

The Texas Commission on Environmental Quality (TCEQ or commission) proposes new Chapter 335, Subchapter T, Permitting Standards for Owners and Operators of Commercial Industrial Nonhazardous Waste Landfill Facilities, §§335.580 - 335.595.

#### BACKGROUND AND SUMMARY OF THE FACTUAL BASIS FOR THE PROPOSED RULES

The commission proposes these new rules to establish specific requirements for the location, design, construction, and operation of commercial industrial nonhazardous solid waste landfills. Current rules under 30 TAC §§305.50(1) - (3), 305.127(4)(A), 335.4, and 335.8, and Texas Health and Safety Code (THSC), §361.002(a) contain some provisions governing the design, construction, and operation of nonhazardous industrial solid waste landfills and none governing location. This proposal would provide comprehensive and consistent standards for the disposal of nonhazardous industrial solid waste in commercial industrial nonhazardous waste landfills and would specify requirements that must be met to obtain a permit to operate a commercial industrial nonhazardous waste landfill facility. This rulemaking also implements House Bill 2554, 78th Legislature, 2003, which requires that the commission adopt rules governing all aspects of the management and operation of a new commercial landfill facility that proposes to accept nonhazardous industrial solid waste.

30 TAC Chapter 330, Municipal Solid Waste, allows for the disposal of industrial nonhazardous solid waste at municipal solid waste landfills and contains specific requirements governing this disposal. The standards in this proposal are intended to be substantially consistent with the Chapter 330 standards applicable to the disposal of nonhazardous industrial solid waste. Therefore, this proposal would incorporate by reference many of the Chapter 330 requirements. However, where deemed appropriate

by the commission, this proposal also includes additional provisions that differ from those in Chapter 330. The standards that differ include the allowance for above-grade landfills and alternate liners; siting requirements relating to soil and groundwater; and other requirements relating to inspections, personnel training, waste analysis, contingency plans, and ignitable, reactive, or incompatible waste. These differing standards are analogous to the requirements for hazardous waste facilities, which the commission deems necessary to provide the added protection needed to address the hazards associated with commercial disposal of industrial solid waste. The commission notes that many of these standards for industrial nonhazardous solid waste landfill facilities currently are recommended in TCEQ technical guidance and through agency practice. The commission anticipates that there will be future rulemaking to harmonize the Chapter 330 requirements with this proposal, if it is adopted.

These proposed new rules would not apply to municipal solid waste landfills, nor would they change any existing rules that apply to the noncommercial or on-site management of nonhazardous industrial solid waste. An applicant with a pending application for a commercial industrial nonhazardous waste landfill facility on the effective date of these proposed new rules may revise the application to meet the requirements of these proposed new rules for a permit to manage and operate a commercial landfill for nonhazardous industrial solid waste. An applicant with a pending application for a commercial industrial nonhazardous waste landfill facility may not amend that application to meet the requirements for any other type permit or authorization granted by the TCEQ. An applicant with a pending application for a commercial industrial nonhazardous waste landfill facility who chooses not to amend the application to meet the requirements of these proposed new rules is subject to having the application returned.

#### SECTION BY SECTION DISCUSSION

The commission proposes new §335.580, Purpose and Applicability. Proposed §335.580(a) contains language explaining the purpose of Subchapter T, which is to establish minimum standards for facilities subject to this subchapter. Proposed subsection (a) also states that nothing in this subchapter shall be construed to restrict the commission's authority to implement §335.4 (relating to General Prohibitions) and the provisions of the Texas Water Code, Chapter 26. Proposed §335.580(b) states that this subchapter applies to the following types of facilities at which nonhazardous industrial solid waste is stored, processed, or disposed: 1) new commercial industrial nonhazardous waste landfill facilities; and 2) existing commercial industrial nonhazardous waste landfill facilities with areal or capacity expansions of the commercial industrial nonhazardous waste landfill. Proposed §335.580(c) states that the standards in this subchapter do not apply to municipal solid waste facilities at which nonhazardous industrial solid waste is managed.

The commission proposes new §335.581, Definitions. Proposed §335.581(1) defines commercial industrial nonhazardous waste landfill facility as a landfill facility that accepts, for disposal and for a charge, nonhazardous industrial solid waste generated elsewhere. Proposed §335.581(2) defines new commercial industrial nonhazardous waste landfill facility as a commercial industrial nonhazardous waste landfill facility which is not an existing commercial industrial nonhazardous waste landfill facility and for which an application was filed on or after June 20, 2003, or for which an application was pending on June 20, 2003. Proposed §335.581(3) defines existing commercial industrial nonhazardous waste landfill facility as a commercial industrial nonhazardous waste landfill facility for which a permit was issued prior to June 20, 2003.

The commission proposes new §335.582, Prohibited Wastes. The proposed prohibited wastes include non-putrescible municipal solid waste (conditional prohibition), hazardous waste, polychlorinated biphenyl compounds, putrescible waste, explosive material, certain radioactive or nuclear materials, medical waste, and liquid waste. Acceptance of non-putrescible municipal solid waste at a commercial industrial nonhazardous waste landfill would be limited to no more than 20% of the total amount of waste accepted. The 20% limitation for receipt of municipal solid waste at a commercial industrial nonhazardous waste landfill facility is proposed to protect the capacity of the facility and to maintain the credibility of the facility as primarily an industrial solid waste facility in the same manner as municipal solid waste facilities are limited to 20% on the receipt of industrial solid waste. This latter limitation was established in the municipal solid waste rules to avoid the recurrence of solid waste companies obtaining a permit for a municipal solid waste facilities and then accepting only industrial solid waste.

The commission proposes new §335.583, Permit Procedures. Proposed §335.583(a) lists permit application requirements for facilities subject to this subchapter, including certain provisions of the following requirements applicable to municipal solid waste facilities: §§330.50 - 330.58, 330.62, and 330.64. In the proposed incorporation of §330.51, any references or requirements relating to land-use only public hearings are proposed not to be applicable under §335.583(a), because such hearings are not included as an option under this proposal. The proposed incorporation of §330.56 does not include §330.56(n), concerning landfill gas management plan except when the executive director determines that inclusion of §330.56(n) is necessary. Proposed §335.583(b) lists additional permit application requirements concerning location restrictions, general inspection requirements, personnel training, waste analysis, ignitable, reactive, or incompatible wastes, and contingency plans.

