro-
U247.....	Ethane,1,1,1,-trichloro-2,2-bis(p-methoxyphenyl)
U043.....	Ethene, chloro-
U042.....	Ethene, 1-chloroethoxy-
U078.....	Ethene, 1,1-dichloro-
U079.....	Ethene, trans-1,2-dichloro-
U210.....	Ethene, 1,1,2,2-tetrachloro-
U173.....	Ethanol, 2,2'-(nitrosoimino)bis-
U004.....	Ethanone, 1-phenyl-
U006.....	Ethanoyl chloride (C,R,T)
U112.....	Ethyl acetate (I)
U113.....	Ethyl acrylate (I)
U238.....	Ethlyl carbamate (urethan)
U038.....	Ethyl 4,4'-dichlorobenzilate
U114.....	Ethylenebis(dithiocarbamic acid)
U067.....	Etylene dibromide
U077.....	Ethylene dichloride
U115.....	Ethlene oxide (I,T)
U116.....	Ethylene thiourea
U117.....	Ethyl ether (I)
U076.....	Ethylidene dichloride
U118.....	Ethylmethacrylate
U119.....	Ethyl methanesulfonate
U139.....	Ferric dextran

U120.....	Fluoranthene
U122.....	Formaldehyde
U123.....	Formic acid (C,T)
U124.....	Furan (I)
U125.....	2-Furancarboxaldehyde (I)
U147.....	2,5-Furandione
U213.....	Furn, tetrahydro- (I)
U125.....	Furfural (I)
U124.....	Furfuran (I)
U206.....	D-Glucopyranose, 2-deoxy-2(3-methyl-3-nitrosoureido)-
U126.....	Glycidylaldehyde
U163.....	Guanidine, N-nitroso-N-methyl-N'nitro-
U127.....	Hexachlorobenzene
U128.....	Hexachlorobutadiene
U129.....	Hexachlorocyclohexane (gamma isomer)
U130.....	Hexachlorocyclopentadiene
U131.....	Hexachloroethane
U132.....	Hexachlorophene
U243.....	Hexachloropropene
U133.....	Hydrazine (R,T)
U086.....	Hydrazine, 1,2-diethyl-
U098.....	Hydrazine, 1,1-dimethyl-
U099.....	Hydrazine, 1,2-dimethyl-
U109.....	Hydrazine, 1,2-diphenyl-
U134.....	Hydrofluoric acid (C,T)
U134.....	Hydrogen flouride (C,T)
U135.....	Hydrogen sulfide
U096.....	Hydroperoxide, 1-methyl-1-phenylethyl-(R)
U136.....	Hydroxydimethylarsine oxide
U116.....	2-Imidazolidinethione
U137.....	Indeno[1,2,3-cd]pyrene
U139.....	Iron dextran
U140.....	Isobutyl alcohol (I,T)
U141.....	Isosafrole
U142.....	Kepone
U143.....	Lasiocarpine
U144.....	Lead acetate
U145.....	Lead phosphate
U146.....	Lead subacetate
U129.....	Lindane
U147.....	Maleic anhydride
U148.....	Maleic hydrazide
U149.....	Malononitrile
U150.....	Melphalan
U151.....	Mercury
U152.....	Methacrylonitrile (I,T)
U092.....	Methanamine, N-methyl- (I)
U029.....	Methane, bromo-

U045.....	Methane, chloro- (I,T)
U046.....	Methane, chloromethoxy-
U068.....	Methane, dibromo-
U080.....	Methane, dichloro-
U075.....	Methane, dichlorodifluoro-
U138.....	Methane, iodo-
U119.....	Methane, sulfonic acid, ethyl ester
U211.....	Methane, tetrachloro-
U121.....	Methane, trichlorofluoro-
U153.....	Methanethiol (I,T)
U225.....	Methane, tribromo-
U044.....	Methane, trichloro-
U121.....	Methane, trichlorofluoro-
U123.....	Methanoic acid (C,T)
U036.....	4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-
U154.....	Methanol (I)
U155.....	Methapyriline
U247.....	Methoxychlor
U154.....	Methyl alcohol (I)
U029.....	Methyl bromide
U186.....	1-Methylbutadiene (I)
U045.....	Methyl chloride (I,T)
U156.....	Methyl chlorocarbonate (I,T)
U226.....	Methylchloroform
U157.....	3-Methylcholanthrene
U158.....	4,4'-Methylenebis(2-chloroaniline)
U132.....	2,2'-Methylenebis (3,4,6-trichlorophenol)
U068.....	Methylene bromide
U080.....	Methylene chloride
U122.....	Methylene oxide
U159.....	Methyl ethyl ketone (I,T)
U160.....	Methyl ethyl ketone peroxide (R,T)
U138.....	Methyl iodide
U161.....	Methyl isobutyl ketone (I)
U162.....	Methyl methacrylate (I,T)
U163.....	N-Methyl-N'-nitro-N-nitrosoguanidine
U161.....	4-Methyl-2-pentanone (I)
U164.....	Methylthiouracil
U010.....	Mitomycin C
U059.....	5,12-Naphthacenedione, (8S-cis)-8-acetyl-10-[(3-amino-2,3,6-trideoxy-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-
U165.....	Naphthalene
U047.....	Naphthalene, 2-chloro-
U166.....	1,4-Naphthalenedione
U236.....	2,7-Naphthalenedisulfonic acid, 3,3'-[3,3'-dimethyl-(1,1'-biphenyl)-

	4,4'diyl)]-bis-(azo)bis(5-amino-4-hydroxy)-,tetrasodium salt
U166.....	1,4,Naphthaquinone
U167.....	1-Naphthylamine
U168.....	2-Naphthylamine
U167.....	alpha-Naphthylamine
U168.....	beta-Naphthylamine
U026.....	2-Naphthylamine, N,N'-bis(2-chloro-methyl)-
U169.....	Nitrobenzene (I,T)
U170.....	p-Nitrophenol
U171.....	2-Nitropropane (I)
U172.....	N-Nitrosodi-n-butylamine
U173.....	N-Nitrosodiethanolamine
U174.....	N-Nitrosodiethylamine
U111.....	N-Nitroso-N-propylamine
U176.....	N-Nitroso-N-ethylurea
U177.....	N-Nitroso-N-methylurethane
U179.....	N-Nitrosopiperidine
U180.....	N-Nitrosopyrrolidine
U181.....	5-Nitro-o-toluidine
U193.....	1,2-Oxathiolane, 2,2-dioxide
U058.....	2H-1,3-2-Oxazaphosphorine, 2-[bis(2-chloro- ethyl)amino]tetrahydro-, oxide 2-
U115.....	Oxirane (I,T)
U041.....	Oxirane, 2-(chloromethyl)-
U182.....	Peraldehyde
U183.....	Pentachlorobenzene
U184.....	Pentachloroethane
U185.....	Pentachloronitrobenzene
U242.....	Pentachlorophenol
U186.....	1,3-Pentadiene (I)
U187.....	Phenacetin
U188.....	Phenol
U048.....	Phenol, 2-chloro-
U039.....	Phenol, 4-chloro-3-methyl-
U081.....	Phenol, 2,4-dichloro-
U082.....	Phenol, 2,6-dichloro-
U101.....	Phenol, 2,4-dimethyl-
U170.....	Phenol, 4-nitro-
U242.....	Phenol, pentachloro-
U212.....	Phenol, 2,3,4,6-tetrachloro-
U230.....	Phenol, 2,4,5-trichloro-
U231.....	Phenol, 2,4,6-trichloro-
U137.....	1,10-(1,2-phenylene)pyrene
U145.....	Phosphoric acid, Lead salt
U087.....	Phosphorodithioic acid,)-)-diethyl-, S-methylester
U189.....	Phosphorous sulfide (R)

U190.....	Phthalic anhydride
U191.....	2-Picoline
U192.....	Pronamide
U194.....	1-Propanamine (I,T)
U110.....	1-Propanamine, N-propyl-(I)
U066.....	Propane, 1,2-dibromo-3-chloro-
U149.....	Propanedinitrile
U171.....	Propane, 2-nitro- (I)
U027.....	Propane, 2,2'oxybis [2-chloro-
U193.....	1,3-Propane sultone
U235.....	1-Propanol, 2,3-dibromo-, phosphate (3:1)
U126.....	1-Propanol, 2,3-epoxy-
U140.....	1-Propanol, 2-methyl- (I,T)
U002.....	2-Propanone (I)
U007.....	2-Propenamide
U084.....	Propene, 1,3-dichloro-
U243.....	1-Propene, 1,1,2,3,3,3-hexachloro-
U009.....	2-Propenenitrile
U152.....	2-Propenenitrile, 2-methyl- (I,T)
U008.....	2-Propenoic acid (I)
U113.....	2-Propenoic acid, ethyl ester (I)
U118.....	2-Propenoic acid, 2-methyl-, ethyl ester
U162.....	2-Propenoic acid, 2-methyl-, methyl ester (I,T)
U233.....	Propionic acid, 2-(2,4,5-trichloro phenoxy)-
U194.....	n-Propylamine (I,T)
U083.....	Propylene dichloride
U196.....	Pyridine
U155.....	Pyridine, 2-[(2-dimethylamino)-2-thenylamino]-
U179.....	Pyridine, hexahydro-N-nitroso-
U191.....	Pyridine, 2-methyl-
U164.....	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-
U180.....	Pyrrole, tetrahydro-N-nitroso-
U200.....	Reserpine
U201.....	Resorcinol
U202.....	Saccharin and salts
U203.....	Safrole
U204.....	Selenious acid
U204.....	Selenium dioxide
U205.....	Selenium disulfide (R,T)
U015.....	L-Serine, diazoacetate (ester)
U233.....	Silvex
U089.....	4,4'-Stilbenediol, alpha,alpha'-diethyl-
U206.....	Streptozotocin
U135.....	Sulfur hydride
U103.....	Sulfuric acid, dimethyl ester

U189.....	Sulfur phosphide (R)
U205.....	Sulfur selenide (R,T)
U232.....	2,4,5-T
U207.....	1,2,4,5-Tetrachlorobenzene
U208.....	1,1,1,2-Tetrachloroethane
U209.....	1,1,2,2-Tetrachloroethane
U210.....	Tetrachloroethylene
U212.....	2,3,4,6-Tetrachlorophenol
U213.....	Tetrahydrofuran (I)
U214.....	Thallium (I) acetate
U215.....	Thallium (I) carbonate
U216.....	Thallium (I) chloride
U217.....	Thallium (I) nitrate
U218.....	Thioacetamide
U153.....	Thiomethanol (I,T)
U219.....	Thiourea
U244.....	Thiram
U220.....	Toluene
U221.....	Toluenediamine
U223.....	Toluene diisocyanate (R,T)
U222.....	O-Toluidine hydrochloride
U011.....	1H-1,2,4-Triazol-3-amine
U226.....	1,1-Trichloroethane
U227.....	1,1,2-Trichloroethane
U228.....	Trichloroethene
U228.....	Trichloroethylene
U121.....	Trichloromonofluoromethane
U230.....	2,4,5-Trichlorophenol
U231.....	2,4,6-Trichlorophenol
U232.....	2,4,5-Trichlorophenoxyacetic acid
U234.....	sym-Trinitrobenzene (R,T)
U182.....	1,3,5-Trioxane, 2,4,5-trimethyl-
U235.....	Tris(2,3-dibromopropyl) phosphate
U236.....	Trypan blue
U237.....	Uracil, 5[bis(2-chloromethyl)amino]-
U237.....	Uracil mustard
U043.....	Vinyl chloride
U239.....	Xylene (I)
U200.....	Yohimban-16-carboxylic acid, 11,17-dimethody-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester,

APPENDIX I - REPRESENTATIVE SAMPLING METHODS

The methods and equipment used for sampling waste materials will vary with the form and consistency of the waste materials to be sampled. Samples collected using the sampling protocols listed below, for sampling waste with properties similar to the indicated materials, will be considered by the Agency to be representative of the waste.

Extremely viscous liquid - ASTM Standard D140-70 Crushed or powdered material--ASTM Standard D346-75 Soil or rock-like material--ASTM Standard D420-69 Soil-like material--ASTM Standard D1452-65.

Fly Ash-like material--ASTM Standard D2234-76 [ASTM Standards are available from ASTM, 1916 Race St., Philadelphia, PA 19103].

Containerized liquid wastes--"COLIWASA" described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods,"[1] U.S. Environmental Protection Agency, Office of Solid Waste, Washington, D.C. 20460. [Copies may be obtained from Solid Waste Information, U.S. Environmental Protection Agency, 26 W. St. Clair St., Cincinnati, Ohio 45268].

Liquid waste in pits, ponds, lagoons, and similar reservoirs.--"Pond Sampler" described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods."[1]

This manual also contains additional information on application of these protocols.

APPENDIX II - EP TOXICITY TEST PROCEDURE

A. Extraction Procedure (EP)

1. A representative sample of the waste to be tested (minimum size 100 grams) should be obtained using the methods specified in Appendix I or any other methods capable of yielding a representative sample within the meaning of Part 260. [For

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[1]These methods are also described in "Samplers and Sampling Procedures for Hazardous Waste Streams, "EPA 600/2-80-018, January 1980.

detailed guidance on conducting the various aspects of the EP see, "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods," SW-846, U.S. Environmental Protection Agency Office of Solid Waste, Washington, D.C. 20460.[2]

2. The sample should be separated into its component liquid and solid phases using the method described in "Separation Procedure" below. If the solid residue[3] obtained using this method totals less than 0.5% of the original weight of the waste, the residue can be discarded and the operator should treat the liquid phase as the extract and proceed immediately to Step 8.

3. The solid material obtained from the Separation Procedure should be evaluated for its particle size. If the solid material has a surface area per gram of material equal to, or greater than, 3.1 cm^2 or passes through a 9.5 mm (0.375 inch) standard sieve, the operator should proceed to Step 4. If the surface area is smaller or the particle size larger than specified above, the solid material should be prepared for extraction by crushing, cutting or grinding the material so that it passes through a 9.5 mm (0.375 inch) sieve or, if the material is in a single piece, by subjecting the material to the "Structural Integrity Procedure" described below.

4. The solid material obtained in Step 3 should be weighed and placed in an extractor with 16 times its weight of deionized water. Do not allow the material to dry prior to weighing. For purposes of this test, an acceptable extractor is one which will impart sufficient agitation to the mixture to not only prevent stratification of the sample and extration fluid but also insure that all sample surfaces are continuously brought into contact with well mixed extraction fluid.

5. After the solid material and deionized water are placed in the extractor, the operator should begin agitation and measure the pH of the solution in the extractor. If the pH is greater than

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[2]Copies may be obtained from Solid Waste Information, U.S. Environmental Protection Agency, 26 W. St. Clair Street, Cincinnati, Ohio 45268.

[3]The percent solids is determined by drying the filter pad at 80°C until it reaches the constant weight and then calculating the percent solids using the following equation:

$$\frac{(\text{weight of pad + solid}) - (\text{tare weight of pad})}{\text{initial weight of sample}} \times 100 = \% \text{ solids}$$

5.0, the pH of the solution should be decreased to 5.0 ± 0.2 by adding 0.5 N acetic acid. If the pH is equal to or less than 5.0, no acetic acid should be monitored, as described below, during the course of the extraction and if the pH rises above 5.2, 0.5N acetic acid should be added to bring the pH down to 5.0 ± 0.2. However, in no event shall the aggregate amount of acid added to the solution exceed 4 ml of acid per gram of solid. The mixture should be agitated for 24 hours and maintained at 20°-40°C (68°-104°F) during this time. It is recommended that the operator monitor and adjust the pH during the course of the extraction with a device such as the Type 45-A pH Controller manufactured by Chemtrix, Inc., Hillsboro, Oregon 97123 or its equivalent, in conjunction with a metering pump and reservoir of 0.5N acetic acid. If such a system is not available, the following manual procedure shall be employed:

(a) A pH meter should be calibrated in accordance with the manufacturer's specifications.

(b) The pH of the solution should be checked and, if necessary, 0.5N acetic acid should be manually added to the extractor until the pH reaches 5.0 ± 0.2. The pH of the solution should be adjusted at 15, 30 and 60 minute intervals, moving to the next longer interval if the pH does not have to be adjusted more than 0.5N pH units.

(c) The adjustment procedure should be continued for at least 6 hours.

(d) If at the end of the 24-hour extraction period, the pH of the solution is not below 5.2 and the maximum amount of acid (4 ml per gram of solids) has not been added, the pH should be adjusted 5.0 ± 0.2 and the extraction continued for an additional four hours, during which the pH should be adjusted at one hour intervals.

6. At the end of the 24 hour extraction period, deionized water should be added to the extractor in an amount determined by the following equation:

$V = (20)(W)-16(W)-A$

V = ml deionized water to be added
W = weight in grams of solid charged to extractor
A = ml of 0.5N acetic acid added during extraction

7. The material in the extractor should beseparated into its component liquid and solid phases as described under "Separation Procedure."

8. The liquids resulting from Steps 2 and 7 should be combined. This combined liquid (or the waste itself if it has less than 1/2 percent solids, as noted in Step 2) is the extract and should be analyzed for the presence of any of the contaminants

specified in Table I of § 3.04.02 using the Analytical Procedures designated below.

Separation Procedure

Equipment: A filter holder, designed for filtration media having a nominal pore size of 0.45 micrometers and capable of applying a 5.3 kg/cm² (75 ½so) hydrostatic pressure to the solution being filtered shall be used. For mixtures containing nonabsorptive solids, where separation can be affected without imposing a 5.3 kg/cm² pressure differential, vacuum filters employing a 0.45 micrometers filter media can be used. (For further guidance on filtration equipment or procedures see "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.")

Procedure[4]

(i) Following manufacturer's directions, the filter unit should be assembled with a filter bed consisting of a 0.45 micrometer filter membrane. For difficult or slow to filter mixtures a prefilter bed consisting of the following prefilters in increasing pore size (0.65 micrometer membrane, fine glass fiber prefilter, and coarse glass fiber prefilter) can be used.

(ii) The waste should be poured into the filtration unit.

(iii) The reservoir should be slowly pressurized until liquid begins to flow from the filtrate outlet at which point the pressure in the filter should be immediately lowered to 10-15 psig. Filtration should be continued until liquid flow ceases.

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[4]This procedure is intended to result in separation of the "free" liquid portion of the waste from any solid matter having a particle size 0.45um. If the sample will not filter, various other separation techniques can be used to aid in the filtration. As described above, pressure filtration is employed to speed up the filtration process. This does not alter the nature of the separation. If liquid does not separate during filtration, the waste can be centrifuged. If separation occurs during centrifugation the liquid portion (centrifugate) is filtered through the 0.45um filter prior to becoming mixed with the liquid portion of the waste obtained from the initial filtration. Any material that will not pass through the filter after centrifugation is considered a solid and is extracted.

(iv) The pressure should be increased stepwise in 10 psi increments to 75 psig and filtration continued until flow ceases or the pressurizing gas begins to exit from the filtrate outlet.

(v) The filter unit should be depressurized, the solid material removed and weighed and then transferred to the extraction apparatus, or, in the case of final filtration prior to analysis, discarded. Do not allow the material retained on the filter pad to dry prior to weighing.

(vi) The liquid phase should be stored at 4°C for subsequent use in Step 8.

B. Structural Integrity Procedure

Equipment: A Structural Integrity Tester having 3.18 cm (1.25 in.) diameter hammer weighing 0.33 kg (0.73 lbs.) and having a free fall of 15.24 cm (6 in.) shall be used. This device is available from Associated Design and Manufacturing Company, Alexandria, VA., 22314, as Part No. 125, or it may be fabricated to meet the specifications shown in Figure 1.

Procedure

1. The sample holder should be filled with the material to be tested. If the sample of waste is a large monolithic block, a portion should be cut from the block having the dimensions of a 3.3 cm (1.3 in.) diameter x 7.1 cm (2.8 in.) cylinder. For a fixated waste, samples may be case in the form of a 3.3 cm (1.3 in.) diameter x 7.1 cm (2.8 in.) cylinder for purposes of conducting this test. In such cases, the waste may be allowed to cure for 30 days prior to further testing.

2. The sample holder should be placed into the Structural Integrity Tester, then the hammer should be raised to its maximum height and dropped. This should be repeated fifteen times.

3. The material should be removed from the sample holder, weighed, and transferred to the extraction apparatus for extraction.

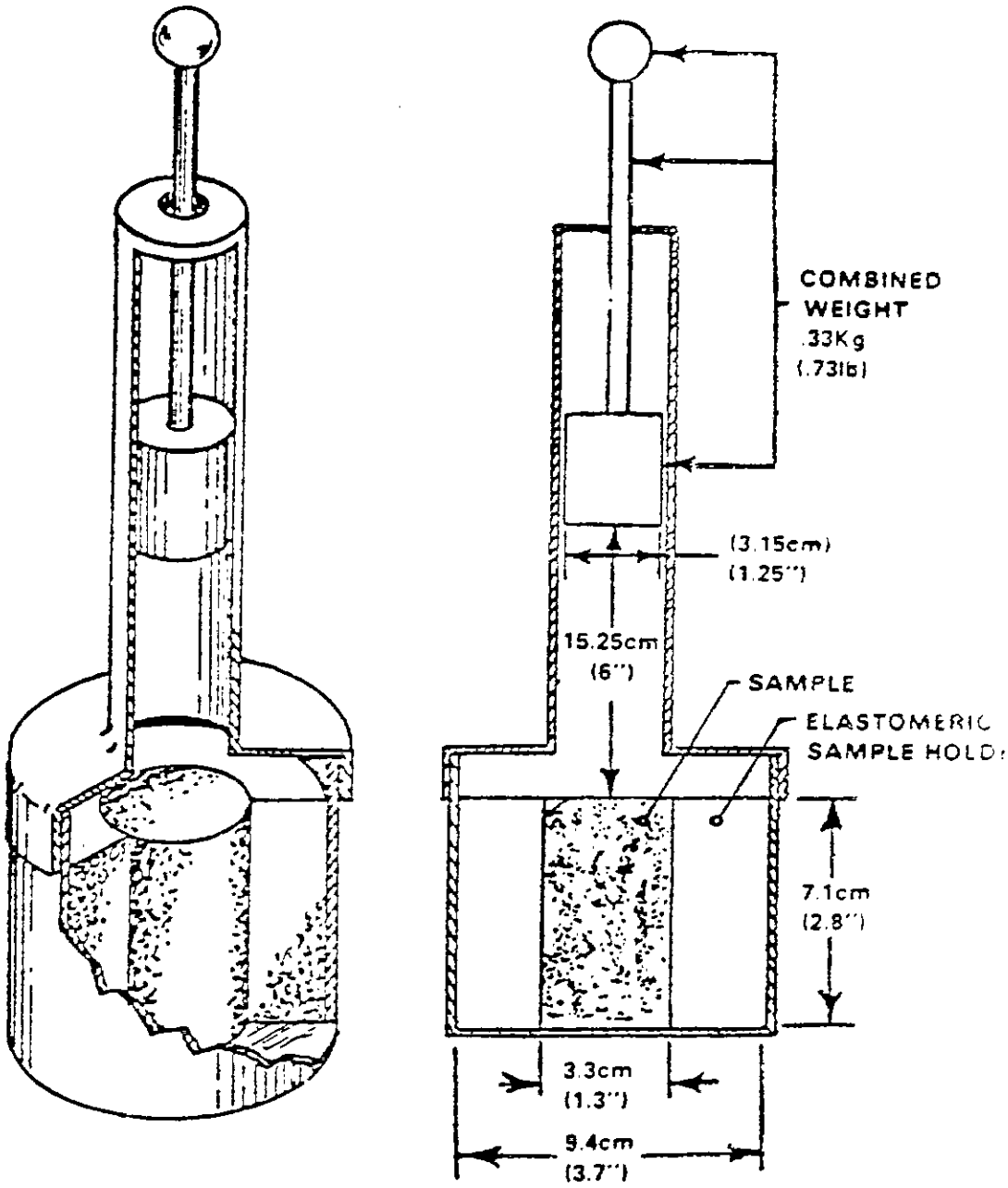
Analytical Procedures for Analyzing
Extract Contaminants

The test methods for analyzing the extract are as follows:

(1) For arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, endrin, lindane, methoxychlor, toxaphene, 2,4-D[2,4-dichlorophenoxyacetic acid] or 2,4,5-TP [2,4,5-trichlorophenoxypropionic acid]: "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods," [SW-846], U.S. Environmental Protection Agency, Office of Solid Waste, Washington, D.C. 20460.

(2) [Reserved].

For all analyses, the methods of standard addition shall be used for quantification of species concentration.



*ELASTOMERIC SAMPLE HOLDER FABRICATED OF MATERIAL FIRM ENOUGH TO SUPPORT THE SAMPLE

Figure 1

COMPACTION TESTER

Appendix III—Chemical Analysis Test Methods

Tables 1, 2 and 3 specify the appropriate analytical procedures, described in "Test Methods for Evaluating Solid Waste" (SW-846), which should be used in determining whether the waste in question contains a given toxic constituent. Table 1 identifies the analytical class and the approved measurement techniques for each organic chemical listed in Appendix VII. Table 2 identifies the corresponding methods for the inorganic species. Table 3 identifies the specific sample preparation and measurement instrument introduction techniques which may be suitable for both the organic and inorganic species as well as the matrices of concern.

Prior to final selection of the analytical method the operator should consult the specific method descriptions in SW-846 for additional guidance on which of the approved methods should be employed for a specific waste analysis situation.

