The Texas Natural Resource Conservation Commission (commission) proposes to repeal §§331.8 and 331.31-331.36, and proposes amendments to §§331.2, 331.4, 331.7, 331.9-331.13, 331.42-331.46, 331.63-331.66, 331.68, 331.81-331.86, 331.121, and 331.122.

EXPLANATION OF PROPOSED RULE

The purpose of this rule package is to make the rules consistent with federal regulations, clarify existing regulations, and amend regulations that have no environmental impact to allow for either greater flexibility than currently allowed or removal of unnecessary restrictions. While state requirements must be at least as stringent as the corresponding federal requirement, states authorized to implement the federal Underground Injection Control (UIC) program are not required to adopt the federal requirements verbatim (see 40 CFR §145.11(b)(1)). Therefore, in most cases, this proposed rule package neither contains identical language to the federal regulations referenced nor does it incorporate or paraphrase all of that corresponding federal provision. However, in all cases, a proposed rule ensures at least the equivalent level of environmental protection as that afforded by the corresponding federal regulation. The package is not intended as a major overhaul of the UIC program, but as an update for purposes of maintaining federal UIC program delegation and providing some regulatory relief.

Proposed §331.2, regarding Definitions, is being amended to cross-reference 30 TAC Chapter 3 for general definitions; incorporate 40 Code of Federal Regulations (CFR) §144.2 definitions for “Drilling mud,” “Plugging,” “Resource Conservation and Recovery Act (RCRA),” “Safe Drinking Water Act (SDWA),” and “Total dissolved solids”; to incorporate 40 CFR §146.3 definitions for “Area of

review," "Disposal well," and "Well stimulation"; to correct citations and clarify the language in the definition of "Existing injection well"; to delete the definition of "Permit"; to delete references to the Texas Water Commission in the definitions of "Salt cavern solid waste disposal well or salt cavern disposal well," and "Upper limit"; and to provide a definition for "Workover" as a part of the streamlining effort.

Proposed §331.4, regarding required mechanical integrity, is being amended to improve clarity and to incorporate 40 CFR §144.51(q)(2).

Proposed §331.7(b) (relating to Permit Required), is being amended to improve clarity and to incorporate 40 CFR §144.33(a)(3).

The commission proposes to repeal §331.8 (relating to Application Required for Existing Wells) to remove an obsolete requirement. These rule provisions for Class I and III wells are proposed for repeal because all existing wells have already received permits.

Proposed §331.9 (relating to Authorization by Rule) is being amended to delete subsections (a), (b), (d), (e), (h), and (i), which contain obsolete requirements; old subsections (c), (f), (g) and (j) are renumbered; two new paragraphs are added to renumbered subsection (b) to incorporate 40 CFR §144.24(b) and (c); and the subsection (b) language is also clarified. Renumbered §331.9(d) is being amended to clarify its language.

Proposed §331.10 (b) is being amended to delete some obsolete information.

Proposed §331.11(a)(4) is being amended to incorporate the first sentence of 40 CFR §146.51(a).

Proposed §331.12(a) is being amended for editorial changes. Proposed §331.12(a)(4) is being deleted to comply with the federal program. Proposed §331.12(b) is being amended to remove an obsolete agency name.

Proposed §331.13(c)-(f) is being amended by adding two new subsections, (d) and (e); incorporating 40 CFR §144.7(b)(2) and (3); and renumbering old subsection (d) to (f) with an editorial change.

The commission proposes to repeal Subchapter B, §§331.31-331.36 (relating to Jurisdiction Over In Situ Uranium Mining) to remove obsolete requirements. Subchapter B is being repealed in its entirety because those duties listed as belonging to the Department of Health have been transferred to the Texas Natural Resource Conservation Commission. Rather than renumber the remaining subchapters, Subchapter B will be reserved for future rulemaking.

Proposed §331.42(a) is being amended for clarification. Proposed §331.42(b)(3) is being amended to clarify it and to incorporate 40 CFR §146.6(a)(1)(i) and (b). Proposed §331.42(b)(4) is being amended for clarification. Proposed §331.42(c) is amended to incorporate 40 CFR §146.6(a)(2). Old §331.42 (c) and (d) are being renumbered to (d) and (e).

Proposed §331.43(a), (b), and (d) are being amended for clarification; old subsections (c) and (e) are being renumbered to (b) and (c), respectively; and new subsections (d) and (e) are being added to incorporate 40 CFR §146.8(e) and (f), respectively.

Proposed §331.44(a) is being amended to clarify its language; §331.44(a)(9) is being amended to permit addition of further paragraphs in subsection (a); §331.44(a)(10) is being amended to clarify its language and amend its punctuation; §331.44(a)(11) is being added to incorporate 40 CFR §144.55(b)(4); and §331.44(b)(7) is being amended to correct a citation.

Proposed §331.45 is being amended to delete a reference to guidance because guidance is not enforceable. Proposed §331.45(1)(E), (J), and (K) are being amended to correct citations.

Proposed §331.46(d) is being amended to be consistent with 40 CFR §144.51(o) and to clarify its language. Proposed §331.46(e) is being amended to incorporate 40 CFR §146.71(b), to allow for flexibility, and to clarify its language. Proposed §331.46(k) and (l)(2) are being amended to delete a reference to the TWC; §331.46(k) is also being amended to clarify its language. Proposed §331.46(m) is being amended to incorporate 40 CFR §146.71(c)(2) and to clarify its language. Proposed §331.46(p) is being moved from §331.66(a)(5) and being amended to incorporate the last two sentences of 40 CFR §146.71(a).

Proposed §331.63(b) is being amended to provide more flexibility and to clarify its language; subsection (h) is being amended for clarification and streamlining; old subsection (i) is being deleted

and replaced by a new subsection (i) which is the former last sentence of subsection (h), moved into a separate subsection for greater clarity; subsections (k) and (l) are being deleted because those provisions are already addressed in 30 TAC §305.154 (relating to Standards); subsection (m) is being renumbered to subsection (k).

Proposed §331.64(c)(3) is being amended to delete a redundancy and to clarify its language. Proposed §331.64(c)(4) is being amended for clarification. Proposed §331.64(d)(1) is being amended for clarification. Deleted §331.43(d) is being moved to §331.64(d)(4) for clarification. Proposed §331.64(f)(1)-(3) is being amended to incorporate 40 CFR §146.68(c); §331.64(f)(1) is being amended to clarify its language; and old §331.64(f)(2) is being renumbered to §331.64(f)(4) and clarified. Proposed §331.64(g)(1) is being amended to incorporate 40 CFR §146.68(e)(2); and §331.64(g)(2) is being amended to clarify the language. Proposed new §331.64(i) incorporates 40 CFR §146.68(b).

Proposed §331.65(a)(1) is being amended to clarify its language. Proposed §331.65(a)(1)(L) and (M) are being amended to correct citations. Proposed §331.65(b)(2) is being amended to correct its punctuation, and §331.65(b)(2)(A) is being deleted to promote report streamlining. Then, §331.65(b)(2)(B) and (C) are being renumbered accordingly, and the language in subparagraph (C) clarified. All of proposed §331.65(b)(3) is being amended for streamlining and clarification. Proposed §331.65(c) (relating to Workover Reports) is also being amended for streamlining and clarification.

Proposed §331.66(a)(5) is being deleted. Similar closure plan requirements are being moved to §331.46(p) (relating to Closure Standards) and §331.68(a) (relating to Post-Closure Care).

Proposed §331.68(a) is being amended to add the post-closure plan requirement deleted in §331.66(a)(5). Proposed §331.68(a)(3) is being amended to incorporate the third sentence of 40 CFR §146.73; §331.68(a)(5) is being amended to correct citations; and §331.68(b)(3) is being amended to delete a reference to the TWC.

Proposed §331.81 is being amended to streamline the language.