The commission proposes new §335.584, Location Restrictions, to identify those areas in which a commercial industrial nonhazardous waste landfill cannot be constructed, or those areas in which a commercial industrial nonhazardous waste landfill cannot be constructed without first meeting specific requirements. Proposed §335.584(a) lists location restrictions applicable to municipal solid waste facilities, and applies these restrictions to facilities subject to this subchapter, including those relating to floodplains, wetlands, fault areas, seismic impact zones, and unstable areas. Proposed §335.584(b)(1) would prohibit a new commercial industrial nonhazardous waste landfill facility, or an areal or capacity expansion of an existing commercial industrial nonhazardous waste landfill unit, where underlying soil unit(s) within five feet of the lower component of the bottom liner have certain specified sand or gravel Unified Soil Classifications, unless it is in an area where the average annual evaporation exceeds average annual rainfall by more than 40 inches; or the soil unit is not sufficiently thick and laterally continuous to provide a significant pathway for waste migration. Proposed §335.584(b)(2) would prohibit a new commercial industrial nonhazardous waste landfill facility, or an areal or capacity expansion of an existing commercial industrial nonhazardous waste landfill unit, in areas overlying a regional aquifer unless the regional aquifer is separated from the base of the containment structure by a minimum of ten feet of material with a hydraulic conductivity towards the aquifer not greater than  $10^{-7}$  centimeters per second (cm/sec), or a thicker interval of more permeable material that provides equivalent or greater retardation to pollutant migration.

The commission proposes new §335.585, General Inspection Requirements, to describe the requirements for inspection of the facility. Proposed §335.585(a) states that a facility owner or operator must inspect the facility for malfunctions and deterioration, operator errors, and discharges

that may be causing or may lead to a release of nonhazardous industrial solid wastes constituents to the environment or that may pose a threat to human health. Proposed §335.585(b) requires that the owner or operator must develop and maintain a written schedule for inspecting monitoring equipment, security devices, and operating and structural equipment. Proposed §335.585(c) requires the owner or operator to remedy any deterioration of equipment or structures. Proposed §335.585(d) requires the owner or operator to record inspections in an inspection log, and to maintain inspection records for three years.

The commission proposes new §335.586, Personnel Training, to describe the types of training an owner or operator must provide for facility employees. Proposed §335.586(a) states that all facility personnel must successfully complete a training program that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of this subchapter. Proposed §335.586(b) requires facility personnel to complete the training program within six months after the effective date of these regulations or six months after the date of their employment. Proposed §335.586(c) requires an annual review of the initial training. Proposed §335.586(d) requires the owner or operator to maintain the following documents at the facility: job title for each position related to nonhazardous industrial solid waste management, and the name of the employee filling each position, a written job description for each of these positions, a written description of the type and amount of training or job experience for each position, and records to document that the training or job experience required has been given to, and completed by, each employee. Proposed §335.586(e) requires the owner or operator to maintain training records for at least three years from the date the employee last worked at the facility.

The commission proposes new §335.587, Waste Analysis, to describe the requirements for properly characterizing nonhazardous wastes received at a commercial industrial nonhazardous waste landfill facility. These requirements are necessary to ensure that unauthorized waste is not placed in a commercial industrial nonhazardous waste landfill, and include a requirement under proposed §335.587(a) that the owner or operator obtain a detailed chemical and physical analysis of a representative sample of the waste, providing all the information that must be known to treat, store, or dispose of the waste in accordance with this subchapter. Proposed §335.587(b) would require the owner or operator to develop and follow a written waste analysis plan that describes the procedures which the owner or operator will carry out to comply with subsection (a) of this section. Proposed §335.587(c) would require the waste analysis plan to specify the procedures which will be used to inspect and, if necessary, analyze each movement of nonhazardous industrial solid waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper.

The commission proposes new §335.588, General Requirements for Ignitable, Reactive, or Incompatible Wastes. Proposed §335.588(a) states that the owner or operator shall take precautions to prevent accidental ignition or reaction of nonhazardous industrial wastes that are ignitable or reactive. Proposed §335.588(b) states that the owner or operator who manages ignitable or reactive wastes, or who mixes incompatible waste or incompatible wastes with other materials, shall take precautions to prevent certain types of dangerous reactions listed in paragraphs (1) - (5). Proposed §335.588(c) requires the owner or operator to document compliance, when required to comply with subsection (a) or (b) of this section.

The commission proposes new §335.589, Contingency Plan, describing the contents of the contingency plan and the steps a facility owner or operator must take to implement the contingency plan in the event of a release of waste at the facility. This proposed new section contains subsections (a) - (f) which describe: the purpose of the contingency plan; detailed requirements concerning implementation and content of the plan; provisions for maintaining and providing copies of the plan; amendment of the plan; emergency coordinator responsibilities and duties; and emergency procedures.

The commission proposes new §335.590, Operational Standards, to describe the requirements for day-to-day operation of a commercial industrial nonhazardous waste landfill. These proposed provisions incorporate by reference the following municipal solid waste requirements: §§330.111 - 330.116, 330.117(a) - (c), 330.119 - 330.122, 330.125, 330.127 - 330.134, 330.138, and 330.139. The proposed incorporation of §330.113 does not include §330.113(b)(3), concerning gas monitoring and remediation plan recordkeeping or §330.130 (relating to Landfill Gas Control) except when the executive director determines that inclusion of §330.113(b)(3) or §330.130 is necessary because of the nature of the wastes. Proposed §335.590 also contains requirements concerning shipping; reporting; and landfill design, construction, and operation, and requirements for the acceptance of hazardous waste from conditionally exempt small quantity generators.

The commission proposes new §335.591, Groundwater Protection Design and Operation, describing the requirements for the landfill liner design and leachate collection system design and operation. These incorporate by reference the following requirements applicable to municipal solid waste facilities: §§330.200(a) - (d), 330.201 - 330.203, 330.205, and 330.206.

