Texas Commission on Environmental Quality (TCEQ, agency, or commission) adopts the amendments to §331.84 and §331.107 *without changes* to the proposed text as published in the July 13, 2018, issue of the *Texas Register* (43 TexReg 4707) and, therefore, will not be republished.

Background and Summary of the Factual Basis for the Adopted Rules

The commission adopts rulemaking to implement a federal rule update as well as respond to a petition filed by Lloyd Gosselink on behalf of the Owner/Operator Members of the Uranium Committee of the Texas Mining and Reclamation Association (TMRA-UC) in October 2016 (Project Number 2017-005-PET-NR; approved on December 15, 2016 to initiate rulemaking). The rulemaking modifies rules in 30 TAC in order to fulfill the requirements of an Agreement State program for radioactive material licenses and also to clarify and streamline rules. The adopted rules in Chapter 331 address requirements for injection wells used for *in situ* uranium operations to improve the wording of the timing requirement for twice a month sampling; clarify that restoration has been completed when mean concentration values fall below the corresponding restoration table values; change the reporting requirements for restoration progress reports; and clarify the timing requirements for stability sampling and the submission of an amendment application for restoration table revision.

This rulemaking includes corresponding changes to 30 TAC Chapter 305, Consolidated Permits and Chapter 336, Radioactive Substance Rules.

Section by Section Discussion

§331.84, Monitoring Requirements

The commission adopts amended §331.84(c) to replace the word "a" with the words "each calendar," replace the phrase "For a given calendar month, the second" with the word "Every," and replace the phrase "15 days after the first sample is collected" with the phrase "between 10 and 20 days from when the previous sample was collected." These changes add clarity and streamline current fluid level water quality monitoring requirements to assure that the twice monthly sampling is spread out through a given month, but is not too proscriptive so that the permittee can adequately plan or adjust sampling activities.

§331.107, Restoration

The commission adopts amended §331.107(a)(2)(A) to replace the words "sample measurements" with the words "mean concentration values" and replace the word "measurements" with the words "mean concentration values." These changes add accuracy to restoration parameters for groundwater sampling. Restoration is established when the mean concentration values are below the restoration table values, not all sample measurements.

The commission adopts amended §331.107(d) to add the phrase "and until receiving written acknowledgment from the executive director that restoration for the

production areas has been accomplished." This change adds clarity by aligning the language in subsection (d) with the current language in subsection (f). The executive director must acknowledge that groundwater restoration has been achieved before the permittee can commence closure activities.

The commission adopts amended §331.107(d)(1) to add the phrase "to monitor restoration progress for certain parameters, as approved by the executive director." This change clarifies the type of analytical data generated that is required for reports and includes those parameters that have been amended or those specifically required by the commission.

The commission adopts amended §331.107(d)(2) to add the phrase "or for each restoration parameter that has been amended in accordance with subsection (g) of this section." This change would add clarity by aligning the language in subsection (d)(2) with the amendment requirements in subsection (g), so that reporting requirements apply only to parameters that have been amended.

The commission adopts amended §331.107(f) to replace the word "certain" with the word "all" related to parameters listed in the restoration table, add the phrase "Stability sampling may commence 60 days after cessation of restoration operations," and correct the word "insure" to the word "ensure." These changes improve stability samples and restoration operations to better protect human health and the

environment and to correct incorrect grammar.

The commission adopts amended §331.107(g) to change the procedures for the amendment of a restoration table or range table values. These changes improve the clarity of the procedures by removing confusing language and aligning subsection (g) with subsection (f). Under the current rule language, it is impossible to comply with the specified timing requirement for the submission of a restoration table amendment application if that application must include all of the stability sampling information as part of the application.

The commission adopts amended §331.107(g)(3) to change the procedures for the amendment of a restoration table. These changes add additional clarity of the procedures by further explaining the requirements for stability sampling. Stability must be demonstrated when a permittee is seeking a restoration table amendment to increase a restoration table value to show that the particular parameter has stabilized. If the restoration table has been amended, stability sampling must be repeated to show that the revised parameter has stabilized for a two-year period.

