

Texas Natural Resource Conservation Commission

INTEROFFICE MEMORANDUM

To: Commissioners **Date:** March 19, 1999

Thru: LaDonna Castañuela
Chief Clerk

From: Randy Wood, Deputy Director
Office of Environmental Policy, Analysis, and Assessment

Subject: **Docket No. 1999-0425-RUL.** Consideration of a petition for rulemaking for an amendment to 30 TAC Chapter 330, Section 330.137, concerning Disposal of Industrial Wastes. The petition requests that the Texas Natural Resource Conservation Commission propose and adopt a rule that would prohibit new permits for commercial landfills for industrial nonhazardous waste on land with soil that is permeable. (John Forehand/Susan White) (Rule Log No. 99110-330-WS)

What the Proposed Rule Would Do:

On February 17, 1999, the executive director received a request from Waste Min Inc. for a rule amendment that would add a hydrogeologic siting criteria to existing rules for commercial industrial nonhazardous waste landfills (CINWL). The proposed rule would amend 30 TAC §330.137 by adding language that would prohibit the placement of new CINWLs in areas containing porous soils. The language that the petitioner wishes to be adopted is essentially the same as that language that now appears in TNRCC Technical Guideline Number 2, Industrial Solid Waste Landfill Site Selection. Please see the attached rule petition in Attachment 1.

Applicable Law:

30 TAC §20.15(c) states: "Within 60 days after submission of a petition, the commission shall consider the petition and shall either deny the petition in writing, stating its reasons for the denial, or shall initiate rulemaking proceedings in accordance with the APA." The APA is the Texas Administrative Procedure Act, Texas Government Code, Chapter 2001. The 60-day deadline for Texas Natural Resource Conservation Commission (commission) action on the petition is April 18, 1999.

- Under Texas Health and Safety Code, §361.017, the commission is given the responsibility for management of industrial solid waste.
- Under §361.019, industrial solid waste may be accepted in municipal solid waste (MSW) facilities.
- Section 361.024(a) allows the commission to adopt rules consistent with Chapter 361.

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- Section 361.024(e) requires the commission to adopt rules when adopting, repealing, or amending any agency statement of general applicability that interprets or prescribes law or policy or describes the procedure or practice requirements of the agency.
- Under §361.061, the commission may require and issue permits authorizing and governing the construction, operation, and maintenance of commercial industrial solid waste facilities.
- Section 361.121 defines commercial waste facility as any facility that accepts an industrial solid waste for disposal for a charge.

Reason Rules Are Needed:

- a. Description of the Petition for Rulemaking: The petition for rulemaking would require a new rule prohibiting the placement of a CINWL in an area of highly permeable soils. This proposed rule would prevent CINWLs from being located in areas where the subsurface conditions are conducive to the rapid migration of contaminants from CINWLs. The proposed rule would prohibit the placement of a new CINWL in an area where soil units within five feet of any landfill containment structure would be classified as a sand or gravel or be determined to have a hydraulic conductivity greater than 1.0×10^{-5} cm/sec.
- b. Petitioner's Rationale for the Requested Rule Change: The petitioner is concerned that potential leaks from CINWLs threaten limited subsurface drinking water supplies and nearby aquatic/marine ecosystems, and states that prudent public policy would prohibit CINWLs in those areas where this inevitable leakage would not be contained by the natural quality of the surrounding soil. Therefore, this proposed rule would prevent CINWLs from being located in areas where the subsurface conditions are conducive to the rapid migration of contaminants from CINWLs. The petitioner is concerned over the lack of commission rules concerning commercial industrial nonhazardous waste landfills. The petitioner contends that the coastal area has large deposits of porous soils that, because of their high permeability, are unsuitable for the siting of a CINWL, and that the placement of a CINWL in porous soil is a poor environmental engineering decision based on the potential of the CINWL to contaminate nearby water.

Background:

- a. Definition of a CINWL: A CINWL unit is considered to be a discrete area of land or an excavation that is authorized by permit to receive, for a charge, nonhazardous industrial solid waste that is generated elsewhere. A CINWL is not a land application unit, surface impoundment, injection well, or waste pile as those terms are defined under §257.2 of 40 CFR Part 257. A CINWL is not an on-site industrial waste landfill. A CINWL and an on-site industrial waste landfill differ in that the CINWL may receive, for a charge, wastes

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generated by others. On-site industrial landfills may dispose of their own wastes only and are not considered commercial facilities. A CINWL unit may exist at a permitted MSW Landfill or it may stand alone at a commercial industrial facility.