The commission proposes new §335.592, Groundwater Monitoring and Corrective Action, to describe the requirements for groundwater monitoring relating to detection monitoring and assessment monitoring. These incorporate by reference the following requirements applicable to municipal solid waste facilities: §§330.230, 330.231, 330.233 - 330.238, 330.241, and 330.242.

The commission proposes new §335.593, Closure and Post-Closure Care Requirements, to describe the requirements for maintenance of a landfill after it has been closed.

The commission proposes new §335.594, Financial Assurance, to reference the requirements for financial assurance, which are in Chapter 37, Subchapter P.

Finally, the commission proposes new §335.595, Fees, to reference the requirement for payment of fees associated with commercial waste management facilities, which are in Chapter 335, Subchapter J.

#### RELATED ISSUE

The commission solicits comment on the issue of duration of the permit for a commercial industrial nonhazardous waste landfill to which Chapter 335, Subchapter T would apply. Any comments received on this issue may be considered by the commission for future rulemaking. Under 30 TAC §305.127(1)(B)(ii), the duration of the permit “may be for the life of the project,” and would be determined on a case-by-case basis. The commission solicits comment on whether the aforementioned Chapter 305 language, which is not part of this rulemaking, should be amended in a future rulemaking.

#### FISCAL NOTE: COSTS TO STATE AND LOCAL GOVERNMENT

John Davis, Technical Specialist with Strategic Planning and Appropriations, has determined that for each year of the first five-year period the proposed new rules are in effect, there will be no significant fiscal implications for the agency or any other unit of state or local government due to administration and enforcement of the proposed new rules. There are no units of state or local government that operate facilities that would be affected by the proposed new rules, nor do they typically use such commercial facilities for disposal of nonhazardous industrial solid waste.

Commercial landfills subject to the standards proposed in this rulemaking are utilized to dispose of nonhazardous industrial waste, including wastewater treatment sludges, petroleum contaminated soils, spent air purification cartridge filters, metal bearing solids, and spent solvents. The proposed new rules would only apply to existing sites that apply for an areal or capacity expansion or to new facilities for which an initial application was filed on or after June 20, 2003, or for which an application was pending on June 20, 2003.

#### PUBLIC BENEFITS AND COSTS

Mr. Davis has also determined that for each of the first five years the proposed new rules are in effect, the public benefit anticipated as a result of implementing the proposed new rules will be potential improved compliance and environmental protection due to the implementation of more clear and concise rules regulating the disposal of nonhazardous industrial solid waste in commercial industrial nonhazardous waste landfills.

No significant fiscal implications are anticipated due to implementation as the proposed new rules are not expected to have a significant impact on current practices. The proposed rulemaking is intended to provide comprehensive and consistent standards for the disposal of nonhazardous industrial solid waste in commercial industrial nonhazardous waste landfills. Facilities affected by the proposed new rules are already subject to similar standards. This rulemaking is only intended to increase consistency of existing rules and to provide specification. The proposed new rules would only apply to existing sites that apply for an areal or capacity expansion or to new facilities for which an initial application was filed on or after June 20, 2003, or for which an application was pending on June 20, 2003.

The agency does not anticipate a large number of sites in Texas will be affected by the proposed new rules. There are only two existing sites, located in the Houston area, that could be affected if they apply for an areal or capacity expansion. Additionally, the agency only receives less than one new application per year from facilities that would be affected by the proposed new rules.

#### SMALL BUSINESS AND MICRO-BUSINESS ASSESSMENT

No adverse fiscal implications are anticipated for small or micro-businesses due to implementation of the proposed new rules, which are intended to provide comprehensive and consistent standards for the disposal of nonhazardous industrial solid waste in commercial industrial nonhazardous waste landfills. Facilities affected by the proposed new rules are already subject to similar standards. This rulemaking is only intended to increase the consistency and specificity of existing rules. The proposed new rules would only apply to existing sites that apply for an areal or capacity expansion or to new facilities for

which an initial application was filed on or after June 20, 2003, or for which an application was pending on June 20, 2003.

There are no small or micro-businesses that would currently be affected by the proposed new rules.

Although possible, the agency anticipates that very few, if any, future applications will be from small or micro-businesses.

#### LOCAL EMPLOYMENT IMPACT STATEMENT

The commission has reviewed this proposed rulemaking and determined that a local employment impact statement is not required because the proposed new rules do not adversely affect a local economy in a material way for the first five years that the proposed new rules are in effect.

#### DRAFT REGULATORY IMPACT ANALYSIS DETERMINATION

The commission has reviewed the proposed new rules in light of the regulatory analysis requirements of Texas Government Code, §2001.0225, and has determined that the proposed new rules are not subject to §2001.0225 because they do not meet the definition of a “major environmental rule” as defined in that statute. “Major environmental rule” means a rule, the specific intent of which, is to protect the environment or reduce risks to human health from environmental exposure and that may adversely affect in a material way the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. The specific intent of these proposed new rules is to protect the environment and reduce risks to human health. This rulemaking implements House Bill 2554, which requires that the commission adopt rules governing all aspects of the management and

operation of a new commercial landfill facility that proposes to accept nonhazardous industrial solid waste. The proposed new rules would provide a set of comprehensive and consistent standards for the disposal of nonhazardous industrial waste in commercial industrial nonhazardous solid waste landfills. The proposed new rules substantially advance their purpose by spelling out the requirements that must be met to obtain a permit to operate a commercial industrial nonhazardous waste landfill, including specific requirements for location, design, construction, and operation. However, because the proposed new rules do not require substantially more from an applicant than is required or allowed by current rules and law, the proposed new rules do not adversely affect in a material way the economy, a sector of the economy, productivity, competition, or jobs. The proposed new rules are not anticipated to adversely affect in a material way the environment or the public health and safety of the state or a sector of the state because the proposal specifies technical standards for the disposal of waste in commercial industrial nonhazardous solid waste landfills.