Table 1.—*Analytical Characteristics of Organic Chemicals*

Compound	Sample handling class/fraction	Non-GC methods	Measurement techniques		
			GC/MS	Conventional GC	Detector
Acetonitrile	Volatile		8.24	8.03	NSD
Acrolein	Volatile		8.24	8.03	NSD
Acrylamide	Volatile		8.24	8.01	FID
Acrylonitrile	Volatile		8.24	8.03	NSD
Benzene	Volatile		8.24	8.02	PID
Benz(a)anthracene	Extractable/BN	8.10 (HPLC)	8.25	8.10	FID
Benzo(a)pyrene	Extractable/BN	8.10 (HPLC)	8.25	8.10	FID
Benzotrichloride	Extractable/BN		8.25	8.12	ECD
Benzyl chloride	Volatile or Extractable/BN		8.24	8.01	HSD
			8.25	8.12	ECD
Benz(b)fluoranthene	Extractable/BN	8.10 (HPLC)	8.25	8.10	FID
Bis(2-chloroethoxymethane)	Volatile		8.24	8.01	HSD
Bis(2-chloroethyl)ether	Volatile		8.24	8.01	HSD
Bis(2-chloroisopropyl)ether	Volatile		8.24	8.01	HSD
Carbon disulfide	Volatile		8.24	8.01	HSD
Carbon tetrachloride	Volatile		8.24	8.01	HSD
Chlordane	Extractable/BN		8.25	8.08	HSD
Chlorinated dibenzodioxins	Extractable/BN		8.25	8.08	ECD
Chlorinated biphenyls	Extractable/BN		8.25	8.08	HSD
Chloroacetaldehyde	Volatile		8.24	8.01	HSD
Chlorobenzene	Volatile		8.24	8.01	HSD
				8.02	PID
Chloroform	Volatile		8.24	8.01	HSD
Chloromethane	Volatile		8.24	8.01	HSD
2-Chlorophenol	Extractable/BN		8.25	8.04	FID, ECD
Chrysene	Extractable/BN	8.10 (HPLC)	8.25	8.10	FID
Creosote	Extractable/BN		8.25	8.10	ECD
Cresol(s)	Extractable/A		8.25	8.04	FID, ECD
Cresylic acid(s)	Extractable/A		8.25	8.04	FID, ECD
Dichlorobenzene(s)	Extractable/BN		8.25	8.01	HSD
				8.02	PID
				8.12	ECD
Dichloroethane(s)	Volatile		8.24	8.01	HSD
Dichloromethane	Volatile		8.24	8.01	HSD
Dichlorophenoxy-acetic acid	Extractable/A		8.25	8.40	HSD
Dichloropropanol	Extractable/BN		8.25	8.12	ECD
2,4-Dimethylphenol	Extractable/A		8.25	8.04	FID, ECD
Dinitrobenzene	Extractable/BN		8.25	8.09	FID, ECD
4,6-Dinitro-o-cresol	Extractable/A		8.25	8.04	FID, ECD
2,4-Dinitrotoluene	Extractable/BN		8.25	8.09	FID, ECD
Endrin	Extractable/P		8.25	8.08	HSD
Ethyl ether	Volatile		8.24	8.01	FID
				8.02	FID
Formaldehyde	Volatile		8.24	8.01	FID
Formic acid	Extractable/BN		8.25	8.06	FID
Heptachlor	Extractable/P		8.25	8.06	HSD
Hexachlorobenzene	Extractable/BN		8.25	8.12	ECD
Hexachlorobutadiene	Extractable/BN		8.25	8.12	ECD
Hexachloroethane	Extractable/BN		8.25	8.12	ECD
Hexachlorocyclopentadiene	Extractable/BN		8.25	8.12	ECD
Lindane	Extractable/P		8.25	8.08	HSD

Table 1.—*Analytical Characteristics of Organic Chemicals—Continued*

Compound	Sample handling class/fraction	Non-GC methods	Measurement techniques		
			GC/MS	Conventional GC	Detector
Maleic anhydride	Extractable/BN		8.25	8.06	ECD, FID
Methanol	Volatile		8.24	8.01	FID
Methomyl	Extractable/BN	8.32 (HPLC)			
Methyl ethyl ketone	Volatile		8.25	8.01	FID
				8.02	FID
Methyl isobutyl ketone	Volatile		8.25	8.01	FID
				8.02	FID
Naphthalene	Extractable/BN		8.25	8.10	FID
Napthoquinone	Extractable/BN		8.25	8.06	ECD, FID
				8.09	FID
Nitrobenzene	Extractable/BN		8.25	8.09	ECD, FID
4-Nitrophenol	Extractable/A		8.24	8.04	ECD, FID
Paraldehyde (trimer of acetaldehyde)	Volatile		8.24	8.01	FID
Pentachlorophenol	Extractable/A		8.25	8.04	ECD
Phenol	Extractable/A		8.25	8.04	ECD, FID
Phorate	Extractable/BN			8.22	FPD
Phosphorodithioic acid esters	Extractable/BN			8.06	ECD, FID
				8.09	ECD, FID
				8.22	FPD
Phthalic anhydride	Extractable/BN		8.25	8.06	ECD, FID
				8.09	ECD, FID
2-Picoline	Extractable/BN		8.25	8.06	ECD, FID
				8.09	ECD, FID
Pyridine	Extractable/BN		8.25	8.06	ECD, FID
				8.09	ECD, FID
Tetrachlorobenzene(s)	Extractable/BN		8.25	8.12	ECD
Tetrachloroethane(s)	Volatile		8.24	8.01	HSD
Tetrachloroethene	Volatile		8.24	8.01	HSD
Tetrachlorophenol	Extractable/A		8.24	8.04	ECD
Toluene	Volatile		8.24	8.02	PID
Toluenediamine	Extractable/BN		8.25		
Toluene diisocyanate(s)	Extractable/nonaqueous		8.25	8.06	FID
Toxaphene	Extractable/P		8.25	8.08	HSD
Trichloroethane	Volatile		8.24	8.01	HSD
Trichloroethene(s)	Volatile		8.24	8.01	HSD
Trichlorofluoromethane	Volatile		8.24	8.01	HSD
Trichlorophenol(s)	Extractable/A		8.25	8.04	HSD
2,4,5-TP (Silvex)	Extractable/A		8.25	8.40	HSD
Trichloropropane	Volatile		8.24	8.01	HSD
Vinyl chloride	Volatile		8.24	8.01	HSD
Vinylidene chloride	Volatile		8.24	8.01	HSD
Xylene	Volatile		8.24	8.02	PID

[1] Analyze for phenanthrene and carbazole; if these are present in a ratio between 1.4:1 and 5:1, creosote should be considered present.

ECD = Electron capture detetor; FID = Flame ionization detector; FPD = Flame photometric detector; HSD = Halide specific detector; HPLC = High pressure liquid chromotography; NSD = Nitrogen-specific detector; PID = Photoionization detector.

Table 2—*Analytical Characteristics of Inorganic Species*

Species	Sample handling class	Measurement technique	Method number
Antimony	Digestion	Atomic absorbtion-furnace/flame	8.50
Arsenic	Hydride	Atomic absorbtion-flame	8.51
Barium	Digestion	Atomic absorbtion-furnace/flame	8.52
Cadmium	Digestion	Atomic absorbtion-furnace/flame	8.53
Chromium	Digestion	Atomic absorbtion-furnace/flame	8.54
Cyanides	Hydrolysis	Atomic absorbtion-spectroscopy	8.55
Lead	Digestion	Atomic absorbtion-furnace/flame	8.56
Mercury	Cold Vapor	Atomic absorbtion	8.57
Nickel	Digestion	Atomic absorbtion-furnace/flame	8.58
Selenium	Hydride digestion	Atomic absorbtion-furnace/flame	8.59
Silver	Digestion	Atomic absorbtion-furnace/flame	8.60

TABLE 3.—*Sample Prepartion/Sample Introduction Techniques*

Sample handling class	Physical characteristics of waste[1]		
	Fluid	Paste	Solid
Volatile	Purge and trap.	Purge and trap	Headspace.
	Direct injection	Headspace	
Semivolatile and nonvolatile.	Direct injection	Shake out	Shake out. Soxhlet.
	Shake out		Sonication.
Inorganic	Direct injection.		
	Digestion	Digestion	Digestion.
	Hydride	Hydride	Hydride.

[1] For purposes of this Table, fluid refers to readily pourable liquids, which may or may not contain suspended particles. Paste-like materials, while fluid in the sense of flowability, can be thought of as being thixotropic or plastic in nature, e.g. paints. Solid materials are those wastes which can be handled without a container (i.e., can be piled up without appreciable sagging)

Procedure and Method Number(s)

Digestion—See appropriate procedure for element of interest.
Direct injection—8.80
Headspace—8.82
Hydride—See appropriate procedure for element of interest.
Purge & Trap—8.83
Shake out—8.84
Sonication—8.85
Soxhlet—8.86

APPENDIX IV—[RESERVED FOR RADIOACTIVE WASTE TEST METHODS]

APPENDIX V—[RESERVED

APPENDIX VI—[RESERVED FOR ETIOLOGIC AGENTS]

APPENDIX VII—BASIS FOR LISTING HAZARDOUS WASTE

EPA hazardous waste No	Hazardous constituents for which listed
F001	Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, chlorinated fluorocarbons
F002	Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane.
F003	N.A.
F004	Cresols and cresylic acid, nitrobenzene.
F005	Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine
F006	Cadmium, hexavalent chromium, nickel, cyanide (complexed).
F007	Cyanide (salts).
F008	Cyanide (salts).
F009	Cyanide (salts)
F010	Cyanide (salts)
F011	Cyanide (salts)
F012	Cyanide (complexed).
F019	Hexavalent chromium, cyanide (complexed)
K001	Pentachlorophenol, phenol, 2-chlorophenol, p-chloro-m-cresol, 2,4-dimethylphenyl, 2,4-dinitrophenol, trichlorophenols, tetrachlorophenols, 2,4-dinitrophenol, cresosote, chrysene, naphthalene, fluoranthene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benz(a)anthracene, dibenz(a)anthracene, acenaphthalene.
K002	Hexavalent chromium, lead
K003	Hexavalent chromium, lead.
K004	Hexavalent chromium.
K005	Hexavalent chromium, lead
K006	Hexavalent chromium
K007	Cyanide (complexed), hexavalent chromium.
K008	Hexavalent chromium.
K009	Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid.
K010	Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid, chloroacetaldehyde
K011	Acrylonitrile, acetonitrile, hydrocyanic acid
K013	Hydrocyanic acid, acrylonitrile, acetonitrile.
K014	Acetonitrile, acrylamide
K015	Benzyl chloride, chlorobenzene, toluene, benzotrichloride
K016	Hexachlorobenzene, hexachlorobutadiene, carbon tetrachloride, hexachloroethane, perchloroethylene
K017	Epichlorohydrin, chloroethers [bis(chloromethyl) ether and bis (2-chloroethyl) ethers], trichloropropane, dichloropropanols
K018	1,2-dichloroethane, trichloroethylene, hexachlorobutadiene, hexachlorobenzene
K019	Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride

EPA hazardous waste No	Hazardous constituents for which listed
K020	Ethylene dichloride, 1,1,1-trichloroethane 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride
K021	Antimony, carbon tetrachloride, chloroform
K022	Phenol, tars (polycyclic aromatic hydrocarbons).
K023	Phthalic anhydride, maleic anhydride
K024	Phthalic anhydride, 1,4-naphthoquinone
K025	Meta-dinitrobenzene, 2,4-dinitrotoluene
K026	Paraldehyde, pyridines, 2-picoline
K027	Toluene diisocyanate, toluene-2, 4-diamine
K028	1,1,1--trichloroethane, vinyl chloride
K029	1,2-dichloroethane, 1,1,1-trichloroethane, vinyl chloride, vinylidene chloride, chloroform
K030	Hexachlorobenzene, hexachlorobutadiene, hexachloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, ethylene dichloride.
K031	Arsenic.
K032	Hexachlorocyclopentadiene.
K033	Hexachlorocyclopentadiene
K034	Hexachlorocyclopentadiene
K035	Creosote, chrysene, naphthalene, fluoranthene benzo(b) fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd) pyrene, benzo(a)anthracene, dibenzo(a)anthracene, acenaphthalene
K036	Toluene, phosphorodithioic and phosphoro-thioic acid esters.
K037	Toluene, phosphorodithioic and phosphoro-thioic acid esters.
K038	Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters.
K039	Phosphorodithioic and phosphorothioic acid esters.
K040	Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters.
K041	Toxaphene.
K042	Hexachlorobenzene, ortho-dichlorobenzene.
K043	2,4-dichlorophenol, 2,6-dichlorophenol 2,4,6-trichlorophenol.
K044	N.A.
K045	N.A.
K046	Lead.
K047	N.A.
K048	Hexavalent chromium, lead.
K049	Hexavalent chromium, lead.
K050	Hexavalent chromium.
K051	Hexavalent chromium, lead.
K052	Lead.
K060	Cyanide, napthalene, phenolic compounds, arsenic.
K061	Hexavalent chromium, lead, cadmium.
K062	Hexavalent chromium, lead
K069	Hexavalent chromium, lead, cadmium
K071	Mercury
K073	Chloroform, carbon tetrachloride, hexachloroethane, trichloroethane, tetrachloroethylene, dichloroethylene, 1,1,2,2-tetrachloroethane
K083	Aniline, diphenylamine, nitrobenzene, phenylenediamine
K084	Arsenic
K085	Benzene, dichlorobenzenes, trichlorobenzenes, tetrachlorobenzenes, pentachlorobenzene, hexachlorobenzene, benzyl chloride
K086	Lead, hexavalent chromium.
K087	Phenol, naphthalene.
K093	Phthalic anhydride, maleic anhydride
K094	Phthalic anhydride
K095	1,1,2-trichloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane
K096	1,2-dichloroethane, 1,1,1-trichloroethane, 1,1,2-trichloroethane
K097	Chlordane, heptachlor.
K098	Toxaphene
K099	2,4-dichlorophenol, 2,4,6-trichlorophenol
K100	Hexavalent chromium, lead, cadmium
K101	Arsenic.
K102	Arsenic.
K103	Aniline, nitrobenzene, phenylenediamine.
K104	Aniline, benzene, diphenylamine, nitrobenzene, phenylenediamine.
K105	Benzene, monochlorobenzene, dichlorobenzenes, 2,4,6-trichlorophenol.
K106	Mercury

N.A.—Waste is hazardous because it fails the test for the charactenstic of ignitability, corrosivity, or reactivity

Appendix VIII--Hazardous Constituents

Acetonitrile (Ethanenitrile)
Acetophenone (Ethanone, 1-phenyl)
3-(alpha-Acetonylbenzyl)-4-hydroxycoumarin and salts (Warfarin)
2-Acetylaminofluorene (Acetamide, N-(9H-fluoren-2-yl)-)
Acetyl chloride (Ethanoyl chloride)
1-Acetyl-2-thiourea (Acetamide, N-(aminothioxomethyl)-)
Acrolein (2-Propenal)
Acrylamide (2-Propenamide)
Acrylonitrile (2-Propenenitrile)
Aflatoxins
Aldrin (1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a,8b-hexahydro-endo,exo-1,4:5,8-Dimethanonaphthalene)
Allyl alcohol (2-Propen-1-ol)
Aluminum phosphide
4-Aminobiphenyl ([1,1'-Biphenyl]-4-amine)
6-Amino-1,1a,2,8,8a,8b-hexahydro-8-(hydroxymethyl)-8a-methoxy-5-methylcarbamate azirino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione, (ester) (Mitomycin C) (Azirino[2'3':3,4]pyrrolo(1,2-a)indole-4,7-dione, 6-amino-8-[((amino-

carbonyl)oxy)methyl]-1,1a,2,8,8a,8b-hexahydro-8amethoxy-5-methy-)
5-(Aminomethyl)-3-isoxazolol (3(2H)-Isoxazolone, 5-(aminomethyl)-) 4-Aminopyridine (4-Pyridinamine)
Amitrole (1H-1,2,4-Triazol-3-amine)
Aniline (Benzenamine)
Antimony and compounds, N.O.S.*
Aramite (Sulfurous acid, 2-chloroethyl-, 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester)
Arsenic and compounds, N.O.S.*
Arsenic acid (Orthoarsenic acid)
Arsenic pentoxide (Arsenic (V) oxide)
Arsenic trioxide (Arsenic (III) oxide)
Auramine (Benzenamine, 4,4'-carbonimidoylbis[N,N-Dimethyl-, monohydrochloride)
Azaserine (L-Serine, diazoacetate (ester))
Barium and compounds, N.O.S.*
Barium cyanide
Benz[c]acridine (3,4-Benzacridine)
Benz[a]anthracene (1,2-Benzanthracene)
Benzene (Cyclohexatriene)
Benzenearsonic acid (Arsonic acid, phenyl-)
Benzene, dichloromethyl- (Benzal chloride)
Benzenethiol (Thiophenol)
Benzidine ([1,1'-Biphenyl]-4,4'diamine)
Benzo[b]fluoranthene (2,3-Benzofluoranthene)
Benzo[j]fluoranthene (7,8-Benzofluoranthene)
Benzo[a]pyrene (3,4-Benzopyrene)
p-Benzoquinone (1,4-Cyclohexadienedione)
Benzotrichloride (Benzene, trichloromethyl-)
Benzyl chloride (Benzene, (chloromethyl)-)
Beryllium and compounds, N.O.S.*
Bis(2-chloroethoxy)methane (Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-])
Bis(2-chloroethyl) ether (Ethane, 1,1'-oxybis[2-chloro-])
N,N-Bis(2-chloroethyl)-2-naphthylamine (Chlornaphazine)
Bis(2-chloroisopropyl) ether (Propane, 2,2'-oxybis[2-chloro-])
Bis(chloromethyl) ether (Methane, oxybis[chloro-])
Bis(2-ethylhexyl) phthalate (1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester)
Bromoacetone (2-Propanone, 1-bromo-)
Bromomethane (Methyl bromide)
4-Bromophenyl phenyl ether (Benzene, 1-bromo-4-phenoxy-)
Brucine (Strychnidin-10-one, 2,3-dimethoxy-)
2-Butanone peroxide (Methyl ethyl ketone, peroxide)
Butyl benzyl phthalate (1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester)
2-sec-Butyl-4,6-dinitrophenol (DNBP) (Phenol, 2,4-dinitro-6-(1-methylpropyl)-)
Cadmium and compounds, N.O.S.*
Calcium chromate (Chromic acid, calcium salt)
Calcium cyanide
Carbon disulfide (Carbon bisulfide)
Carbon oxyfluoride (Carbonyl fluoride)
Chloral (Acetaldehyde, trichloro-)
Chlorambucil (Butanoic acid, 4-[bis(2-chloroethyl)amino]benzene-)
Chlordane (alpha and gamma isomers) (4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3,4,7,7a-tetrahydro-) (alpha and gamma isomers)
Chlorinated benzenes, N.O.S.*
Chlorinated ethane, N.O.S.*
Chlorinated fluorocarbons, N.O.S.*
Chlorinated naphthalene, N.O.S.*
Chlorinated phenol, N.O.S.*
Chloroacetaldehyde (Acetaldehyde, chloro-)
Chloroalkyl ethers, N.O.S.*
p-Chloroaniline (Benzenamine, 4-chloro-)
Chlorobenzene (Benzene, chloro-)
Chlorobenzilate (Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester)
p-Chloro-m-cresol (Phenol, 4-chloro-3-methyl)
1-Chloro-2,3-epoxypropane (Oxirane, 2-(chloromethyl)-)
2-Chloroethyl vinyl ether (Ethene, (2-chloroethoxy)-)
Chloroform (Methane, trichloro-)
Chloromethane (Methyl chloride)
Chloromethyl methyl ether (Methane, chloromethoxy-)
2-Chloronaphthalene (Naphthalene, beta-chloro-)
2-Chlorophenol (Phenol, o-chloro-)
1-(o-Chlorophenyl)thiourea (Thiourea, (2-chlorophenyl)-)
3-Chloropropionitrile (Propanenitrile, 3-chloro-)
Chromium and compounds, N.O.S.*
Chrysene (1,2-Benzphenanthrene)
Citrus red No. 2 (2-Naphthol, 1-[(2,5-dimethoxyphenyl)azo]-)
Coal tars
Copper cyanide
Creosote (Creosote, wood)
Cresols (Cresylic acid) (Phenol, methyl-)
Crotonaldehyde (2-Butenal)
Cyanides (soluble salts and complexes), N.O.S.*
Cyanogen (Ethanedinitrile)
Cyanogen bromide (Bromine cyanide)
Cyanogen chloride (Chlorine cyanide)
Cycasin (beta-D-Glucopyranoside, (methyl-ONN-azoxy)methyl-)
2-Cyclohexyl-4,6-dinitrophenol (Phenol, 2-cyclohexyl-4,6-dinitro-)
Cyclophosphamide (2H-1,3,2,-Oxazaphosphorine, [bis(2-chloroethyl)amino]-tetrahydro-, 2-oxide)
Daunomycin (5,12-Naphthacenedione, (8S-cis)-8-acetyl-10-[(3-amino-2,3,6-trideoxy)-

* The abbreviation N.O.S. (not otherwise specified) signifies those members of the general class not specifically listed by name in this appendix.

alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-)
DDD (Dichlorodiphenyldichloroethane) (Ethane, 1,1-dichloro-2,2-bis(p-chlorophenyl)-)
DDE (Ethylene, 1,1-dichloro-2,2-bis(4-chlorophenyl)-)
DDT (Dichlorodiphenyltrichloroethane) (Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)-)
Diallate (S-(2,3-dichloroallyl) diisopropylthiocarbamate)
Dibenz[a,h]acridine (1,2,5,6-Dibenzacridine)
Dibenz[a,j]acridine (1,2,7,8-Dibenzacridine)
Dibenz[a,h]anthracene (1,2,5,6-Dibenzanthracene)
7H-Dibenzo[c,g]carbazole (3,4,5,6-Dibenzcarbazole)
Dibenzo[a,e]pyrene (1,2,4,5-Dibenzpyrene)
Dibenzo[a,h]pyrene (1,2,5,6-Dibenzpyrene)
Dibenzo[a,i]pyrene (1,2,7,8-Dibenzpyrene)
1,2-Dibromo-3-chloropropane (Propane, 1,2-dibromo-3-chloro-)
1,2-Dibromoethane (Ethylene dibromide)
Dibromomethane (Methylene bromide)
Di-n-butyl phthalate (1,2-Benzenedicarboxylic acid, dibutyl ester)
o-Dichlorobenzene (Benzene, 1,2-dichloro-)
m-Dichlorobenzene (Benzene, 1,3-dichloro-)
p-Dichlorobenzene (Benzene, 1,4-dichloro-)
Dichlorobenzene, N.O.S.* (Benzene, dichloro-, N.O.S.*)
3,3'-Dichlorobenzidine ([1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-)
1,4-Dichloro-2-butene (2-Butene, 1,4-dichloro-)
Dichlorodifluoromethane (Methane, dichlorodifluoro-)
1,1-Dichloroethane (Ethylidene dichloride)
1,2-Dichloroethane (Ethylene dichloride)
trans-1,2-Dichloroethene (1,2-Dichloroethylene)
Dichloroethylene, N.O.S.* (Ethene, dichloro-, N.O.S.*)
1,1-Dichloroethylene (Ethene, 1,1-dichloro-)
Dichloromethane (Methylene chloride)
2,4-Dichlorophenol (Phenol, 2,4-dichloro-)
2,6-Dichlorophenol (Phenol, 2,6-dichloro-)
2,4-Dichlorophenoxyacetic acid (2,4-D), salts and esters (Acetic acid, 2,4-dichlorophenoxy-, salts and esters)
Dichlorophenylarsine (Phenyl dichloroarsine)
Dichloropropane, N.O.S.* (Propane, dichloro-, N.O.S.*)
1,2-Dichloropropane (Propylene dichloride)
Dichloropropanol, N.O.S.* (Propanol, dichloro-, N.O.S.*)
Dichloropropene, N.O.S.* (Propene, dichloro-, N.O.S.*)
1,3-Dichloropropene (1-Propene, 1,3-dichloro-)
Dieldrin (1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octa-hydro-endo,exo-1,4:5,8-Dimethanonaphthalene)
1,2:3,4-Diepoxybutane (2,2'-Bioxirane)
Diethylarsine (Arsine, diethyl-)
N,N-Diethylhydrazine (Hydrazine, 1,2-diethyl)
O,O-Diethyl S-methyl ester of phosphorodithioic acid (Phosphorodithioic acid, O,O-diethyl S-methyl ester
O,O-Diethylphosphoric acid, O-p-nitrophenyl ester (Phosphoric acid, diethyl p-nitrophenyl ester)
Diethyl phthalate (1,2-Benzenedicarboxylic acid, diethyl ester)
O,O-Diethyl O-2-pyrazinyl phosphorothioate (Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
Diethylstilbesterol (4,4'-Stilbenediol, alpha,alpha-diethyl, bis(dihydrogen phosphate, (E)-)
Dihydrosafrole (Benzene, 1,2-methylenedioxy-4-propyl-)
3,4-Dihydroxy-alpha-(methylamino)methyl benzyl alcohol (1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-)
Diisopropylfluorophosphate (DFP) (Phosphorofluoridic acid, bis(1-methylethyl) ester)
Dimethoate (Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester
3,3'-Dimethoxybenzidine ([1,1'-Biphenyl]-4,4'diamine, 3-3'-dimethoxy-)
p-Dimethylaminoazobenzene (Benzenamine, N,N-dimethyl-4-(phenylazo)-)
7,12-Dimethylbenz[a]anthracene (1,2-Benzanthracene, 7,12-dimethyl-)
3,3'-Dimethylbenzidine ([1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-)
Dimethylcarbamoyl chloride (Carbamoyl chloride, dimethyl-)
1,1-Dimethylhydrazine (Hydrazine, 1,1-dimethyl-)
1,2-Dimethylhydrazine (Hydrazine, 1,2-dimethyl-)
3,3-Dimethyl-1-(methylthio)-2-butanone, O-[(methylamino) carbonyl]oxime (Thiofanox)
alpha,alpha-Dimethylphenethylamine (Ethanamine, 1,1-dimethyl-2-phenyl-)
2,4-Dimethylphenol (Phenol, 2,4-dimethyl-)
Dimethyl phthalate (1,2-Benzenedicarboxylic acid, dimethyl ester)
Dimethyl sulfate (Sulfuric acid, dimethyl ester)
Dinitrobenzene, N.O.S.* (Benzene, dinitro-, N.O.S.*)
4,6-Dinitro-o-cresol and salts (Phenol, 2,4-dinitro-6-methyl-, and salts)
2,4-Dinitrophenol (Phenol, 2,4-dinitro-)
2,4-Dinitrotoluene (Benzene, 1-methyl-2,4-dinitro-)
2,6-Dinitrotoluene (Benzene, 1-methyl-2,6-dinitro-)
Di-n-octyl phthalate (1,2-Benzenedicarboxylic acid, dioctyl ester)
1,4-Dioxane (1,4-Diethylene oxide)
Diphenylamine (Benzenamine, N-phenyl-)
1,2-Diphenylhydrazine (Hydrazine, 1,2-diphenyl-)