- b. Current Rules: Although some existing rules apply to CINWL units, there are no rules regarding design and operational criteria that specifically govern siting and construction of a CINWL facility if it is not located within the permitted boundaries of an MSW facility. Chapter 335 does not contain specific requirements for the design and operation of CINWLs, so the Industrial and Hazardous Waste (I&HW) Permits Section has utilized technical guidelines for CINWL design and operational requirements, Chapters 305 and 281 for permitting procedures, and Chapter 335 for permitting requirements.
- c. Current Practice: CINWL permit applications processed by the I&HW Section have been guided by commission guidelines to meet a hydrogeologic siting criteria which is identical to the criteria proposed by Waste Min Inc. When a CINWL unit is proposed within the boundaries of a MSW facility, the permit application is reviewed by the MSW Permits Section. The MSW Permits Section utilizes regulatory requirements in 30 TAC Chapter 330, §330.137 for design and operations requirements, and 30 TAC Chapter 330, Subchapters A through L for permitting procedures. CINWL units permitted within the boundaries of an MSW facility have not been required to meet a hydrogeologic siting criteria, as the MSW rules do not include a hydrogeologic siting restriction.
- d. Stakeholder Participation: The petition makes reference to a commission Issues Paper on new rules for CINWLs (please see attachment 2 for the issues paper). At a Commissioners' Work Session in November 1997, staff was directed by the commissioners to proceed with limited rulemaking to address the need for enhancement of rules for CINWL applications. Development of an issues paper was the second step taken toward development of new rules for CINWLs. Issues papers are a means to solicit comments, identify contentious issues, and build consensus prior to development of a rule that might be considered controversial. A CINWL Issues Paper was published on November 14, 1998, and comment was taken from the public through January 13, 1999. As a first step, a stakeholder work group had been convened, but consensus was not found among the members.
- e. Issues Paper: Issue number two of the commission's CINWL Issues Paper suggests that a proposed rule for CINWLs contain a hydrogeological siting criteria, specifically: "a new CINWL unit or lateral expansion may not be located in an area where the soils unit(s) within 5 feet of the containment structure (liner) consist primarily of gravel or sand or have an insitu hydraulic conductivity greater than 1.0×10^{-5} cm/sec. unless it is located in an area where the 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." (A copy of the issues paper is attached.)

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- f. Technical Guideline: Permit applicants for new and expanding CINWLs not located within the boundaries of an MSW facility are guided by technical guidelines in lieu of rules. Technical Guideline No. 2 (relating to Industrial Solid Waste Landfill Site Selection) states that “The Commission recommends that industrial solid waste landfills not be constructed so as to intercept or to directly overlie appreciable thicknesses of permeable soils, such as gravel, sand, or silt,” and recommends that the hydraulic conductivity for secondary containment materials be no greater than 1.0×10^{-5} cm/sec.
- g. Petition: Waste Min Inc. has quoted the CINWL Issues Paper and TNRCC Technical Guideline No. 2 and has petitioned the commission to establish a hydrogeological siting criteria in a rule that will be essentially the same as the criteria in the guideline.
- h. Statistics: The numbers and types of facilities pending and currently managing this type of waste are listed in Attachment 3.

Staff Recommendation and Rationale:

The staff recommends denial of the petition. New, comprehensive rules regarding CINWLs are being developed at this time, based on a direction given at a Commissioners’ Work Session. These new rules will address uniform standards for both CINWLs located on MSW facilities and CINWLs that are stand alone commercial industrial facilities. It is recommended that if the hydrogeologic siting criteria are developed, their development should occur as a part of a broader, ongoing CINWL rule development effort and not as a separate rulemaking effort. Any hydrogeologic siting criteria should be developed in context with the other CINWL rules. A better use of agency resources would be to address the hydrogeological siting criteria as a component of the CINWL rule.

Affected Public:

The persons affected by the proposed rule are applicants and permittees for CINWLs and potential affected parties to contested cases for permits for CINWLs.

Affected Agency Programs:

The Permits Division of the Office of Waste Management is responsible for permits under the requested rule revisions.

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Agency Contacts:

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Susan White, Environmental Law Division, 239-0454
Sharon Smith, Environmental Law Division, 239-3672
Wayne Lee, Waste Policy and Regulations Division, 239-6815
Bettie Bell, Texas Register Team, 239-6087

Attachments

cc: 7 copies to the Chief Clerk for distribution

Attachment 1

Petition from Waste Min Inc.