In addition, the proposed new rules do not exceed the four applicability requirements of Texas Government Code, §2001.0025(a)(1) - (4) in that the proposal does not: 1) exceed a standard set by federal law; 2) exceed an express requirement of state law; 3) exceed a requirement of a delegation agreement; or 4) propose to adopt a rule solely under the general powers of the agency.

The proposal does not exceed a standard set by federal law because there are no such corresponding federal standards for the disposal of nonhazardous industrial waste in commercial industrial nonhazardous solid waste landfills. Further, the proposal does not exceed an express requirement of state law because THSC, Chapter 361 does not establish express requirements for the disposal of

nonhazardous industrial waste in commercial industrial nonhazardous solid waste landfills. The proposal does not exceed the requirements of a delegation agreement because there is no delegation agreement that establishes express requirements commercial industrial nonhazardous solid waste landfills. This rulemaking is not proposed solely under the general powers of the agency, but under the provisions of Texas Water Code (TWC), §5.103 and §5.105, which provide the commission with the authority to adopt any rules necessary to carry out its powers and duties under the provisions of the TWC or other laws of this state; and under THSC, §361.017 and §361.024, which authorize the commission to regulate industrial solid waste and municipal hazardous waste and to adopt rules consistent with the general intent and purposes of the THSC.

The commission invites public comment on the draft regulatory impact analysis determination.

#### TAKINGS IMPACT ASSESSMENT

The commission evaluated these proposed new rules and performed a preliminary assessment of whether these proposed new rules constitute a taking under Texas Government Code, Chapter 2007. The specific purpose of these propose new rules is to provide comprehensive and consistent standards for the disposal of nonhazardous industrial solid waste in commercial industrial nonhazardous waste landfills and would specify requirements that must be met to obtain a permit to operate a commercial industrial nonhazardous waste landfill facility. The proposed new rules significantly advance this purpose by creating new Chapter 335, Subchapter T, which establishes specific requirements for the location, design, construction, and operation of commercial industrial nonhazardous solid waste landfills.

The proposed new rules do not impose a greater burden than is necessary because the proposed location, design, construction, and operational requirements represent the engineering practice necessary to safeguard the health, welfare, and physical property of the people and to protect the environment by controlling the management of solid waste. Specifically, the proposed regulations do not restrict or limit the owner's right to property and reduce its value by 25% or more beyond that which would otherwise exist in the absence of the regulations because the proposed new rules do not require substantially more from an applicant than is required or allowed by current rules, law, or consistent practice of the agency. Promulgation and enforcement of these proposed new rules will not affect private real property and would be neither a statutory nor a constitutional taking. The proposed new rules do not prohibit economically viable or beneficial uses of real property. The proposed new rules merely provide specific requirements that must be followed to dispose of nonhazardous industrial solid waste in commercial industrial nonhazardous waste landfills. There is no alternative to adopting rules, although the contents of the rules could vary. House Bill 2554 requires that the commission adopts rules governing all aspects of the management and operation of a new commercial landfill facility that proposes to accept nonhazardous industrial solid waste.

#### CONSISTENCY WITH THE COASTAL MANAGEMENT PROGRAM

The commission has reviewed the proposed rulemaking and found that the proposal affects an action and/or authorization identified in §505.11(a)(6), and will therefore require that applicable goals and policies of the Texas Coastal Management Program (CMP) be considered during the rulemaking process. The commission has prepared a consistency determination for the proposed new rules under 31 TAC §505.22 and has found the proposed rulemaking is consistent with the applicable CMP goals

and policies. The following is a summary of that determination. The CMP goal applicable to the proposed rulemaking is the goal to protect, preserve, restore, and enhance the diversity, quality, quantity, functions, and values of coastal natural resource areas. Applicable policies are construction and operation of solid waste treatment, storage, and disposal facilities, such that new solid waste facilities and areal expansions of existing solid waste facilities shall be sited, designed, constructed, and operated to prevent releases of pollutants that may adversely affect coastal natural resource areas, and at a minimum, comply with standards established under the Solid Waste Disposal Act, 42 United States Code, §§6901 *et seq.* Promulgation and enforcement of these proposed new rules are consistent with the applicable CMP goals and policies because the proposed new rules would provide comprehensive and consistent standards for the disposal of nonhazardous industrial waste in commercial industrial nonhazardous waste landfill units and would specify requirements that must be met to obtain a permit to operate a commercial industrial nonhazardous waste landfill. In addition, the proposed new rules do not violate any applicable provisions of the CMP's stated goals and policies. The commission invites public comment on the consistency of the proposed new rules.

#### ANNOUNCEMENT OF HEARING

The commission will hold a public hearing on this proposal in Austin on September 30, 2003 at 10:00 a.m., in Building F, Room 2210, at the commission's central office located at 12100 Park 35 Circle. The hearing is structured for the receipt of oral or written comments by interested persons. Individuals may present oral statements when called upon in order of registration. Open discussion will not be permitted during the hearing; however, commission staff members will be available to discuss the proposal 30 minutes before the hearing and will answer questions before and after the hearing.

Persons with disabilities who have special communication or other accommodation needs who are planning to attend the hearing should contact the Office of Environmental Policy, Analysis, and Assessment at (512) 239-4900. Requests should be made as far in advance as possible.

#### SUBMITTAL OF COMMENTS

Comments may be submitted to Patricia Durón, MC 205, Office of Environmental Policy, Analysis, and Assessment, Texas Commission on Environmental Quality, P.O. Box 13087, Austin, Texas 78711-3087, or faxed to (512) 239-4808. All comments should reference Rule Log Number 2002-052-335-WS. Comments must be received by 5:00 p.m., October 6, 2003. For further information, please contact Ray Henry Austin, Regulation Development Section, at (512) 239-6814.