Proposed §331.82(a) (relating to Casing and Cementing) is being amended for clarification. Proposed §331.82(c) (relating to Logs and Tests) is being amended to incorporate 40 CFR §146.32(b). Proposed new §331.82(c)(2)(A)(i) incorporates deleted §331.43(b)(1); proposed new §331.82(c)(2)(A)(ii) incorporates a combination of the language from deleted §331.41(b)(2) and the cement records requirement found in 40 CFR §146.8(c)(4); and proposed §331.82(c)(2)(B) incorporates deleted §331.43(d). Former §331.82(c)(2) is renumbered to §331.82(c)(3). Proposed §331.82(g) (relating to Monitor Well Location) is being amended to incorporate the first sentence of 40 CFR §146.32(e) and to clarify its language. Proposed §331.82(h) and (i)(1) are being amended for clarification.

Proposed §331.83(a) and (b) are being amended for clarification.

Proposed §331.84(a) is being amended to incorporate 40 CFR §146.33(b)(1). Proposed §331.84(f) is being amended to incorporate the second sentence of 40 CFR §146.33(b)(5).

Proposed §331.85(e) and (g) are being amended to streamline language and reporting requirements.

Proposed §331.86(a) is being amended for clarification.

Proposed §331.121(a)(2)(G)(i) is being amended to be consistent with 40 CFR §146.70(a)(8)(i). Proposed §331.121(a)(2)(L) is being amended to be consistent with 40 CFR §146.14(a)(12) and §146.70(a)(13) and for clarification. Proposed §331.121(d)(1)(A) is being amended for clarification. Proposed §331.121(f) is being amended to clarify it and to incorporate 40 CFR §144.1(h).

Proposed §331.122(2)(B) is being amended to clarify its language and to be consistent with 40 CFR §146.34(a)(3). Proposed §331.122(2)(C) is being amended for streamlining. Proposed §331.122(2) (L) and (M) are being amended to correct grammar. Proposed §331.122(2)(N) is being added to incorporate 40 CFR §146.34(a)(16). Proposed §331.122(4) is being amended to delete reference to an improper citation.

FISCAL NOTE

Stephen Minick, Strategic Planning and Appropriations Division, has determined that for the first five-year period the sections as proposed are in effect there are no significant fiscal implications anticipated for state or local governments as a result of enforcement and administration of the sections.

PUBLIC BENEFIT

Mr. Minick has also determined that for the first five years the sections as proposed are in effect the public benefit anticipated as a result of enforcement of and compliance with the sections will be the clarification of existing regulations relating to UIC and consistency between state and federal

regulations. Compliance with the proposed state regulations will result in no costs to affected parties that would not otherwise result from compliance with the existing federal regulation proposed for incorporation. There are no additional costs anticipated for any person required to comply with the proposed sections.

TAKINGS IMPACT ASSESSMENT

The commission has prepared a Takings Impact Assessment for these rules pursuant to Texas Government Code Annotated §2007.043. The following is a summary of that assessment. The specific purpose of the rules is to incorporate federal language into current state regulations so that the UIC Program can maintain compliance with the federal program. The rules will significantly advance this specific purpose by allowing the commission to maintain primacy, and thus state control, for the UIC Program without making the existing rules any less stringent. Promulgation and enforcement of these rule amendments will not create a burden on private real property.

These rule amendments are minor in nature and do not impose any additional or substantial burden on private real property. Authorized UIC facilities are already subject to these federal requirements, these amendments merely incorporate the federal requirements into the state UIC program. Also, because this rulemaking is reasonably taken to fulfill an obligation mandated by federal law, these rule amendments are excepted from the Private Real Property Preservation Act pursuant to §2007.3(b)(4) of the Texas Government Code.

PUBLIC HEARING

A public hearing on the proposal will be held February 6, at 10:00 a.m. in Room 5108 of the Texas Natural Resource Conservation Commission Building F, located at 12100 Park 35 Circle, Austin. The hearing is structured to receive oral or written comments by interested persons. Individuals may present oral statements when called upon in order of registration. Open discussion within the audience will not occur during the hearing; however, an agency staff member will be available to discuss the proposal 30 minutes prior to the hearing and will answer questions before and after the hearing.

SUBMITTAL OF COMMENTS

Written comments may be submitted by mail to Bettie Bell, Office of Policy and Regulatory Development, MC 205, P.O. Box 13087, Austin, Texas 78711-3087; or by fax at (512) 239-4808. All comments must be received within 30 days following the date of this publication and should refer to Rule Log No. 96141-331-WS. Comments received by 5:00 p.m. on that date will be considered by the commission prior to any final action on the proposal. For further information, please contact Kathy Vail at (512) 239-6637.

STATUTORY AUTHORITY

The amended sections are proposed under the authority of Texas Water Code §§5.103, 5.105, and 27.019, which provide the commission with the authority to adopt rules reasonably required for the performance of its powers and duties under the Texas Water Code and other laws of the state; and under the Texas Health and Safety Code, §361.017 and §361.024, which further authorize the Texas

Natural Resource Conservation Commission to promulgate rules necessary to manage industrial solid and municipal hazardous wastes.

These amendments implement Texas Water Code Chapter 27.

SUBCHAPTER A : GENERAL PROVISIONS

§§331.2, 331.4, 331.7, 331.9-331.13

The amended sections are proposed under the authority of Texas Water Code §§5.103, 5.105, and 27.019, which provide the commission with the authority to adopt rules reasonably required for the performance of its powers and duties under the Texas Water Code and other laws of the state; and under the Texas Health and Safety Code, §361.017 and §361.024, which further authorize the Texas Natural Resource Conservation Commission to promulgate rules necessary to manage industrial solid and municipal hazardous wastes.

These amendments implement Texas Water Code Chapter 27.

§331.2. Definitions.

General definitions can be found in Chapter 3 of this title (relating to Definitions). The following words and terms, when used in this chapter shall have the following meanings, unless the context clearly indicates otherwise.

Area of review - The area surrounding an injection well described according to the criteria set forth in §331.42 of this title (relating to Area of Review) or in the case of an area permit, the project area plus a circumscribing area the width of which is either one fourth of a mile or a number calculated according to the criteria set forth in §331.42 of this title.

Disposal well - A [An injection] well that is used for the disposal of waste into a subsurface stratum [injection of industrial or municipal waste].

Drilling mud - A heavy suspension used in drilling an injection well, introduced down the drill pipe and through the drill bit.

Existing injection well - A Class I well which was authorized before [prior to] August 25, 1988, by an approved state program, or an EPA-administered program or a well which has become a Class I well as a result of a change in the definition of the injected waste which would render the waste hazardous under 30 Texas Administrative Code (TAC) §335.1 of this title (relating to Definitions [Purpose, Scope, and Applicability]).

[**Permit** - A written document issued by the Texas Water commission that by its conditions, authorizes the permittee to construct, install, modify, or operate, in accordance with stated limitations, a specified injection well facility.]

Plugging - The act or process of stopping the flow of water, oil, or gas into or out of a formation through a borehole or well penetrating that formation.

RCRA - The Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976 (Pub. L. 94-580, as amended by Pub. L. 95-609, Pub. L. 96-510, 42 U.S.C. 6901 et seq.).

SDWA - The Safe Drinking Water Act (Pub. L. 93-523, as amended; 42 U.S.C. 300f et seq.).

Salt cavern solid waste disposal well or salt cavern disposal well - For the purposes of this chapter relating to Underground Injection Control, regulations of the [Texas Water] commission,

and not to UIC Class II or UIC Class III wells in salt caverns regulated by the Texas Railroad Commission, a salt cavern disposal well is a type of UIC Class I injection well used:

(A)-(B) (No change.)

Total dissolved solids (TDS) - The total dissolved (filterable) solids as determined by use of the method specified in 40 Code of Federal Regulations (CFR) 136.