Di-n-propylnitrosamine (N-Nitroso-di-n-propylamine)
Disulfoton (O,O-diethyl S-[2-(ethylthio)ethyl] phosphorodithioate)
2,4-Dithiobiuret (Thioimidodicarbonic diamide)
Endosulfan (5-Norbornene, 2,3-dimethanol, 1,4,5,6,7,7-hexachloro-, cyclic sulfite)
Endrin and metabolites (1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo,endo-1,4:5,8-dimethanonaphthalene, and metabolites)
Ethyl carbamate (Urethan) (Carbamic acid, ethyl ester)
Ethyl cyanide (propanenitrile)
Ethylenebisdithiocarbamic acid, salts and esters (1,2-Ethanediylbiscarbamodithioic acid, salts and esters
Ethyleneimine (Aziridine)
Ethylene oxide (Oxirane)
Ethylenethiourea (2-Imidazolidinethione)
Ethyl methacrylate (2-Propenoic acid, 2-methyl-, ethyl ester)
Ethyl methanesulfonate (Methanesulfonic acid, ethyl ester)
Fluoranthene (Benzo[j,k]fluorene)
Fluorine
2-Fluoroacetamide (Acetamide, 2-fluoro-)
Fluoroacetic acid, sodium salt (Acetic acid, fluoro-, sodium salt)
Formaldehyde (Methylene oxide)
Formic acid (Methanoic acid)
Glycidylaldehyde (1-Propanol-2,3-epoxy)
Halomethane, N.O.S.*
Heptachlor (4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-)
Heptachlor epoxide (alpha, beta, and gamma isomers) (4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7-tetrahydro-, alpha, beta, and gamma isomers)
Hexachlorobenzene (Benzene, hexachloro-)
Hexachlorobutadiene (1,3-Butadiene, 1,1,2,3,4,4-hexachloro-)
Hexachlorocyclohexane (all isomers) (Lindane and isomers)
Hexachlorocyclopentadiene (1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-)
Hexachloroethane (Ethane, 1,1,1,2,2,2-hexachloro-)
1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo,endo-dimethanonaphthalene (Hexachlorohexahydro-endo,endo-dimethanonaphthalene)
Hexachlorophene (2,2'-Methylenebis(3,4,6-trichlorophenol))
Hexachloropropene (1-Propene, 1,1,2,3,3,3-hexachloro-)
Hexaethyl tetraphosphate (Tetraphosphoric acid, hexaethyl ester)
Hydrazine (Diamine)
Hydrocyanic acid (Hydrogen cyanide)
Hydrofluoric acid (Hydrogen fluoride)
Hydrogen sulfide (Sulfur hydride)
Hydroxydimethylarsine oxide (Cacodylic acid)
Indeno(1,2,3-cd)pyrene (1,10-(1,2-phenylene)pyrene)
Iodomethane (Methyl iodide)
Iron dextran (Ferric dextran)
Isocyanic acid, methyl ester (Methyl isocyanate)
Isobutyl alcohol (1-Propanol, 2-methyl-)
Isosafrole (Benzene, 1,2-methylenedioxy-4-allyl-)
Kepone (Decachlorooctahydro-1,3,4-Methano-2H-cyclobuta[cd]pentalen-2-one)
Lasiocarpine (2-Butenoic acid, 2-methyl-, 7-[(2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy)methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester)
Lead and compounds, N.O.S.*
Lead acetate (Acetic acid, lead salt)
Lead phosphate (Phosphoric acid, lead salt)
Lead subacetate (Lead, bis(acetato-O)tetrahydroxytri-)
Maleic anhydride (2,5-Furandione)
Maleic hydrazide (1,2-Dihydro-3,6-pyridazinedione)
Malononitrile (Propanedinitrile)
Melphalan (Alanine, 3-[p-bis(2-chloroethyl)amino]phenyl-, L-)
Mercury fulminate (Fulminic acid, mercury salt)
Mercury and compounds, N.O.S.*
Methacrylonitrile (2-Propenenitrile, 2-methyl-)
Methanethiol (Thiomethanol)
Methapyrilene (Pyridine, 2-[(2-dimethylamino)ethyl]-2-thenylamino-)
Metholmyl (Acetimidic acid, N-[(methylcarbamoyl)oxy]thio-, methyl ester
Methoxychlor (Ethane, 1,1,1-trichloro-2,2'-bis(p-methoxyphenyl)-)
2-Methylaziridine (1,2-Propylenimine)
3-Methylcholanthrene (Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-)
Methyl chlorocarbonate (Carbonochloridic acid, methyl ester)
4,4'-Methylenebis(2-chloroaniline) (Benzenamine, 4,4'-methylenebis-(2-chloro-)
Methyl ethyl ketone (MEK) (2-Butanone)
Methyl hydrazine (Hydrazine, methyl-)
2-Methyllactonitrile (Propanenitrile, 2-hydroxy-2-methyl-)
Methyl methacrylate (2-Propenoic acid, 2-methyl-, methyl ester)
Methyl methanesulfonate (Methanesulfonic acid, methyl ester)
2-Methyl-2-(methylthio)propionaldehyde-o-(methylcarbonyl) oxime (Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime)
N-Methyl-N'-nitro-N-nitrosoguanidine (Guanidine, N-nitroso-N-methyl-N'-nitro-)
Methyl parathion (O,O-dimethyl O-(4-nitrophenyl) phosphorothioate)
Methylthiouracil (4-1H-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-)

Mustard gas (Sulfide, bis(2-chloroethyl)-)
Naphthalene
1,4-Naphthoquinone (1,4-Naphthalenedione)
1-Naphthylamine (alpha-Naphthylamine)
2-Naphthylamine (beta-Naphthylamine)
1-Naphthyl-2-thiourea (Thiourea, 1-naphthalenyl-)
Nickel and compounds, N.O.S.*
Nickel carbonyl (Nickel tetracarbonyl)
Nickel cyanide (Nickel (II) cyanide)
Nicotine and salts (Pyridine, (S)-3-(1-methyl-2-pyrrolidinyl)-, and salts)
Nitric oxide (Nitrogen (II) oxide)
p-Nitroaniline (Benzenamine, 4-nitro-)
Nitrobenzine (Benzene, nitro-)
Nitrogen dioxide (Nitrogen (IV) oxide)
Nitrogen mustard and hydrochloride salt (Ethanamine, 2-chloro-, N-(2-chloroethyl)-N-methyl-, and hydrochloride salt)
Nitrogen mustard N-Oxide and hydrochloride salt (Ethanamine, 2-chloro-, N-(2-chloroethyl)-N-methyl-, and hydrochloride salt)
Nitroglycerine (1,2,3-Propanetriol, trinitrate)
4-Nitrophenol (Phenol, 4-nitro-)
4-Nitroquinoline-1-oxide (Quinoline, 4-nitro-1-oxide-)
Nitrosamine, N.O.S.*
N-Nitrosodi-n-butylamine (1-Butanamine, N-butyl-N-nitroso-)
N-Nitrosodiethanolamine (Ethanol, 2,2'-(nitrosoimino)bis-)
N-Nitrosodiethylamine (Ethanamine, N-ethyl-N-nitroso-)
N-Nitrosodimethylamine (Dimethylnitrosamine)
N-Nitroso-N-ethylurea (Carbamide, N-ethyl-N-nitroso-)
N-Nitrosomethylethylamine (Ethanamine, N-methyl-N-nitroso-)
N-Nitroso-N-methylurea (Carbamide, N-methyl-N-nitroso-)
N-Nitroso-N-methylurethane (Carbamic acid, methylnitroso-, ethyl ester)
N-Nitrosomethylvinylamine (Ethenamine, N-methyl-N-nitroso-)
N-Nitrosomorpholine (Morpholine, N-nitroso-)
N-Nitrosonornicotine (Nornicotine, N-nitroso-)
N-Nitrosopiperidine (Pyridine, hexahydro-, N-nitroso-)
Nitrosopyrrolidine (Pyrrole, tetrahydro-, N-nitroso-)
N-Nitrososarcosine (Sarcosine, N-nitroso-)
5-Nitro-o-toluidine (Benzenamine, 2-methyl-5-nitro-)
Octamethylpyrophosphoramide (Diphosphoramide, octamethyl-)
Osmium tetroxide (Osmium (VIII) oxide)
7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid (Endothal)
Paraldehyde (1,3,5-Trioxane, 2,4,6-trimethyl-)
Parathion (Phosphorothioic acid, O,O-diethyl O-(p-nitrophenyl) ester
Pentachlorobenzene (Benzene, pentachloro-)
Pentachloroethane (Ethane, pentachloro-)
Pentachloronitrobenzene (PCNB) (Benzene, pentachloronitro-)
Pentachlorophenol (Phenol, pentachloro-)
Phenacetin (Acetamide, N-(4-ethoxyphenyl)-)
Phenol (Benzene, hydroxy-)
Phenylenediamine (Benzenediamine)
Phenylmercury acetate (Mercury, acetatophenyl-)
N-Phenylthiourea (Thiourea, phenyl-)
Phosgene (Carbonyl chloride)
Phosphine (Hydrogen phosphide)
Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester (Phorate)
Phosphorothioic acid, O,O-dimethyl O-[p-((dimethylamino)sulfonyl)phenyl] ester (Famphur)
Phthalic acid esters, N.O.S.* (Benzene, 1,2-dicarboxylic acid, esters, N.O.S.*)
Phthalic anhydride (1,2-Benzenedicarboxylic acid anhydride)
2-Picoline (Pyridine, 2-methyl-)
Polychlorinated biphenyl, N.O.S.*
Potassium cyanide
Potassium silver cyanide (Argentate(1-), dicyano-, potassium)
Pronamide (3,5-Dichloro-N-(1,1-dimethyl-2-propynyl)benzamide)
1,3-Propane sultone (1,2-Oxathiolane, 2,2-dioxide)
n-Propylamine (1-Propanamine)
Propylthiouracil
(Undecamethylenediamine, N,N'-bis(2-chlorobenzyl)-, dihydrochloride)
2-Propyn-1-ol (Propargyl alcohol)
Pyridine
Reserpine (Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester)
Resorcinol (1,3-Benzenediol)
Saccharin and salts (1,2-Benzoisothiazolin-3-one, 1,1-dioxide, and salts)
Safrole (Benzene, 1,2-methylenedioxy-4-allyl-)
Selenious acid (Selenium dioxide)
Selenium and compounds, N.O.S.*
Selenium sulfide (Sulfur selenide)
Selenourea (Carbamimidoselenoic acid)
Silver and compounds, N.O.S.*
Silver cyanide
Sodium cyanide
Streptozotocin (D-Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-)
Strontium sulfide
Strychnine and salts (Strychnidin-10-one, and salts)
1,2,4,5-Tetrachlorobenzene (Benzene, 1,2,4,5-tetrachloro-)
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) (Dibenzo-p-dioxin, 2,3,7,8-tetrachloro-)
Tetrachloroethane, N.O.S.* (Ethane, tetrachloro-, N.O.S.*)

1,1,1,2-Tetrachlorethane (Ethane, 1,1,1,2-tetrachloro-)
1,1,2,2-Tetrachlorethane (Ethane, 1,1,2,1-tetrachloro-)
Tetrachloroethane (Ethene, 1,1,2,2-tetrachloro-)
Tetrachloromethane (Carbon tetrachloride)
2,3,4,6,-Tetrachlorophenol (Phenol, 2,3,4,6-tetrachloro-)
Tetraethyldithiopyrophosphate (Dithiopyrophosphoric acid, tetraethyl-ester)
Tetraethyl lead (Plumbane, tetraethyl-)
Tethraethylpyrophosphate (Pyrophosphoric acide, tetraethyl ester)
Tetranitromethane (Methane, tetranitro-)
Thallium and compounds, N.O.S.*
Thallic oxide (Thallium (III) oxide)
Thallium (I) acetate (Acetic acid, thallium (I) salt)
Thallium (I) carbonate (Carbonic acid, dithallium (I) salt)
Thallium (I) chloride
Thallium (I) nitrate (Nitric acid, thallium (I) salt)
Thallium selenite
Thallium (I) sulfate (Sulfuric acid, thallium (I) salt)
Thioacetamide (Ethanethioamide)
Thiosemicarbazide (Hydrazinecarbothioamide)
Thiourea (Carbamide thio-)
Thiuram (Bis(dimethylthiocarbamoyl) disulfide)
Toluene (Benzene, methyl)-
Toluenediamine (Diaminotoluene)
o-Toluidine hydrochloride (Benzenamine, 2-methyl-, hydrochloride)
Tolylene diisocyanate (Benzene, 1,3-diisocyanatomethyl-)
Toxaphene (Camphene, octachloro-)
Tribromomethane (Bromoform)
1,2,4-Trichlorobenzene (Benzene, 1,2,4-trichloro)-
1,1,1-Trichloroethane (Methyl chloroform)
1,1,2-Trichloroethane (Ethane, 1,1,2-trichloro-)
Trichloroethene (Trichloroethylene)
Trichloromethanethiol (Methanethiol, trichloro-)
2,4,5-Trichloromonofluoromethane (Methane, trichlorofluoro-)
2,4,5-Trichlorophenol (Phenol, 2,4,5-trichloro-)
2,4,6-Trichlorophenol (Phenol, 2,4,6-trichloro-)
2,4,5-Trichlorophenoxyacetic acid (2,4,5-T) (Acetic acid, 2,4,5-trichlorophenoxy-)
2,4,5-Trichlorophenoxypropionic acid (2,4,5-TP) (Silvex) Propionic acid, 2-(2,4,5-trichlorophenoxy)-)
Trichloropropane, N.O.S.* (Propane, trichloro-, N.O.S.*)
1,2,3-Trichloropropane (Propane, 1,2,3-trichloro-)
O,O,O-Triethyl phosphorothioate (Phosphorothioic acid, O,O,O-triethyl ester)
sym-Trinitrobenzene (Benzene, 1,3,4-trinitro-)
Tris(1-azridinyl) phosphine sulfide (Phosphine sulfide, trist(1-aziridinyl-)
Tris(2,3-dibromopropyl) phosphate (1-Propanol, 2,3-dibromo-, phosphate)
Trypan blue (2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl (1,1'-biphenyl)-4,4'-diyl)bis(azo)]bis(5-amino-4-hydroxy-, tetrasodium salt)
Uracil mustard (Uracil 5-[bis(2-chloroethyl)amino]-)

Vanadic acid, ammonium salt (ammonium vanadate)
Vanadium pentoxide (Vanadium (V) oxide)
Vinyl chloride (Ethene, chloro-)
Zinc cyanide
Zinc phosphide

Section 4.00 Notification of Hazardous Waste Activity Regulations.

Section 4.01 General.

(a) Applicability.

Any person that engages in a hazardous waste activity in the State of West Virginia shall notify the Chief of these activities, unless such activities are exempted from the requirements of these regulations.

(b) Any person as described in paragraph (a) that has notified the EPA or is subject to the requirements to notify EPA as specified in [Volume 45, No. 39 of the Federal Register, dated February 26, 1980, pages 12746 through 12754] is subject to the provisions of this section.

(c) The purpose of this section is to provide a means for the State of West Virginia to utilize the information provided by all who complied with the notification requirements of EPA as described in paragraph (b) of these regulations and to assure that all persons who did not notify EPA as described in paragraph (b) of these regulations or all who initiated hazardous waste activities subsequent to the requirements of EPA as referenced above in paragraph (b), shall notify the Chief of their hazardous waste activities.

Section 4.02 Notification.

(a) Any person that notified EPA of hazardous waste activities as referenced above in Section 4.01 shall provide a copy of that notification to the Chief within thirty (30) days of the effective date of these regulations.

(b) Any person involved in hazardous waste activities that did not comply with the notification requirements of EPA, as

referenced above in Section 4.01, but is subject to those requirements shall notify the Chief in writing of their hazardous waste activities within thirty (30) days of the effective date of these regulations. Notification may be accomplished by the use of EPA Form 8700-12 or the provision of the same information in any other manner selected by the notifier.

(c) Any person exempted from the federal notification requirements but subject to West Virginia notification requirements as specified in 3.01.04 and 3.01.05 of these regulations shall notify the Chief in writing of their hazardous waste activities within ninety (90) days of the effective date of these regulations or the date of initiation of such activities, which ever is later. Notification may be accomplished by use of EPA Form 8700-12 or the provisions of the same information in any other manner selected by the notifier.

(d) One (1) notification form is required for each generator.

(e) A notification form is required for each storage, treatment, disposal or other facility. However, if one facility site includes more than one storage, treatment or disposal activity, only one notification form for the entire facility site is required.

(f) Generators that store, treat or dispose of hazardous waste on-site shall file a notification form for generation activities as well as storage, and treatment and disposal activities, unless such activities are exempted from the requirements of these regulations.

(d) New generators and (those initiating activities subsequent to EPA notification period referenced in paragraph 4.01(b) of the regulations) shall comply with the EPA

identification number requirements and shall provide a copy of their application for an EPA identification number to the Chief.

Section 5.00 [Reserved.]

STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE

Section 6.00 General.

Section 6.01 Purpose, Scope and Applicability.

(a) This Section establishes standards and regulations for generators of hazardous wastes.

(b) A generator who treats, stores, or disposes of hazardous waste on-site must only comply with the following subsections of this Section with respect to that waste: 6.01.01 for determining whether his waste is hazardous; 6.01.02 for obtaining an EPA identification number; 6.04.01(c) and (d) for recordkeeping; 6.04.04 for additional reporting; and, if applicable; 6.05.02 for Farmers.

(c) Any person who imports hazardous waste into West Virginia shall comply with the standards applicable to generators established in this section.

(d) A farmer who generates waste pesticides which are hazardous wastes and who complies with all the requirements of Section 6.05.01 is not required to comply with the remainder of these regulations with respect to such pesticides.

(e) A person who generates a hazardous waste, as defined in Section 3.00 is subject to the compliance requirements and penalties prescribed in Sections 14, 15 and 16 of the Hazardous Waste Management Act if he does not comply with the requirements of this section.

(e) An owner or operator who initiates a shipment of hazardous waste from a treatment, storage, or disposal facility

must comply with the generator standards established in this Section.

6.01.01 Hazardous Waste Determination.

A person who generates a waste, as defined in Section 3.01.01, shall determine if that waste is a hazardous waste using the following method:

(a) He shall first determine if the waste is excluded from regulation under Section 3.01.03.

(b) He shall then determine if the waste is listed as hazardous waste in Section 3.04.

[Note: Even if the waste is listed, the generator still has an opportunity under 40 C.F.R. 260.22 of the federal regulations to demonstrate that the waste from his particular facility or operation is not a hazardous waste.]

(c) If the waste is not listed as a hazardous waste in Section 3.04, the generator shall determine whether the waste is identified in Section 3.03 by either:

(1) Testing the waste according to the methods set forth in Section 3.03, or according to an equivalent method approved by the Administrator under the procedure outlined in 40 C.F.R. § 260.21; or

(2) Applying knowledge of the hazard characteristics of the waste in light of the materials or the processes used.

(d) Generator may elect to voluntarily declare his wastes as hazardous and subject to these regulations.

6.01.02 EPA Identification Numbers.

(a) A generator shall not treat, store, dispose of, transport, or offer for transportation, hazardous waste without

having received an EPA identification number from the Administrator.

(b) A generator who has not received an EPA identification number may obtain one by applying to the Administrator using EPA Form 8700-12. Upon receiving the request, the Administrator will assign an EPA identification number to the generator.

(c) A generator shall not offer his hazardous waste to transporters or to treatment, storage, or disposal facilities that have not received an EPA identification number.

Section 6.02 The Manifest.

6.02.01 General Requirements.

(a) A generator who transports, or offers for transportation, hazardous waste for off-site treatment, storage, or disposal must prepare a manifest before transporting the waste off-site.

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

(c) A generator may also designate on the manifest one alternate facility which is permitted to handle his waste in the event an emergency prevents delivery of the waste to the primary designated facility.

(d) If the transporter is unable to deliver the hazardous waste to the designated facility or the alternate facility, the generator must either designate another facility or instruct the transporter to return the waste.

6.02.02 Required Information.

(a) The manifest must contain all of the following information:

(1) A manifest document number;

(2) The generator's name, mailing address, telephone number, and EPA identification number;

(3) The name and EPA identification number of each transporter;

(4) The name, address and EPA identification number of the designated facility and an alternate facility, if any;

(5) The description of the waste(s) (e.g., proper shipping name, etc.) required by regulations of the U.S. Department of Transportation in 49 C.F.R. § 172.101, § 172.202, and § 172.203;

(6) The total quantity of each hazardous waste by units of weight or volume, and the type and number of containers as loaded into or onto the transport vehicle.

(b) The following certification must appear on the manifest: "This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and the EPA."

6.02.03 Number of Copies.

The manifest consists of at least the number of copies which will provide the generator, each transporter, and the owner or operator of the designated facility with one copy for their records and another copy to be returned to the generator.

6.02.04 Use of the Manifest.

(a) The generator must:

(1) Sign the manifest certification by hand; and

(2) Obtain the handwritten signature of the initial transporter and date of acceptance on the manifest; and

(3) Retain one copy, in accordance with Section 6.04.01(a).

(b) The generator must give the transporter the remaining copies of the manifest.

(c) For shipments of hazardous waste within the United States solely by water (bulk shipments only), the generator must send three copies of the manifest dated and signed in accordance with this section to the owner or operator of the designated facility or the last water (bulk shipment) transporter to handle the waste in the United States if exported by water. Copies of the manifest are not required for each transporter.

(d) For rail shipments of hazardous waste within the United States which originate at the site of generation, the generator must send at least three copies of the manifest dated and signed in accordance with this Section to:

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

(ii) The designated facility if transported solely by rail; or

(iii) The last rail transporter to handle the waste in the United States if exported by rail.

Section 6.03 Pre-Transport Requirements.

6.03.01 Packaging: Before transporting hazardous waste or offering hazardous waste for transportion off-site, a generator shall package the waste in accordance with the applicable

Department of Transportion (DOT) regulations on packaging under 49 C.F.R. Parts 173, 178 and 179.

6.03.02 Labeling: Before transporting or offering hazardous waste for transportation off-site, a generator shall label each package in accordance with the applicable Department of Transportation regulations on hazardous materials, under 49 C.F.R. Part 172.

6.03.03 Marking:

(a) Before transporting or offering hazardous waste for transportion off-site, a generator shall mark each package of hazardous waste in accordance with the applicable Department of Transportion regulation on hazardous materials under 49 C.F.R. Part 172;

(b) Before transporting hazardous waste or offering hazardous waste for transportion off-site, a generator shall mark each container of 110 gallons or less used in such transportion with the following words and information displayed in accordance with the requirements of 49 C.F.R. § 172.304:

"HAZARDOUS WASTE" - Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency.

Generator's Name and Address _____.

Manifest Document Number _____.

6.03.04 Placarding: Before transporting hazardous waste or offering hazardous waste for transportation off-site, the generator shall placard or offer the initial transporter the appropriate

placards according to Department of Transportation regulations for hazardous materials under 49 C.F.R. Part 172, Subpart F.

6.03.05 Accumulation Time.

(a) A generator may accumulate hazardous waste on-site without a permit or without having interim status, provided that:

(1) All such waste is, within ninety (90) days, shipped off-site to a designated facility or placed in an on-site facility that is permitted under Section 11.00 of these regulations, or permitted under 40 C.F.R. Part 122 of the federal regulations, or has interim status under Section 11.00 of these regulations, or is authorized to manage hazardous waste by a state with a hazardous waste program approved by EPA;

(2) The waste is placed in containers which meet the standards of Section 6.03.01 and are managed in accordance with 40 C.F.R. § 265.174 and § 265.176 or in tanks, provided the generator complies with Subpart J of 40 C.F.R. Part 265 except § 265.193;

(3) The date upon which each period of accumulation begins is clearly marked and visible for inspection on each container.

(4) Each container is properly labeled and marked according to Sections 6.03.02 and 6.03.03; and

(5) The generator complies with the requirements for owners or operators in Subparts C and D in 40 C.F.R. Part 265 and with § 265.16.

(b) A generator who accumulates hazardous waste for more than ninety (90) days is an operator of a storage facility and is subject to the applicable requirements of Sections 4.00, 8.00, 12.00, 40 C.F.R. Part 265 and the permit requirements of Section 11.00.

Section 6.04 Recordkeeping and Reporting

6.04.01 Recordkeeping.

(a) A generator shall keep a copy of each manifest signed in accordance with 6.02.04(a) for three years or until he receives a signed copy from the designated facility which received the waste. This signed copy must be retained as a record for at least three years from the date the waste was accepted by the initial transporter.

(b) A generator shall keep a copy of each Annual Report and Exception Report for a period of at least three years from the due date of the report.

(c) A generator shall keep records of any test results, waste analyses, or other determinations made in accordance with 6.01.01 for at least three years from the date that the waste was last sent to on-site or off-site treatment, storage, or disposal.

(d) The periods or retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Chief or Director.

6.04.02 Annual Reporting.

(a) A generator who ships hazardous waste off-site shall submit Annual Reports to the Chief as follows:

(1) On EPA Form 8700-13 and 8700-13a, according to the instructions on the form or other forms approved by the Chief.

(2) No later than March 1 for the preceding calendar year.

(b) Any generator who treats, stores, or disposes of hazardous waste on-site shall submit an Annual Report covering

those wastes in accordance with the provisions of Sections 8.00 and 11.00 of these regulations, and 40 C.F.R. Part 265.

6.04.03 Exception Reporting.

(a) A generator, who does not receive a copy of the manifest with the handwritten signature of the authorized representative of the facility within 35 days of the date the waste was accepted by the initial transporter, shall contact the transporter and/or the owner or operator of the designated facility to determine the status of the hazardous waste. [Note: For the purposes of this Section, "authorized representative" means the person responsible for the overall operation of a facility or an operational unit (i.e., part of a facility) e.g., the plant manager, superintendent or person of equivalent responsibility.]

(b) A generator shall submit an Exception Report to the Chief if he has not received a copy of the manifest with the handwritten signature of the authorized representative of the designated faciltiy within forty-five (45) days of the date the waste was accepted by the initial transporter. The Exception Report must include:

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

(2) 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.

(3) In case of interstate shipments which originated in the State for delivery to a designated facility in another State, an additional copy of the Exception Report will be provided to the Chief for transmittal to that State or EPA as provided for in 40 C.F.R. § 123.128(b)(8).

6.04.04 Additional Reporting.

The Chief, as he deems necessary, may require generators to furnish additional reports concerning the quantities and disposition of hazardous wastes identified or listed in Section 3.00.

Section 6.05 Special Conditions.

6.05.01 International Shipments.

(a) Any person who exports hazardous waste to a foreign country or imports hazardous waste from a foreign country into West Virginia shall comply with the special requirements regulations.

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

(1) Notify the Chief in writing four weeks before the initial shipment of hazardous waste to each country in each calendar year. The waste shall be identified by its EPA hazardous waste identification number and its Department of Transportation shipping description. The name an address of the foreign consignee shall be included in the notice.

(2) Send the original of the notice to Hazardous Waste Export, Division of Oceans and Regulatory Affairs (A-107), U.S. Environmental Protection Agency, Washington, D.C. 20460, and one copy to the Chief, Division of Water Resources.

(3) 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.

(4) Meet the requirements under Section 6.02.02 for the manifest, except that:

(i) 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;

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

(c) A generator shall file and Exception Report, if:

(1) 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

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

(d) When importing hazardous waste, a person shall meet all requirements of Section 6.02.02 for the manifest except that:

(1) 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.

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

6.05.02 Farmers.

A farmer disposing of waste pesticides from his own use which are hazardous wastes is not required to comply with the standards in this Section or other standards in Section 8.00, 11.00 or 12.00,

or 40 C.F.R. Part 265, for those wastes, provided he triple rinses each emptied pesticide container in accordance with Section 3.01.06(b)(3) and disposes of the pesticide residues on his own farm in a manner consistent with the disposal instructions on the pesticide label.

Section 7.00 [Reserved.]

STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE AND DISPOSAL FACILITIES

Section 8.00

Section 8.01 General, Purpose, Scope and Applicability.

8.01.01 The purpose of these regulations is to establish minimum standards which define the acceptable management of hazardous waste.

8.01.02 The standards in this section apply to owners and operators of all facilities which treat, store, or dispose of hazardous waste except as Section 8.01.05 provides otherwise.