February 12, 1999

Mr. Jeffrey A. Saitas, Executive Director
Texas Natural Resource Conservation Commission
P. O. Box 13087
Austin, Texas 78711-3087

Subject: Petition for Adoption of Rules

Dear Mr. Saitas;

During the past two years, Waste Min Inc. have been representing a group of citizens in Chambers County who are concerned over the lack of regulations concerning commercial non hazardous industrial waste landfills (CNIWL). Many of our group live in a coastal area that has large deposits of porous soils that are unsuitable for the siting of a CNIWL. Placement of a CNIWL in porous soil is a poor environmental engineering decision based on the potential of the CNIWL to contaminate limited subsurface drinking water supplies, and nearby aquatic/marine ecosystems.

TNRCC Technical Guideline No. 2, Industrial Solid Waste Landfill Site Selection states "The Commission recommends that industrial solid waste landfills not be constructed so as to intercept or to directly overlie appreciable thicknesses of permeable soils, such as gravel, sand, or silt." Although contrary to this guidance, TNRCC has processed permit applications for a CNIWL that would have been located in such soils. During this permit application review process, TNRCC staff did not object to the placement of this CNIWL in an area of permeable soils.

On December 29, 1998, we filed comments supportive of an Issues Paper on a new regulation of CNIWLs circulated by TNRCC. The Issues Paper is consistent with Technical Guideline #2 on this matter of landfill placement in areas of permeable soils when it proposes a minimum soil porosity of 10^{-5} cm/sec. This Issues Paper represents the second time that TNRCC advocates in writing the prohibition of siting of CNIWLs in areas of permeable soils.

We believe that TNRCC should adopt a regulation that would prohibit the placement of a CNIWL in an area of permeable soils. For this reason, I hereby petition TNRCC to adopt a new regulation that would place a hydrogeological criteria on the siting of commercial nonhazardous industrial waste landfills (CNIWL). In accordance with 30 TAC 20.15, this petition contains the following information:

A. Brief Explanation of the Proposed Rule - The proposed rule would prohibit the placement of new CNIWLs in areas containing porous soils.

B. Text of the Proposed Rule - This proposed rule would be adopted as a new section to 30 TAC 330.137(l). This new rule is based upon Chapter 352, Commercial Nonhazardous Waste, Section 352.20, Location Standards, subsection (c) Aquifer Protection that was proposed by TNRCC in the *Texas Register* on October 22, 1996 (21 *TexReg* 10372). The exact wording of the proposed regulation is as follows:

(l) A new commercial nonhazardous industrial waste landfill shall not be located in an area where soil units within five feet of any containment structure have a unified Soil Classification of GW, GP, GM, GC, SW, SP, or SM, or a hydraulic conductivity greater than 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. For the purposes of this section, "containment structure" means a continuous layer of natural or man-made materials beneath or on the sides of a landfill that restricts the downward or lateral escape of industrial waste, industrial waste constituents, or leachate.

C. Statutory Authority of TNRCC to Adopt the Proposed Rule - This proposed rule can be adopted by TNRCC under §361.024 of the Texas Health and Safety Code which states:

Sec. 361.024. Rules and Standards (a) The commission may adopt rules consistent with this chapter and establish minimum standards of operation for the management and control of solid waste under this chapter.

D. Discussion of the Injury that can Result from Failure of TNRCC to Adopt the Regulation - This proposed rule will prevent CNIWLs from being located in areas where the subsurface conditions are conducive to the rapid migration of contaminants from CNIWLs. According to the available technical literature (see Attachment A), CNIWLs that are constructed with the best available technology will leak. These leaks threaten limited subsurface drinking water supplies, and nearby aquatic/marine ecosystems. Since these landfills will inevitably leak, prudent public policy would prohibit CNIWLs in those areas where this inevitable leakage will not be contained by the natural quality of the surrounding soil.

For the reasons presented above, we petition TNRCC to adopt this proposed regulation. If you have any questions, please call me at 281 367 9913.

Sincerely,

Richard E. Hill, P. E.
President

cc: Leigh Ing
Susan Ferguson
Wayne Lee
John Forehand

Attachment 2

ISSUES PAPER November 11, 1998

RULES RELATED ISSUES FOR COMMERCIAL INDUSTRIAL NONHAZARDOUS WASTE LANDFILLS

Introduction.