Upper limit - A parameter value established by the [Texas Water] commission in a permit/production area authorization which when exceeded indicates mining solutions may be present in designated monitor wells.

Well stimulation - Several processes used to clean the well bore, enlarge channels, and increase pore space in the interval to be injected thus making it possible for wastewater to move more readily into the formation, and includes, but is not limited to surging, jetting, blasting, acidizing, and hydraulic fracturing.

Workover - An operation in which a down-hole component of a well is repaired, the engineering design of the well is changed, or the mechanical integrity of the well is compromised. Workovers include operations such as sidetracking, the addition of perforations within the permitted injection interval, and the addition of liners or patches. For the purposes of this chapter, workovers do not include well stimulation operations.

§331.4. Mechanical Integrity Required.

Injection is prohibited for Class I and III wells which lack mechanical integrity, the result of which may pollute an underground source of drinking water. Except where excluded in the case of authorization by rule, mechanical integrity under [pursuant to] §331.43 of this title (relating to Mechanical Integrity Standards) must be demonstrated to the satisfaction of the executive director before operation begins. Injection may be prohibited for Class V wells which lack mechanical integrity. The executive director may require a demonstration of mechanical integrity at any time if there is reason to believe mechanical integrity is lacking. When the executive director determines that a Class I or III well lacks mechanical integrity, he shall give written notice of his determination to the owner or operator. Unless the executive director requires immediate cessation, the owner or operator shall cease injection into the well within 48 hours of receipt of the executive director's determination. The executive director may allow plugging of the well or require the permittee to perform additional construction, operation, monitoring, reporting, and corrective actions which are necessary to prevent the movement of fluid into or between underground sources of drinking water (USDWs) caused by the lack of mechanical integrity. The owner or operator may resume injection upon written notification from the executive director that the owner or operator has demonstrated mechanical integrity.

§331.7. Permit Required.

(a) (No change.)

(b) For Class III in situ uranium solution mining wells, Frasch sulfur wells, and other Class III operations under commission jurisdiction, an area permit authorizing more than one well may be issued for a defined permit area in which [wherein] wells of similar design and operation are proposed. The wells must be operated by a single owner or operator. Before [Prior to] commencing operation of those [such] wells, the permittee may be required to obtain a production area authorization for separate production or mining areas within the permit area.

§331.9. Injection Authorized by Rule.

[(a) Injection into any Class I and Class III well or group of Class I and Class III wells for which the commencement of construction began prior to January 1, 1982 is authorized by virtue of this rule, provided compliance with any permit issued before January 1, 1982 is maintained, provided compliance with the following rules of this chapter is achieved within one year from January 1, 1982, and provided mechanical integrity is demonstrated within two years from January 1, 1982 for each individually authorized Class I and III well:

[(1) Financial responsibility: §§331.141-331.147 of this title (relating to Financial Responsibility);

[(2) Operating, Monitoring and Reporting: Class I, §331.63 of this title (relating to Operating Requirements); §331.64 of this title (relating to Monitoring Requirements); and §331.65 of this title (relating to Reporting Requirements); Class III, §331.83 of this title (relating to Operating

Requirements); §331.68 of this title (relating to Post-Closure Care); §331.84 of this title (relating to Monitoring Requirements); and §331.85 of this title (relating to Reporting Requirements); or §331.103 of this title (relating to Production Area Monitor Wells); §331.104 of this title (relating to Establishment of Baseline and Restoration Values); §331.105 of this title (relating to Monitoring Standards); §331.106 of this title (relating to Remedial Action for Excursion); §331.107 of this title (relating to Restoration); §331.86 of this title (relating to Closure);

[(3) porting of Noncompliance or Malfunction: Class I, §331.65(b) of this title (relating to Reporting Requirements); Class III, §331.106(1) of this title (relating to Remedial Action for Excursion) and §331.85(e) of this title (relating to Reporting Requirements);

[(4) Retention of Records: Class I, §331.67(c) of this title (relating to Record Keeping Requirements);

[(5) Notice of Abandonment: §331.46(b) of this title (relating to Closure Standards);

[(6) Closure Plan and Standards: §331.46 of this title (relating to Closure Standards); and

[(7) Post-Closure Care: §331.68 of this title (relating to Post-Closure Care); and

[(8) Hazardous Waste Injection Wells: §305.156 of this title (relating to Hazardous Waste).

[(b) The authorization and requirements of subsection (a) of this section also apply to the construction or operation commencing after January 1, 1982 of any Class III well that will be part of an existing Class III well field or operation and will represent a continuation of such field or operation, provided a demonstration of mechanical integrity is made and reported to the executive director in accordance with §331.43 of this title (relating to Mechanical Integrity Standards).]

(a) [(c)] Plugging and abandonment of a well authorized by rule at any time after January 1, 1982, shall be accomplished in accordance with the standards of §331.46 of this title (relating to Closure Standards).

[(d) Post-Closure Care of a hazardous Class I well authorized by rule at any time after January 1, 1982, shall be accomplished in accordance with the standards of §331.68 of this title (relating to Post-Closure Care).

[(e) Authorization under subsections (a) and (b) of this section shall expire:

[(1) if an application for permit has not been filed in accordance with §331.8 of this title (relating to Application Required for Existing Wells);

[(2) upon the effective date of an injection well permit or denial of an injection well permit application; or,

[(3) the date five years after January 1, 1982, unless a complete application for permit is pending.]

(b) [(f)] Injection into Class V Wells, unless otherwise provided [herein] is authorized by virtue of this rule; injection into new Class V wells used for the disposal of over 1,000 gallons per day of sewage or sewage effluent must apply for and obtain a permit from the commission before [prior to] operations.

(1) Well authorization under this section expires upon the effective date of a permit issued under §331.7 of this title (relating to Permit Required).

(2) An owner or operator of a Class V well is prohibited from injecting into the well:

(A) upon the effective date of permit denial;

(B) upon failure to submit a permit application in a timely manner under subsection (c) of this section;

(C) upon failure to submit inventory information in a timely manner under §331.10 of this title (relating to Inventory of Wells Authorized by Rule); or

(D) upon failure to comply with a request for information in a timely manner.

(c) [(g)] The executive director may require the owner or operator of an injection well authorized by rule to apply for and obtain an injection well permit. The owner or operator shall submit a complete application within 90 days after the receipt of a letter from the executive director requesting that the owner or operator of an injection well submit an application for permit. Cases for which a permit may be required include, but are not limited to:

(1) the injection well is no longer within the scope of Subsections (a), (b) and (e) of this section;

(2) compliance with standards in addition to those listed in Subsection (a) of this section is required to protect fresh water from pollution; or,

(3) the injection well is not in compliance with the standards required by this section.

[(h) For Class III injection wells authorized by rule, the executive director is authorized to waive requirements consistent with the provisions of §331.48 of this title (relating to Waiver of Requirements).

[(i) For all permits issued by the state on or before July 26, 1988, the permit terms "injection zone" and "subsurface interval" shall have the same definitional meaning as the term "injection interval", as defined in 31 TAC §331.2 of this title (relating to Definitions). For all permits issued after July 26, 1988, the permit term "injection interval" shall be defined in accordance with 31 TAC §331.2 of this title (relating to Definitions).]

(d) [(j)] Class IV wells injecting hazardous waste-contaminated ground water that is of acceptable quality to aid remediation and that is being reinjected into the same formation from which it was drawn, as authorized by §331.6 of this title (relating to Prohibition of Class IV Well Injection), shall be authorized by rule.

§331.10. Inventory of Wells Authorized by Rule.

(a) (No change.)

(b) Drillers of injection wells authorized by rule may inventory wells by submission of [either] a form to be provided by the executive director [or the form of the Water Well Drillers Board].

(c) (No change.)

§331.11. Classification of Injection Wells.

(a) Injection wells within the jurisdiction of the commission are classified as follows:

(1)-(3) (No change.)