8.01.03 The requirements of this section apply to a person disposing of hazardous waste by means of underground injection only to the extent that they are required to comply with certain portions of this section under the Underground Injection Control Program established pursuant to the Water Pollution Control Act, 20-5A, et seq., and the regulations promulgated thereunder, and the regulatory program established by the Office of Oil and Gas and the Shallow Gas Well Review Board pursuant to the authority contained in West Virginia Code 20-5E, et seq.

8.01.04 The requirements of this section apply to the owner or operator of a POTW which treats, stores, or disposes of hazardous

waste only to the extent they are included in a Hazardous Waste Management Permit by Rule granted to such a person under Section 11.08.

8.01.05 The requirements of this section do not apply to:

(a) The owner or operator of a facility which treats or stores hazardous waste, which treatment or storage meets the criteria in Section 3.01.05(a), except to the extent that Section 3.01.05(b) provides otherwise.

(b) A generator accumulating waste on-site in compliance with Section 6.03.05 provided the requirements of Sections 3.01.04 and 3.01.05 are complied with.

(c) A farmer disposing of waste pesticides from his own use in compliance with Section 6.05.02.

(d) The owner or operator of a totally enclosed treatment facility, as defined in Section 2.00.

(e) The owner or operator of an elementary neutralization unit or a wastewater treatment unit as defined in Section 2.00.

(f) A transporter storing manifested shipments of hazardous waste in containers meeting the requirements of Section 6.03.01, at a transfer facility for a period of ten (10) days or less.

(g) Persons with respect to those activities which are carried out to immediately contain or treat a spill of hazardous waste or material which, when spilled, becomes a hazardous waste, except that, with respect to such activities, the appropriate requirements of Sections 8.03 and 8.04 are applicable to owners and operators of treatment, storage and disposal facilities otherwise subject to this section.

[Comment: After the immediate response activities are completed, the applicable regulations apply fully to the management of any spill residue or debris which is a hazardous waste under Section 3.00.]

8.01.06 Relationship to Interim Status Standards.

A facility owner or operator shall comply with the requirements of Chapter 20-5E-10 of the Hazardous Waste Management Act and the corresponding Federal requirements of 40 C.F.R. 122.23 and 40 C.F.R. Part 265 in lieu of the regulations in this section until final administrative disposition of the permit application is made, except as otherwise noted in these regulations.

8.01.07 Imminent Hazard Section.

Notwithstanding any other provisions of these regulations, enforcement actions may be brought pursuant to Chapter 20-5E-17 of the West Virginia Code.

Section 8.02 General Facility Standards.

8.02.01 Applicability.

The regulations in this section apply to owners and operators of all hazardous waste facilities, except as provided in Section 8.01.

8.02.02 Identification Number.

Every facility owner or operator must apply to EPA for an EPA identification number in accordance with the EPA notification procedures.

8.02.03 Required Notices.

(a) The owner or operator of a facility that has arranged to receive hazardous waste from a foreign source must notify the Chief in writing at least four (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 foreign source is not required.

(b) The owner or operator of a facility that receives hazardous waste from an off-site source (except where the owner or operator is also the generator) must inform the generator in writing that the facility has the appropriate permit(s) for and will accept, the waste the generator is shipping. The owner or operator must keep a copy of this written notice as part of the operating record.

(c) Before transferring ownership or operation of a facility during its operating life, or of a disposal facility during the post-closure period, the owner or operator must notify the new owner or operator in writing of all applicable requirements.

(d) 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 the obligation to comply with all applicable requirements.

8.02.04 General Waste Analysis.

(a)(1) Before an owner or operator treats, stores, or disposes of any hazardous waste, a detailed chemical and physical analysis of a representative sample of the waste must be obtained. At a minimum, this analysis must contain all the information which must be known to treat, store, or dispose of the waste in accordance with the

requirements of this section or with the conditions of a permit issued under Section 11.00 of these regulations.

[Comment: Section 11.05 of these regulations requires that the waste analysis plan be submitted with Part B of the permit application.]

(2) The analysis may include data developed under Section 3.00 of these regulations, and existing published or documented data on the hazardous waste or on hazardous waste generated from similar processes.

(3) The facility's records of analyses performed on the waste before the effective date of these regulations, or studies conducted on hazardous waste generated from processes similar to that which generated the waste to be managed at the facility, may be included in the data base required to comply with (a)(1) of this section. The owner or operator of an off-site facility may arrange for the generator of the hazardous waste to supply part or all of the information required by (a)(1) of this section. If the generator does not supply the information, and the owner or operator chooses to accept a hazardous waste, the owner or operator is responsible for obtaining the information required to comply with this section.

(4) The analysis must be repeated as necessary to ensure that it is accurate and up-to-date. At a minimum, the analysis must be repeated:

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

(ii) For off-site facilities, when the results of the inspection required in (a)(5) of this section indicate that the hazardous waste

received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

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

(b) The owner or operator must develop and follow a written waste analysis plan which describes the procedures which will comply with (a) of this section. This plan must be kept at the facility. At a minimum, the plan must specify:

(1) The parameters for which each hazardous waste will be analyzed and the rationale for the selection of the parameters (i.e., how analysis for these parameters will provide sufficient information on the waste's properties to comply with (a) of this section).

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

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

(i) One of the sampling methods described in Appendix I of Section 3.00 of these regulations.

(ii) An equivalent sampling method.

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

(5) For off-site facilities, the waste analyses that hazardous

waste generators have agreed to supply.

(c) For off-site facilities, the waste analysis plan required in (b) of this section must also specify the procedures which will be used to inspect and, if necessary, analyze each movement of hazardous waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper. At a minimum, the plan must describe:

(1) The procedures which will be used to determine the identity of each movement of waste managed at the facility.

(2) The sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling.

8.02.05 Security.

(a) The owner or operator must prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of the facility, unless it can be demonstrated to the Chief that:

(1) 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.

(2) 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.

(3) The owner or operator who wishes to make the demonstration

referred to above must do so with Part B of the permit application.

(b) Unless the owner or operator has made a successful demonstration under paragraphs (a)(1) and (a)(2) of this section, a facility must have:

(1) A twenty-four hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the active portion of the facility or;

(2)(i) An artificial or natural physical barrier (e.g., a fence in good repair or a fence combined with a cliff), which completely surrounds the active portion of the facility; and

(ii) A means to control entry, at all times, through the gates or other entrances to the active portion of the facility (e.g., an attendant, television monitors, locked entrance, or controlled roadway access to the facility).

(3) The requirements of (b) of this section are satisfied if the facility or plant within which the active portion is located itself has a surveillance system, or a barrier and a means to control entry, which complies with the requirements of (b)(1) or (b)(2) of this section.

(c) Unless the owner or operator has made a successful demonstration under (a)(1) and (a)(2) of this section, a sign with the legend, "DANGER - UNAUTHORIZED PERSONNEL KEEP OUT", must 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 this active portion. The legend must be written in English and in any other language predominant in the area surrounding the facility, and must be legible from a distance of at least twenty-five (25) feet.

Existing signs with a legend other than "DANGER - UNAUTHORIZED PERSONNEL KEEP OUT" may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous.

8.02.06 General Inspection Requirements.

(a) The owner or operator must inspect the facility for malfunctions and deterioration, operator errors, and discharges which may be causing - or may lead to:

(1) Release of hazardous waste constituents to the environment; or

(2) A threat to human health. The owner or operator must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

(b)(1) The owner or operator must develop and follow a written schedule for inspecting monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards.

(2) This schedule must be kept at the facility.

(3) The schedule must identify the types of problems (e.g., malfunctions or deterioration) which are to be looked for during the inspection (e.g., inoperative sump pump, leaking fitting, eroding dike, etc.).

(4) The frequency of 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 environ-

mental or human health incident if the deterioration of malfunction of any operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, must be inspected daily when in use. At a minimum, the inspection schedule must include the terms and frequencies called for in Sections 8.07.06, 8.08.04, 8.09.05, and 8.10.05, where applicable.

(5) A copy of the inspection schedule as required by Section 8.02.06(b) must be submitted to the Chief with Part B of the permit application to ensure that it adequately protects human health and the environment. As part of this review, the Chief may modify or amend the schedule as may be necessary.

(c) The owner or operator must remedy any deterioration of malfunction of equipment or structures which the inspection reveals to ensure that the problem does not lead to an environmental or human health hazard. A schedule for remedial action may be allowed by the Chief. Where a hazard is imminent or has already occurred, remedial action must be taken immediately.

(d) The owner or operator must record inspections in an inspection log or summary. These records must be kept for the life of the facility. At a minimum, these records must 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.

8.02.07 Personnel Training.

(a)(1) Facility personnel must 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 must ensure that this program includes all the elements described in the document required under (d)(3) of this section.

(2) This program must be directed by a person trained in hazardous waste management procedures, and must 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 must be designed to ensure that the facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment and emergency systems, including where 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 groundwater contamination incidents; and

(vi) Shutdown of operations.

(4) An outline of the training program required by Section 8.02.07 and a description of how the training program is designed to meet actual job tasks, must be submitted to the Chief with Part B of the permit application.

(b) Facility personnel must successfully complete the program required in (a) of this section within six (6) 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 must not work in unsupervised positions until they have completed the training requirements of (a) of this section.

(c) Facility personnel must take part in an annual review of the initial training required in (a) of this section.

(d) The owner or operator must maintain the following documents and records at the facility:

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

(2) A written job description for each position listed under (d)(1) of this section. 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 employees assigned to each position.

(3) 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 (d)(1) of this section.

(4) Records that document that the training or job experience required under (a), (b), and (c) of this section has been given to, and completed by, facility personnel.

(e) Training records on current personnel must be kept until closure of the facility; training records on former employees must be kept for three (3) years from the date the employee last worked

at the facility. Personnel training records may accompany personnel transferred within the same company.

8.02.08 General Requirements for Ignitable, Reactive or Incompatible Wastes.

(a) The owner or operator must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must 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 (e.g., from heat-producing chemical reactions), and radiant heat. While ignitable or reactive waste is being handled, the owner or operator must confine smoking and open flame to specially designated locations. "NO SMOKING" signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

(b) Where specifically required by other sections of these regulations, the owner or operator of a facility that treats, stores or disposes ignitable or reactive waste, or mixes incompatible waste or incompatible wastes and other materials, must take precautions to prevent reactions which:

(1) Generate extreme heat or pressure, fire or explosions, or violent reactions.

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

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

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

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

(c) When required to comply with (a) or (b) of this section, the owner or operator must document that compliance. This documentation may be based on references to published scientific or engineering literature, data from trial tests (e.g., bench scale or pilot scale tests), waste analyses (as specified in Section 8.02.04) or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions.

Section 8.03 Preparedness and Prevention.

8.03.01 Applicability.

The regulations in this section apply to owners and operators of all hazardous waste management facilities except as Section 8.01 provides otherwise.

8.03.02 Design and Operation of Facility.

Facilities shall be designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or State waters which could threaten human health or the environment.

8.03.03 Required Equipment.

All facilities shall be equipped with the following, unless it can be demonstrated to the Chief in accordance with Section 11.05 at the time of submission of Part B of the permit application, that none of the hazards posed by the waste handled at the facility could require a particular kind of equipment specified below:

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

(b) 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.

(c) Portable fire extinguishers, fire control equipment, spill control equipment, and decontamination equipment.

(d) Water at adequate volume and pressure to supply expected fire fighting demands, foam producing equipment, automatic sprinklers or water spray systems.

8.03.04 Testing and Maintenance of Equipment.

All required facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, shall be tested and maintained as necessary to assure its proper operation in time of emergency. A record of tests or inspections will be maintained on a log at that facility or other reasonably accessible and convenient location.

8.03.05 Access to Communications or Alarm Systems.

(a) Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation shall have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless such device is not required under Section 8.03.03

(b) If there is ever just one employee on the premises while the facility is operating, there must be 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 Chief has ruled that such device is not required under Section 8.03.03.

8.03.06 Required Aisle Space.

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 Chief in accordance with Section 11.05 that aisle space is not needed for any of these purposes.

[Comment: Any owner or operator who wishes to make the demonstration referred to above must do so with Part B of the permit application.]

8.03.07 Arrangements With Local Authorities.

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

(1) 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 and roads inside the facility, and possible evacuation routes.

(2) 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.

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

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

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

Section 8.04 Contingency Plan and Emergency Procedures.

8.04.01 Applicability.

The regulations of this section apply to owners and operators of all hazardous waste facilities except as Section 8.01 provides otherwise.

8.04.02 Purpose and Implementation of Contingency Plan.

(a) Each owner or operator shall have a contingency plan for the facility. The contingency plan shall be designed to minimize hazards

to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or State waters.

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

8.04.03 Content of Contingency Plan.

(a) The contingency plan shall describe the actions that facility personnel shall take to comply with Section 8.04.02 and Section 8.04.07 of these regulations in response to fires, explosions or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil or State waters.

(b) If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with 40 C.F.R. Part 112 or 151, or some other emergency or contingency plan, amendments to the plan need only to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this section.

(c) 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, as required.

(d) The plan shall list names, addresses and office and home phone numbers of all persons qualified to act as emergency coordinators

and this list shall be kept up-to-date. Where more than one person is listed, one shall be named a primary emergency coordinator and others shall be listed in the order in which they will assume responsibilities as alternates. For new facilities, the list is to be supplied at the time of certification.

(e) 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.

(f) The plan shall include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan shall describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes in cases where the primary routes could be blocked by releases of hazardous waste, hazardous waste constituents, or fires.

8.04.04 Copies of Contingency Plan.

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

(a) Maintained at the facility.

(b) Submitted to all local police departments, fire departments, hospitals and State and local emergency response teams that may be called upon to provide emergency services. [Comment: The contingency plan must be submitted to the Chief with Part B of the permit application under Section 11.00 of these regulations and, after modification or approval, will become a condition of the permit.

8.04.05 Amendment of Contingency Plan.

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

(a) The facility permit is revised.

(b) The plan fails in an emergency.

(c) The facility changes -- in its design, construction, operation, maintenance, or other circumstances -- in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency.

(d) The list of emergency coordinators changes.

(e) The list of emergency equipment changes.

[Comment: A change in the lists of facility emergency coordinators or equipment in the contingency plan constitutes a minor modification to the facility permit to which the plan is a condition.]

8.04.06 Emergency Coordinator.

At all times, there shall be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) and able to reach the facility in a short time, with the responsibility for coordinating all emergency response measures. This emergency coordinator shall be thoroughly familiar with all aspects of the facility contingency plan, all operation 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.

8.04.07 Emergency Procedures.

(a) Whenever there is an imminent or actual emergency situation, the emergency coordinator, or the designee when the emergency coordinator is on call, shall immediately:

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

(2) Notify appropriate State or local agencies with designated response roles if their help is needed.

(b) If there is a release, fire or explosion, the emergency coordinator shall immediately identify the character, exact sources, amount, and areal extent of any released materials. This may be done by observation or review of facility records or manifests and, if necessary, by chemical analysis.

(c) Concurrently, the emergency coordinator shall assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment shall consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions).

(d) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment outside the facility the findings shall be reported as follows:

(1) If the assessment indicates that evacuation of local areas may be advisable, immediate notification shall be given to appropriate local authorities. The emergency coordinator shall be available to help appropriate officials decide whether local areas should be evacuated.

(2) The emergency coordinator shall immediately notify the County Director for the Office of Emergency Services designated as the on-scene coordinator for that area, and the Division of Water Resources' Emergency Notification Number 1-800-642-3074. The notification shall include:

(i) Name and telephone number of notifier;

(ii) Name and address of facility;

(iii) Time and type of incident;

(iv) Name and quantity of material(s) involved to the extent known;

(v) The extent of injuries, if any; and

(vi) The possible hazards to human health, or the environment, outside the facility.

(e) During an emergency, the emergency coordinator shall take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures shall include, where applicable, stopping processes and operations, collecting and containing released wastes and removing or isolating containers.

(f) If the facility stops operations in response to a fire, explosion, or release, the emergency coordinator shall monitor for

leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

(g) Immediately after an emergency, the emergency coordinator shall provide for treating, storing, or disposing of recovered waste, contaminated soil or waters, or any other material that results from a release, fire, or explosion at the facility.

(h) The emergency coordinator shall ensure that in the affected area(s) of the facility:

(1) No waste that may be incompatible with the released material is treated, stored or disposed of until cleanup procedures are completed.

(2) All emergency equipment listed in the contingency plan is clean and fit for its intended use before operations are resumed.

(i) The owner or operator shall notify the Chief that the facility is in compliance with sub-sections 8.04.07(f)(g)(h)(i) and (j) of this section before operations are resumed in the affected areas(s) of the facility.

(j) 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 fifteen (15) days after the incident, a written report shall be submitted to the Chief. The report shall include:

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

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

(3) Date, time and type of incident.

(4) Name and quantity of material(s) involved.

(5) The extent of injuries, if any.

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

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

(8) Measures taken to prevent recurrence of the emergency.

(9) Such other information specifically requested by the Chief which is reasonably necessary and relevant to the purpose of an operating record.

Section 8.05 Manifest System, Recordkeeping, and Reporting.

8.05.01 Applicability.

The regulations in this section apply to both on-site and off-site facilities, except as Section 8.01 provides otherwise. Sections 8.05.02, 8.05.03 and 8.05.07 do not apply to on-site facilities that do not receive any hazardous waste from off-site sources.

8.05.02 Use of the manifest system.

(a) If a facility receives hazardous waste accompanied by a manifest, the owner or operator, or his agency, must:

(1) Sign and date each copy of the manifest to certify that the hazardous waste covered by the manifest was received;

(2) Note any significant discrepancies in the manifest (as defined in 8.05.03(a) on each copy of the manifest.

(3) Immediately give the transporter at least one copy of the signed manifest;

(4) Within 30 days after the delivery, send a copy of the manifest to the generator; and

(5) Retain at the facility a copy of each manifest for at least three years from the date of delivery.

(b) If a facility receives, from a rail or water (bulk shipment) transporter, hazardous waste which is accompanied by a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator's certification, and signatures), the owner or operator, or his agent, must:

(1) Sign and date each copy of the manifest or shipping paper (if the manifest has not been received) to certify that the hazardous waste covered by the manifest or shipping paper was received;

(2) Note any significant discrepancies (as defined in 8.05.03(a)) in the manifest or shipping paper (if the manifest has not been received) on each copy of the manifest or shipping paper.

(3) Immediately give the rail or water (bulk shipment) transporter at least one copy of the manifest or shipping paper (if the manifest has not been received);

(4) Within 30 days after the delivery, send a copy of the signed and dated manifest to the generator; however, if the manifest has not been received within 30 days after delivery, the owner or operator, or his agent, must send a copy of the shipping paper signed and dated to the generator; and

(5) Retain at the facility a copy of the manifest and shipping paper (if signed in lieu of the manifest at the time of delivery) for at least three years from the date of delivery.

(c) Whenever a shipment of hazardous waste is initiated from a

facility, the owner or operator of that facility must comply with the requirements of Section 6 of these regulations.

8.05.03 Manifest Discrepancies.

(a) 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:

(1) For bulk waste, variations greater than 10 percent in weight, and

(2) For batch waste, any 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.

(b) Upon discovering a significant discrepancy, the owner or operator must attempt to reconcile the discrepancy with the waste generator or transporter (e.g., with telephone conversations). If the discrepancy is not resolved within 15 days after receiving the waste, the owner or operator must immediately submit to the Chief a letter describing and attempts to reconcile it, and a copy of the manifest or shipping letter at issue.

8.05.04 Operating Record.

(a) The owner or operator shall keep a written operating record at the facility.

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

(1) A description and the quantity of each hazardous waste received, and the method(s) and date(s) of its treatment, storage or disposal at the facility.

(2) The location of each hazardous waste within the facility and the quantity of each location. For disposal facilities, the location and quantity of each hazardous waste must be recorded on a map or diagram of each cell or disposal area. For all facilities, this information must include cross-references to specific manifest document numbers, if the waste was accompanied by a manifest.

(3) Records and results of waste analyses performed as specified in Sections 8.02.04 and 8.02.08.

(4) Summary reports and details of all incidents that require implementing the contingency plan.

(5) Records and results of inspections as required by Section 8.02.06.

(6) For off-site facilities, notices to generators as specified in Section 8.02.03(b).

(7) All closure cost estimates, and for disposal facilities all post-closure cost estimates.

8.05.05 Availability, Retention and Disposition of Records.

(a) All records, including plans required under this section shall be furnished upon request, and made available at reasonable times for inspection by the Chief or any authorized representative, employee or agent of the Division.

(b) The retention period for all records required under this Section is extended automatically during the course of any unresolved enforcement action regarding the facility or as requested by the Chief.

(c) A copy of records to waste disposal locations and quantities under Section 8.05.04(b)(2) shall be submitted to the Chief upon closure of the facility.

8.05.06 Annual Report.

The owner or operator shall prepare and submit a single copy of an annual report for the preceding year (January 1 - December 31) to the Chief by March 1 of each year. A form prescribed by the Chief shall be used for this report. The annual report shall cover facility activities during the previous calendar year and shall include the following information:

(a) The EPA identification number, name and address of the facility.

(b) The calendar year covered by the report.

(c) For off-site facilities, the EPA identification number of each hazardous waste generator from which the facility received hazardous waste during the year; for imported shipments, the report shall give the name and address of the foreign generator.

(d) A description and the quantity of each hazardous waste the facility received during the year. For off-site facilities, this information shall be listed by the EPA identification number of each generator.

(e) The method of treatment, storage or disposal for each hazardous waste.

(f) Groundwater monitoring data on a form prescribed by the Chief.

(g) The most recent closure cost estimate and, for disposal facilities, the most recent post-closure cost estimate.

(h) The certification signed by the owner or operator of the facility or an authorized representative.

8.05.07 Unmanifested Waste Report.

If a facility accepts for treatment, storage or disposal any hazardous waste from an off-site source without an accompanying manifest or shipping paper and if the waste is not excluded from the manifest requirement by Section 3.01.04, then the owner or operator shall prepare and submit a single copy of a report to the Chief within fifteen (15) days after receiving the waste, on a form prescribed by the Chief. The report shall include the following information:

(a) The EPA identification number, name and address of the facility.

(b) The date the facility received the waste.

(c) The EPA identification number, name and address of the generator and the transporter, if available.

(d) A description and the quantity of each unmanifested hazardous waste the facility received.

(e) The method of treatment, storage or disposal for each hazardous waste.

(f) The certification signed by the owner or operator of the facility or an authorized representative.

(g) A brief explanation of why the waste was unmanifested, if known.

[Comment: Small quantities of hazardous waste are excluded from regulation under this section and do not require a manifest. Where a facility receives unmanifested hazardous wastes, the owner or operator must obtain from each generator a certification that the waste qualifies for exclusion. Otherwise, the owner or operator is required to file an unmanifested waste report for the hazardous waste movement.]

8.05.08 Additional Reports.

In addition to submitting the annual report and unmanifested waste reports, the owner or operator shall also report to the Chief:

(a) Releases, fires and explosions as specified in Section 8.04.07.

(b) Facility closure as specified in Section 8.06.

Section 8.06 Closure and Post-Closure.

8.06.01 Applicability.

Except as Section 8.01 provides otherwise:

(a) Sections 8.06.02 - 8.06.06 (which concern closure) apply to the owners and operators of all hazardous waste management facilities; and

(b) Sections 8.06.07 and 8.06.08 (which concern post-closure care) apply to the owners and operators of all hazardous waste disposal facilities.

8.06.02 Closure Performance Standard.

The owner or operator must close the facility in a manner that:

(a) Minimizes the need for further maintenance.

(b) 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 State waters or to the atmosphere.

8.06.03 Closure Plan; Amendment of Plan.

(a) The owner or operator of a hazardous waste management facility must have a written closure plan. The plan must be submitted with Part B of the permit application in accordance with Section 11.00 of these regulations, and become a condition of the permit. A copy of the approved plan and all revisions to the plan must be kept at the facility until closure is completed and certified. The plan must 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 must include, at least:

(1) A description of how and when the facility will be partially closed, if applicable, and finally closed. The description must identify the maximum extent of the operation which will be

unclosed during the life of the facility, and how the applicable requirements of this section will be met.

(2) An estimate of the maximum inventory of wastes in storage and treatment at any time during the life of the facility.

(3) A description of the steps needed to decontaminate facility equipment during closure.

(4) An estimate of the expected year of closure and a schedule for final closure. The schedule must include, at a minimun, 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.

[Comment: 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 must be included.]

(b) The owner or operator may amend the 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 must 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. When the owner or operator requests a permit modification to authorize a change in operating plans or facility design, a modification of the closure plan must be made at the same time. If a permit modification is not needed to authorize the change in operating plans

or facility design, the request for modification of the closure plan must be made within sixty (60) days after the change in operating plans or facility design occurs.

(c) The owner or operator must notify the Chief at least 180 days prior to the expected closure date.

8.06.04 Closure; Time Allowed for Closure.

(a) Within ninety (90) days after receiving the final volume of hazardous wastes, the owner or operator must treat, remove from the site, or dispose of on-site, all hazardous wastes in accordance with the approved closure plan. The Chief may approve a longer period if the owner or operator demonstrates that:

(1)(i) The activities required to comply with this paragraph will, of necessity, take longer than 90 days to complete; or

(ii) 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; and

(2) He has taken and will continue to take all steps to prevent threats to human health and the environment.

(b) The owner or operator must complete closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of wastes. The Chief may approve a longer closure period if the owner or operator demonstrates that:

(1)(i) The closure activities will, of necessity, take longer than 180 days to complete; or

(ii) 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

(2) 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.

[Comment: Any extension of the ninety (90) or 180 day period in this section shall be made as a major modification under Section 11.00. Under paragraphs (a)(1)(ii) and (b)(1)(ii) of this section, if operation of the site is recommenced, the Chief may defer completion of closure activities until the new operation is terminated.]

8.06.05 Disposal or Decontamination of Equipment.

When closure is completed, all facility equipment and structures must have been properly disposed of, or decontaminated by removing all hazardous waste and residues.

8.06.06 Certification of Closure.

When closure is completed, the owner or operator must submit to the Chief 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.

8.06.07 Post-Closure Care and Use of Property.

(a)(1) Post-closure care must continue for thirty (30) years after the date of completing closure and must consist of at least the following:

(i) Groundwater monitoring and reporting as applicable.

(ii) Maintenance of monitoring and waste containment systems as applicable.

(2)(i) During the 180 day period preceding closure or at any time thereafter, the Chief may reduce the post-closure care period to less than thirty (30) years if it is found that the reduced period is sufficient to protect human health and the environment (e.g., leachate or groundwater monitoring results, characteristics of the waste, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the facility is secure.)

(ii) Prior to the time that the post-closure care period is due to expire, the Chief may extend the post-closure care period if it is found that the extended period is necessary to protect human health and the environment (e.g., leachate or groundwater monitoring results indicate a potential for migration of waste at levels which may be harmful to human health and the environment.)

(b) The Chief may require, at closure, continuation of any of the security requirements of Section 8.02.05 during part or all of the post-closure period after the date of completing closure when access by the public or domestic livestock may pose a hazard to human health.