The current Chapter 335 regulations do not contain specific requirements for the design and operation of industrial nonhazardous waste landfills. Proposed regulatory changes will provide specific standards for the disposal of industrial nonhazardous waste in Commercial Industrial Nonhazardous Waste Landfill (CINWL) units and will clarify the requirements which must be met to obtain a permit. The changes will result in greater consistency of standards which will assist permit applicants and agency review staff.

The rules will be known as the Commercial Industrial Nonhazardous Waste Landfill (CINWL) Rules and will be found in 30 Texas Administrative Code (TAC) Chapter 330. Proposed changes will primarily be incorporated into §330.137; however, §330.2 (relating to Definitions); §330.3 (relating to Applicability); §330.4 (relating to Permit Required); § 330.41 (relating to Types of Municipal Solid Waste Facilities); §§330.111-330.139 (relating to Operational Standards for Solid Waste Land Disposal Sites; §305.62 (relating to Amendment); and §305.70 (relating to Municipal Solid Waste Class I Modifications) will also be affected.

Background and Reason for the Rule.

1) Commission Directive:

During the November 16, 1997 Commissioner's Work Session, the Municipal Solid Waste (MSW) Division was directed by the Commissioners to proceed with limited rulemaking to address the need for enhancement of rules for CINWL permit applications.

2) Applicable Statutes:

Section 361.061, Subchapter C of the Solid Waste Disposal Act, grants jurisdiction to this Agency to issue permits to solid waste management facilities; and Subchapter B, §361.024 grants authority to write rules governing this activity. Although some existing rules apply to CINWL units, there are no rules regarding design and operational criteria that specifically govern construction of these facilities if they are not located within the permitted boundaries of a MSW facility.

3) Background:

A CINWL unit is considered to be a discrete area of land or an excavation that is authorized by permit to receive, for a charge, nonhazardous industrial solid waste that is generated elsewhere. A CINWL is not a land application unit, surface impoundment, injection well, or waste pile as those terms are defined under §257.2 of 40 CFR Part 257. A CINWL is not an on-site industrial waste landfill. A CINWL and an on-site industrial waste landfill differ in that the CINWL may receive, for a charge, wastes generated by others. On-site industrial landfills may dispose of their own wastes only and are not considered commercial facilities. Historically within the Texas Natural Resource Conservation Commission, the Industrial and Hazardous Waste (IHW) Division processed permit applications for industrial nonhazardous waste landfills that did not propose the acceptance of municipal solid waste, and the MSW Division processed permit applications for facilities proposing to accept both MSW and Class 1 nonhazardous industrial waste.

The IHW Division has utilized technical guidelines for industrial nonhazardous waste landfill design and operational requirements, Chapters 305 and 281 permitting procedures, and Chapter 335 for permitting requirements. Technical guidelines were used because Chapter 335 does not contain requirements for the design and operation of industrial nonhazardous waste landfills.

The MSW Division follows regulatory requirements in 30 TAC Chapter 330, §330.137 for design and operations requirements and 30 TAC Chapter 330, Subchapters A through L for permitting procedures.

The IHW design standards (provided in technical guidance) have some similarities to MSW design standards (provided in rule) for CINWL units. However, there are significant differences in design standards. Please refer to the attached chart for ease of reference in comparing the proposed standards with existing standards.

4) Statistics:

Currently there are 3 permitted commercial industrial nonhazardous waste landfills in operation in Texas. There are currently 13 permitted MSW landfills that are authorized to accept Class 1 nonhazardous waste. Additionally, there are 6 applications pending for MSW landfills which propose to accept Class 1 nonhazardous waste.

What the Rule Will Do.

The proposed regulations will provide consistent standards and requirements for the disposal of nonhazardous industrial waste in CINWL units. The proposed changes will eliminate the existing inconsistencies between the standards for industrial waste disposal at municipal waste landfills and industrial waste landfills, and will provide regulation by rule in lieu of technical guidance. Affected portions of Chapter 330 would include §330.2 (relating to Definitions); §330.3 (relating to Applicability); §330.4 (relating to Permit Required); §330.41 (relating to Types of Municipal Solid Waste Facilities); §§330.111-330.139 (relating to Operational Standards for Solid Waste Land Disposal Sites); and §330.137 (relating to Disposal of Industrial Wastes).

These proposed regulatory changes will provide specific standards for the disposal of industrial nonhazardous waste in CINWL units and will clearly state the requirements which must be met to obtain a permit. The changes will result in consistency between permit applications and review efforts by Agency staff.