### **SUBCHAPTER T: PERMITTING STANDARDS FOR OWNERS AND OPERATORS OF COMMERCIAL INDUSTRIAL NONHAZARDOUS WASTE LANDFILL FACILITIES**

#### **§§335.580 - 335.594**

#### STATUTORY AUTHORITY

The new rules are proposed under TWC, §5.103 and §5.105, which provide the commission with the authority to adopt any rules necessary to carry out its powers and duties under the provisions of the TWC or other laws of this state; under THSC, Solid Waste Disposal Act, §361.017 and §361.024, which authorize the commission to regulate industrial solid waste and municipal hazardous waste and to adopt rules consistent with the general intent and purposes of the THSC; THSC, §361.036, which orders the commission to adopt rules requiring a person who generates, transports, processes, stores, or

disposes of nonhazardous industrial solid waste to provide recordkeeping and use a manifest; THSC, §361.061, which allows the commission to require and issue permits for solid waste facilities used to store, process, or dispose of solid waste; and; and HB 2554 (78th Legislature, 2003), which requires the commission to adopt rules governing all aspects of the management and operation of a new commercial landfill facility that proposes to accept nonhazardous industrial solid waste and requires that the proposed rules apply to pending permit applications.

The proposed new rules implement THSC, §§361.017, 361.024, 361.036, and 361.061 and HB 2554.

**§335.580. Purpose and Applicability.**

(a) The purpose of this subchapter is to establish minimum standards for facilities subject to this subchapter under subsection (b) of this section. Nothing in this subchapter shall be construed to restrict the commission's authority to implement §335.4 of this title (relating to General Prohibitions) and the provisions of Texas Water Code, Chapter 26.

(b) This subchapter applies to the following types of facilities at which nonhazardous industrial waste is stored, processed, or disposed:

(1) any new commercial industrial nonhazardous waste landfill facility; and

(2) any existing commercial industrial nonhazardous waste landfill facility with an areal or capacity expansion of the commercial industrial nonhazardous waste landfill.

(c) This subchapter does not apply to municipal solid waste facilities at which nonhazardous industrial waste is managed.

**§335.581. Definitions.**

The following words and terms, when used in this chapter, shall have the following meanings, unless the context clearly requires otherwise.

(1) **Commercial industrial nonhazardous waste landfill (CINWL) facility** - a landfill facility that accepts, for disposal and for a charge, nonhazardous industrial waste.

(2) **New CINWL facility** - a CINWL facility which is not an “existing CINWL facility” and for which an application was filed on or after June 20, 2003, or for which an application was pending on June 20, 2003.

(3) **Existing CINWL facility** - a CINWL facility for which a permit was issued prior to June 20, 2003.

**§335.582. Prohibited Wastes.**

The following wastes shall not be disposed:

(1) municipal solid waste, as defined in §330.2 of this title (relating to Definitions), but only in amounts such that the total volume of municipal solid waste accepted does not exceed 20% of the total amount of waste (not including municipal solid waste) accepted during the current or previous year. The amount of waste may be determined by volume or weight, but the same unit of measure shall be used for each year, unless a variance is authorized by the executive director;

(2) hazardous waste, as defined in §335.1 of this title (relating to Definitions);

(3) polychlorinated biphenyl compounds (PCBs), as defined by the United States Environmental Protection Agency (EPA) in regulations issued pursuant to the Toxic Substance Control Act under Title 40 Code of Federal Regulations Part 761 unless authorized by the EPA;

(4) putrescible waste, as defined in §330.2 of this title;

(5) explosive material, as defined by the Department of Transportation in 49 Code of Federal Regulations Part 173;

(6) radioactive or nuclear materials regulated under Texas Health and Safety Code, Chapter 401, or rules of the commission, the Texas Department of Health, the Texas Railroad Commission, or any other applicable rules of state or federal authorities;

(7) medical waste, as defined in §330.2 of this title; and

(8) liquid waste, as defined in §330.2 of this title.

**§335.583. Permit Procedures.**

(a) The following requirements applicable to municipal solid waste facilities apply to permit applications for facilities subject to this subchapter:

(1) §330.50 of this title (relating to Pre-application Review);

(2) §330.51 of this title (relating to Permit Application for Municipal Solid Waste Facility), except that the references and requirements relating to a land-use only public hearing do not apply;

(3) §330.52 of this title (relating to Technical Requirements of Part I of the Application) except §330.52(b)(11) of this title, concerning financial assurance shall not apply;

(4) §330.53 of this title (relating to Technical Requirements of Part II of the Application);

(5) §330.54 of this title (relating to Technical Requirements of Part III of the Application), except that the requirement in §330.54(3) of this title, concerning an estimate of the population or population equivalent served at the site does not apply;

(6) §330.55 of this title (relating to Site Development Plan), except that the reference to “§330.137 of this title (relating to Disposal of Industrial Wastes)” in §330.55(b)(10)(I) of this title does not apply and “§335.590(22) of this title (relating to Operational Standards)” applies instead;

(7) §330.56 of this title (relating to Attachments to the Site Development Plan), except that the requirements relating to Attachment 14 - landfill gas management plan under §330.56(n) of this title do not apply unless determined necessary by the executive director;

(8) §330.57 of this title (relating to Technical Requirements of Part IV of the Application);

(9) §330.58 of this title (relating to Technical Requirements of Part V of the Application);

(10) §330.62 of this title (relating to Property Rights); and

(11) §330.64 of this title (relating to Additional Standard Permit Conditions for Municipal Solid Waste Facilities), except that the reference to “§305.70 of this title (relating to Municipal Solid Waste Permit Modifications)” does not apply and “§305.69 of this title (relating to Solid Waste Permit Modification at the Request of the Permittee)” applies instead.

(b) In addition to the requirements in subsection (a) of this section, the permit application must include information to demonstrate compliance with following requirements:

(1) §335.584(b) of this title (relating to Location Restrictions);

(2) §335.585 of this title (relating to General Inspection Requirements);

(3) §335.586 of this title (relating to Personnel Training);

(4) §335.587 of this title (relating to Waste Analysis);

(5) §335.588 of this title (relating to General Requirements for Ignitable, Reactive, or Incompatible Wastes); and

(6) §335.589 of this title (relating to Contingency Plan).

**§335.584. Location Restrictions.**

(a) The following location restrictions applicable to municipal solid waste facilities apply to facilities subject to this subchapter:

(1) §330.301 of this title (relating to Floodplains);

(2) §330.302 of this title (relating to Wetlands);

(3) §330.303 of this title (relating to Fault Areas);

(4) §330.304 of this title (relating to Seismic Impact Zones); and

(5) §330.305 of this title (relating to Unstable Areas).