(4) Class V. Generally, wells covered by this paragraph inject non-hazardous fluids into or above formations that contain USDWs. Injection wells within the jurisdiction of the commission, but not included in Classes I, III, or IV. Class V wells include, but are not limited to:

(A)-(J) (No change.)

(b) (No change.)

§331.12. Conversion of Wells.

(a) Persons utilizing wells authorized by permit, [by] rule, or otherwise, who wish to convert the well from its authorized purpose to a new [another purpose] or [to an] additional purpose must first obtain the appropriate approval described in paragraphs (1)-(3)[(4)] of this section:

(1)-(3) (No change.)

[(4) Disposal of industrial or municipal waste in Class II wells is specifically prohibited unless authorized by permit or by written approval of the executive director and confirmed by Texas Railroad Commission authorization.]

(b) Conversions of wells that remain exclusively within the jurisdiction of the Railroad Commission are not affected by this rule. For example, a conversion from a Class II disposal well to a water supply well regulated by the Railroad Commission would neither enter nor exit the jurisdiction of <u>this agency</u> [the Texas Water Commission] and thus would not be subject to this rule.

§331.13. Exempted Aquifer.

(a)-(b) (No change.)

(c) An aquifer or portion of an aquifer may be designated as an exempted aquifer if the following criteria are met:

(1) (No change.)

(2) Until exempt status is removed according to procedures in subsection (f) [(d)] of this section, it will not in the future serve as a source of drinking water for human consumption because:

(A)-(D) (No change.)

(d) No designation of an exempted aquifer submitted as part of a UIC Program shall be final until approved by the EPA as part of the delegated UIC program.

(e) Subsequent to program approval or promulgation, the commission may, after notice and opportunity for a public hearing, identify additional exempted aquifers.

(f) [(d)] After notice and opportunity for public hearing, the designation of exempted aquifer may be removed by the commission thereby eliminating the exempt status, provided restoration has been accomplished if required.

This agency hereby certifies that the proposal has been reviewed by legal counsel and found to be within the agency's authority to adopt.

Issued in Austin, Texas, on January 8, 1997.

SUBCHAPTER A : GENERAL PROVISIONS

§331.8

The sections are proposed to be repealed under Texas Water Code §§5.103, 5.105, and 27.019, which authorize the Texas Natural Resource Conservation Commission to promulgate rules necessary to carry out the powers and duties under the provisions of Texas Water Code Chapter 27, and other laws of this state; and under the Texas Health and Safety Code, §361.017 and §361.024, which further authorize the Texas Natural Resource Conservation Commission to promulgate rules necessary to manage industrial solid and municipal hazardous wastes.

These amendments implement Texas Water Code Chapter 27.

§331.8 Application Required for Existing Wells.

This agency hereby certifies that the proposal has been reviewed by legal counsel and found to be within the agency's authority to adopt.

Issued in Austin, Texas, on January 8, 1997.

SUBCHAPTER B : JURISDICTION OVER IN SITU URANIUM MINING

§§331.31-331.36

The sections are proposed to be repealed under Texas Water Code §§5.103, 5.105, and 27.019, which authorize the Texas Natural Resource Conservation Commission to promulgate rules necessary to carry out the powers and duties under the provisions of Texas Water Code Chapter 27, and other laws of this state; and under the Texas Health and Safety Code, §361.017 and §361.024, which further authorize the Texas Natural Resource Conservation Commission to promulgate rules necessary to manage industrial solid and municipal hazardous wastes.

These amendments implement Texas Water Code Chapter 27.

§331.31. Authority of Texas Department of Health.

§331.32. Authority of Texas Water Commission.

§331.33. Joint Authority Over Holding Ponds.

§331.34. Applications.

§331.35. Permits.

§331.36. Financial Assurances.

This agency hereby certifies that the proposal has been reviewed by legal counsel and found to be within the agency's authority to adopt.

Issued in Austin, Texas, on January 8, 1997.

SUBCHAPTER C : GENERAL STANDARDS AND METHODS

§§331.42-331.46

The amended sections are proposed under the authority of Texas Water Code §§5.103, 5.105, and 27.019, which provide the commission with the authority to adopt rules reasonably required for the performance of its powers and duties under the Texas Water Code and other laws of the state; and under the Texas Health and Safety Code, §361.017 and §361.024, which further authorize the Texas Natural Resource Conservation Commission to promulgate rules necessary to manage industrial solid and municipal hazardous wastes.

These amendments implement Texas Water Code Chapter 27.

§331.42. Area of Review.

(a) The area of review is the area surrounding an injection well or a group of injection wells, for which the permit application must detail the information required in Subchapter G of this title (relating to Consideration Prior to Permit Issuance. [§331.121 of this title (relating to Class I Wells).]

(b) The area of review is:

(1)-(2) (No change.)

(3) for Class III wells [in situ uranium, Frasch sulfur, and other Class III permit areas], the project area plus a circumscribing area, a minimum of 1/4 mile, the width of which is the lateral distance from the perimeter of the project area, in which the pressures in the injection zone may cause the migration of the injection and/or formation fluid into a USDW [an area extending l/4 mile beyond the permit area boundary, and such additional surrounding area as may be required by the commission]; or

(4) for [other Class III wells and] Class V wells, an area determined by a radius of at least l/4 mile from the proposed or existing wellbore.

(c) The computation of the cone of influence may be based upon the parameters listed below and should be calculated for an injection time period equal to the expected life of the injection well or pattern. The following modified Theis equation illustrates one form which the mathematical model may take. Figure 1: 30 TAC, §331.42(c)

(d) [(c)] After an appropriate review, the commission may modify the area of review. In no event shall the boundary of an area of review be less than 2 ½ miles for Class I wells or l/4 mile from any other injection well covered by the appropriate authorization. The following factors are to be included in the review:

(1) Chemistry of injection and formation fluids;

(2) Hydrogeology;

(3) Population and its dependence on ground water use; and,

(4) Historical practices in the area.

(e) [(d)] The executive director may require an owner or operator of an existing injection well to submit any reasonably available information regarding the area of review, if the information would aid a review for the prevention or correction of freshwater pollution.

§331.43. Mechanical Integrity Standards.

(a) An injection well has mechanical integrity if:

(1) there is no significant leak in the casing, tubing, or packer, and

(2) if there is no significant fluid movement through vertical channels adjacent to the injection wellbore.

[(b) Except as provided by subsections (c) and (d) of this section, the following tests shall be used to evaluate the mechanical integrity of an injection well:

[(1) monitoring of annulus pressure, or pressure test with liquid or gas, or radioactive tracer survey, or (for Class III uranium solution mining wells only) single point resistivity survey in conjunction with a pressure test to detect any leaks in the casing, tubing, or packer; and

[(2) temperature log, noise log, radioactive tracer survey, cement bond log, oxygen activation log, or (for Class III uranium solution mining wells only) cement records where other tests are not suitable.]

(b) [(c)] A salt cavern has integrity if it:

(1) has no anomalies or irregularities that would prevent optimum cavern filling or that would prevent the cavern from holding pressure; and

(2) has no pressure communication or fluid flow between other caverns or formations outside the salt stock. The tests to show salt cavern integrity shall consist of cavern pressure and sonar tests, or other tests approved by the executive director, to determine the geometric shape of the unfilled cavern.

[(d) The executive director may allow the use of a test to demonstrate mechanical integrity other than those listed in subsection (b) of this section with the written approval of the administrator of the United States Environmental Protection Agency or his authorized representative. To obtain

approval, the executive director shall submit a written request to the United States Environmental Protection Agency administrator, which shall set forth the proposed test and all technical data supporting its use. The United States Environmental Protection Agency administrator shall approve the request if it will reliably demonstrate the mechanical integrity of wells for which its use is proposed. Any alternate method approved by the United States Environmental Protection Agency administrator shall be published in the Federal Register and may be used unless its use is restricted at the time of approval by the United States Environmental Protection Agency administrator.]