(c) Post-closure use of property on or in which hazardous wastes remain after closure must never be allowed to disturb the integrity of the final cover, liner(s), or any other components of

any containment system, or the function of the facility's monitoring systems, unless the Chief finds that the disturbance:

(1) Is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or

(2) Is necessary to reduce a threat to human health or the environment.

(d) All post-closure care activities must be in accordance with the provisions of the approved post-closure plan as specified in Section 8.06.08.

8.06.08 Post-Closure Plan; Amendment of Plan.

(a) The owner or operator of a disposal facility must have a written post-closure plan. The plan must be submitted with Part B of the permit application and approved by the Chief as a part of the permit issuance proceeding. The approved post-closure plan will become a condition of any permit issued. A copy of the approved plan and all revisions must be kept at the facility until the post-closure care period begins. This plan must identify the activities which will be carried on after closure and the frequency of these activities, and include at least:

(1) A description of the planned groundwater monitoring activities and frequencies at which they will be performed.

(2) A description of the planned maintenance activities, and frequencies at which they will be performed, to ensure:

(i) The integrity of the cap and final cover or other containment structures where applicable; and

(ii) The function of the facility monitoring equipment.

(3) The name, address, and phone number of the person or office to contact about the disposal facility during the post-closure period. This person or office must keep an up-dated post-closure plan during the post-closure period.

(b) The owner or operator may amend the 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 must amend the 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 period, affect the post-closure plan. This plan must be amended whenever there is a change in the expected year of closure.

(c) 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 must be requested at the same time. In all other cases, the request for modification of the post-closure plan must be made within sixty (60) days after the change in operating plans or facility design or the events which affect the post-closure plan.

Section 8.07 Use and Management of Containers.

8.07.01 Applicability.

The regulations in this section apply to owners and operators of all hazardous waste management facilities that store containers of hazardous waste, except as Section 8.01 provides otherwise. [Comment: Under Section 3.01.06 and 3.04.04(c) if a hazardous waste is emptied from a container the residue remaining in the

container is not considered a hazardous waste if the "container" is empty as defined in Section 3.01.06. In that event, management of the container is exempt from the requirements of this section.]

8.07.02 Condition of Containers.

If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) of if it begins to leak, the owner or operator must transfer the hazardous waste from this container to a container that is in good condition or manage the waste in some other way that complies with the requirements of these regulations.

8.07.03 Compatibility of Waste With Containers.

The owner or operator must 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.

8.07.04 Management of Containers.

(a) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

(b) A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

8.07.05 [Reserved.]

8.07.06 Inspections.

At least weekly, the owner or operator must inspect areas where containers are stored, looking for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors. [Comment: Section 8.02.06(c) and Section 8.07.02 for remedial action required if deterioration or leaks are detected.]

8.07.07 Containment.

(a) Container storage areas must have a containment system that is capable of collecting and holding spills, leaks, and precipitation. The containment system must:

(1) Have a base underlying the containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated rainfall until the collected material is detected and removed.

(2) Be designed for efficient drainage so that standing liquid does not remain on the base longer than one (1) hour after a leakage or precipitation event unless the containers are elevated or in some other manner are protected from contact with accumulated liquids.

(3) Have sufficient capacity to contain 10% of the volume of containers or the volume of the largest container, whichever is greater.

(b) Run-on into the containment system must be prevented, unless the Chief waives this requirement in the permit after determining that the collection system has sufficient excess capacity in addition to that required in (a)(3) of this section to accommodate any run-on which might enter the system.

(c) Spilled or leaked waste and accumulated precipitation must be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system.

(d) If the collected material is a hazardous waste under Section 3.00 of these regulations, it must be managed as a hazardous waste in accordance with all applicable requirements. If the collected material is discharged through a point source to waters of the State, it is subject to the State Water Pollution Control Act and regulations promulgated thereunder.

8.07.08 Special Requirements for Ignitable or Reactive Waste.

(a) Containers holding ignitable or reactive waste must be located at least 15 meters (50 feet) from the facility's property line.

8.07.09 Special Requirements for Incompatible Wastes.

(a) Incompatible wastes, or incompatible wastes and materials must not be placed in the same container, unless Section 8.02.08 is complied with.

(b) Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material.

(c) 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 must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

8.07.10 Closure.

At closure, all hazardous waste and hazardous waste residues must be removed from the containment system. Remaining containers, liners, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues must be decontaminated or removed. [Comment: At closure, as throughout the operating period, unless the owner or operator can demonstrate in accordance with Section 3.01.02(d) of these regulations that the waste removed from the containment system is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements.]

Section 8.08 Tanks.

8.08.01 Applicability.

(a) The regulations in this section apply to owners and operators of facilities that use tanks to treat or store hazardous waste except as Section 8.01 and (b) of this section provide otherwise.

(b) The regulations in this section do not apply to facilities that treat or store hazardous waste in covered underground tanks that cannot be entered for inspection. Existing covered underground tanks may continue to operate under interim status but existing and new covered underground tanks will not be able to receive a finally effective Hazardous Waste Management Permit.

8.08.02 Design of Tanks.

(a) Tanks must have sufficient shell strength and, for closed tanks, pressure controls (e.g., vents) to assure that they do not collaps or rupture. The Chief will review the design of the

tanks, including the foundation, structural support, seams and pressure controls. The Chief shall 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 Chief shall rely upon appropriate industrial design standards and other available information.

8.08.03 General Operating Requirements.

(a) Wastes and other materials (e.g., treatment reagents) which are incompatible with the material of construction of the tank must not be placed in the tank unless the tank is protected from accelerated corrosion, erosion or abrasion through the use of:

(1) An inner liner or coating which is compatible with the waste or material and which is free of leaks, cracks, holes or other deterioration; or

(2) Alternative means of protection (e.g., cathodic protection or corrosion inhibitors).

(b) The owner or operator must use appropriate controls and practices to prevent overfilling. These must include:

(1) Controls to prevent overfilling (e.g., waste feed cutoff system or by-pass system to a standby tank); and

(2) For uncovered tanks, maintenance of sufficient freeboard to prevent overtopping by wave or wind action or by precipitation

shall not be less than 60 centimeters (2 feet) unless the permittee can demonstrate to the Chief that a secondary containment system is adequate.

8.08.04 Inspections.

(a) The owner or operator must inspect:

(1) Overfilling control equipment (e.g., waste feed cut-off systems and by-pass systems) at least once each operating day to ensure that it is in good working order.

(2) Data gathered from monitoring equipment (e.g., pressure and temperature gauges) where present, at least once each operating day to ensure that the tank is being operated according to design.

(3) For uncovered tanks, the level of waste in the tank, at least once each operating day to ensure compliance with Section 8.08.03(b).

(4) The construction materials of above-ground portions of the tank, at least weekly to detect corrosion or erosion and leaking of fixtures and seams.

(5) The area immediately surrounding the tank, at least weekly, to detect obvious signs of leakage (e.g., wet spots, or dead vegetation).

(b) As part of the inspection schedule required in Section 8.02.06(b) and in addition to the specific requirements of (a) of this section, the owner or operator must develop a schedule and procedure for assessing the condition of the tank. The schedule and procedure must 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 Section 8.08.02. Procedures

for emptying a tank to allow entry and inspection of the interior must be established when necessary to detect corrosion or erosion of the tank sides and bottom. The frequency of these assessments must be based on the material of construction of the tank, type of corrosion or erosion protection used, rate of corrosion or erosion observed during pervious inspections, and the characteristics of the waste being treated or stored.

(c) As part of the contingency plan required under Section 8.04 the owner or operator must specify the procedures to be used to respond to tank spills or leakage, including procedures and timing for expeditious removal of leaked or spilled waste and repair of the tank.

8.08.05 Closure.

(a) At closure, all hazardous waste and hazardous waste residues must be removed from tanks, discharge control equipment, and discharge confinement structures.

(b) At closure, as throughout the operating period, unless the owner or operator can demonstrate in accordance with Section 3.01.02(d) that the waste removed from the tank is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable State laws and regulations promulgated thereunder.

8.08.06 Special Requirements for Ignitable or Reactive Wastes.

(a) Ignitable or reactive waste must not be placed in a tank unless:

(1) 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 Section 8.02.08 is complied with; or

(2) The waste is stored or treated in such a way that it is protected from any material or conditions which may cause the waste to ignit or react; or

(3) The tank is used solely for emergencies.

(b) The owner or operator of a facility which treats or stores ignitable or reactive waste in covered tanks must comply with the National Fire Protection Association's (NFPA's) buffer zone requirements for tanks, contained in Tables 2-1 through 2-6 of the "Flammable and Combustible Liquids Code -- 1981".

8.08.07 Special Requirements for Incompatible Wastes.

(a) Incompatible wastes or incompatible wastes and materials, must not be placed in the same tank, unless Section 8.02.08(b) is complied with.

(b) Hazardous waste must not be placed in an unwashed tank which previously held an incompatible waste or material unless Section 8.02.08(b) is complied with.

Section 8.09 Surface Impoundments.

8.09.01 Applicability.

(a) The regulations in this section apply to owners and operators of facilities that use surface impoundments to treat or store hazardous waste, except as Section 8.01 provides otherwise.

(b) This section currently applies only to surface impoundments that are used for storage or treatment of hazardous waste and are designed and operated to prevent discharge into the soil, groundwater, and the surface water (except those surface discharges authorized under the State Water Pollution Control Act and regulations promulgated thereunder). [The Board intends to supplement this regulation to address other types of surface impoundments including impoundments that are not designed and operated to prevent discharge and impoundments that are closed with wastes left in place. Until additional regulations are promulgated, all surface impoundments which are authorized by permit must comply with this section.]

8.09.02 General Design Requirements.

(a) A surface impoundment must be designed to provide maintenance of sufficient freeboard, to prevent overtopping by wave or wind action or by precipitation but the freeboard shall not be less than 60 centimeters (2 feet).

(b) A surface impoundment must be designed so that any flow of waste into the impoundment can be immediately shut off in the event of overtopping or liner failure.

(c) A surface impoundment must be designed to prevent discharge into or on the land, and to waters of the State (except discharges authorized by an NPDES permit) during the life of the impoundment by use of a containment system which complies with Section 8.09.04.

(d) Dikes must be designed with sufficient structural integrity to prevent massive failure without dependence on any liner system included in the surface impoundment design.

(e) A leachate detection, collection, and removal system must be designed so that liquid will flow freely from the collection system to prevent the creation of pressure head within the collection system in excess of that necessary to cause the liquid to flow freely.

8.09.03 General Operating Requirements.

(a) A surface impoundment must be operated to prevent any overtopping due to wind and wave action, overfilling, precipitation, or any combination thereof.

(b) A surface impoundment must be operated to maintain at least the amount of freeboard specified by the Chief in the permit.

(c) A leachate detection, collection, and removal system installed to comply with Section 8.09.04(b) must be operated so that leachate flows freely from the collection system and is removed as it accumulates or with sufficient frequency to prevent backwater within the collection system.

(d) Earthen dikes must be kept free of:

(1) Perennial woody plants with root systems which could affect the structural integrity of the dike; and

(2) 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.

(e) Run-on must be diverted away from a surface impoundment.

8.09.04 Containment Systems.

(a) Earthen dikes must have a protective cover, such as grass, or rock to minimize wind and water erosion and to preserve the structural integrity of the dike.

(b) A liner system designed to prevent discharge into the land, and State waters during the life of the surface impoundment must:

(1)(i) Be constructed with a highly impermeable liner system in contact with the waste which will prevent discharge of the waste or leachate through the liner(s) during the life of the surface impoundment based on the liner(s) thickness, the saturated permeability of the liner(s) and the pressure head of waste or leachate to which the liner(s) will be exposed. [Comment: The liner system in contact with the waste (i.e., the top liner system) includes any protective cover over the liner(s).];

(ii) A leachate detection, collection, and removal system beneath the liner(s) in contact with the waste to detect, contain, collect, and remove any discharge from the liner system in contact with the waste;

(iii) A highly impermeable liner beneath the drainage layer (i.e., the bottom liner) is a necessary part of a leachate detection, collection, and removal system.

(2) Be constructed above the water table to ensure the detection of any discharge of waste or leachate through the liner system in contact with the waste; prevent the discharge of groundwater to the leachate detection, collection, and removal system; and to protect the structural integrity of the liner(s).

(c) A containment system must have a containment life equal to or greater than the life of the surface impoundment.

(d) Liner systems must be constructed:

(1) Of materials which have appropriate chemical properties and strength and of sufficient thickness to prevent failure due to pressure head, physical contact with the waste or leachate to

which they are exposed, climatic conditions, and the stress of installation.

(2) On a foundation capable of providing support to the liner(s) and resistance to pressure head above the liner(s) to prevent failure of the liner(s) due to settlement or compression.

8.09.05 Inspections and Testing.

(a)

(1) During construction or installation, liner systems must be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, and foreign materials).

(2) Earth material liner systems must be tested for compaction density, moisture content, and permeability after placement.

(3) Manufactured liner materials (e.g., membranes, sheets, and coatings) must be inspected to ensure tight seams and joints and the absence of tears or blisters.

(b) The owner or operator must inspect:

(1) A surface impoundment which contains free liquids at least once each operating day to ensure compliance with Section 8.09.03(a), (b) and (c) and to detect any leaks or other failures of the impoundment.

(2) Each surface impoundment, including dikes, berms, and vegetation surrounding the dike, at least once a week and after storms to detect any evidence of or potential for leaks from the impoundment, erosion of dikes, and to ensure compliance with Section 8.09.03(d).

(c) The structural integrity of any dike, including that portion of any dike which provides freeboard, must be certified against massive failure by a registered professional engineer prior

to the issuance or reissuance of a permit; or if the impoundment is not in service, prior to being placed in service and after construction or prior to being returned to service.

(1) In certifying the structural integrity of the dike it must be established that the dike will withstand.

(i) The stress of the pressure head of liquids placed into the impoundment.

(ii) The weakening effect of earth materials being scoured due to leakage from the impoundment through and under the dike without relying on any liner system; and

(iii) The weakening effect of earth materials being scoured due to leakage from the impoundment through and under the dike assuming leaks develop in the liner system.

8.09.06 Containment System Repairs, Contingency Plans.

(a) Whenever there is any indication of a possible failure of the containment system, that system must be inspected in accordance with the provisions of the containment system evaluation and repair plan required by (d) of this section. Indications of possible failure of the containment system include at least an unplanned and non-sudden drop in liquid level in the impoundment, liquid detected in the leachate detection system, evidence of leakage or the potential for leakage in the dike, erosion of the dike, apparent or potential deterioration of the liner(s) based on observation or test samples of the liner materials, any mishandling of wastes placed in the impoundment and foreign objects in the impoundment.

(b) Whenever there is a positive indication of a failure of the containment system, the impoundment must be removed from

service. Indications of positive failure of the containment system include an unplanned sudden drop in liquid level in the impoundment, waste detected in the leachate detection system, active leakage through the dike, or a breach (e.g., a hole, tear, crack, or separation) in the liner system.

(c) If the surface impoundment must be removed from service as required by (b) of this section, the owner or operator must:

(1) Immediately shut off the flow or stop the addition of wastes into the impoundment.

(2) Immediately contain any leakage which has occurred or is occurring.

(3) Immediately cause the leak to be stopped.

(4) If the leak cannot be stopped by any other means, empty the impoundment.

(d) As part of the contingency plan required in Section 8.04, the owner or operator must specify:

(1) A procedure for complying with the requirements of (c) of this section; and

(2) A containment system evaluation and repair plan describing testing and monitoring techniques; procedures to be followed to evaluate the integrity of the containment system in the event of a possible failure; a schedule of actions to be taken in the event of a possible failure; and a description of the repair techniques to be used in the event of leakage due to containment system failure or deterioration which does not require the impound- to be removed from service.

(e) No surface impoundment that has been removed from service in accordance with (b) of this section may be restored to

service unless:

(1) The containment system has been repaired; and

(2) The containment system has been re-certified by a registered professional engineer as meeting the design specifications approved in the permit.

(f) A surface impoundment that has been removed from service in accordance with (b) of this section and that is not being repaired must be closed in accordance with Section 8.09.07.

(g) All wastes removed from the impoundment must be managed as a hazardous waste in compliance with all applicable requirements. Any point source discharge to waters of the State is subject to the requirements of the Water Pollution Control Act and all regulations promulgated thereunder.

8.09.07 Closure.

(a) At closure, all hazardous waste and hazardous waste residues must be removed from the impoundment. Any component of the containment system or any appurtenant structures or equipment (e.g., discharge platforms and pipes, and baffles, skimmers, aerators, or other equipment) containing or contaminated with hazardous waste or hazardous waste residues must be decontaminated or removed.

(b) At closure, as throughout the operating period, unless the owner or operator can demonstrate in accordance with these regulations that the waste removed from the surface impoundment is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements.

8.09.09 Special Requirements for Ignitable or Reactive Waste.

Ignitable or reactive waste must 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:

(1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under Section 3.03.02 or 3.03.04 of these regulations; and

(2) Section 8.02.08 is complied with; or

(b) 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.

(c) The surface impoundment is used solely for emergencies.

8.09.09 Special Requirements for Incompatible Wastes.

Incompatible wastes, or incompatible wastes and materials must not be placed in the same surface impoundment, unless Section 8.02.08(b) is complied with.

Section 8.10 Waste Piles.

8.10.01 Applicability.

(a) The regulations of this section apply to owners and operators of facilities that store or treat hazardous waste in piles, except as Section 8.01 provides otherwise.

(b) This section currently only applies to waste piles that are used for storage or treatment of hazardous waste and are designed and operated to prevent discharge into the land, and waters of the State.

[Comment: The Board intends to supplement this regulation to address other types of waste piles including piles that are not designed and operated to prevent discharge and piles that are closed with waste left in place. Until additional regulations are promulgated, all waste piles that are authorized by permit must comply with this section.]

8.10.02 General Design Requirements.

(a) A waste pile must be designed to control dispersal of the waste by wind or by water erosion.

(b) A waste pile must be designed to prevent discharge into or on the land, and waters of the State during the life of the pile by use of a containment system which complies with Section 8.10.04.

8.10.03 General Operating Requirements.

(a) The Chief shall specify control practices (e.g., cover or frequent wetting) where necessary to ensure that wind dispersal of hazardous waste from piles is controlled.

(b) Run-on must be diverted away from a waste pile.

(c) Leachate and run-off from a waste pile must be collected and controlled.

(d) If the collected leachate or run-off is a hazardous waste under Section 3.00, it must be managed as a hazardous waste in accordance with all applicable requirements. If collected leachate or run-off is discharged through a point source to waters of the State, it is subject to the requirements of the Water Pollution Control Act and all regulations promulgated thereunder.

8.10.04 Containment System.

(a) A containment system must be designed, constructed, maintained, and operated to prevent discharge into or on the land, or into the waters of the State during the life of the waste pile. The system must consist of:

(1) A leachate and run-off collection and control system; and either

(2) A base underlying and in contact with the waste pile that is made of a liner (or liners) which will prevent discharge into or on the land, and waters of the State during the life of the pile based on the liner(s) thickness, the permeability of the liner(s), and the characteristics of the waste or leachate to which the liner(s) will be exposed. The liner(s) must be of sufficient strength and thickness to prevent failure due to puncture, cracking, tearing, or other physical damage from equipment used to place waste in or on the pile, or to clean and expose the liner surface for inspection; or

(3) A base as in (a)(2) of this section, except that the liner(s) need not be of sufficient strength and thickness to prevent failure due to physical damage from equipment, used to clean and expose the liner surface, and a leachate detection, collection and removal system beneath the base to detect, contain, collect, and remove any discharge from the base. A highly impermeable liner beneath the base drainage layer is a necessary part of a leachate detection, collection, and removal system. The leachate detection, collection, and removal system must be placed above the water table to ensure the detection of any discharge through the base; to prevent the discharge of groundwater into the leachate detection, collection, and removal system; and to protect the structural integrity of the base.

(b) A waste pile must be constructed:

(1) Of materials that have appropriate chemical properties and strength and of sufficient thickness to prevent failure due to pressure of and physical contact with the waste to which they are exposed, climatic conditions, and the stress of installation; and

(2) On a foundation capable of providing support to the liner(s) and to loads placed or moving above the liner(s) to prevent failure of the liner(s) due to settlement or compression.

(c) A containment system must be protected from plant growth which could puncture any component of the system.

(d) A containment system must have a containment life equal to or greater than the life of the pile.

8.10.05 Inspection and Testing.

(a) During construction or installation of the waste pile base:

(1) Liner systems must be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, and foreign materials); and

(2) Manufactured liner materials (e.g., membranes, sheets, and coatings) must be inspected to ensure tight seams and joints and the absence of tears or blisters.

8.10.06 Containment System Repairs; Contingency Plan.

(a) Whenever there is any indication of a possible failure of the containment system, that system must be inspected in accordance with the provisions of the containment system evaluation and repair plan required by (d) of this section. Indications of possible failure of the containment system include liquid detected in the leachate detection system (where applicable), evidence of leakage or the

potential for leakage in the base, erosion of the base, or apparent or potential deterioration of the liner(s) based on observation or test samples of the liner materials.

(b) Whenever there is a positive indication of a failure of the containment system, the waste pile must be removed from service. Indications of positive failure of the containment system include waste detected in the leachate detection system (where applicable), or a breach (e.g., a hole, tear, crack, or separation) in the base,

(c) If the waste pile must be removed from service as required by (b) of this section, the owner or operator must:

(1) Immediately stop adding waste to the pile.

(2) Immediately contain any leakage which has or is occurring.

(3) Immediately cause the leak to be stopped.

(4) If the leak cannot be stopped by any other means, remove the waste from the base.

(d) As part of the contingency plan required in Section 8.04 the owner or operator must specify:

(1) A procedure for complying with the requirements of (c) of this section; and

(2) A containment system evaluation and repair plan describing testing and monitoring techniques; procedures to be followed to evaluate the integrity of the containment system in the event of a possible failure; a schedule of actions to be taken in the event of a possible failure; and a description of the repair techniques to be used in the event of leakage due to containment system failure or deterioration which does not require the waste pile to be removed from service.

(e) No waste pile that has been removed from service in accordance with (b) of this section may be restored to service unless:

(1) The containment system has been repaired; and

(2) The containment system has been certified by a registered professional engineer as meeting the design specifications approved in the permit.

(f) A waste pile that has been removed from service in accordance with (b) of this section and that is not being repaired must be closed in accordance with Section 8.10.09.

(g) All wastes removed from the waste pile must be managed as a hazardous waste in compliance with all applicable requirements. Any point source discharge to waters of the State is subject to the requirements of the Water Pollution Control Act and all regulations promulgated thereunder.

8.10.07 Special Requirements for Ignitable or Reactive Waste.

(a) Ignitable or reactive waste must not be placed in a pile, unless:

(1) 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 Section 8.02.08; or

(2) 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.

8.10.08 Special Requirements for Incompatible Wastes.

(a) Incompatible wastes, or incompatible wastes and material must not be placed in the same pile, unless Section 8.02.08 is complied with.

(b) 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 must be separated from the other materials, or protected from them by means of a dike, berm, wall, or other device which will prevent fires, explosions, gaseous emissions, leaching, or other discharge which could result from the contact or mixing of incompatible wastes or materials.

(c) Hazardous waste must not be piled on the same base where incompatible wastes or materials were previously piles, unless the base has been decontaminated sufficiently to ensure compliance with Section 8.02.08.

8.10.09 Closure.

(a) At closure, all hazardous waste and hazardous waste residues must be removed from the pile. Any component of the containment system containing or contaminated with hazardous waste or hazardous waste residues must be decontaminated or removed.

(b) At closure, as throughout the operating period, unless the owner or operator can demonstrate in accordance with these regulations that the waste removed from the waste pile is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with applicable requirements.

Section 9.00 [Reserved.]

Section 10.00 Interim Standards for Owners and Operators of New Hazardous Waste Land Disposal Facilities.

Section 10.01 General.

10.01.01 The purpose of this section is to establish minimum standards that define the acceptable management of hazardous waste for new land disposal facilities.

10.01.02 The regulations in this section apply to owners and operators of new hazardous waste landfills, surface impoundments, and land treatment facilities.

10.01.03 The Requirements of This Section Do Not Apply to:

(a) An owner or operator of a POTW subject to a HWM permit by rule under Section 11.08 of these regulations.

(b) The owner or operator of a facility which treats or stores hazardous waste, which treatment or storage meets the criteria in Section 3.01.05(a), except to the extent that Section 3.01.05(b) provides otherwise.

(c) A generator accumulating waste on-site in compliance with Section 6.03.05.

(d) A farmer disposing of waste pesticides from his own use in compliance with Section 6.05.02.

(e) The owner or operator of a totally enclosed treatment facility as defined in Section 2.00.

(f) The owner or operator of an elementary neutralization unit or a wastewater treatment unit as defined in Section 2.00.

(g) Persons with respect to those activities that are carried out to immediately contain or treat a spill of hazardous waste or material which, when spilled, becomes a hazardous waste.

(h) A person disposing of hazardous waste by means of underground injection subject to a HWM permit by rule issued under Section 11.08 of these regulations.

(i) The owner or operator of a facility permitted by this State under the Water Pollution Control Act to manage industrial waste, if the only hazardous wastes the facility treats, stores, or disposes of, are wastes covered by Section 3.01.05 of these regulations.

10.01.04 Applicability of Section 8.00 Standards.

In addition to the standards contained in this section, owners and operators of new hazardous waste landfills, surface impoundments, and land treatment facilities must comply with Section 12.00 and Sections 8.02, 8.03, 8.04, 8.05, and 8.06, and Section 13.00.

10.01.05 Duration of Section 10.00 Standards and Their Relationship to Permits.

(a) The regulations in this section are applicable, and will serve as a basis for issuing permits, to owners or operators of new hazardous waste landfills, surface impoundments, or land treatment facilities, until final Section 8.00 regulations for such facilities becomes effective.

(b) Only those owners and operators of new hazardous waste landfills, surface impoundments, or land treatment facilities who have applied for a permit and for whom public notice of the preparation of a draft permit has been issued under Section 11.00 of these regulations, by the date final land disposal regulations in Section 8.00 become effective, may be issued permits under the regulations in this Section.

10.01.06 Imminent Hazard Action.

Notwithstanding any other provisions of these regulations, enforcement actions may be brought pursuant to Section 17 of the State Hazardous Waste Management Act.

10.01.07 Additional Permit Procedures.

(a) The procedures for issuance, modification, revocation and reissuance, and the revocation of permits under this section are the same as set forth in Section 11.00. In addition, for any facility for which a draft permit is prepared pursuant to this section the Chief shall prepare a fact sheet in accordance with Section 11.22. Instead of the "brief summary of the basis for the draft permit conditions" required by Section 11.22(b)(3), the fact sheet shall include a detailed discussion of basis for the draft permit conditions. This shall include a demonstration that relevant factors listed in Section 10.03 through 10.06 of these regulations were considered and a showing of how the draft permit reflects these considerations.