(b) In addition to the location restrictions in subsection (a) of this section, a new commercial industrial nonhazardous waste landfill facility, or an areal or capacity expansion of an existing commercial industrial nonhazardous waste landfill unit, may not be located:

(1) in areas where underlying soil unit(s) within five feet of the lower component of the containment structure have a Unified Soil Classification of GW (well-graded gravel), GP (poorly-

graded gravel), GM (silty gravel), GC (clayey gravel), SW (well-graded sand), SP (poorly-graded sand), or SM (silty sand), or a hydraulic conductivity greater than  $1 \times 10^{-5}$  cm/sec, unless:

(A) it is in an area where the average annual evaporation exceeds average annual rainfall by more than 40 inches; or

(B) the soil unit is not sufficiently thick and laterally continuous to provide a significant pathway for waste migration.

(2) areas overlying a regional aquifer unless the regional aquifer is separated from the base of the containment structure by a minimum of ten feet of material with a hydraulic conductivity towards the aquifer not greater than  $10^{-7}$  centimeters per second (cm/sec), or a thicker interval of more permeable material that provides equivalent or greater retardation to pollutant migration.

**§335.585. General Inspection Requirements.**

(a) The owner or operator must inspect the facility for compliance with the site operating plan.

(b) The owner or operator must develop and follow a written schedule for inspecting monitoring equipment, safety and emergency equipment, 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.

(1) The owner or operator must maintain the schedule at the facility.

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

(3) The frequency of inspection may vary for the items on the schedule. However, the frequency should be based on the rate of deterioration of the equipments and the probability of an environmental or human health incident if the deterioration, malfunction, or 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 items and frequencies required in 40 Code of Federal Regulations §264.303 for hazardous waste landfills.

(c) The owner or operator must remedy any deterioration or malfunction of equipment or structures that the inspection reveals on a schedule that ensures that the problem does not lead to an environmental or human health hazard. 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, and retain these records in accordance with the requirements of §335.113(d) of this title (relating to Reporting of Emergency Situations by Emergency Coordinator). 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.

**§335.586. Personnel Training.**

(a) 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 subchapter. The owner or operator must ensure that this program includes all the elements described in the document required under subsection (d)(3) of this section.

(1) This program must be directed by a person trained in nonhazardous industrial solid waste management procedures, and must include instruction that teaches facility personnel nonhazardous industrial solid waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.

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

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

(B) communications or alarm systems;

(C) response to fires or explosions;

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

(E) shutdown of operations.

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

(c) Facility personnel must take part in an annual review of the initial training required in subsection (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 waste management, and the name of the employee filling each job;

(2) A written job description for each position listed under paragraph (1) of this subsection. 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 paragraph (1) of this subsection;

(4) Records that document that the training or job experience required under subsections (a) - (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 and training records on former employees must be kept for at least three years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

**§335.587. Waste Analysis.**

(a) The following waste analysis requirements apply to owners and operators of facilities subject to this subchapter:

(1) Before treating, storing, or disposing of any nonhazardous industrial waste, the owner or operator shall obtain a chemical and physical analysis of a representative sample of the waste. At a minimum, the analysis must contain all the information that must be known to treat, store, or dispose of the waste in accordance with this subchapter.

(A) A waste generator's records of analyses performed on the waste before the effective date of these regulations, or studies conducted on nonhazardous industrial 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 this paragraph;

(B) The owner or operator may arrange for the generator of the nonhazardous industrial waste to supply the information required by this paragraph. If the generator does not supply the information, and the owner or operator chooses to accept a nonhazardous industrial waste, the owner or operator is responsible for obtaining the information required to comply with this section;

(2) The analysis may include data developed under Subchapter R of this chapter (relating to Waste Classification), and existing published or documented data on the nonhazardous industrial waste or on such waste generated from similar processes;

(3) 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:

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

(B) When the results of the inspection required in paragraph (4) of this subsection indicate that the nonhazardous industrial waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

(4) The owner or operator shall inspect and, if necessary, analyze each nonhazardous industrial waste 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 shall develop and follow a written waste analysis plan that describes the procedures which the owner or operator will carry out to comply with subsection (a) of this section. This plan must be submitted with the permit application. The owner or operator shall keep this plan at the facility. At a minimum, the plan must specify:

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

(2) the test methods which will be used to test for these parameters;

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

(A) one of the sampling methods described in Appendix I of Title 40 Code of Federal Regulations Part 261; or

(B) an equivalent sampling method approved by the executive director.

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

(5) the waste analyses that nonhazardous industrial waste generators have agreed to supply; and

(6) where applicable, the methods that will be used to meet any additional waste analysis requirements in §335.588 of this title (relating to General Requirements for Ignitable, Reactive, or Incompatible Wastes).

**§335.588. General Requirements for Ignitable, Reactive, or Incompatible Wastes.**

(a) The owner or operator of a facility subject to this subchapter shall take precautions to prevent accidental ignition or reaction of nonhazardous industrial wastes that are ignitable or reactive as

defined in §335.505 of this title (relating to Class 1 Waste Determination). 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 shall 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) 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, shall 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; or

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

(c) When required to comply with subsection (a) or (b) of this section, the owner or operator shall 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 §335.587 of this title (relating to Waste Analysis), or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions.

**§335.589. Contingency Plan.**

(a) Purpose and implementation of contingency plan.

(1) Each owner or operator of a facility subject to this subchapter shall have a contingency plan for the facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of nonhazardous industrial waste or constituents of such waste to air, soil, or surface water. The contingency plan must be submitted to the executive director with the permit application and, after modification or approval, will become a condition of any permit issued.

(2) The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of nonhazardous industrial waste or constituents of such waste that could threaten human health or the environment.

(b) Content of contingency plan.

(1) The contingency plan must describe the actions facility personnel must take to comply with subsections (a) and (f) of this section in response to fires, explosions, or any unplanned sudden or non-sudden release of nonhazardous industrial waste or constituents of such waste to air, soil, or surface water at the facility.