(c) [(e)] Methods and standards approved by the EPA [USEPA] through federal Underground Injection Control Program delegation to the commission, shall be applied in conducting and evaluating the tests required by this section.

(d) When the owner or operator reports the results of mechanical integrity tests to the executive director, he shall include a description of the test(s) and the method(s) used. In making his/her evaluation, the executive director shall review monitoring and other test data submitted since the previous evaluation.

(e) The executive director may require additional or alternative tests if the results presented by the owner or operator under subsection (d) of this section are not satisfactory to the executive director to demonstrate that there is no movement of fluid into or between USDWs resulting from the injection activity.

§331.44. Corrective Action Standards.

(a) Corrective action standards for all wells. In determining the adequacy of corrective action proposed or required to prevent or correct pollution of underground sources of drinking waters (USDWs), and fresh or surface water, the following factors shall [will] be considered:

(1)-(8) (No change.)

(9) Reliability of the procedures used to identify abandoned wells; [and]

(10) Any other factors which might affect the movement of fluids into or between USDWs[or freshwater aquifers]; and [.]

(11) For Class III wells only, when setting corrective action requirements the executive director shall consider the overall effect of the project on the hydraulic gradient in potentially affected USDWs, and the corresponding changes in potentiometric surfaces(s) and flow directions(s) rather than the discrete effect of each well. If a decision is made that corrective action is not necessary based on the determinations in this paragraph, the monitoring program required in §331.84 of this title (relating to Monitoring Requirements) shall be designed to verify the validity of those determinations.

(b) Additional Corrective action standards for Class I wells.

(1)-(6) (No change.)

(7) If at any time the operator cannot assure the continuous attainment of the performance standard in §331.62(5)[(4)] of this title (relating to Construction Standards), the executive director may require a corrective action plan and compliance schedule. The operator must demonstrate compliance with the performance standard, as a condition for receiving approval of continued operation of the well. The executive director also may require permit changes to provide for additional testing and/or monitoring of the well to insure the continuous attainment of the performance standard. The commission may order closure of the well if the operator fails to demonstrate, to the executive director's satisfaction, that the performance standard is satisfied.

§331.45. Executive Director Approval of Construction and Completion.

The executive director may approve or disapprove the construction and completion for an injection well or project. In making a determination whether to grant approval, the following shall be reviewed for compliance with the standards of this chapter[, and established TNRCC guidance]:

(1) for Class I wells, other than salt cavern disposal wells and associated salt caverns:

(A)-(D) (No change.)

(E) results of the injection zone and confining zone testing program as required in §331.62(7)[(f)] of this title (relating to Construction Standards) and §331.65(a) of this title (relating to Pre-operation Reports [Class I Wells]);

(F)-(I) (No change.)

(J) compliance with the casing and cementing performance standard in §331.62(5)[(d)] of this title (relating to Construction Standards), and where necessary, changes to the permit to provide for additional testing and/or monitoring of the well to insure the continuous attainment of the performance standard; and

(K) compliance with the cementing requirements in §331.62(6)[(e)].

(2)-(3) (No change.)

§331.46. Closure Standards.

(a)-(c) (No change.)

(d) In closure of all Class I wells, including salt cavern disposal wells, [and] Class III wells, and permitted Class V wells, a well shall be plugged in a manner which will not allow the movement of fluids through the well, out of the injection zone either into or between underground sources of drinking

waters (USDWs)[or freshwater aquifers] or to the land surface. Well plugs shall consist of cement or other materials approved in writing by the executive director, which provide protection equivalent to or greater than that provided by cement.

(e) The permittee shall notify the executive director before commencing closure according to an approved plan. For Class I wells this notice shall be given at least 60 days before commencement. At the discretion of the executive director, a shorter notice period may be allowed. The executive director shall [will] review any revised, updated, or additional closure plans.

(f)-(j) (No change.)

(k) For Class I wells only, a monument or other permanent marker shall be placed at or attached to the plugged well before [prior to] abandonment. The monument shall state the [Texas Water Commission (TWC)] permit number, date of abandonment, and company name.

(l) Each owner of a Class I hazardous waste injection well, and the owner of the surface or subsurface property on or in which a Class I hazardous waste injection well is located, must record, within 60 days after approval by the executive director of the closure operations, a notation on the deed to the facility property or on some other instrument which is normally examined during a title search that will, in perpetuity, provide any potential purchaser of the property the following information:

(1) (No change.)

(2) the name of the state agency or local authority with which the plat was filed, as well as the Austin address of the Underground Injection Control (UIC) staff of the commission.[TWC] to which it was submitted; and

(3) (No change.)

(m) Within 30 days after completion of closure, the permittee shall file with the executive director a closure report on forms provided by the commission. The report shall be certified as accurate by the owner or operator and by the person who performed the closure operation (if other than the owner or operator). This [Such] report shall consist of a statement that the well was closed in accordance with the closure plan previously submitted and approved by the executive director. Where the actual closure differed from the plan previously submitted, a written statement shall be submitted specifying the differences between the previous plan and the actual closure.

(n)-(o) (No change.)

(p) The obligation to implement the closure plan survives the termination of a permit or the cessation of injection activities. The requirement to maintain and implement an approved plan is directly enforceable regardless of whether the closure plan requirement is a condition of the permit.

This agency hereby certifies that the proposal has been reviewed by legal counsel and found to be within the agency's authority to adopt.

Issued in Austin, Texas, on January 8, 1997.

SUBCHAPTER D : STANDARDS FOR CLASS I WELLS OTHER THAN SALT CAVERN SOLID WASTE DISPOSAL WELLS

§§331.63-331.66, 331.68

The amended sections are proposed under the authority of Texas Water Code §§5.103, 5.105, and 27.019, which provide the commission with the authority to adopt rules reasonably required for the performance of its powers and duties under the Texas Water Code and other laws of the state; and under the Texas Health and Safety Code, §361.017 and §361.024, which further authorize the Texas Natural Resource Conservation Commission to promulgate rules necessary to manage industrial solid and municipal hazardous wastes.

These amendments implement Texas Water Code Chapter 27.

§331.63. Operating Requirements.

(a) (No change.)

(b) Except during well stimulation, injection [Injection] pressure at the wellhead shall not exceed a maximum which shall be calculated so as to assure that the pressure in the injection zone during injection does not initiate new fractures or propagate existing fractures in the injection zone, initiate new fractures or propagate existing fractures in the confining zone, or cause movement of fluid out of the injection zone that may pollute USDWs[, and fresh] or surface water.

(c)-(g) (No change.)

(h) The permittee shall notify the executive director before commencing any workover operation [or corrective maintenance which involves taking the injection well out of service]. The notification shall be in writing and shall include plans for the proposed work. Approval by the executive director shall be obtained before the permittee may begin the workover. The executive director may grant an exception to [of] the prior written notification and permission requirements when immediate action is required to comply with subsection (a) of this section. [Approval by the executive director shall be obtained before the permittee may begin any workover operation or corrective maintenance that involves taking the well out of service. Pressure control equipment shall be installed and maintained during workovers which involve the removal of tubing.]

(i) Pressure control equipment shall be installed and maintained during workovers which involve the removal of tubing.

[(i) Mechanical integrity shall be demonstrated following any major operations which involve removal of the injection tubing, recompletions, or unseating of the packer.]

(j) (No change.)

[(k) An owner or operator of a Class I well who ceases injection operations temporarily may keep the well open provided he:

[(1) has received written authorization from the executive director; and

[(2) has described actions or procedures, satisfactory to the executive director, that the owner or operator will take to ensure that the well will not endanger USDWs, and fresh or surface water during the period of temporary disuse. These actions and procedures shall include compliance with the technical requirements applicable to active injection wells, including mechanical integrity.