The proposed rules would also allow permit holders for existing facilities authorized to accept Class 1 nonhazardous industrial wastes to make changes to comply with the provisions of the proposed rules through the permit modification or permit amendment process. Affected portions of Chapter 305 may include §305.62 (relating to Amendment), §305.69 (relating to Solid Waste Permit Modification at the Request of the Permittee), and §305.70 (relating to Municipal Solid Waste Class I Modifications).

Substance of the Rule.

The proposed rule will establish design and operating standards for the management, control, and disposal of nonhazardous solid waste in CINWL units at municipal and industrial waste landfills. These rules will amend 30 TAC Chapter 330, relating to municipal landfills, to incorporate specific standards for the disposal of industrial nonhazardous waste within the permit boundary of a municipal or commercial industrial nonhazardous waste landfill.

The proposed rules will also allow permit holders of existing facilities authorized to accept Class 1 nonhazardous industrial wastes to make changes to comply with the provisions of the proposed rules as an amendment (30 TAC §305.62(c)(2)), permit modification (§305.69), or a Class I permit modification (or §305.70).

Effect of Rule Change.

The proposed rules will establish permitting, design and operating standards for the management, control, and disposal of nonhazardous solid waste in CINWL units at municipal and industrial waste landfills. The proposed changes will eliminate the existing inconsistencies between the standards for industrial waste disposal at municipal waste landfills and industrial waste landfills, and will provide regulation by rule in lieu of technical guidance. These rules will amend 30 TAC Chapter 330, relating to municipal landfills, to incorporate specific standards for the disposal of industrial nonhazardous waste within the permit boundary of a municipal or commercial industrial nonhazardous waste landfill. At this time, the proposed regulations would not affect existing permitted landfills engaged in this type of activity until the applicant requests that the permit be modified or amended to incorporate the new CINWL standards.

Comparison with Federal Regulations.

No analogous federal regulations exist.

Rule Affect on Other Media.

This rule will require air quality authorization, pursuant to Chapter 116 (relating to Control of Air Pollution by Permits for New Construction or Modifications), from the Office of Air Quality prior to start of construction.

Potential Controversial Issues.

MSW operators/permittees may perceive the proposed requirements to be more stringent than existing rule. They may also argue that the proposed rules are unnecessary and exceed federal requirements as Subtitle D can be interpreted to allow disposal of all nonhazardous industrial wastes in Municipal Solid Waste Landfill (MSWLF) units.

Operators of existing CINWLs may oppose the rule because their facilities were held to permit standard which are more stringent than those which would be required by the proposed rule. Existing facility operators may believe the new rules will force them to amend their design to comply with provisions of the proposed rule so that they will not be placed at a competitive disadvantage to facilities permitted under the proposed rules.

Some environmentally concerned persons may believe the proposed rules will result in less protective commercial industrial nonhazardous waste landfills and consider the proposed design and operation standards to be less stringent than those currently provided by technical guidance documents. Some may believe CINWL standards should be closer to those required for hazardous waste landfills.

Persons Affected by the Proposed Rule.

The entities affected by this rule include permittees, applicants, and operators of Commercial Industrial Nonhazardous Waste Landfills and MSW facilities authorized to accept Class 1 nonhazardous waste.

Benefit to the State.

The State will benefit by establishing consistent and predictable rules that will provide increased assurance of protection of human health and the environment by providing design and operating standards for commercial industrial nonhazardous waste landfills.

Specific Issues.

Please refer to the attached chart for ease of reference in comparing the proposed standards with existing standards.

1) What type of liner will be required for CINWL units?

Answer: A 3-foot thick clay liner plus a 60 mil geosynthetic liner will be required. No equivalent liners will be allowed. The proposed liner design is equivalent to the design required by existing MSW rules for landfill units authorized to accept Class 1 nonhazardous waste.

2) Does the proposed rule contain a hydrogeological siting criteria?

Answer: Yes, the proposed rules specify a new CINWL unit or lateral expansion may not be located in an area where the soils unit(s) within 5 feet of the containment structure (liner) consist primarily of gravel or sand or have an insitu hydraulic conductivity greater than 1.0×10^{-5} cm/sec. unless it is located in an area where the 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.

3) What type of leachate collection system will be required?