(b) The provisions of Section 11.00 apply to permits under Section 10.00. In addition to the information required by Section 11.02 and 11.05, the applications for permits under this section must include the following information:

(1) For a landfill, sufficient information to demonstrate compliance with Sections 10.03 and 10.06.

(2) For a surface impoundment, sufficient information to demonstrate compliance with Sections 10.04 and 10.06.

(3) For a land treatment facility, sufficient information to demonstrate compliance with Sections 10.05 and 10.06.

Section 10.02 Environmental Performance Standards.

All new landfills, surface impoundments, and land treatment facilities shall be located, designed, constructed, operated,

maintained and closed in a manner that will assure protection of human health and safety, and the environment. Protection of human health and safety, and the environment shall include, but not be limited to:

(a) Prevention of adverse effects on groundwater quality considering:

(1) The volume and physical and chemical characterisitics of the waste in the facility, including its potential for migration through soil or through synthetic liner materials.

(2) The hydrogeological characterisitics of the facility and surrounding land.

(3) The quantity, quality and directions of groundwater flow;

(4) The proximity and withdrawal rates of groundwater users;

(5) The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater;

(6) The potential for health risks caused by human exposure to waste constituents;

(7) The potential damage to wildlife, crops, vegetation and physical structures caused by exposure to waste constituents; and

(8) The persistence and permanence of the potential adverse affects.

(b) Prevention of adverse effects on surface water quality considering:

(1) The volume and physical and chemical characteristics of the waste in the facility;

(2) The hydrogeological characteristics of the facility and surrounding land, including the topography of the area around the facility;

(3) The quantity, quality, and directions of groundwater flow;

(4) The patterns of rainfall in the region;

(5) The proximity of the facility to surface waters;

(6) The uses of nearby surface waters and any water quality standards established for those surface waters;

(7) The existing quality of surface water, including other sources of contamination and their cumulative impact on surface water;

(8) The potential for health risks caused by human exposure to waste constituents;

(9) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and

(10) The persistence and permanance of the potential adverse effects.

(c) Prevention of adverse effects due to migration of waste constituents in the sub-surface environment, considering:

(1) The volume and physical and chemical characteristics of the waste in the facility, including its potential for migration through soil;

(2) The geological characteristics of the facility and surrounding land;

(3) The patterns of land use in the region;

(4) The potential for migration of waste constituents into sub-surface physical structures;

(5) The potential for migration of waste constituents into the root zone of food-chain crops and other vegetation;

(6) The potential for health risks caused by human exposure to waste constituents;

(7) The potential damage to wildlife, crops, vegetation and physical structures caused by exposure to waste constituents; and

(8) The persistence and permanence of the potential adverse effects.

Section 10.03 Landfills.

10.03.01 Applicability.

The regulations in this section apply to owners and operators of new facilities that dispose of hazardous waste in landfills.

10.03.02 General Design Requirements.

(a) Each landfill must include a liner designed to comply with Section 10.02. The design of the facility liner must reflect a consideration of:

(1) The physical and chemical characteristics of the waste in the facility;

(2) The pressure head of leachate on the liner;

(3) Climatic conditions in the area;

(4) The permeability of the liner material, including compaction density and moisture content where earthen materials are present;

(5) The physical and chemical properties of the soil underlying the facility that supports any emplaced liner; and

(6) The potential for damage to the liner system that could occur during installation of any emplaced liner.

(b) Each landfill must include a leachate and run-off control system designed to comply with Section 10.02. The design of the facility leachate and run-off control system must reflect a consideration of:

(1) The physical and chemical characteristics of the waste in the facility;

(2) Climatic conditions in the area;

(3) The volume of leachate or contaminated run-off that could be produced at the facility; and

(4) The available options for managing any leachate or contaminated run-off that is collected at the facility.

10.03.03 General Operating Requirements.

(a) Incompatible wastes, or incompatible waste and materials, must not be placed in the same landfill, unless the general requirements for ignitable, reactive, or incompatible waste under Section 8.02.08(b) are complied with. The waste analysis plan required by Section 8.02.04 must include the analysis needed to comply with this paragraph.

(b) Any new liner material must be installed in a manner that will protect the function and physical integrity of the liner.

(c) The leachate and run-off control system must be operated and maintained in a manner that will comply with Section 10.02. The procedures for operating the leachate and run-off control system must reflect a consideration of:

(1) The volume of leachate or contaminated run-off produced at the facility;

(2) The capacity of any leachate or run-off collection device at the facility;

(3) Climatic conditions in the area; and

(4) The quality of the leachate or run-off produced and the available alternatives for managing any leachate or contaminated run-off produced at the facility.

(d) The landfill must be inspected at a sufficient frequency to assure compliance with Section 10.02.

10.03.04 Closure and Post-Closure.

(a) A landfill must be closed in a manner that will comply with Section 10.02. Closure must include a placement of a final

cover over the landfill, and the closure plan under Section 8.06.03 must specify the function and design of the cover. Proper closure of a landfill must reflect a consideration of:

(1) The type and amount of waste in the facility;

(2) The mobility and expected rate of migration of waste;

(3) Site location, topography and surrounding land use;

(4) Climatic conditions in the area;

(5) 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

(6) Geological and soil profiles and surface and sub-surface hydrology of the site.

(b) A landfill must be maintained in a manner that complies with Section 10.02 during the post-closure period. The post-closure plan under Section 8.06.08 must specify the procedures that will be used to satisfy this paragraph. Proper maintenance of a landfill during the post-closure period must reflect a consideration of:

(1) The type and amount of waste in the facility;

(2) The mobility and expected rate of migration of the waste;

(3) Site location, topography and surrounding land use;

(4) Climatic conditions in the area;

(5) Characteristics of the cover, including material, final surface contours, thickness, porosity and permeability, slope, length of run of slope, and type of vegetation on the cover;

(6) Geoglogical and soil profiles and surface and sub-surface hydrology of the site; and

(7) The maintenance of any groundwater monitoring system or leachate and run-off control system at the facility.

10.03.05 Treatment of Waste.

The Chief may waive any of the requirements in Sections 10.03.02, 10.03.03, and 10.03.04 of this section where necessary to achieve treatment of hazardous waste in a landfill, provided that the waiver does not result in noncompliance with Section 10.02.

10.03.06 Additional Requirements.

The Chief may place additional requirements on owners or operators of new landfills, besides those otherwise required by this section, where necessary to comply with Section 10.02.

Section 10.04 Surface Impoundments.

10.04.01 Applicability.

The regulations in this section apply to owners and operators of new facilities that dispose of hazardous waste in surface impoundments.

10.04.02 General Design Requirements.

(a) Each surface impoundment must include a liner designed to comply with Section 10.02. The design of the facility liner must reflect a consideration of:

(1) The physical and chemical characteristics of the waste in the facility;

(2) The pressure head on the liner;

(3) Climatic conditions in the area;

(4) The permeability of the liner material, including compaction density and moisture content where earthen materials are present;

(5) The physical and chemical properties of the soil underlying the facility that supports any emplaced liner; and

(6) The potential for damage to the liner system that could occur during installation of any emplaced liner.

(b) Each surface impoundment must be designed so as to prevent overtopping due to wind and wave action, overfilling, precipitation or any combination thereof.

(c) Where dikes are a part of the surface impoundment, the dikes must be designed to comply with Section 10.02. The design of any facility dikes must reflect consideration of:

(1) The structural integrity of the dike, including the effects of plants and burrowing animals on earthen dikes;

(2) The potential for water erosion of the dike; and

(3) The potential for wind erosion of the dike.

10.04.03 General Operating Requirements.

(a) Incompatible wastes, or incompatible wastes and materials, must not be placed in the same surface impoundment, unless Section 8.02.08(b) is complied with. The waste analysis plan required by Section 8.02.04 must include the analysis needed to comply with this paragraph.

(b) Any emplaced liner material must be installed in a manner that will protect the function and physical integrity of the liner.

(c) The surface impoundment must be operated so as to prevent overtopping due to wind and wave action, overfilling, precipitation or any combination thereof.

(d) The surface impoundment must be inspected at a sufficient frequency to assure compliance with Section 10.02.

10.04.04 Closure and Post-Closure.

(a) A surface impoundment must be closed in a manner that will comply with Section 10.02. Closure must include placement of

a final cover over the surface impoundment, and the closure plan under Section 8.06.03 must specify the function and design of the cover. Proper closure of a surface impoundment must reflect a consideration of:

(1) The type and amount of waste in the facility, including the amount of free liquids;

(2) The mobility and expected rate of migration of the waste;

(3) Site location, topography, and surrounding land use;

(4) Climatic conditions in the area;

(5) Characteristics of the cover including material, final surface contours, thickness, porosity and permeability, slope, length of run of slope and type of vegetation on the cover;

(6) Geological and soil profiles and surface and sub-surface hydrology of the site; and

(7) The potential for eliminating free liquids from the facility.

(b) A surface impoundment must be maintained in a manner that complies with Section 10.02 during the post-closure period. The post-closure plan under Section 8.06.08 must specify the procedures that will be used to satisfy this paragraph. Proper maintenance of a surface impoundment during the post-closure period must reflect a consideration of:

(1) The type and amount of waste in the facility;

(2) The mobility and expected rate of migration of the waste;

(3) Site location, topography and surrounding land use;

(4) Climatic conditions in the area;

(5) Characteristics of the cover including material, final surface contours, thickness, porosity and permeability, slope, length of run of slope, and type of vegetation on the cover;

(6) Geological and soil profiles and surface and sub-surface hydrology of the site; and

(7) The maintenance of any groundwater monitoring system at the facility.

10.04.05 Treatment of Waste.

The Chief may waive any of the requirements in Section 10.04.02, 10.04.03, or 10.04.04 where necessary to achieve treatment of hazardous waste in a surface impoundment, provided that the waiver does not result in noncompliance with Section 10.02.

10.04.06 Additional Requirements.

The Chief may place additional requirements on owners and operators of new surface impoundments, besides those otherwise required in this section, where necessary to comply with Section 10.02.

Section 10.05 Land Treatment.

10.05.01 Applicability.

The regulaions in this section apply to owners and operators of new facilities that dispose of hazardous waste in land treatment facilities.

10.05.02 General Design Requirements.

Each land treatment facility must include a run-off control system designed to comply with Section 10.02. The design of the facility run-off control system must reflect a consideration of:

(a) The physical, biological and chemical characteristics of the waste in the facility;

(b) Climatic conditions in the area;

(c) The volume of run-off that could be produced at the facility; and

(d) The available options for managing any contaminated run-off that is controlled at the facility.

10.05.03 General Operating Requirements.

(a) Incompatible wastes, or incompatible wastes and materials, must not be placed in the same land treatment facility, unless Section 8.02.08(b) is complied with. The waste analysis plan required by Section 8.02.04 must include the analyses needed to comply with this paragraph.

(b) The run-off control system must be operated and maintained in a manner that will comply with Section 10.02. The procedures for operating the run-off control system must reflect a consideration of:

(1) The volume of contaminated run-off produced at the facility;

(2) The capacity of any run-off produced at the facility;

(3) Climatic conditions in the area; and

(4) The quality of the run-off produced and the available options for managing any contaminated run-off from the facility.

(c) The land treatment facility msut be operated to treat the waste in the facility to the extent necessary to comply with Section 10.02.

(d) If food-chain crops are grown at the facility, the facility must be operated in a manner designed to protect the quality of the crops to the extent necessary to comply with Section 10.02. Proper operation of a land treatment facility on which food-chain crops are grown must reflect a consideration of:

(1) The characteristics of the soil, including the pH;

(2) The volume and chemical, biological and physical characteristics of the waste in the facility;

(3) The type of crop to be grown;

(4) The manner in which such crop is marketed (e.g., direct sale to consumers, use as animal feed, grain);

(5) The potential future uses of the facility;

(6) The potential for crop uptake of waste constituents; and

(7) The potential exposure of workers who handle the crop to waste constituents.

(e) The treatment facility must be inspected at a sufficient frequency to assure compliance with Section 10.02.

10.05.04 Unsaturated Zone Monitoring.

In addition to the groundwater monitoring program required in Section 10.06 of these regulations, a land treatment facility must have an unsaturated zone monitoring program which will assure compliance with Section 10.02. An unsaturated zone monitoring program must include an unsaturated zone monitoring system at the facility or at a representative test plot, as well as procedures for sampling, analysis and evaluation of data. The unsaturated monitoring program required by this paragraph must reflect a consideration of:

(a) The placement and depth of monitoring wells that is necessary to obtain a representative sample of the success of waste treatment in the facility;

(b) Soil characteristics, including its pH, its permeability and the level of microbial activity in the soil;

(c) Climatic conditions in the area;

(d) The potential for rapid migration of waste constituents through the soil; and

(e) The accessibility of the monitoring system devices for maintenance and repair.

10.05.05 Closure and Post-Closure.

(a) A land treatment facility must be closed in a manner that will comply with Section 10.02. The closure plan under Section 8.06.03 must specify the measures which will be used to satisfy this section. Proper closure of a land treatment facility must reflect a consideration of:

(1) The type and amount of waste applied to the facility;

(2) The mobility and expected rate of migration of the waste;

(3) Site location, topography and surrounding land use;

(4) Climatic conditions in the area, including the amount, frequency and pH of precipitation;

(5) Geologic and soil profiles and surface and sub-surface hydrology of the site, including cation exchange capacity, total organic carbon and pH of the soil; and

(6) Unsaturated zone monitoring information obtained under Section 10.05.04.

(b) A land treatment facility must be maintained in a manner that complies with Section 10.02 during the post-closure period. The post-closure plan under Section 8.06.08 must specify the procedures that will be used to satisfy this paragraph. Proper maintenance of a land treatment facility during the post-closure period must reflect a consideration of:

(1) The type and amount of waste applied to the facility;

(2) The mobility and expected rate of migration of the waste;

(3) Site location, topography and surrounding land use;

(4) Climatic conditions in the area, including the amount, frequency and pH of precipitation;

(5) Geologic and soil profiles and surface and sub-surface hydrology of the site, including cation exchange capacity, total organic carbon and pH of the soil;

(6) Unsaturated zone monitoring information obtained under Section 10.05.04; and

(7) The maintenance of any groundwater monitoring system at the facility.

10.05.06 Treatment of Waste.

The Chief may waive any of the requirements in Sections 10.03.02 through 10.03.04 of these regulations where necessary to achieve treatment of hazardous waste in a land treatment facility, provided that the waiver does not result in noncompliance with Section 10.02.

10.05.07 Additional Requirements.

The Chief may place additional requirements on owners or operators of new land treatment facilities, besides those otherwise required by this section, where necessary to comply with Section 10.02.

Section 10.06 Groundwater Monitoring.

10.06.01 Applicability.

Each new hazardous waste landfill, surface impoundment, or land treatment facility msut have a groundwater monitoring program, which includes a groundwater monitoring system, procedures for sampling, analysis and evaluation of groundwater data, and appropriate response procedures.

10.06.02 Groundwater Monitoring System.

The groundwater monitoring system required by this section must be capable of determining the facility's impact on groundwater

in the uppermost aquifer so as to assure compliance with Section 10.02 of these regualtions. The design of the groundwater monitoring system must reflect a consideration of:

(a) The placement and depth of monitoring wells that is necessary to obtain a representative sample of consitutents in the uppermost aquifer, including those present in the groundwater upgradient from the facility;

(b) Measures such as casing which maintain the integrity of the monitoring well bore hole; and

(c) Measures which prevent contamination of groundwater samples.

10.06.03 Groundwater Monitoring Procedures.

(a) The groundwater monitoring procedures required by this section must be capable of assuring compliance with Section 10.02 of these regulations. The procedures must reflect a consideration of:

(1) Sample collection procedures;

(2) Sample preservation and shipment procedures;

(3) Analytical methods;

(4) Chain of custody control; and

(5) Evaluation procedures, including methods for determining the extent and rate of migration of waste constituents.

(b) The groundwater monitoring procedures required by this section must include appropriate procedures when the groundwater monitoring program indicates that the facility is not in compliance with Section 10.02 of these regulations. Such response procedures must be contained in the contingency plan required by Section 8.04.

10.06.04

The Chief may place additional groundwater monitoring requirements on owners or operators of facilities subject to this section, besides those otherwise required by this section, where necessary to comply with Section 10.02 of these regulations.

Section 11.00 Hazardous Waste Permitting Program.

Section 11.01 Scope of the Hazardous Waste Management Permit Requirements.

These regulations require a permit for the treatment, storage, or disposal of any hazardous waste unless expressly excluded by these regulations, or the State Act.

11.01.01 Specific Inclusions.

Without limiting in any way the scope of the permit requirements as set forth in Section 11.01, Hazardous Waste Management Permits are required for: treatment, storage or disposal of hazardous waste at facilities requiring an NPDES permit. The owner and operator of a POTW receiving hazardous waste will be deemed to have a Hazardous Waste Management Permit for that waste if they comply with the requirements of Section 11.08.01.

11.01.02 Specific Exclusions.

The following are not required to obtain a Hazardous Waste Management Permit:

(a) Generators who accumulate hazardous waste on-site for less than ninety (90) days as provided in Section 6.03.05.

(b) Farmers who dispose of hazardous waste pesticides from their own use as provided in Section 6.05.02.

(c) Persons who own or operate facilities operated solely for the treatment, storage or disposal of hazardous waste excluded from regulations under this section by Sections 3.01.03 or 3.01.04.

(d) Owners or operators of totally enclosed treatment facilities, as defined in Section 2.00.

(e) Owners and operators of elementary neutralization units or wastewater treatment units as defined in Section 2.00.

(f) Transporters storing manifested shipments of hazardous waste in containers meeting the requirements of Section 6.03.01 at a transfer facility for a period of ten (10) days or less.

(g) A person is not required to obtain a Hazardous Waste Management Permit for those activities he carries out to immediately contain or treat a spill of hazardous waste or material, which, when spilled, becomes a hazardous waste. After the immediate response activities are completed, any treatment, storage or disposal of spilled material or spill residue or debris that is undertaken must be covered by a Hazardous Waste Management Permit, an emergency Hazardous Waste Management Permit or interim status.

11.01.03 [Reserved.]

Section 11.02 Application for a Permit.

11.02.01 Permit Application.

Any person who is required to have a Hazardous Waste Management Permit shall complete, sign and submit an application to the Chief as described in this section. Persons covered by permits by rule need not apply.

11.02.02 Who Applies?

When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit; however, the owner must also sign the permit application.

11.02.03 Completeness.

The Chief shall not issue a permit before receiving a complete application, except permits by rule or emergency permits. An application for a permit is complete when the Chief receives an application form and any supplemental information which are completed to the Chief's satisfaction.

11.02.04 Existing Hazardous Waste Management Facilities.

(a) Not later than thirty (30) days from the effective date of these regulations, all owners and operators of existing hazardous waste treatment, storage or disposal facilities shall submit Part A (see Section 11.04) of their permit application to the Chief or a copy of Part A if it was already submitted to EPA.

(b) At any time, but not later than five (5) years, after the effective date of these regulations, the owner and operator of an existing hazardous waste management facility may be requested to submit Part B (see Section 11.05) of their permit application by the Chief. Any owner or operator shall have six (6) months from the date of request to submit Part B of the application. Any owner or operator of an existing hazardous waste management facility may voluntarily submit Part B of the application at any time.

(c) Failure to furnish a requested Part B application on time, or to furnish in full the information required by the Part B application, are grounds for termination of interim status under Section 11.03.05.

11.02.05 New Hazardous Waste Management Facilities.

(a) No person shall begin physical construction on a new hazardous waste management facility without having submitted Part A and Part B of the permit application and having received a finally

effective hazardous waste management permit.

(b) An application for a permit for a new hazardous waste management facility may be filed any time after the effective date of these regulations. The application shall be filed with the Chief. All applications shall be submitted at least one hundred eighty (180) days before physical construction is expected to commence.

(c) The Chief shall notify the applicant in writing within ninety (90) days from the date on which Part B application is filed if the application is complete; provided, however that if the Chief determines that the complexity of the application or other circumstances warrant an extension of the ninety (90) day period of review, the Chief shall so notify the applicant.

11.02.06 Updating Permit Applications.

(a) An amended Part A shall be filed with the Chief as necessary to comply with provisions of Section 11.03.03 for changes during interim status.

(b) The owner or operator of a facility who fails to comply with the updating requirements does not receive interim status as to the wastes not covered by a duly filed Part A application.

11.02.07 Reapplications.

Any hazardous waste management facility with an effective permit shall submit a new application at least one hundred eighty (180) days before the expiration date of the effective permit, unless permission for a later date has been granted by the Chief.

11.02.08 Application Fees.

(a) Any person who applies for a permit for the construction and/or operation of a hazardous waste management facility shall submit as part of said application a money order or cashier's check payable to "the Hazardous Waste Management Fund" of the State Treasury. (Persons required to obtain a permit-by-rule pursuant to these regulations are not required to pay a permit application fee.)

(b) Such fee shall be determined by the schedule set forth below:

STORAGE

EPA Code	Activity	Fee	
S01	Drum	<100 tons capacity $1,000.00	≥100 tons capacity $3,000.00
S02	Tank	<100 tons capacity $1,000.00	≥100 tons capacity $3,000.00
S03	Waste Pile	<100 tons capacity $1,500.00	≥100 tons capacity $3,000.00
S04	Surface Impoundment	<1,000 tons capacity $2,500.00	≥1,000 tons capacity $3,000.00

DISPOSAL

EPA Code	Activity	Fee	
D80	Landfill	<1,000 tons/year $2,500.00	≥1,000 tons/year $5,000.00
D81	Land Application	<1,000 tons/year $2,500.00	≥1,000 tons/year $5,000.00
D83	Surface Impoundment	<1,000 tons/year $2,500.00	≥1,000 tons/year $5,000.00

TREATMENT

EPA Code	Activity	Fee	
T01	Tank	<100 tons capacity $1,000.00	≥100 tons capacity $3,000.00
T02	Surface Impoundment	<1,000 tons/year $2,500.00	≥1,000 tons/year $5,000.00
T04	Other		

(c) The Chief reserves his right to promulgate rules and regulations establishing a permit renewal fee at a later date.

(d) [Reserved.]

Section 11.03 Interim Status.

11.03.01 Qualifying for Interim Status.

(a) Any person who owns or operates an existing facility or a facility in existence as of July 10, 1981, shall have interim status and shall be treated as having been issued a permit to the extent they:

(1) Comply with the interim status requirements of the Federal EPA established pursuant to Section 3005 of the Federal Solid Waste Disposal Act;

(2) Operate the facility in such a manner as will not cause or create a substantial risk of a health hazard or public nuisance or a significant adverse effect upon the environment; and

(3) Make a timely and complete application for such permit in accordance with these rules and regulations;

(b) If the Chief determines that a facility is not complying with the requirements of Section 11.03.01 he may terminate interim status of any owner or operator. Such termination will be in the

form of an ORDER stating the reasons for the termination and shall inform the operator that he is subject to an enforcement action for operation without a permit;

(c) Any person who owns or operates an existing facility which was not previously required to have a permit under the Act because it managed no hazardous wastes identified or listed under Section 3.00 of these regulations, but which due to a revision of Section 3.00 is later required to have a permit, shall also have interim status and shall be treated as having been issued a permit to the extent such person:

(1) Has notified the Chief within ninety (90) days from the effective date of any revision of Section 3.00 of these regulations of such hazardous waste activity by the use of EPA Form 870012 or the provision of the same information in any other manner selected by the notifier; and

(2) Complies with and continues to operate in compliance with the interim status requirements of the federal Environmental Protection Agency established pursuant to Section 3005 of the Federal Solid Waste Disposal Act, as amended, if applicable within ninety (90) days from the effective date of such revision to Section 3.00, and operates in such a manner as will not cause or create a substantial risk of a health hazard or public nuisance or a significant adverse effect upon the environment; and

(3) Makes a timely and complete application for a permit as required by Section 11.00 of these regulations.

11.03.02 Coverage.

During the interim status period the facility shall not:

(a) Treat, store, or dispose of hazardous waste not specified in Part A of the permit application.

(b) Employ processes not specified in Part A of the permit application.

(c) Exceed the design capabilities specified in Part A of the permit application.

11.03.03 Changes During Interim Status.

(a) New hazardous wastes not previously identified in Part A of the permit application may be treated, stored or disposed of at a facility if the owner or operator submits a revised Part A permit application prior to such a change.

(b) Increases in the design capacity of processes used at a facility may be made if the owner or operator submits a revised Part A permit application prior to such a change, (along with a justification explaining the need for the change), and the Chief approves the change because of a lack of available treatment, storage, or disposal capacity at other hazardous waste management facilities.

(c) Changes in the processes for the treatment, storage, or disposal of hazardous waste may be made at a facility or additional processes may be added if the owner or operator submits a revised Part A prior to such a change (along with a justification explaining the need for the change) and the Chief approves the change because:

(1) It is necessary to prevent a threat to human health or the environment because of an emergency situation; or

(2) It is necessary to comply with Federal regulations or State or local laws; or

(3) Proposed changes are demonstrated to result in safer or environmentally more acceptable processes.

(d) Changes in the ownership or operational control of a facility may be made if the new owner or operator submits a revised Part A permit application no later than ninety (90) days prior to the scheduled change. When a transfer of ownership or operational control of a facility occurs, the old owner or operator shall comply with all applicable financial requirements until the new owner or operator has demonstrated to the Chief that it is complying with such financial requirements. Upon demonstration to the Chief by the new owner or operator of compliance with the financial requirements, the Chief shall notify the old owner or operator in writing that it no longer needs to comply with those requirements as of the date of demonstration. All other interim status duties are transferred effectively immediately upon the date of the change of ownership or operational control of the facility.

(e) In no event shall changes be made to a Hazardous Waste Management facility during interim status which amount to reconstruction of the facility. Reconstruction occurs when the capital investment in the changes to the facility exceeds fifty percent (50%) of the capital cost of a comparable entirely new hazardous waste management facility.

11.03.04 Interim Status Standards.

During interim status, owners or operators shall comply with the interim status standards at 40 C.F.R Part 265.

11.03.05 Grounds for Termination of Interim Status.

Interim status terminates when final disposition of a permit application is made; or when interim status is terminated by the Chief. Interim status may be terminated for:

(1) Failure to furnish requested Part B application on time, or to furnish in full the information required by the Part B application; or

(2) A determination is made by the Chief that the facility poses a substantial risk of a health hazard or a significant risk of an adverse effect upon the environment.

(3) A determination is made that the facility has failed to comply with the requirements of § 20-5E-10 and the corresponding federal requirements at 40 C.F.R. § 122.23 and 40 C.F.R. Part 265.

Section 11.04 Contents of Part A.

Part A of the application shall include the following information:

(a) The activities conducted by the applicant which require it to obtain a Hazardous Waste Management Permit.

(b) Name, mailing address, and location of the facility for which the application is submitted.

(c) Up to four (4) SIC codes which best reflect the principal products or services provided by the facility.

(d) The latitude and longitude of the facility.

(e) The name, address, and telephone number of the owner of the facility.