[(l) The owner or operator of a well that has ceased operations for more than two years shall notify the executive director 30 days prior to resuming operation of the well.]

(k) [(m)] The owner or operator shall maintain mechanical integrity of the injection well at all times.

§331.64. Monitoring and Testing Requirements.

(a)-(b) (No change.)

(c) Continuous recording devices shall be installed, [and] used, and maintained in proper operating condition at all times to record injection tubing pressures, injection flow rates, injection fluid temperatures, injection volumes, tubing-long string casing annulus pressure and volume, and any other data specified by the permit. The instruments shall be housed in weatherproof enclosures. The owner or operator shall also install and use:

(1)-(2) (No change.)

(3) If an automatic alarm or shutdown is triggered, the owner or operator shall immediately investigate as expeditiously as possible the cause of the alarm or shutoff. If, upon investigation, the well appears to be lacking mechanical integrity, or if monitoring [required under subsection (c) of this section] otherwise indicates that the well may be lacking mechanical integrity, the owner or operator shall:

(A) [immediately] cease injection of waste fluids unless authorized by the executive director to continue or resume injection;

(B)-(C) (No change.)

(4) If the loss of mechanical integrity is discovered <u>by monitoring</u> [pursuant to subsection (b) of this section] or during periodic mechanical integrity testing, the owner or operator shall:

(A)-(E) (No change.)

(5) (No change.)

(d) <u>Mechanical integrity testing.</u>

(1) The integrity of the long string casing, injection tube, and annular seal shall be tested annually by means of an approved pressure test with a liquid or gas and whenever there has been a well workover. The integrity of the bottom-hole cement shall be tested annually by means of an approved radioactive tracer survey. A radioactive tracer survey may be required after workovers that have the potential to damage the cement within the injection zone. [Mechanical integrity must be demonstrated annually].

(2) A temperature log, noise log, oxygen activation log, or other approved log shall be required by the executive director at least once every five years to test for fluid movement along the borehole.

(3) A casing inspection, casing evaluation, or other approved log shall be run whenever the owner or operator conducts a workover in which the injection string is pulled, unless the executive director waives this requirement due to well construction or other factors which limit the test's reliability, or based upon the satisfactory results of a casing inspection log run within the previous five years. The executive director may require that a casing inspection log be run every five years, if there is sufficient reason to believe the integrity of the long string casing of the well may be adversely affected by naturally occurring or man-made events.

(4) The executive director may allow the use of a test to demonstrate mechanical integrity other than those listed in paragraph (1) of this subsection with the written approval of the administrator of the United States Environmental Protection Agency (EPA) or his authorized

representative. To obtain approval, the executive director shall submit a written request to the EPA administrator, which shall set forth the proposed test and all technical data supporting its use. The EPA administrator shall approve the request if it will reliably demonstrate the mechanical integrity of wells for which its use is proposed. Any alternate method approved by the EPA administrator shall be published in the *Federal Register* and may be used unless its use is restricted at the time of approval by the EPA administrator.

(e) (No change.)

(f) Corrosion monitoring.

(1) Corrosion monitoring of well materials shall be conducted quarterly. Test materials shall be the same as those used in the injection tubing, packer, and long string casing, and shall [will] be continuously exposed to the waste fluids with the exception of when the well is taken out of service. The owner or operator shall demonstrate that the waste stream will be compatible with the well materials with which the waste is expected to come into contact, and to submit to the executive director a description of the methodology used to make that determination. Compatibility for purposes of this requirement is established if contact with injected fluids will not cause the well materials to fail to satisfy any design requirement imposed under §331.62(1) of this title (relating to Design Criteria). Testing shall be by:

(A) placing coupons of the well construction materials in contact with the waste stream; or

(B) routing the waste stream through a loop constructed with the material used in the well; or

(C) using an alternative method approved by the executive director.

(2) The test shall use materials identical to those used in the construction of the well, and those materials must be continuously exposed to the operating pressures and temperatures (measured at the wellhead) and flow rates of the injection operation; and

(3) The owner or operator shall monitor the materials for loss of mass, thickness, cracking, pitting and other signs of corrosion on a quarterly basis to ensure that the well components meet the minimum standards for material strength and performance set forth in §331.62(1) of this title (relating to Construction Standards).

(4) [(2)] Corrosion monitoring may be waived by the executive director if the injection well owner or operator satisfactorily demonstrates, before [prior to] authorization to conduct injection operations, that the waste streams will not be corrosive to the well materials with which the waste is expected to come into contact throughout the life of the well. The demonstration shall include a description of the methodology used to make that determination.

(g) Ambient monitoring.

(1) Based on a site-specific assessment of the potential for fluid movement from the well or injection zone and on the potential value of monitoring wells to detect fluid [such] movement, the executive director shall require the owner or operator to develop a monitoring program. When prescribing a monitoring system, the executive director may also require:

(A) Continuous monitoring for pressure changes in the first aquifer overlying the confining zone. When a monitor well is installed, the owner or operator shall, on a quarterly basis, sample the aquifer and analyze for constituents specified by the executive director;

(B) the use of indirect, geophysical techniques to determine the position of the waste front, the water quality in a formation designated by the executive director, or to provide other site specific data;

(C) periodic monitoring of the ground water quality in the first aquifer overlying the injection zone;

(D) periodic monitoring of the ground water quality in the lowermost USDW; and

(E) any additional monitoring necessary to determine whether fluids are moving into or between USDWs.

(2) The [At a minimum, the executive director shall require monitoring of the] pressure buildup in the injection zone shall be monitored annually, including at a minimum, a shut down of the well for a time sufficient to conduct a valid observation of the pressure fall-off curve.

(h) (No change.)

(i) The owner or operator shall submit information demonstrating to the satisfaction of the executive director that the waste stream and its anticipated reaction products will not alter the permeability, thickness, or other relevant characteristics of the confining or injection zones such that they would no longer meet the requirements specified in §331.121(c) of this title (relating to Class I Wells).

§331.65. Reporting Requirements.

(a) Pre-operation reports. For new wells, including wells converting to Class I status, the requirements are as follows.

(1) Completion report. Within 90 days after the completion or conversion of the well, the permittee shall submit a Completion Report to the executive director. The report shall include a

surveyor's plat showing the exact location and giving the latitude and longitude of the well. The report shall [will] also include a certification that a notation on the deed to the facility property or on some other instrument which is normally examined during title search has been made stating the surveyed location of the well, the well permit number, and its permitted waste streams. The permittee shall also include in the report the following, prepared and sealed by a professional engineer with current registration under [pursuant to] the Texas Engineering Practice Act:

(A)-(K) (No change.)

(L) compliance with the casing and cementing performance standard in §331.62(5) [§331.62(4)] of this title (relating to Construction Standards); and

(M) compliance with the cementing requirements in §331.62(6) [§331.62(5)] of this title.

(2)-(4) (No change.)

(b) Operating reports.

(1) (No change.)

(2) Injection operation monthly report. For commercial facilities only: [.]

[(A) The permittee shall submit to the commission within ten (10) days after the last day of each month a report describing chemical characteristics of new waste streams received for injection. The report shall be on forms provided by or acceptable to the commission.]

(A) [(B)] The permittee shall submit within 30 days after the last day of each month a report to the commission including the following information for wastes received and injected during the month:

(i) names and locations of the companies and plants generating the wastes;

(ii) chemical and physical characteristics and volume of waste received from each company including pH;

(iii) names of companies transporting the wastes; and

(iv) a log of injection operations for each injection episode including but not limited to time of injection, injection rate, injection pressures, injection fluid volume, injection fluid pH, and injection fluid density.

(B) [(C)] The permittee shall submit to the commission within 20 days of the last day of each month a report of injection operations on forms provided by the commission. These forms shall [will] comply with the reporting requirements of 40 Code of Federal Regulations (CFR) 146.69(a). The executive director may require more frequent reporting.