Answer: New CINWL units and lateral expansions must be constructed with a leachate collection system that covers the lateral extent of the waste fill and is designed, constructed, and operated to maintain less than 30 centimeters depth of leachate over the liner. The leachate collection system must be designed and operated to function through the scheduled closure and post-closure care period.

4) What type of groundwater monitoring will be required?

Answer: Proposed groundwater monitoring requirements are identical to those currently required for MSW facilities that accept Class 1 nonhazardous industrial wastes other than asbestos containing material. Sites that accept Class 1 wastes (other than asbestos containing material) must have a groundwater monitoring system installed which is capable of detecting the migration of pollutants from the landfill and must be sampled semiannually for the parameters specified in §§ 330.230 -330.242 (relating to Groundwater Monitoring and Corrective Action).

5) Will a waste analysis plan be required?

Answer: Yes, a waste analysis plan similar to the one currently required for existing commercial industrial landfills will be required.

6) Will a contingency plan be required?

Answer: Yes, a contingency plan similar to the one currently required for existing commercial industrial landfills will be required.

7) Will financial assurance will be required for closure and post-closure?

Answer: Yes, the same as currently required in the MSW regulations.

8) Will liability coverage be required?

Answer: Liability coverage will not be required.

9) Will CINWL units be covered under the New Source Performance Standard?

Answer: Yes, but only if the landfill accepts any quantity of household waste, then the applicability will be the same as for a MSW landfill.

10) Will an air quality permit be required?

Answer: Yes, reference will be made to existing rules in Chapter 116 to make it clear that CINWL facilities will need to obtain separate authorization under the Texas Clean Air Act and rules promulgated thereunder.

11) What type of storm water management will be required?

Answer: The storm water requirements will be the same as those currently required for MSW landfills, and require the owner or operator to design, construct, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

12) In what chapter will this rule be promulgated?

Answer: Chapter 330 concerning Municipal Solid Waste.

13) Will a waste disposal fee will be required?

Answer: Yes, the proposed rules will not change the current fee charged by municipal and industrial waste facilities for industrial class 1 waste disposal (\$7.25 per ton).

14) Do the proposed rules include location restrictions?

Answer: Yes, location restrictions are included and are the same as those currently required in the MSW regulations (Airport Safety, Floodplains, Wetlands, Fault Areas, Seismic Impact Zones, Unstable Areas, and Edwards Recharge Zone).

15) Will above-grade landfilling of Class 1 waste be allowed?

Answer: Yes.

16) Will co-mingling of Class 1 and municipal solid waste be allowed?

Answer: No, the proposed rules will not allow the mixing of industrial and municipal solid waste within the same disposal unit (co-mingling).

17) Will co-disposal of Class 1 and municipal solid waste be allowed?

Answer: Yes, the proposed rules will allow separate placement of industrial and municipal waste within the same disposal unit (co-disposal).

18) Will there be a permit term limit?

Answer: No, a permit term limit is not proposed for CINWLs or for municipal solid waste landfills with CINWL units.

19) What type of final cover will be required?

Answer: The final cover system must be designed and constructed to provide long-term minimization of migration of fluids through the closed landfill and may consist of one of the cover options as follows: (a) 18 inches of earthen material with a coefficient of permeability no greater than 1×10^{-5} cm/sec overlain by a synthetic membrane and 18 inches of earthen material that is capable of sustaining native plant growth; or (b) an alternate final cover design that will achieve an equivalent reduction in infiltration and provide equivalent protection from wind and water erosion as the infiltration layer required in option (a).

Requirement	Municipal Solid Waste Landfill	Commercial Hazardous Waste Landfill	Current Commercial Industrial Class 1 Landfill (IHW) / Current Class 1 Municipal Solid Waste Landfill (MSW dedicated trench)	Proposed CINWL Requirements
Liner	Single composite; 2' clay + synthetic OR: Performance-based Liner (site specific approval by permit)	Double liner: 3' clay + synthetic + synthetic Equivalent Liner Allowed	Single composite; 3' clay + synthetic recommended in TNRCC technical guidance; equivalent liner allowed. / MSW single composite 3' clay + synthetic. No alternate liner allowed.	3' clay + synthetic No Equivalent Liner Allowed

Requirement	Municipal Solid Waste Landfill	Commercial Hazardous Waste Landfill	Current Commercial Industrial Class 1 Landfill (IHW) / Current Class 1 Municipal Solid Waste Landfill (MSW dedicated trench)	Proposed CINWL Requirements
Hydrogeologic Siting Criteria	Not required.	Yes, required by §335.	Yes, by technical guideline. / No.	A new CINWL unit or lateral expansion may not be located in an area where the soils unit(s) within 5 feet of the containment structure (liner) consist primarily of gravel or sand or have an insitu hydraulic conductivity greater than 1.0×10^{-5} cm/sec. unless it is located in an area where the 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