(f) An indication of whether the facility is new or existing and whether it is a first or revised application.

(g) For existing facilities, a scale drawing of the facility showing the location of all past, present, and future treatment, storage and disposal areas.

(h) For existing facilities, photographs of the facility clearly delineating all existing structures; existing treatment, storage, and disposal areas; and site of future treatment, storage and disposal areas.

(i) The operator's name, address, telephone number, ownership status, and status as Federal, State, private, public, or other entity.

(j) A listing of all permits or construction approvals received or applied for under any of the following programs and their counterpart programs administered by the State, where appropriate:

(1) Hazardous waste management program under RCRA;

(2) UIC program under SDWA;

(3) NPDES program under the Clean Water Act;

(4) Prevention of Significant Deterioration (PSD) program under the Clean Air Act;

(5) Non-attainment program under the Clean Air Act;

(6) National Emission Standards for Hazardous Pollutants (NESHAPS) pre-construction approval under the Clean Air Act;

(7) Ocean dumping permits under the Marine Protection Research and Sanctuaries Act;

(8) Dredge or fill permits under Section 404 of CWA; and

(9) Other relevant environmental permits, including local permits.

(k) A topographic map (or other map if a topographic map is unavailable) extending at least one-quarter (1/4) mile beyond the property boundaries of the source, depicting the facility and each

of its intake and discharge structures; each of its hazardous waste treatment, storage, or disposal facilities; each well where non-hazardous 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 in the map area.

(l) A brief description of the nature of the business.

(m) A description of the processes to be used for treating, storing and disposing of hazardous waste, and the design capacity of these items.

(n) A specification of the hazardous wastes listed or designated under Section 3.00 to be treated, stored or disposed at the facility, an estimate of the quantity of such wastes to be treated, stored or disposed annually, and a general description of the processes to be used for such wastes.

(o) The filing of a completed copy of an EPA Part A Application with the Chief shall constitute compliance with Section 11.04.

Section 11.05 Contents of Part B.

11.05.01 General Information Requirements.

The following information is required to be submitted with Part B of the application for all facilities:

(a) A general description of the facility.

(b) Chemical and physical analyses of the hazardous wastes to be handled at the facility. At a minimum, these analyses shall contain all the information which must be known to treat, store or dispose of the wastes properly in accordance with Section 8.00.

(c) A copy of the required waste analysis plan required by 8.02.04(b) and, if applicable, 8.02.04(c).

(d) A description of the security procedures and equipment required by 8.02.05 or a justification demonstrating the reasons for requesting a waiver of this requirement.

(e) A copy of the general inspection schedule required by 8.02.06(b).

(Note: Include, where applicable, as part of inspection schedule, specific requirements in 8.07.06, 8.08.04, 8.09.05, and 8.10.05.)

(f) A justification of any request for a waiver(s) of the preparedness and prevention requirements of Section 8.03.

(g) A copy of the contingency plan required by Section 8.04.

(Note: Include where applicable, as part of the contingency plan, specific requirements in Sections 8.09.06 and 8.10.06.

(h) A description of procedures, structures, or equipment used at the facility to:

(1) Prevent hazards in unloading operations (e.g., ramps, special forklifts);

(2) Prevent runoff from hazardous waste handling areas to other areas of the facility or environment, or to prevent flooding (e.g., berms, dikes, trenches);

(3) Prevent contamination of water supplies;

(4) Mitigate effects of equipment failure and power outages; and

(5) Prevent undue exposure of personnel to hazardous waste (e.g., protective clothing).

(i) A description of precautions to prevent accidental ignition or reaction of ignitable, reactive, or incompatibe wastes as required to demonstrate compliance with 8.02.08 including documentation demonstrating compliance with 8.02.08(c).

(j) Traffic pattern, estimated volume (number, types of vehicles), and control (e.g., show turns across traffic lanes, and

stacking lanes [if appropriate]), describe access road surfacing and load bearing capacity; and show traffic control signals.

(k) [Reserved.]

(l) Facility location information: Applicants must submit documentation demonstrating that the proposed siting of a new facility is not restricted by the location standards of Section 12.00. The demonstrations may be made using either published geologic data or data obtained from field investigations carried out by the applicant. The submitted information must include the source of data for such determinations, including copies of any maps, reports, results of surface or subsurface investigations, and calculations where applicable.

(i) Seismic considerations. The information submitted must show that either:

(A) No faults which have had displacement in Holocene time are present, or no lineations which suggest the presence of a fault (which have displacement in Holocene time) within 3,000 feet of a facility are present, based on data from:

(1) U. S. Geological Service (USGS) publications;

(2) Aerial reconnaissance of the area within a five-mile radius from the facility, available from the USGS;

(3) An analysis of aerial photographs covering a 3,000 foot radium of the facility; and

(4) If needed to clarify the above data, a reconnaissance based on walking portions of the area within 3,000 feet of the facility; or

(B) If faults (to include lineations) which have had displacement in Holocene time are present within 3,000 feet of a facility, no faults pass within 200 feet of the portions of the facility where treatment, storage, or disposal of hazardous waste

will be conducted, based on data from a comprehensive geologic analysis of the site. Unless a site analysis is otherwise conclusive concerning the absence of faults within 200 feet of such portions of the facility, data shall be obtained from a subsurface exploration (trenching) of the area within a distance no less than 200 feet from portions of the facility where treatment, storage or disposal of hazardous waste will be conducted. Such trenching shall be performed in a direction that is perpendicular to known faults (which have had displacement in Holocene time) passing within 3,000 feet of the portions of the facility where treatment, storage, or disposal of hazardous waste will be conducted. Such investigation shall document with supporting maps and other analyses, the location of any faults found.

(ii) Karst terrain. The demonstration must show that no solution cavities underlie or may influence the site by subsidence. Sources of information include:

(A) Fracture trend maps and karst subsidence maps from the U. S. Geological Survey and the West Virginia Geological Survey.

(B) Test borings to determine the stability of the overburden;

(iii) Subsurface mining areas. The information submitted must show that the site is not located within 1,000 feet of the area likely to be influenced by subsidence, as determined by the angle of draw. Calculations must be included in the demonstration where applicable. Sources of information include:

(A) Maps and reports from the West Virginia Department of Mines.

(B) Maps from the U. S. Bureau of Mines.

(C) Maps from the West Virginia Geological and Economic Survey.

(iv) Critical recharge. The information submitted must show that the site is not located in an area which serves to recharge a public groundwater supply that serves more than 15 connections or 25 residents on a permanent year-round basis. Sources of information include:

(A) U. S. Geological Survey maps.

(B) West Virginia Division of Water Resources.

(C) West Virginia Department of Health.

(v) Wetlands. The demonstration must show that the site is not located in a wetland or in areas that may have an impact on wetlands. Sources of information include:

(A) U. S. Geological Survey maps.

(B) West Virginia Division of Wildlife.

(vi) Dam-related flood hazard areas. The demonstration must show that the site is not located in the "danger reach" of a dam not permitted by the state or within the floodpool area of any dam. Sources of information include:

(A) Reports from the U. S. Army Corps of Engineers.

(B) U. S. Geological Survey maps.

(C) West Virginia Division of Reclamation.

(vii) Floodplains. The owners and operators of all facilities shall provide an identification of whether the facility is located within a 100-year floodplain. This identification must indicate the source of data for such determination and include a copy of the relevant Federal Insurance Administration (FIA) flood map, if used, or the calculations and maps used where a FIA map is not available. Information shall also be provided identifving the 100-year flood level and any other special flooding factors (e.g., wave action) which must be considered in designing, constructing, operating, or

maintaining the facility to withstand washout from a 100-year flood.

[Comment: Where maps for the National Flood Insurance Program produced by the Federal Insurance Administration (FIA) of the Federal Emergency Management Agency are available, they will normally be determinative of whether a facility is located within or outside of the 100-year floodplain. However, where the FIA map excludes an area (usually areas of the floodplain less than 200 feet in width), these areas must be considered and a determination made as to whether they are in the 100-year floodplain. Where FIA maps are not available for a proposed facility location, the owner or operator must use equivalent mapping techniques to determine whether the facility is within the 100-year floodplain, and if so located, what the 100-year flood elevation would be.]

(viii) Owners and operators of facilities located in the 100-year floodplain must provide the following information:

(A) Engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected to result at the site as a consequence of a 100-year flood.

(B) Structural or other engineering studies showing the design of operational units (e.g., tanks, incinerators) and flood protection devices (e.g., floodwalls, dikes) at the facility and how these will prevent washout.

(C) If applicable, and in lieu of paragraphs (A) and (B) above, a detailed description of procedures to be followed to remove hazardous waste to safety before the facility is flooded, including:

(1) Timing of such movement relative to flood levels, including estimated time to move the waste, to show that such movement can be completed.

(2) A description of the location(s) to which the waste will be moved and demonstration that those facilities will be eligible to receive hazardous waste in accordance with the regulations under Section 8.00, and 11.00.

(3) The planned procedures, equipment, and personnel to be used and the means to ensure that such resources will be available in time for use.

(4) The potential for accidental discharges of the waste during movement.

(ix) Existing facilities NOT in compliance with Section 12.01.07 shall provide a plan showing how the facility will be brought into compliance and a schedule for compliance.

(m) An outline of both the introductory and continuing training programs by owners or operators to prepare persons to operate or maintain the Hazardous Waste Management facility in a safe manner as required to demonstrate compliance with Section 8.02.07. A brief description of how training will be designed to meet actual job tasks in accordance with requirements in Section 8.02.07(a)(3).

(n) A copy of the closure plan and, where applicable, the post-closure plan required by Section 8.06.03 and 8.06.08.

(o) For existing facilities, documentation that a notice has been placed in the deed or appropriate alternate instrument as required by Section 15.00.

(p) The most recent closure cost estimate for the facility prepared in accordance with Section 13.00 plus a copy of the financial assurance mechanism adopted in compliance with Section 13.00.

(r) Where applicable, a copy of the insurance policy or other documentation which comprises compliance with the requirements of

Section 13.00. For a new facility, documentation showing the amount of insurance meeting the specification of Section 13.00, and, if applicable, Section 13.00, that the owner or operator plans to have in effect before initial receipt of hazardous waste for treatment, storage, or disposal. A request for a variance in the amount of required coverage, for a new or existing facility may be submitted as specified in Section 13.00.

(s) [Reserved.]

(t) A topographic map showing a distance of 1,000 feet around the facility at a scale of 2.5 centimeters (1 inch) equal to not more than 61.0 meters (200 feet). Contours must be shown on the map. The contour interval must be sufficient to clearly show the pattern of surface water flow in the vicinity of and from each operational unit of the facility. For example, contours with an interval of 1.5 meters (5 feet), if relief is greater than 6.1 meters (20 feet), or an interval of 0.6 meters (2 feet) if relief is less than 6.1 meters (20 feet). Owners and operators of hazardous waste facilities located in mountainous areas should use larger contour intervals to adequately show topographic profiles of facilities. The map shall clearly show the following:

(i) Map scale and date.

(ii) 100-year floodplain area.

(iii) Surface waters including intermittant streams.

(iv) Surrounding land uses (residential, commercial, agricultural, recreational).

(v) A wind rose (i.e., prevailing wind-speed and direction).

(vi) Orientation of the map (north arrow).

(vii) Legal boundaries of the hazardous waste management facility site.

(viii) Access control (fences, gates).

(ix) Injection and withdrawal wells both on-site and off-site.

(x) Buildings; treatment, storage, or disposal operations; or other structures (recreation areas, runoff control systems, access and internal roads, storm, sanitary, and process sewerage systems, loading and unloading areas, fire control facilities, etc.).

(xi) Barriers for drainage or flood control.

(xii) Location of operational units within the hazardous waste management facility site, where hazardous waste is (or will be) treated, stored, or disposed (include equipment cleanup areas).

11.05.02 Specific Information Requirements.

The following additional information is required from owners or operators of specific types of hazardous waste management facilities that are used or to be used for storage or treatment:

(a) For facilities that store containers of hazardous waste except as otherwise provided in Section 8.07.01:

(1) A description of the containment system to demonstrate compliance with Section 8.07.07. Show at least the following:

(i) Basic design parameters, dimensions, and materials of construction.

(ii) How the design promotes drainage or how containers are kept from contact with standing liquids in the containment system.

(iii) Capacity of the containment system relative to the number and volume of containers to be stored.

(iv) Provisions for preventing or managing run-on.

(v) How accumulated liquids can be analyzed and removed to prevent overflow.

(2) Sketches, drawings, or data demonstrating compliance with Section 8.07.08 (location or buffer zone and containers holding

ignitable or reactive wastes) and Section 8.07.09(c) (location of incompatible wastes), where applicable.

(3) Where incompatible wastes are stored or otherwise managed in containers, a description of the procedures used to ensure compliance with Sections 8.07.09(a) and (b) and 8.02.08(b) and (c).

(b) For facilities that use tanks to store or treat hazardous waste, except as otherwise provided in Section 8.08.01, description of design and operation procedures which demonstrate compliance with all applicable requirements of Section 8.00, including:

(1) References to design standards or other available information used (or to be used) in design and construction of the tank.

(2) A description of design specifications including identification of construction materials and lining materials (include pertinent characteristics such as corrosion or erosion resistence).

(3) Tank dimensions, capacity, and shell thickness.

(4) A diagram of piping, instrumentation, and process flow.

(5) Description of feed systems, safety cutoff, bypass systems, and pressure controls (e.g., vents).

(6) Description of procedures for handling incompatible, ignitable, or reactive wastes, including the use of buffer zone.

(c) For facilities that store or treat hazardous waste in surface impoundments, except as otherwise provided in Section 8.09.01, the owner or operator must submit detailed plans and specifications accompanied by an engineering report which must collectively include the information itemized in paragraphs (1) through (10). For new facilities, the plans and specifications must be in sufficient detail to provide complete information to a contractor hired to build the facility even if the owner or operator intends to construct the facility without hiring a contractor. For existing facilities, comparable detail must be provided, but

the form of presentation need not assume contractor construction except to the extent that the facility will be modified.

(1) A statement of the minimum freeboard to be maintained at the facility and the basis of the design to demonstrate compliance with freeboard requirements of Sections 8.09.02(a) and 8.09.03(a) and (b). For flow through facilities include a hydraulic profile.

(2) Detailed drawings of the structure which is or will be provided to immediately stop flow into the impoundment to comply with Section 8.09.02(b); or, if no structure is needed to comply with Section 8.09.06(c)(1), a description of the means by which waste additions will be stopped.

(3) Detailed drawings of any dikes which exist or will be constructed.

(4) A basis of design and design analysis of any dikes to comply with Sections 8.09.02(d) and 8.09.04(a). The design analysis must show that any dike will meet the requirements of Section 8.09.05(c)(1).

(5) Detailed design drawings and specifications of the liner(s) and the leachate detection, collection, and removal system and the basis of design and design analysis to comply with Sections 8.09.02(c), 8.09.02(e) and 8.09.04(b)(c) and (d).

(6) Liner installation instructions to comply with the requirements of Section 8.09.05(a). For existing facilities, when the owner or operator proposes to rely on existing liners, a description of the installation procedures used.

(7) Design details of the leachate removal system, the basis of design, and a description of the operating procedures to be used to ensure free flow from the collection system in accordance with Section 8.09.03(c).

(8) Design plans and specifications and basis of design of any structures needed to comply with Section 8.09.03.

(9) A description of the maintenance and repair procedures proposed to comply with Section 8.02.06(c) and 8.09.03.

(10) A description of the operating procedures that will ensure compliance with Sections 8.09.08 and 8.09.09.

(11) A certification by a registered professional engineer which complies with Section 8.09.05(c). The owner or operator of a new facility must submit a statement by a registered professional engineer that he will provide such a certification upon completion of construction in accordance with the plans and specifications.

(d) For facilities that store or treat hazardous waste in waste piles, except as otherwise provided in Section 8.10.01:

(1) A description of practices to control wind dispersal (e.g., cover or frequent wetting) of hazardous waste in piles so that the Chief, where necessary, can specify appropriate control measures.

(2) A detailed engineering description of the facility design including:

(i) A description of measures to divert run-on away from the pile;

(ii) A description of the leachate and run-off collection and control system;

(iii) A description of the foundation supporting the base;

(iv) Design specifications of the pile base and liner (or liners) including the estimated containment life of the base and the permeability of the liner(s);

(v) Estimated life of the hazardous waste pile; and

(vi) If applicable under Section 8.10.04(a)(3), a description of the leachate detection, collection, and removal system including the system's relation to the water table.

(3) A detailed description of the facility operating procedures which demonstrate compliance with Sections 8.10.03, 8.10.04, 8.10.07 (ignitable or reactive waste) and Section 8.10.08 (incompatible waste) including:

(i) A description of efforts to protect the containment system from plant growth which could puncture any component of the system;

(ii) A description of design and operating procedures to properly manage and dispose of any leachate that is a hazardous waste;

(iii) A description and listing of all equipment and procedures used to place the waste in or on the pile or to clean and expose the liner surface; and

(iv) A description of efforts to separate hazardous waste that is incompatible with any waste or material stored nearby including the design specifications of any dike, berm, wall, or other device used to separate the materials.

11.05.03 Environmental Analysis.

In addition to the information to be submitted with Part B of the application, under Section 11.05.02 and 11.05.03, major facilities not in existence on November 19, 1980, shall submit an environmental analysis which shall contain information of the type, quality and detail that will permit adequate consideration of the environmental, technical and economic factors involved in the establishment and operation of such facilities:

(a) The portion of the applicant's environmental analysis dealing with environmental assessments shall contain, but not be limited to:

(1) The potential impact of the method and route of transportation of hazardous waste to the site and the potential impact of the establishment and operation of such facilities on air and water quality, existing land use, transportation and natural resources in the area affected by such facilities;

(2) A description of the expected effect of such facilities; and

(3) Recommendations for minimizing any adverse impact.

(b) The portion of the applicant's environmental analysis dealing with technical and economic assessments shall contain, but not be limited to:

(1) Detailed descriptions of the proposed site and facility, including site location and boundaries and facility purpose, type, size, capacity and location on the site and estimates of the cost and charges to be made for material accepted, if any;

(2) Provisions for managing the site following cessation of operation of the facility; and

(3) Qualifications of owner and operation, including a description of the applicant's prior experience in hazardous waste management operations.

11.05.04 Additional Information.

In addition to the information required in Sections 11.05.01 through 11.05.03, the Chief may request that the applicant submit such other information as may be necessary for the Chief to carry out his duties under the Hazardous Waste Management Act.

Section 11.06 Recordkeeping.

Applicants shall keep records of all data used to complete permit applications and any supplemental information submitted for a period of three (3) years from the date the application is signed.

Section 11.07 Signatories to Permit Applications and Reports.

11.07.01 Applications.

All permit applications shall be signed as follows:

(a) For a corporation: by a principal executive officer of at least the level of vice-president.

(b) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(c) For a municipality, State, Federal, or other public agency: by either being a principal executive officer or ranking elected official.

11.07.02 Reports.

All reports required by permits and other information requested by the Chief shall be signed by a person described in Section 11.07.01 above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(a) The authorization is made in writing by a person described in Section 11.07.01; and

(b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or an individual or a position having responsibility for the facility's compliance with environmental laws and permits.

(c) The written authorization is submitted to the Chief.

11.07.03 Changes to Authorization.

If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the facility or because a new individual or position has responsibility for the facility's compliance with environmental laws and permits, a new authorization satisfying the requirements shall be submitted to the Chief prior to or together with any reports, information or applications to be signed by an authorized representative.

11.07.04 Certification.

Any person signing a document under Section 11.07.01 or Section 11.07.02 shall make the following certification:

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

For the purpose of this section, the requirement that the signer have "personally examined" and is "familiar" with the

information submitted means that the signer must have read the document and must sufficiently comprehend the information contained in the document and its regulatory consequences to enable him or her to make a reasonable inquiry as to the truth, accuracy, and completeness of the information. The requirement that the signer make "inquiry of those individuals immediately responsible for obtaining the information" means that the signer shall make a good faith effort to ascertain whether or not the information submitted complies with the requirements of this section.

Section 11.08 Permits by Rule.

Notwithstanding any other provisions of Section 11.00, the following shall be deemed to have a Hazardous Waste Management Permit if the conditions listed are met.

11.08.01 Publicly Owned Treatment Works.

A POTW which accepts for treatment hazardous wastes qualifies for a permit by rule if the owner or operator of the facility:

(a) Has an NPDES permit and a State Water Pollution Control Permit.

(b) Complies with the conditions of those permits.

(c) Complies with the appropriate sections of these regulations with respect to:

(1) Identification number.

(2) Use of manifest system.

(3) Manifest discrepancies.

(4) Operating record.

(5) Annual report.

(6) Unmanifested waste report.

(d) If the waste meets all Federal, State, and local pre-treatment requirements which would be applicable to the waste if it were being discharged into the POTW through a sewer, pipe or similar conveyance.

11.08.02 [Reserved.]

11.08.03 Injection Wells.

The owner or operator of an injection well disposing of hazardous waste, if the owner or operator:

(a) Has a UIC permit for underground injection issued by the Water Resources Division; and

(b) Complies with the regulatory and permitting requirements established by the Office of Oil and Gas and the Shallow Gas Well Review Board pursuant to the authority contained in West Virginia Code 20-5E et seq.

Section 11.09 Emergency Permits.

Notwithstanding any other provision of Section 11.00, in the event the Chief finds an imminent and substantial endangerment to human health or the environment, the Chief may issue a temporary emergency permit to a facility to allow treatment, storage or disposal of hazardous waste at a non-permitted facility, or hazardous waste not covered by the permit for a facility with an effective permit. This emergency permit:

(a) May be oral or written. If oral, it shall be followed within five (5) days by a written emergency permit.

(b) Shall not exceed ninety (90) days in duration.

(c) Shall clearly specify the hazardous wastes to be received, and the manner and location of their treatment, storage, or disposal.

(d) May be terminated by the Chief at any time without prior notice if it is determined that termination is appropriate to protect human health or the environment.

(e) Shall be accompanied by a public notice as required by these regulations including:

(1) Name and location of the permitted hazardous waste management facility.

(2) A brief description of the wastes involved.

(3) A brief description of the action authorized and reasons for authorizing.

(4) Duration of the emergency permit.

(f) Shall incorporate, to the extent possible and not inconsistent with the emergency situation, all applicable requirements of these regulations.

Section 11.10 Conditions Applicable to all Permits.

The following conditions apply to all hazardous waste management permits. All conditions applicable to all permits shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to these regulations shall be given in the permit.

11.10.01 Duty to Comply.

The permittee shall comply with all conditions of this permit. Any permit non-compliance constitutes a violation of these regulations and is grounds for enforcement action, for permit termination, revocation, modification, or denial of a permit renewal application. The permittee need not comply with the conditions of the permit to the extent and for the duration such non-compliance is authorized in an emergency permit.

11.10.02 Duty to Reapply.

If the permittee wishes to continue a regulated activity after the expiration date of the permit, the permittee shall apply for and obtain a new permit.

11.10.03 Duty to Halt or Reduce Activity.

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permited activity in order to maintain compliance with the conditions of this permit.

11.10.04 Duty to Mitigate.

The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment to human health or resulting from non-compliance with this permit.

11.10.05 Proper Operation and Maintenance.

The permittee shall at all times maintain in good working order and operate efficiently all treatment and control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including quality assurance procedures. Unless otherwise required by Federal or State law this provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

[Comment: The proper interpretation of this language is to permit the permittee to shut-down or operate these treatment and control facilities or systems to carry out such maintenance, repair, or overhaul as may be dictated by sound engineering and operating practice.]

11.10.06 Permit Actions.

The permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, reissuance, termination, or a notification of planned changes or anticipated non-compliance does not stay any permit condition.

11.10.07 Property Rights.

The permit does not convey any property rights of any sort, or any exclusive privilege. Possession of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulation.

11.10.08 Duty to Provide Information.

The permittee shall furnish to the Chief within a specified time, any information which the Chief or an authorized representative may request to determine whether cause exists for modifying, revoking and reissuing, suspension, revoking, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Chief or an authorized representative, upon request, copies of records to be kept as part of the permit.

11.10.09 Inspection and Entry.

The permittee shall allow the Chief or an authorized representative, employee or agent, upon the presentation of credentials and at reasonable times to:

(a) Enter any building, property, premises, place, vehicle or permitted facility where hazardous wastes are or have been generated, treated, stored, transported or disposes of for the purpose of making an investigation with reasonable promptness to ascertain the compliance by any person with the State Act and these regulations, or permits issued by the Chief.

(b) Enter any establishment or other place maintained by any person where hazardous wastes are or have been stored, treated, or disposed of to inspect and take samples of wastes, soils, surface water and groundwater and samples of any containers or labelings for such wastes. In taking such samples, the Division may utilize

such sampling methods as it determines to be necessary, including, but not limited to, soil borings and monitoring wells. If the Chief or an authorized representative, employee or agent obtains any such samples, prior to leaving the premises, the owner or operator or agent in charge shall be given a receipt describing the sample obtained and, if requested, a portion of each such sample equal in volume or weight to the portion retained. The Division shall promptly provide a copy of any analysis made to the owner, operator, or agent in charge.

(c) Shall be given access to examine all records relating to the storage, treatment, or disposal of hazardous waste in the possession of any person who generates, stores, treats, transports, disposes of, or otherwise handles or has handled such waste. The Chief or an authorized representative, employee or agent shall be furnished with copies of all such records or given the records for the purpose of making copies.

11.10.10 Monitoring and Records.

(a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(b) The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit, for a period of three (3) years from the date of the sample, measurement, report, or application. This period may be extended by the Chief, at any time.

(c) The permittee shall maintain records from all groundwater monitoring wells and associated groundwater surface elevations, for

the active life of the facility, and for disposal facilities for the post-closure care period as well.

(d) Records of monitoring information shall include:

(1) The date, exact place, and time of sampling or measurements.

(2) The individual(s) who performed the sampling or measurements.

(3) The date(s) analyses were performed.

(4) The individual(s) who performed the analyses.

(5) The analytical techniques or methods used.

(6) The results of such analyses.

11.10.11 Signatory Requirement.

All applications,reports, or information submitted to the Chief shall be signed and certified as specified in Section 11.07.

11.10.12 Reporting Requirements.

(a) Planned changes.

The permittee shall give written notice to the Chief as soon as possible of any planned major physical alterations or additions to the permitted facility. For a new hazardous waste management facility, the permittee may not commence treatment, storage, or disposal 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:

(1) The permittee has submitted to the Chief 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; and

(2)(i) The Chief has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the permit; or

(ii) Within fifteen (15) days of the date of submission of the letter in paragraph (a)(1) of this section, if the permittee has not received notice from the Chief of the intent to inspect, prior inspection is waived and the permittee may commence treatment, storage or disposal of hazardous waste.

(b) Anticipated non-compliance.

The permittee shall give advance written notice to the Chief of any planned changes in the permitted facility or activity which may result in non-compliance with permit requirements.

(c) [Reserved.]

(d) Transfers.