(2) If the owner or operator manages nonhazardous industrial solid waste in tanks and has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with Title 40 Code of Federal Regulations Part 112, 40 Code of Federal Regulations Part 1510, or some other emergency or contingency plan, the owner or operator need only amend that plan to incorporate nonhazardous industrial waste management provisions that are sufficient to comply with the requirements of this part.

(3) The plan must describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services.

(4) The plan must specify that the owner or operator will maintain a list of names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see subsection (e) of this section), and this list must be kept up to date and at the facility.

Where more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates.

(5) The plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems, and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(6) The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must 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 nonhazardous industrial waste or fires).

(c) Copies of contingency plan. A copy of the contingency plan and all revisions to the plan must be:

(1) maintained at the facility; and

(2) 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.

(d) Changes to the contingency plan. The contingency plan must be reviewed, and immediately updated, if necessary, whenever:

(1) the facility permit is revised;

(2) the plan fails in an emergency;

(3) 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 nonhazardous industrial waste or constituents of such waste, or changes the response necessary in an emergency; or

(4) the list of emergency equipment changes;

(e) Emergency coordinator. At all times, there must 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) with the responsibility for coordinating all emergency response measures. This emergency coordinator shall be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.

(f) Emergency procedures.

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

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

(B) notify appropriate state or local agencies with designated response roles if their help is needed.

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

(3) 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 must 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 nonhazardous industrial waste surface water run-off from water or chemical agents used to control fire and heat-induced explosions).

(4) If the emergency coordinator determines that the facility has had a release, fire, or explosion that could threaten human health, or the environment, outside the facility and if the emergency coordinator's assessment indicates that evacuation of local areas may be advisable, the emergency coordinator shall immediately notify appropriate local authorities, and must be available to help appropriate officials decide whether local areas should be evacuated.

(5) The emergency coordinator shall immediately notify either the government official designated as the on-scene coordinator for that geographical area, (in the applicable regional contingency plan under 40 Code of Federal Regulations Part 1510) or the National Response Center (using their 24-hour toll free number 1-800-424-8802). The report must include:

(A) name and telephone number of reporter;

(B) name and address of facility;

(C) time and type of incident (e.g., release, fire);

(D) name and quantity of material(s) involved, to the extent known;

(E) the extent of injuries, if any; and

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

(6) 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 nonhazardous industrial waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing release waste, and removing or isolating containers.

(7) 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.

(8) Immediately after an emergency, the emergency coordinator shall provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility. The owner or operator shall classify all recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility in accordance with Subchapter R of this chapter (relating to Waste Classification) and in accordance with all applicable requirements of Subchapter A of this chapter (relating to Industrial Solid Waste and Municipal Hazardous Waste in General).

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

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

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

(10) The owner or operator shall notify the executive director, and other appropriate state and local authorities, that the facility is in compliance with paragraph (8) of this subsection before operations are resumed in the affected area(s) of the facility.

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

The report must include:

(A) name, address, and telephone number of the owner or operator;

(B) name, address, and telephone number of the facility;

(C) date, time, and type of incident (e.g., fire, explosion);

(D) name and quantity of material(s) involved;

(E) the extent of injuries, if any;

(F) an assessment of actual or potential hazards to human health or the environment, where this is applicable; and

(G) estimated quantity and disposition of recovered material that resulted from the incident.

**§335.590. Operational Standards.**

The following requirements, including those applicable to municipal solid waste facilities, apply to owners and operators of facilities subject to this subchapter:

(1) §330.111 of this title (relating to General);

(2) §330.112 of this title (relating to Pre-operation Notices);

(3) §330.113 of this title (relating to Recordkeeping Requirements), except that the requirements under §330.113(b)(3) of this title, concerning gas monitoring and remediation plan recordkeeping do not apply, except as determined necessary by the executive director;

(4) §330.114 of this title (relating to Site Operating Plan);

(5) §330.115 of this title (relating to Fire Protection);

(6) §330.116 of this title (relating to Access Control);

(7) §330.117(a) through (c) of this title (relating to Unloading of Wastes);

(8) §330.119 of this title (relating to Site Sign);

(9) §330.120 of this title (relating to Control of Windblown Waste and Litter);

(10) §330.121 of this title (relating to Easement and Buffer Zones);

(11) §330.122 of this title (relating to Landfill Markers and Benchmarks);

(12) §330.125 of this title (relating to Air Criteria);

(13) §330.127 of this title (relating to Site Access Roads);

(14) §330.128 of this title (relating to Salvaging and Scavenging);

(15) §330.129 of this title (relating to Endangered Species Protection);

(16) §330.130 of this title (relating to Landfill Gas Control) as determined necessary by the executive director;

(17) §330.131 of this title (relating to Abandoned Oil and Water Wells);

(18) §330.132 of this title (relating to Compaction);

(19) §330.133 of this title (relating to Landfill Cover);

(20) §330.134 of this title (relating to Poned Water);

(21) §330.138 of this title (relating to Screening of Deposited Wastes);

(22) §330.139 of this title (relating to Contaminated Water Discharge);

(23) The owner or operator shall have and follow procedures for the suppression and control of dust;

(24) The owner or operator shall ensure that each commercial industrial nonhazardous waste landfill unit meets the requirements of subparagraphs (A) - (F) of this paragraph.

(A) Design criteria.

(i) Landfill cells shall be constructed in accordance with one of the two following provisions:

(I) a design that ensures that the concentration values listed in Table 1 of §330.241 of this title (relating to Constituents for Detection Monitoring) will not be exceeded in the uppermost aquifer at the relevant point of compliance, as specified by the executive director under clause (iv) of this subparagraph; or

(II) a composite liner, as defined in clause (ii) of this subparagraph, and a leachate collection system that is designed and constructed in accordance with subparagraph (B) of this paragraph.