(3) Injection zone annual report. For all facilities, the permittee shall submit annually with the December report of injection operation an updated graphic or other acceptable report of the pressure effects of the well upon its injection zone as required by §331.64(g) of this title (relating to Ambient Monitoring). [Monitoring Requirements).] To the extent this [such] information is reasonably available, the report shall also include:

(A) locations of newly constructed or newly discovered wells that penetrate the confining and/or injection zone within the area of review if those [such] wells were not included in the technical report accompanying the permit application or in later reports;

(B) a tabulation of data as required by §331.121(2)(B) of this title (relating to Class I Wells) for wells [all such wells within 1/2 mile of the injection well and for all other wells] within the area of review that penetrate the injection zone or confining zone; [and]

(C) the condition of the wells identified in subparagraph (A) of this paragraph and their effect on the injection activities; [for non-commercial facilities only, a current injection fluid analysis.]

(D) the protocol followed to identify, locate, and ascertain the condition of the wells identified in subparagraph (A) of this paragraph;

(E) a corrective action plan for wells not adequately constructed, completed, or plugged; and

(F) for non-commercial facilities only, a current injection fluid analysis.

(4)-(5) (No change.)

(c) Workover reports.

[(1) Completed workover report.] Within 30 days after the completion of the workover, a report shall be filed with the executive director including the reason for well workover and the details of all work performed.

[(2) Bottom hole pressure report. During major workovers, the bottom hole pressure shall be determined either by direct measurement by conventional techniques or by calculation using specific gravity of fluid in the wellbore and the static fluid level.]

§331.66. Additional Requirements and Conditions.

(a) A permit for a Class I well shall include expressly or by reference the following conditions:

(1)-(4) (No change.)

[(5) The obligation to implement the closure plan and the post-closure plan survives the termination of a permit or the cessation of injection activities. The requirement to maintain an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit.]

(b) (No change.)

§331.68 Post-Closure Care.

(a) The owner or operator of a Class I hazardous well shall prepare, maintain, and comply with a plan for post-closure care that meets the requirements of subsection (b) of this section, and is acceptable to the executive director. <u>The obligation to implement the post-closure plan survives the termination of a permit or the cessation of injection activities. The requirement to maintain an approved plan is directly enforceable regardless of whether the requirement is a condition of the permit.</u>

(1)-(2) (No change.)

(3) The plan shall assure financial responsibility as required in §§331.141-331.147 of this title (relating to Financial Responsibility). The owner or operator shall demonstrate and maintain financial responsibility for post-closure by using a trust fund, surety bond, letter of credit, financial test, insurance, or corporate guarantee, that meets the specifications for the mechanisms and instruments revised as appropriate to cover closure and post-closure care in §§331.141-331.147 of this title. The amount of the funds available shall be no less than the amount identified in paragraph (4)(F) of this subsection. The obligation to maintain financial responsibility for post-closure care survives the termination of a permit or the cessation of injection.

(4) (No change.)

(5) At the request of the owner or operator, or on his own initiative, the executive director may modify the post-closure plan after submission of the plugging and abandonment report following the procedures in [Chapter 305, Subchapter D] §305.72 of this title (relating to UIC Permit Modification at the Request of the Permittee [Consolidated Permits]).

(b) The owner or operator shall:

(1)-(2) (No change.)

(3) submit a survey plat to the local zoning authority designated by the executive director. The plat shall indicate the location of the well relative to permanently surveyed benchmarks.

A copy of the plat shall be submitted to the Underground Injection Control (UIC) program [Unit] at [of] the Austin office of the commission [Texas Water Commissions (TWC)].

(4)-(5) (No change.)

This agency hereby certifies that the proposal has been reviewed by legal counsel and found to be within the agency's authority to adopt.

Issued in Austin, Texas, on January 8, 1997.

SUBCHAPTER E : STANDARDS FOR CLASS III WELLS

§§331.81-331.86

The amended sections are proposed under the authority of Texas Water Code §§5.103, 5.105, and 27.019, which provide the commission with the authority to adopt rules reasonably required for the performance of its powers and duties under the Texas Water Code and other laws of the state; and under the Texas Health and Safety Code, §361.017 and §361.024, which further authorize the Texas Natural Resource Conservation Commission to promulgate rules necessary to manage industrial solid and municipal hazardous wastes.

These amendments implement Texas Water Code Chapter 27.

§331.81. Applicability.

This subchapter establishes criteria and standards that apply to all [new] Class III wells [and to all existing Class III wells authorized by rule to the extent required by §331.9 of this title (relating to Injection Authorized by Rule)].

§331.82. Construction Requirements.

(a) Casing and cementing. All new Class III wells shall be cased and cemented to prevent the migration of fluids which may cause the pollution of USDWs [freshwater aquifers]. The casing and cement used in the construction of each newly drilled well shall be designed for the life expectancy of the well. In determining and specifying casing and cementing requirements, the following factors shall be considered:

(1)-(7) (No change.)

(b) (No change.)

(c) Logs and tests. Appropriate logs and other tests shall be conducted during the drilling and construction of all new Class III wells. A descriptive report interpreting the results of those logs and tests shall be prepared by a knowledgeable log analyst and submitted to the executive director. The logs and tests appropriate to each type of Class III well shall be determined based on the intended function, depth, construction, and other characteristics of the well, availability of similar data in the area of the drilling site, and the need for additional information that may arise from time to time as the construction of the well progresses.

(1) (No change.)

(2) Mechanical integrity, as described in §331.43 of this title (relating to Mechanical Integrity Standards), shall be demonstrated following construction of the well.

(A) Except as provided by subparagraph (B) of this section, the following tests shall be used to evaluate the mechanical integrity of the injection well:

(i) To test for significant leaks under §331.43(a)(1) of this title, monitoring of annulus pressure, or pressure test with liquid or gas, or radioactive tracer survey, or for Class III uranium solution mining wells only, a single point resistivity survey in conjunction with a pressure test to detect any leaks in the casing, tubing, or packer; and

(ii) To test for significant fluid movement under §331.43(a)(2) of this title, temperature log, noise log, radioactive tracer survey, cement bond log, oxygen activation log, or for Class III uranium solution mining wells only, cement records that demonstrate the absence of significant fluid movement where other tests are not suitable. For Class III wells where the cement records are used to demonstrate the absence of significant fluid movement, the monitoring program prescribed by §331.84 of this title (relating to Monitoring Requirements) shall be designed to verify the absence of significant fluid movement.

(B) The executive director may allow the use of a test to demonstrate mechanical integrity other than those listed in subparagraph (A) of this paragraph with the written approval of the administrator of the United States Environmental Protection Agency (EPA) or his

authorized representative. To obtain approval, the executive director shall submit a written request to the EPA administrator, which shall set forth the proposed test and all technical data supporting its use. The EPA administrator shall approve the request if it will reliably demonstrate the mechanical integrity of wells for which its use is proposed. Any alternate method approved by the EPA administrator shall be published in the *Federal Register* and may be used unless its use is restricted at the time of approval by the EPA administrator.

(3) [(2)] Additional logs and tests may be required by the executive director when appropriate.

(d)-(f) (No change.)

(g) Monitor well location. Where injection is into a formation which contains water with less than 10,000 mg/l TDS, monitoring wells shall be completed into the injection zone and into any USDW above the injection zone which could be affected by the mining operation. [- Monitoring wells may be required to be completed into the injection zone, into any freshwater aquifer above the injection zone, and into the first freshwater aquifer below the injection zone which could be affected by the mining operation.] These wells shall be located [in such a fashion as] to detect any excursion of injection fluids, production fluids, process by-products, or formation fluids outside the mining area or zone. If the operation may be affected by subsidence or catastrophic collapse, the monitoring wells shall be located so that they will not be physically affected. Designated monitoring wells shall be installed at

least 100 feet inside any permit area boundary, unless excepted by written authorization from the commission.