This permit is not transferable except after notice to the Chief, and modification or revocation and re-issuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under these regulations or the State Act. (See, 11.18.02.)

(e) Monitoring reports.

Monitoring results shall be reported at the intervals specified.

(f) Compliance schedules.

Reports of compliance or non-compliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than fourteen (14) days following each schedule date.

(g) Immediate reporting.

The permittee shall report any non-compliance which may endanger health or environment immediately after becoming aware of

the circumstances. A written submission shall also be provided within five (5) days. The written submission shall contain a description of the non-compliance and its cause; the period of non-compliance, including exact dates and times, and if the non-compliance 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 non-compliance.

The following shall also be reported immediately:

(a) Information concerning release of any hazardous waste that may cause an endangerment to public drinking water supplies.

(b) Any information of a release or discharge of hazardous waste, or of a fire or explosion from a hazardous waste management facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:

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

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

(3) Date, time and type of incident.

(4) Name and quantity of material(s) involved.

(5) The extent of injuries, if any.

(h) Other non-compliance.

The permittee shall report all instances of non-compliance not reported under Sections 11.10.12(a), (e), (f) and (g) above, at the time monitoring reports are submitted. The report shall contain the information listed in Section 11.10.12(g).

(i) Other information.

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Chief,

such facts or information shall be promptly submitted.

(j) In addition, the following reports required by Section 8.00 shall be submitted:

(1) Manifest discrepancy report: if a significant discrepancy in a manifest is discovered, the permittee shall attempt to reconcile the discrepancy. If not resolved within fifteen (15) days, the permittee shall submit a written report including a copy of the manifest to the Chief. (See, 8.05.03.)

(2) Unmanifested waste report: must be submitted to the Chief within fifteen (15) days of receipt of unmanifested waste. (See, 8.05.05.)

(3) Annual report: must be submitted covering facility activities during the previous calendar year. (See, 8.05.06.)

(4) [Reserved.]

11.10.13 [Reserved.]

11.10.14 [Reserved.]

11.10.15 [Reserved.]

Section 11.11 Establishing Permit Conditions.

(a) In addition to conditions required in all permits, the Chief shall establish conditions as required on a case-by-case basis, for the duration of permits, schedules of compliance, monitoring, and to provide for and assure compliance with all

applicable requirements of the Hazardous Waste Management Act and of these regulations.

(b) New or reissued permits, and to the extent allowed under Section 11.18, modified or revoked and reissued permits, shall incorporate each of the applicable requirements in these regulations.

(c) All permit conditions shall be incorporated either expressly or by reference. If incorporated by reference, a specific citation to the applicable regulations or requirements shall be given in the permit.

Section 11.12 Duration of Permits.

(a) Hazardous Waste Management Permits shall be effective for a fixed term not to exceed ten (10) years.

(b) The term of a permit shall not be extended by modification beyond the maximum duration specified in this section.

(c) The Chief may issue any permit for a duration that is less than the full allowable term under this section.

Section 11.13 Effect of a Permit.

Compliance with a permit during its term constitutes compliance, for purposes of enforcement with the State Hazardous Waste Management Act except under Section 17 of such Act; provided, however, that a permit may be modified, suspended, revoked, revoked and reissued, or terminated during its term for cause as set forth in these regulations.

Section 11.14 Transfer of Permits.

A permit may be transferred by the permittee to a new owner or operator only if the permit has been modified, or revoked and

reissued, by the Chief under 11.18.02(b), to identify the new permittee and incorporate such other requirements as may be necessary to comply with these regulations and the State Act.

Section 11.15 Schedules of Compliance.

11.15.01 General.

The permit may, when appropriate, specify a schedule of compliance leading to compliance with these regulations.

(a) Any schedules of compliance under this section shall require compliance as soon as possible.

(b) Except as otherwise provided, if a permit establishes a schedule of compliance which exceeds one (1) year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievements.

(1) The time between interim dates shall not exceed one (1) year.

(2) If the time necessary for completion of any interim requirement is more than one (1) year and is not readily divisible into stages of 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.

(c) The permit shall be written to require that no later than fourteen (14) days following each interim date and the final date of compliance, a permittee shall notify the Chief, in writing, of his compliance or non-compliance with the interim or final requirements.

11.15.02 Alternative Schedules of Compliance.

A permit applicant or permittee may cease conducting regulated activities rather than continue to operate and meet permit requirements as follows:

(a) If the permittee decides to cease conducting regulated activities at a given time within the term of a permit which has already been issued:

(1) The permit may be modified to contain a new or additional schedule leading to timely cessation of activities; or

(2) The permittee shall cease conducting permitted activities before non-compliance with any interim or final compliance schedule requirement already specified in the permit.

(b) If the decision to cease conducting regulated activities is made before issuance of a permit whose terms will include the termination date, the permit shall contain a schedule leading to termination which will ensure timely compliance with applicable requirements.

(c) If the permittee is undecided whether to cease conducting regulated activities, the Chief may issue or modify a permit to contain two (2) schedules as follows:

(1) 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 ensure sufficient time to comply with applicable requirements in a timely manner if the decision is to continue regulated activities.

(2) One schedule shall lead to timely compliance with applicable requirements.

(3) The second schedule shall lead to cessation of regulated activities by a date which will ensure timely compliance with applicable requirements.

(4) Each permit containing two (2) schedules shall include a requirement that, after the permittee has made a final decision, a schedule leading to compliance shall follow 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.

(d) The applicant's or permittee's decision to cease conducting regulated activities shall be evidenced by a firm public commitment satisfactory to the Chief, such as a resolution of the Board of Directors of a corporation.

Section 11.16 Requirements for Recording and Reporting of Monitoring Results.

All permits shall specify:

(a) When appropriate, requirements concerning the proper use, maintenance, and installation, when appropriate, of monitoring equipment or methods, including biological monitoring methods and introduced tracer methods.

(b) Required monitoring including type, intervals and frequency sufficient to yield data which are representative of the monitored activity including, when appropriate, continuous monitoring.

(c) Applicable reporting requirements based upon the impact of the regulated activity and as specified in these regulations.

Section 11.17 Modification, Revocation and Reissuance, Suspension, Termination and Revocation of Permits.

(a) Permits may be modified, revoked and reissued, suspended, revoked, or terminated either at the request of any interested

person (including the permittee) or upon the Chief's initiative. However, permits may only be modified, revoked and reissued, suspended, revoked or terminated for the reasons specified in Sections 11.18 and 11.19. All requests shall be submitted in writing and shall contain facts or reasons supporting the request.

(b) If the Chief tentatively decides to modify or revoke and reissue a permit and the modification is not made under Section 11.20, a draft permit under Section 11.21 shall be prepared incorporating the proposed changes. The Chief may request additional information and, in the case of a modified permit, may require the submission of an updated permit application. In the case of revoked and reissued permits, the Chief shall require the submission of a new application.

(c) In a permit modification under this section, only those conditions to be modified shall be reopened when a new draft permit is prepared. All other conditions of the existing permit shall remain in effect for the duration of the unmodified permit. When a permit is revoked and reissued under this section, the entire permit is reopened just as if the permit had expired and was being reissued. During any revocation and reissuance proceedings the permittee shall comply with all conditions of the existing permit until a new final permit is reissued.

(d) "Minor modifications" as defined in 11.20 are not subject to the requirements of this section.

(e) If the Chief tentatively decides to suspend, revoke or terminate a permit, a notice of such intent shall be issued. A notice of intent to suspend, revoke or terminate is a type of draft permit which follows the same procedure as any draft permit prepared under Section 11.21.

Section 11.18 Modification or Revocation and Reissuance of Permits.

When the Chief receives any information (for example, inspects the facility, receives information submitted by the permittee as required in the permit, receives a request for modification or revocation and reissuance under Section 11.17.01, or conducts a review of the permit file), a determination may be made whether or not one or more of the causes listed for modification or revocation and reissuance or both exist. If cause exists, the Chief may modify or revoke and reissue the permit accordingly, subject to the limitations of Section 11.18.03, and may request an updated application if necessary. If cause does not exist under this section or Section 11.20, the Chief shall not modify or revoke and reissue the permit. If a permit modification satisfies the criteria in Section 11.20 for minor modifications, the permit may be modified without a draft permit or public review. Otherwise, a draft permit shall be prepared and other appropriate procedures followed.

11.18.01 Causes for Modification.

The following are causes for modification but not revocation and reissuance of permits. However, the following may be causes for revocation and reissuance as well as modification when the permittee requests or agrees:

(a) Alterations.

There are material and substantial alterations or additions to the permitted facility or activity which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit.

(b) Information.

If the Chief has received information pertaining to circumstances or conditions existing at the time the permit was issued

that were not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and would have justified the application of different permit conditions at the time of issuance, the permit may be modified accordingly.

(c) New regulations.

The standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued. Permit may be modified during their terms for this cause only as follows:

(1) For promulgation of amended standards or regulations, when:

(i) The permit condition requested to be modified was based on a promulgated hazardous waste regulation.

(ii) The Water Resources Board and/or the Director have revised, withdrawn, or modified that portion of the regulation on which the permit condition was based.

(iii) A permittee requests modification within ninety (90) days after State Register notice of the action on which the request is based.

(2) For judicial decision, a court of competent jurisdiction has remanded and stayed State regulations, if the remand and stay concern that portion of the regulations on which the permit condition was based and a request is filed by the permittee within ninety (90) days of judicial remand.

(d) Compliance schedules.

The Chief determines good cause exists for modification of 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 not reasonably available remedy.

(e) When the permittee has failed a request under Section 13 for a variance to the level of financial responsibility or when the Chief demonstrates under Section 13 that an upward adjustment of the level of financial responsibility is required.

11.18.02 Causes for Modification or Revocation and Reissuance.

The following are causes to modify or, alternatively, revoke and reissue a permit:

(a) Cause exists for revocation under Section 11.19, and the Chief determines that modification or revocation and reissuance is appropriate.

(b) The Chief has received notification of a proposed transfer of the permit.

11.18.03 Facility Siting.

The suitability of the facility location will not be considered at the time of permit modification or revocation and reissuance unless new information or standards indicate that an endangerment to human health or the environment exists which was unknown at the time of permit issuance.

Section 11.19 Termination, Revocation or Suspension of Permits.

(a) The following are causes for revocation or suspension of a permit during its term, or for denying a permit renewal application:

(1) Non-compliance by the permittee with any condition of the permit; or

(2) The permittee's failure in the application or during the

permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time; or

(3) A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit revocation.

(b) The Chief shall follow the applicable procedures set forth in the State Act for terminating, revoking, or suspending a permit.

Section 11.20 Minor Modification of Permits.

Upon the consent of the permittee, the Chief may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the required procedures for major modification. Any permit modification not processed as a minor modification under this section shall be made for causes and with draft permit and public notice as required. Minor modifications may only:

(a) Correct typographical errors.

(b) Require more frequent monitoring or reporting by the permittee.

(c) Change an interim compliance date in a schedule of compliance, provided the new date is not more than one hundred twenty (120) days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement.

(d) [Reserved.]

(e) Change the lists of facility emergency coordinators or equipment in the permit's contingency plan.

(f) Change estimates of maximum inventory under Section 8.06.03.

Section 11.21 Draft Permits.

(a) Once an application is complete, the Chief shall tentatively decide whether to prepare a draft permit or to deny the application.

(b) If the Chief decides to prepare a draft permit, a draft permit shall be prepared that contains the following information:

(1) All conditions under Sections 11.10 and 11.11.

(2) All compliance schedules under Section 11.15.

(3) All monitoring requirements under Section 11.16.

(4) Standards for treatment, storage, and disposal and other permit conditions under Section 11.00.

Section 11.22 Fact Sheet.

(a) A fact sheet shall be prepared by the Chief for every draft permit for each hazardous waste management facility or activity. The fact sheet shall briefly set forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit. The Chief shall send this fact sheet to the applicant and, on request, to any other person.

(b) The fact sheet shall include, when applicable:

(1) A brief description of the type of facility or activity which is the subject of the draft permit.

(2) The type and quantity of wastes, fluids, or pollutants which are proposed to be or are being treated, stored, disposed of, injected, emitted or discharged. A description of the type of wastes, fluids, or pollutants shall include, but not be limited to,

the characteristics of the waste materials and the potential effects on public health and the environment.

(3) A brief summary of the basis for the draft permit conditions including references to applicable statutory or regulatory provisions.

(4) Reasons why any requested variances or alternatives to required standards do or do not appear justified.

(5) A description of the procedures for reaching a final decision on the draft permit including:

(i) The beginning and ending dates of the comment period and the address where comments will be received.

(ii) Procedures for requesting a hearing and the nature of that hearing.

(iii) Any other procedures by which the public may participate in the final decision.

(6) Name and telephone number of a person to contact for additional information.

Section 11.23 Public Access to Information.

(a) Any records, reports, or information and any permit, permit applications, and related documentation within the Chief's possession shall be available to the public for inspection and copying; provided, however, that upon a satisfactory showing to the Chief that such records, reports, permit documentation, or information, or any part thereof would, if made public, divulge methods or processes, or activities, entitled to protection as trade secrets, the Chief shall consider, treat and protect such records as confidential.

(b) It shall be the responsibility of the person claiming any information as confidential under the provisions of Section (a)

above to clearly mark each page containing such information with the word "CONFIDENTIAL" and to submit an affidavit setting forth the reasons that said person believes that such information is entitled to protection.

(c) Any document submitted to the Chief which contains information for which claim of confidential information is made shall be submitted in a sealed envelope marked "CONFIDENTIAL" and addressed to the Chief. The document shall be submitted in two (2) separate parts. The first part shall contain all information which is not deemed by the person preparing the report as confidential and shall include appropriate cross-references to the second part which contains data, words, phrases, paragraphs, or pages and appropriate affidavits containing or relating to information which is claimed to be confidential.

(d) No information shall be protected as confidential information by the Chief unless it is submitted in accordance with the provisions of Section (c) above and no information which is submitted in accordance with the provisions of Section (c) above shall be afforded protection as confidential information unless the Chief finds that such protection is necessary to protect trade secrets. The person who submits information claimed as confidential shall receive written notice from the Chief as to whether the information has been accepted as confidential or not.

(e) All information which meets the tests of Section (d) above shall be marked with the term "ACCEPTED" and shall be protected as confidential information. If said person fails to satisfactorily demonstrate to the Chief that such information in the form presented to him meets the criteria of Section (d) above, the Chief shall mark the information "REJECTED" and promptly return such information to the person submitting such information.

(f) Nothing contained herein shall be construed so as to restrict the release of relevant confidential information during situations declared to be emergencies by the Chief or his/her designee.

(g) Nothing in this section may be construed as limiting the disclosure of information by the Division to any officer, employee or authorized representative of the State or Federal government concerned with effecting the purposes of this article.

(h) Persons interested in obtaining information pursuant to this section should submit a request in accordance with the Water Resources Board's Freedom of Information Act Regulations.

Section 11.24 Public Participation in Permit Process.

11.24.01 Scope.

Public notice shall be given that the following actions have occurred:

(a) A draft permit has been prepared; or

(b) A hearing has been scheduled.

11.24.02 Timing.

(a) Public notice of the preparation of a draft permit required under this section shall allow at least forty-five (45) days for public comment.

(b) Public notice of a public hearing shall be given at least thirty (30) days before the hearing.

11.24.03 Methods.

Public notice of activities described in this section shall be given by the following methods:

(a) By mailing a copy of a notice to the following persons, any person otherwise entitled to receive notice under this paragraph may waive the right to receive notice for any classes and categories of permits:

(1) The applicant.

(2) Any other Federal or State agency, including EPA, which the Chief knows has issued or is required to issue a RCRA, UIC, PSD, NPDES permit for the same facility or activity; including

(3) Federal and State agencies with jurisdiction over fish and wildlife resources, and other appropriate government authorities.

(4) To any unit of local government having jurisdiction over the area where the facility is proposed to be located.

(5) Persons on a mailing list developed by:

(i) Including those who request in writing to be on the list.

(ii) Soliciting persons for "area lists" from participants in past permit proceedings in that area.

(iii) Notifying the public of the opportunity to be put on the mailing list through periodic publication in the public press and in appropriate publications of the State.

(6) By mailing a copy to each State agency having authority under State law with responsibility to the construction or operation of such facility.

(b) Any other method reasonably calculated to give actual notice of the action in question to the persons potentially affected by it, including press releases or any other forum or medium to elicit public participation.

11.24.04 Personal Notification by Facility Owner or Operator to Individual Landowners and Water Users.

At the time a facility submits Part B of the application, the facility owner or operator shall notify by registered mail all landowners within 1/4 mile of the facility and all landowners within two miles downstream and/or downgradient of the facility who use water which may be potentially affected by the facility. Water use includes public drinking supplies, industrial use, agricultural use, and recreational use.

11.24.05 Contents.

(a) All public notices issued under this section shall contain the following information:

(1) Name and address of the office processing the permit action for which notice is being given.

(2) 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 described in the permit application or the draft permit.

(4) The name, address and telephone number of a person from whom interested persons may obtain further information, including copies of the draft permit or fact sheet, and the application.

(5) A brief description of the comment procedures required by Sections 11.25 and 11.26 and the time and place of any hearing that will be held, including a statement of procedures to request a hearing unless already scheduled, and other procedures by which the public may participate in the final permit decision.

(b) In addition to the general public notice described in Section 11.24.04(a), the public notice of a hearing shall contain the following information:

(1) Reference to the date of previous public notices relating to the permit.

(2) Date, time, and place of the hearing.

(3) A brief description of the nature and purpose of the hearing, including the applicable rules and procedures.

(c) Name and address of the nearest district office where the file will be available for inspection.

(d) In addition to the general public notice, all persons identified in Section 11.24.03 shall be mailed a copy of the fact sheet, the permit application and the draft permit.

Section 11.25 Public Comment and Requests for Public Hearings

During the public comment period provided, any interested person may submit written comments on the draft permit and may request a public hearing if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments shall be considered in making the final decision and shall be answered as provided in Sections 11.28 and 11.29.

Section 11.26 Public Hearings

The Chief shall hold a public hearing whenever he finds, on the basis of requests a significant degree of public interest in a draft permit(s). The Chief may also hold a public hearing at his discretion whenever, for instance, such hearing might clarify one or more issues involved in the permit decision.

The Chief shall hold a public hearing upon receiving written notice of opposition to a draft permit and a request for a public hearing within forty-five (45) days of the public notice. Whenever possible the Chief shall schedule a hearing under this section at a location convenient to the nearest population center to the proposed facility. Public notice of the hearing shall be given as specified in Section 11.24.

Section 11.27 [Reserved.]

Section 11.28 Reopening of the Public Comment Period.

(a) If any data, information or arguments submitted during the public comment period appear to raise substantial new questions concerning a permit, the Chief may take one or more of the following actions:

(1) Prepare a new draft permit, appropriately modified, under Section 11.00.

(2) Prepare a revised fact sheet under Section 11.00 and reopen the comment period under this section; or

(3) Reopen or extend the comment period under Section 11.00 to give interested persons an opportunity to comment on the information or arguments submitted.

(b) Comments filed during the reopened comment period shall be limited to the substantial new questions that caused its reopening. The public notice under Section 11.00 shall define the scope of the reopening.

Section 11.29 Response to Comments.

(a) At the time that any final permit is issued, the Chief shall issue a response to comments. This response shall be in writing and shall include:

(1) Specify which provisions, if any, of the draft permit have been changed in the final permit, and the reasons for change; and

(2) Briefly describe and respond to all significant comments on the draft permit raised during the public comment period, or during any hearing.

(b) The response to comments shall be delivered to any person who commented or any person who requests the same.

Section 12.00 Location Standards for Hazardous Waste Management Facilities.

Section 12.01 General.

These regulations describe the location restrictions for the construction or placement of new hazardous waste management facilities, except as specifically provided otherwise in this section.

12.01.01 Seismic Considerations.

(a) Portions of new facilities where treatment, storage or disposal of hazardous waste must not be located within sixty-one (61) meters (200 feet) of a fault which has had displacement in Holocene time.

(b) As used in Section 12.01.01(a):

(1) "Fault" means a fracture along which rocks strata on one side have been displaced with respect to those on the other side.

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

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

12.01.02 Karst Terrain.

(a) Facilities must not be located on areas of karst terrain.

(b) As used in Section 12.01.02(a) karst terrain is that terrain underlain by carbonate (limestone and dolomite) bedrock containing voids, caves and underground streams into which surface drainage flows through solution openings and sink holes, being produced by solution of the carbonate rock.

(c) The location restriction of 12.01.02(a) shall be limited to all disposal facilities, and to storage and/or treatment surface impoundments.

12.01.03 Subsurface Mining Areas.

(a) Portions of new facilities where hazardous waste management will be conducted must not be located within three hundred five (305) meters (1,000 feet) of a surface area likely to be influenced by underground mining. The outer limits of the surface area thus influenced are defined as that area beyond the point that may be considered the practical limit of subsidence as determined by the angle of the draw.

(b) As used in Section 12.01.03(a):

(1) Angle of draw is the angle between the vertical line drawn from the edge of the underground opening and the point at the surface where the subsidence diminishes to zero.

(c) The location restriction of 12.01.03(a) shall be limited to all disposal facilities, and to storage and/or treatment surface impoundments.

12.01.04 Critical Recharge Areas.

(a) Facilities must not be located in critical recharge areas.

(b) As used in Section 12.01.04(a): Critical recharge areas are those surface land areas which serve as recharge areas for those portions of aquifers used for public water supply.

(c) The location restriction of 12.01.04(a) shall be limited to those surface land areas which recharge portions of aquifers serving as a public ground water supply. A public ground water supply means a ground water supply system serving at least 15 service connections or an average of 25 or more permanent residents on a year round basis.

(d) The location restriction of 12.01.04(a) shall be limited to all disposal facilities, and to storage and/or treatment surface impoundments.

12.01.05 Wetlands.

(a) No facility shall be located in wetlands or in areas that may have an impact on wetlands.

(b) The location of facilities that have the potential for influencing wetlands shall be determined by the Chief.

(c) As used in Section 12.01.05(a):

(1) Wetlands are those areas that are inundated or saturated by surface or groundwater 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. Wetlands generally include swamps, marshes, bogs, and similar areas, such as sloughs, wet meadows, mudflats, sandflats and natural ponds.

12.01.06 Dam-Related Flood Hazard Areas.

(a) No facility shall be located within dam-related "danger reach" flood hazard areas where a dam or any water impounding structure which when breached may cause inundation of the facility involved has not received the necessary permits or approvals from the appropriate state or federal agencies. In no case should facilities be located within the flood pool of any dam.

(b) As used in Section 12.01.06(a):

(1) The "danger reach" is the land area immediately adjacent to a river or stream below a water impounding structure or dam. The extent of the danger reach is that area which would be

inundated by the flow of water from the impoundment created by the dam if the dam were to fail.

(2) The "flood pool" is the land area above the dam or water impounding structure surrounding the impoundment which will flood due to increased water levels in the impoundment as a result of abnormally high run-off or precipitation events. The extent of the flood pool is limited by the land contour at the same elevation as the crest of the dam or impounding structure.

12.01.07 Floodplains.

(a) A new or existing hazardous waste management facility located in a 100-year floodplain must be designed, constructed, operated and maintained to prevent washout of any hazardous waste by a 100-year flood unless the owner or operator can demonstrate to the Chief that procedures are in effect which will cause the waste to be removed safely before floodwaters can reach the facility, to a location where the wastes will not be vulnerable to floodwaters. [Comment: The location where wastes are moved must be an approved facility which is either permitted by EPA under 40 C.F.R. Part 122, authorized to manage hazardous waste by a state with a hazardous waste management program authorized under 40 C.F.R. Part 123, permitted by Section 11 of these regulations, or in interim status under 40 C.F.R. Parts 122 and 265 and § 20-5E-10 of the Act.]

(b) As used in Section 12.01.07(a):

(1) "100-year floodplain" means any land area which is subject to a one percent (1%) or greater chance of flooding in any given year from any source.

(2) "Washout" means the movement of hazardous waste from the active portion of the facility as a result of flooding.

(3) "100-year flood" means a flood that has a one percent (1%) chance of being equaled or exceeded in any given year. [Comment: Procedures for demonstrating compliance with each of these standards in Part B of the permit application are specified in Section 11.05.01(1).]

Section 13.00 [Reserved.]

Section 14.00 [Reserved.]

Section 15.00 Deed and Lease Disclosures; Approval for Land Disturbance.

Section 15.01 Notice in Deed to Property.

(a) The owner of the property on which a hazardous waste management facility is located must record, in accordance with State law, a notation on the deed or lease to the facility property -- or on some other instrument which is normally examined during title search -- that will in perpetuity notify any potential purchaser of the property that:

(1) The land has been used to manage hazardous wastes;

(2) Its use is restricted under Section 8.06.07(c); and

(3) The survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell or area of the facility have been filed with the Chief.

(b) Upon actual transfer of property which contains hazardous wastes that have been stored, treated or disposed of, the previous owner shall notify the Chief, in writing, of such transfer, except if such wastes have been properly removed as outlined in Section 15.01(c).

(c) If at any time the owner or operator or any subsequent owner of the land upon which a hazardous waste disposal facility was located obtained approval by the Chief to remove the waste and waste residues, the liner, if any, and all contaminated underlying and surrounding soil, he may remove the notation on the deed to the facility property or other instrument normally examined during title search, or 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 it can be demonstrated that any waste removed is not a hazardous

waste, becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements.]

Section 15.02 Approval for Land Disturbance.

(a) Before the owner or operator or any subsequent owner of the land upon which a hazardous waste disposal facility was located, engages in filling, grading, excavating, building, drilling, or mining on the property, or engaging in any activity which will disturb the closure of said area, the Chief of the Division of Water Resources must be notified and the owner or operator shall obtain authorization for such activity.

(b) If the owner or operator removes the waste from the property, a notation may be added to the deed or lease indicating such removal.

[Comment: On removing the waste and waste residues, the liner, if any, and the contaminated soil, the owner or operator, unless it can be demonstrated that any waste removed is not a hazardous waste, becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements.]

Section 15.03 Other Requirements.

Nothing contained herein shall relieve any person from complying with the requirements on deed and lease disclosures set forth in § 20-5E-20.

Section 16.00 Notices of Changes to the Board or the Director.

Persons desiring to call to the attention of the Board or Director amendments to the federal Solid Waste Disposal Act, as amended, or regulations promulgated pursuant thereto, may do so by filing a notice with the Board or Director, as appropriate, identifying the amendment which has been made to the federal Solid Waste Disposal Act, as amended, or regulations promulgated pursuant thereto and identifying the provision of these regulations which such person believes should be amended.

PROMULGATION HISTORY

These legislative regulations (proposed) were filed with the Office of the Secretary of State on September 14, 1981 jointly by the Director of the Department of Natural Resources and the State Water Resources Board.

The public notice date also was September 14, 1981 - hearings held in Morgantown on October 19, 1981 and again in Charleston, West Virginia on October 20, 1981.

The final certified copies adopted by the Director and the Board were filed with the Secretary of State on March 24, 1982 with the effective date of April 24, 1982.