(ii) For purposes of this section, "composite liner" means a system consisting of two components. The upper component shall consist of a minimum 30-mil (0.75 mm) flexible membrane liner and the lower component shall consist of at least a three-foot layer of compacted soil with a hydraulic conductivity of no more than  $1 \times 10^{-7}$  cm/sec. flexible membrane liner components consisting of high density polyethylene shall be at least 60-mil thick. The flexible membrane liner component must be installed in direct and uniform contact with the compacted soil component.

(iii) When approving a design that complies with clause (i)(I) of this subparagraph, the executive director may consider at least the following factors:

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

(II) the climatic factors of the area; and

(III) the volume and physical and chemical characteristics of the leachate.

(iv) For purposes of this paragraph, the relevant point of compliance is defined in §330.2 of this title (relating to Definitions). In determining the relevant point of compliance, the executive director may consider at least the following factors:

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

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

(III) the quantity, quality, and detection of flow of groundwater;

(IV) the proximity and withdrawal rate of the groundwater users;

(V) the availability of alternative drinking water supplies;

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

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

(VIII) practicable capability of the owner or operator.

(B) Landfill cells shall have a leachate-collection system designed and constructed to maintain less than a 30-cm depth of leachate over the liner. The leachate-collection and leachate-removal system shall be:

(i) constructed of materials that are chemically resistant to the leachate expected to be generated;

(ii) of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and by any equipment used at the landfill; and

(iii) designed and operated to function through the scheduled closure and post-closure period of the landfill.

(C) Storm water run-on/run-off facilities such as berms and ditches shall be provided in accordance with §330.54 of this title (relating to Technical Requirements of Part III of the Application).

(D) The site shall have a groundwater monitoring system installed that is capable of detecting the migration of pollutants from the landfill and is sampled semiannually for the parameters specified in Chapter 330, Subchapter I of this title (relating to Groundwater Monitoring and Corrective Action).

(E) The final cover placed over the commercial industrial nonhazardous waste landfill unit shall consist of a minimum of 18 inches of uncontaminated topsoil overlying four feet of compacted clay-rich soil material meeting the requirements of §330.253 of this title (relating to Closure Requirements for MSWLF Units That Receive Waste on or after October 9, 1993 and MSW Sites).  
The final cover over the aerial fill shall meet the requirements of §330.253 of this title and shall include a flexible membrane component.

(F) nonhazardous industrial waste may be placed above natural grade in commercial industrial nonhazardous waste landfill units provided the following conditions are met:

(i) waste placed above grade shall be laterally contained by dikes that are constructed to:

(I) prevent washout, release, or exposure of waste;

(II) be physically stable against slope failure, with a safety factor of 1.5;

(III) prevent washout from hydrostatic and hydrodynamic forces from storms and floods;

(IV) prevent storm water from reaching the waste;

(V) minimize release of leachate; and

(VI) minimize long-term maintenance.

(ii) dikes have an exterior slope no steeper than 4:1 (horizontal:vertical).

(iii) dikes are constructed of materials that meet the following requirements:

(I) hydraulic conductivity of less than  $1 \times 10^{-7}$  cm/sec;

(II) liquid limit greater than 30;

(III) plasticity index greater than 15; and

(IV) greater than 30% passing No. 200 sieve.

(iv) the liner required in paragraph (22) of this section shall extend to the crest of the dike;

(v) waste placed against the dike is placed no higher than three feet below the crest of the dike;

(vi) the slope of the wastes placed in the commercial industrial nonhazardous waste landfill units does not exceed 3% to the center of the unit;

(vii) no waste is placed higher than the lowest elevation of the dike crest; and



each conditionally exempt small quantity generator does not exceed 220 pounds (100 kilograms) a calendar month, and provided the landfill owner or operator is willing to accept the hazardous waste.

**§335.591. Groundwater Protection Design and Operation.**

The following requirements applicable to municipal solid waste facilities apply to owners and operators of facilities subject to this subchapter:

(1) §330.201 of this title (relating to Leachate Collection System);

(2) §330.202 of this title (relating to Alternate Design);

(3) §330.203 of this title (relating to Special Conditions (Liner Design Constraints));

(4) §330.205 of this title (relating to Soils and Liner Quality Control Plan); and

(5) §330.206 of this title (relating to Soils and Liner Evaluation Report (SLER) and Flexible Membrane Liner Evaluation Report (FMLER)).

**§335.592. Groundwater Monitoring and Corrective Action.**

The following requirements applicable to municipal solid waste facilities apply to owners and operators of facilities subject to this subchapter:

(1) §330.230 of this title (relating to Applicability);

(2) §330.231 of this title (relating to Groundwater Monitoring Systems);

(3) §330.233 of this title (relating to Groundwater Sampling and Analysis Requirements);

(4) §330.234 of this title (relating to Detection Monitoring);

(5) §330.235 of this title (relating to Assessment Monitoring Program);

(6) §330.236 of this title (relating to Assessment of Corrective Measures);

(7) §330.237 of this title (relating to Selection of Remedy);

(8) §330.238 of this title (relating to Implementation of the Corrective Action Program);

(9) §330.241 of this title (relating to Constituents for Detection Monitoring); and

(10) §330.242 of this title (relating to Monitor Well Construction Specifications).

**§335.593. Closure and Post-Closure Care Requirements.**

The owner or operator of a facility subject to this subchapter shall close the facility or any part of it in accordance with the requirements of §335.8 of this title (relating to Closure and Remediation).

In addition to these requirements, the owner or operator shall meet the requirements for closure and post-closure of municipal solid waste facilities in §330.253 of this title (relating to Closure Requirements for MSWLF Units That Receive Waste on or after October 9, 1993 and MSW Sites).

**§335.594. Financial Assurance.**

The owner or operator of any landfill or unit subject to this subchapter shall establish and maintain financial assurance for closure and post-closure care of the landfill or unit in accordance with Chapter 37, Subchapter P of this title (relating to Financial Assurance for Hazardous and Nonhazardous Industrial Solid Waste Facilities).

**§335.595. Fees.**

Owners and operators of commercial nonhazardous industrial waste storage, processing, and disposal facilities are subject to the fees required and established in Subchapter J of this chapter (relating to Industrial Solid Waste and Hazardous Waste Fee System).