Requirement	Municipal Solid Waste Landfill	Commercial Hazardous Waste Landfill	Current Commercial Industrial Class 1 Landfill (IHW) / Current Class 1 Municipal Solid Waste Landfill (MSW dedicated trench)	Proposed CINWL Requirements
Leachate Collection System	Must maintain less than 30 cm of head on liner system; can be modified thru performance-based liner demonstration	Required to maintain less than 30 cm of head on liner system; also incorporates a leak detection system	Recommended in TNRCC technical guidance / MSW requirement to maintain less than 30 cm of head on liner system; industrial leachate and municipal leachate may be co-mingled.	Maintain less than 30 cm of head on liner system .
Groundwater Monitoring	Required to meet RCRA Subtitle D requirements in terms of design Has provisions for arid exempt landfills - no GW monitoring if criteria met	Requirement; but may apply for exemption under 30 TAC §335.156.	Recommended in technical guidance (minimum one upgradient well and three downgradient wells). / Required in MSW regulations; may include additional parameters for monitoring of industrial units	Required as in MSW regulations (Subtitle D); may also include additional constituents to be monitored.

Requirement	Municipal Solid Waste Landfill	Commercial Hazardous Waste Landfill	Current Commercial Industrial Class 1 Landfill (IHW) / Current Class 1 Municipal Solid Waste Landfill (MSW dedicated trench)	Proposed CINWL Requirements
Waste Analysis Plan	Waste screening (exclusion) program is required; WAP's not specifically required.	Yes	Recommended in TNRCC technical guidance. / Waste screening (exclusion) program is required; WAP's not specifically required.	Yes
Contingency Plan	No	Yes	Yes / Information addressing security and safety is required.	Yes
Financial Assurance for Closure and Post-Closure	Yes, closure costs and 30 years post-closure costs	Yes, closure costs and 30 years post-closure costs	Yes; 30 TAC §335.7 / Yes; 30 TAC §330.9	Yes, same as §330 requirements, closure costs and 30 years of post-closure costs.
Liability Coverage Requirements	No	Yes	No / No	No

Requirement	Municipal Solid Waste Landfill	Commercial Hazardous Waste Landfill	Current Commercial Industrial Class 1 Landfill (IHW) / Current Class 1 Municipal Solid Waste Landfill (MSW dedicated trench)	Proposed CINWL Requirements
New Source Performance Standard - Subpart WWW	NSPS standard applied if landfill was new or modified after 5-30-91. In this case modified means the permit was changed in a manner that increased the waste capacity of the landfill.	If the landfill accepts any quantity of household waste, the applicability is the same as for MSW landfills.	If the landfill accepts any quantity of household waste, the applicability is the same as for MSW landfills.	If the landfill accepts any quantity of household waste, the applicability is the same as for MSW landfills.
Air Quality Permit	Chapter 116, requires permit (with site specific impacts review) or requires standard air permit (with technology review, but no site specific impacts review).	Chapter 116 requires site specific impacts review and has no standard permit.	Chapter 116 requires site specific impacts review and has no standard permit. / Chapter 116 requires site specific impacts review and has no standard permit.	Chapter 116 requires site specific impacts review and has no standard permit.

Requirement	Municipal Solid Waste Landfill	Commercial Hazardous Waste Landfill	Current Commercial Industrial Class 1 Landfill (IHW) / Current Class 1 Municipal Solid Waste Landfill (MSW dedicated trench)	Proposed CINWL Requirements
Stormwater Management	Yes, 25 year, 24 hour storm protection.	Yes, 100 year, 24 hour storm protection.	Recommended in TNRCC technical guidance. MSW requirements are for 24 hour, 25 year storm.	MSW requirements for 24 hour, 25 year storm with contingencies for the 100 year, 24 hour storm.
Regulatory Authority	Chapter 330	Chapter 335	Chapter 335 for IHW (TNRCC technical guidance contains recommendations) / Chapter 330 and §330.137 for MSW “separate trench”	Chapter 330