(h) Subsidence or catastrophic collapse. Where the injection wells penetrate a USDW [an aquifer containing fresh water] in an area subject to subsidence or catastrophic collapse an adequate number of monitoring wells shall be completed into the USDW [freshwater aquifer] to detect any movement of injected fluids, process by-products or formation fluids into the USDW [fresh water]. The monitoring wells shall be located outside the physical influence of the subsidence or catastrophic collapse.

(i) Monitor well criteria. In determining the number, location, construction, and frequency of monitoring of the monitoring wells the following criteria shall be considered:

(1) the population relying on the USDW [freshwater aquifer] affected or potentially affected by the injection operation;

(2)-(6) (No change.)

§331.83. Operating Requirements.

(a) Injection pressure at the wellhead shall not exceed a maximum, as specified in the permit or commission order, which shall be calculated so as to assure that the pressure in the injection zone during injection does not:

(1)-(2) (No change.)

(3) cause the migration of injection or formation fluids into USDWs [fresh water].

(b) Injection between the outermost casing protecting USDWs [freshwater aquifers] and the wellbore is prohibited.

§331.84. Monitoring Requirements.

(a) Injection fluid shall be analyzed for physical and chemical characteristics with sufficient frequency to yield representative data on its characteristics. Whenever the injection fluid is modified to the extent that the analysis is incorrect or incomplete, a new analysis shall be submitted to the executive director.

(b)-(e) (No change.)

(f) Quarterly monitoring of wells required by §331.82(h) of this title (relating to Construction Requirements).

§331.85. Reporting Requirements.

(a)-(d) (No change.)

(e) Routine monitoring data required in §331.84(c) and (d) of this title (relating to Monitoring Requirements) shall be reported at least quarterly to the executive director [Texas Water Commission Austin headquarters and District Office] on a form provided by the executive director and in accordance with the form completion instructions. These reports must be postmarked no later than the 10th day of the following reporting period.

(f) (No change.)

(g) The first report required by subsection (f) of this section shall include a groundwater analysis in the manner required by §331.106(2) of this title (relating to Remedial Action for Excursion). A copy of all [such] reports shall be mailed to the [commission's district manager, the director of Hazardous and Solid Waste Division, and the] executive director, postmarked within two days of the end of each report period. The first report period shall begin with the day the presence of mining solution in a designated Monitor Well is verified. The permittee shall continue to make remedial action reports until clean-up is accomplished.

§331.86. Closure.

(a) Mine facilities. Within 120 days after acknowledgment of completion of mining activities, or if final restoration of the mine area aquifers is required, upon completion of final restoration, the permittee shall accomplish closure of the mining facilities in accordance with approved plugging and abandonment plans submitted as part of the supplementary technical report. Modification to plugging and abandonment plans <u>or extension of time limit past 120 days</u> must be approved in writing by the <u>executive director</u> [commission].

(b) (No change.)

This agency hereby certifies that the proposal has been reviewed by legal counsel and found to be within the agency's authority to adopt.

Issued in Austin, Texas, on January 8, 1997.

SUBCHAPTER G : CONSIDERATION PRIOR TO PERMIT ISSUANCE

§331.121, §331.122

The amended sections are proposed under the authority of Texas Water Code §§5.103, 5.105, and §27.019, which provide the commission with the authority to adopt rules reasonably required for the performance of its powers and duties under the Texas Water Code and other laws of the state; and under the Texas Health and Safety Code, §361.017 and §361.024, which further authorize the Texas Natural Resource Conservation Commission to promulgate rules necessary to manage industrial solid and municipal hazardous wastes.

These amendments implement Texas Water Code Chapter 27.

§331.121. Class I Wells.

(a) The commission shall consider the following before issuing a Class I Injection Well Permit:

(1) (No change.)

(2) all information in the Technical Report submitted with the application for permit in conformance with Chapter 305 of this title (relating to Consolidated Permits) including, but not limited to:

(A)-(F) (No change.)

(G) proposed operating data:

(i) average and maximum daily injection rate and volume of the fluid or waste to be injected over the anticipated life of the injection well;

(ii)-(vii) (No change.)

(H)-(K) (No change.)

(L) contingency plans, based on a reasonable worst case scenario, to cope with all shut-ins; loss of cavern integrity, or well failures so as to prevent migration of fluid [waste] into any [underground source of drinking water (] USDW[) or freshwater aquifer];

(M)-(P) (No change.)

(3)-(5) (No change.)

(b)-(c) (No change.)

(d) The commission shall also consider the following additional criteria, which must be addressed in the technical report of the application, before issuing a salt cavern Class I injection well permit:

(1) geologic suitability of the location:

(A) a thorough geologic characterization of the salt dome, including the geometry of the salt stock and its calculated movement and calculated salt loss rate. Data submitted must be sufficient to image underneath all overhangs, to delineate the edge of the salt stock, to define any other caverns or co-uses of the salt stock, and to address any conditions that may result in potential adverse impact on the salt stock. Well logs, seismic reflection surveys, gravity surveys, and any other appropriate geophysical methods necessary to characterize the salt dome are to be utilized. [For all applications that are not administratively complete as of the effective date of these rules,] Seismic [seismic] reflection data submitted must include a surface recorded three-dimensional seismic grid survey sufficient to image underneath all suspected overhangs and to delineate the edge of the stock. [However, for all applications, whenever submitted, the data must be sufficient to image underneath all overhangs, to delineate the edge of the salt stock, to define any other caverns or co-uses of the salt stock, and to address any conditions that may result in potential adverse impact on the salt stock.]

(B)-(D) (No change.)

(2)-(5) (No change.)

(e) (No change.)

(f) Interim Status under the Resource Conservation and Recovery Act (RCRA) for Class I hazardous waste injection wells. The minimum state standards which define acceptable injection of hazardous waste during the period of interim status are set out in this chapter [§331.9 of this title (relating to Injection Authorized by Rule) and §331.44 of this title (relating to Corrective Action Standards)]. The issuance of an underground injection well permit does not automatically terminate RCRA interim status. A Class I well's interim status does, however, automatically terminate upon issuance to that well of a RCRA permit, or upon the well's receiving a RCRA permit-by-rule under §335.47 of this title (relating to Special Requirements for Persons Eligible for a Federal Permit by Rule). Thus, until a Class I well injecting hazardous waste receives a RCRA permit or RCRA permit-by-rule, the well's interim status requirements are the applicable requirements imposed under this chapter, including any requirements imposed in the UIC permit.

(g) (No change.)

§331.122. Class III Wells.

The commission shall consider the following before issuing a Class III Injection Well or Area Permit:

(l) (No change.)

(2) all information in the Technical Report submitted with the application for permit, including the following:

(A) (No change.)

(B) a tabulation of reasonably available data on all wells within the area of review which penetrate the proposed injection zone. This [Such] data shall include a description of each well's type, construction, date drilled, location, depth, record of plugging and completion, and any additional information the executive director may require;

(C) maps and cross-sections indicating the vertical and lateral limits of those aquifers within the area of review [that contain water with less than 3,000 mg/liter TDS and those] that contain water with less than 10,000 mg/liter TDS, their position relative to the injection formation, and the direction of water movement.

(D)-(K) (No change.)

(L) expected changes in pressure, native fluid displacement, direction of movement of injection fluid; [and,]

(M) contingency plans to cope with all shut-ins or well failures so as to prevent the migration of contaminating fluids into fresh water; and

(N) the corrective action proposed to be taken under §331.44 of this title (relating to Corrective Action Standards).

(3)-(5) (No change.)

This agency hereby certifies that the proposal has been reviewed by legal counsel and found to be within the agency's authority to adopt.

Issued in Austin, Texas, on January 8, 1997.