Requirement	Municipal Solid Waste Landfill	Commercial Hazardous Waste Landfill	Current Commercial Industrial Class 1 Landfill (IHW) / Current Class 1 Municipal Solid Waste Landfill (MSW dedicated trench)	Proposed CINWL Requirements
Fees Based on Amount of Waste Disposed	Yes	Yes	Yes under 30 TAC §335.325 -- also requires recordkeeping of waste receiver reports. / Yes, MSW facilities that accept Class 1 waste require Chapter 335 reporting and fee requirements.	No change to 330 or 335.
Siting Requirements	Subtitle D location restrictions, aquifer restrictions	30 TAC Chapter 335 Subchapter G, 30 TAC Chapter 305	Recommended in technical guidance document. / Subtitle D location restrictions, aquifer restrictions	Subtitle D location restrictions, aquifer location restrictions, plus five feet of low permeability soils requirement.
Above-grade Landfilling of Class 1 Industrial Waste	Not allowed.	Yes	Allowed under technical guidance (dikes required). / No	Yes

Requirement	Municipal Solid Waste Landfill	Commercial Hazardous Waste Landfill	Current Commercial Industrial Class 1 Landfill (IHW) / Current Class 1 Municipal Solid Waste Landfill (MSW dedicated trench)	Proposed CINWL Requirements
Co-mingling	No	No	No / No	No
Co-disposal	Not applicable	Not applicable	No / Yes	Yes
Permit Term Limits	Life of the landfill	Yes, 10 years	No regulatory requirement, typically 10 years / Life of the facility	Life of the landfill

Requirement	Municipal Solid Waste Landfill	Commercial Hazardous Waste Landfill	Current Commercial Industrial Class 1 Landfill (IHW) / Current Class 1 Municipal Solid Waste Landfill (MSW dedicated trench)	Proposed CINWL Requirements
Final Cover	Subtitle D cover: 18" clay with FML + 6" topsoil layer. Alternate performance-based covers allowed	Subtitle C cover: 3' clay + synthetic + 18" topsoil Alternate Cover Allowed	TNRCC Technical Guidance recommends: 3' clay + synthetic + 18" topsoil. Alternate cover allowed. / Subtitle D cover: 18" clay with FML + 6" erosion layer. Alternate performance-based covers allowed	Two cover options: 1) 18" of clay with an FML and 18" top soil layer; 2) Alternate Final Cover with equivalent reduction in infiltration.

Attachment 3

**Class 1 Nonhazardous Waste Acceptance
Municipal and Industrial Landfills
3/99**

**1. Municipal Solid Waste
Permitted Landfills Authorized to Accept Class 1 Nonhazardous Waste**

Site	Name of Applicant	Owner	County
249-C	WMT/Austin Community	Waste Mgmt. Of Tx, Inc. (WMT)	Travis
2123	TDS	Bob Gregory	Travis
241-C	BFI/Itasca	BFI	Hill
2093	WMT/Covel	WMT	Bexar
2242	WMT/Newton County.	Western	Newton
1721	WMT/Coastal Plains RDF	WMT	Galveston
1307	WMT/Atascocita	WMT	Harris

151	Wolfe/C&T Cattle Co.	same	Hidalgo
242	BFI/Waste Disposal Center - Sinton	Franklin F. Kelly	San Patricio
203	Laidlaw Env. Services Altair	Laidlaw	Colorado
1410B	BFI/Tessman Road	Drzymalla, Louise & William	Bexar
1866	U.S. Army/Fort Hood	same	Coryell
1209	Republic/ CSC Avalon	Republic	Ellis
1562A	City of Brownwood	City of Brownwood	Brown
2269	City of Corpus Christi	City of Corpus Christi	Nueces

**2. Industrial Solid Waste
Permitted Landfills Authorized to Accept Class 1 Nonhazardous Waste**

Site	Name of Applicant	Owner	County
39001	BFI/Conroe	BFI	Conroe
39039	BFI/Anahuac	BFI	Anahuac

3. Pending Municipal Solid Waste Landfill Applications Proposing to Accept Class 1 Nonhazardous Waste

Site	Name of Applicant	Owner	County	Status
P.A. #1721A	WMT/Alvin (Coastal Plains)	WMT	Galveston	In hearing
P.A. 1948A	BFI/Rio Grande Valley Landfill	BFI	Hidalgo	Sched. for hearing
P.A. 2253	Adobe Ecosystems	Adobe Ecosystems	Kinney	Sched. for hearing
P.A. 1693A	City of Laredo	City of Laredo	Webb	Sched. for hearing