Final Regulatory Impact Determination

The commission adopts the rulemaking action under the regulatory analysis requirements of Texas Government Code, §2001.0225, and determined that the action is not subject to Texas Government Code, §2001.0225 because it does not meet the

definition of a "Major environmental rule" as defined in the statute. A "Major environmental rule" means a rule, the specific intent of which, is to protect the environment or reduce risks to human health from environmental exposure and that may adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. The adopted rulemaking action implements clarifying changes for the timing of groundwater sampling activities, reporting requirements, and the timing of amendment applications and stability demonstrations for area permits and production area authorizations for *in situ* recovery of uranium. The adopted rulemaking is not anticipated to adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state, because the amendments do not alter in a material way the existing requirements for injection wells used for *in situ* recovery of uranium.

Furthermore, the adopted rulemaking action does not meet any of the four applicability requirements listed in Texas Government Code, §2001.0225(a). Texas Government Code, §2001.0225 only applies to a major environmental rule, the result of which is to: 1) exceed a standard set by federal law, unless the rule is specifically required by state law; 2) exceed an express requirement of state law, unless the rule is specifically required by federal law; 3) exceed a requirement of a delegation agreement or contract between the state and an agency or representative of the federal

government to implement a state and federal program; or 4) adopt a rule solely under the general powers of the agency instead of under a specific state law. The adopted rulemaking action does not exceed a standard set by federal law, an express requirement of state law, a requirement of a delegation agreement, nor does it adopt a rule solely under the general powers of the agency.

The commission's Underground Injection Control (UIC) program is authorized by the United States Environmental Protection Agency (EPA) and the adopted changes for injection well permits and production area authorizations, do not exceed a standard of federal law or requirement of a delegation agreement. There are no federal standards for production area authorizations. The adopted rules are compatible with federal law.

The adopted rules do not exceed a requirement of state law. Texas Water Code (TWC), Chapter 27, the Injection Well Act, establishes requirements for the commission's UIC program. TWC, §27.0513 requires the commission to establish application requirements, technical requirements, including the methods for determining restoration table values and procedural requirements for a production area authorization. The adopted rulemaking is consistent with TWC, Chapter 27.

The adopted rules are compatible with the requirements of a delegation agreement or contract between the state and an agency of the federal government. The commission's UIC program is authorized by the EPA, and the adopted rules are compatible with the

state's delegation of the UIC program.

The adopted rules are adopted under specific laws. TWC, Chapter 27, establishes requirements for the commission's UIC program and TWC, §27.019, requires the commission to adopt rules reasonably required to implement the Injection Well Act, and TWC, §27.0513 authorizes the commission to adopt rules to establish requirements for production area authorizations.

The commission invited public comment regarding the draft regulatory impact analysis determination during the public comment period. No comments were received on the Draft Regulatory Impact Analysis Determination.

Takings Impact Assessment

The commission evaluated these adopted rules and performed a preliminary assessment of whether the Private Real Property Rights Preservation Act, Texas Government Code, Chapter 2007 is applicable. The commission's preliminary assessment is that implementation of these adopted rules would not constitute a taking of real property.

The purpose of these adopted rules is to implement clarifying changes for the timing of groundwater sampling activities, reporting requirements, and the timing of amendment applications and stability demonstrations for area permits and production area authorizations for *in situ* recovery of uranium. The adopted rules in Chapter 331

do not substantially change the requirements for proper operation or closure of injection wells or the requirement for groundwater restoration following *in situ* mining operations.

Promulgation and enforcement of these adopted rules would be neither a statutory nor a constitutional taking of private real property. The adopted rules do not affect a landowner's rights in private real property because this rulemaking action does not constitutionally burden, nor restrict or limit, the owner's right to property and reduce its value by 25% or more beyond which would otherwise exist in the absence of the regulations. The adopted rules for injection well permits and production area authorizations do not affect real property. The adopted rules apply only to those who use or apply for permit or authorization of injection wells for *in situ* recovery of uranium. The adopted rules make clarifying changes to the timing of groundwater sampling activities, reporting requirements, and the timing of amendment applications and stability demonstrations for area permits and production area authorizations for *in situ* recovery of uranium.

Consistency with the Coastal Management Program

The commission reviewed the adopted rules and found they are neither identified in Coastal Coordination Act Implementation Rules, 31 TAC §505.11(b)(2) or (4), nor will they affect any action/authorization identified in Coastal Coordination Act Implementation Rules, 31 TAC §505.11(a)(6). Therefore, the adopted rules are not

subject to the Texas Coastal Management Program (CMP).

The commission invited public comment regarding the consistency with the CMP during the public comment period. No comments were received on the CMP.

Public Comment

The commission offered a public hearing on August 9, 2018. The comment period closed on August 13, 2018. The commission received one comment letter from Lloyd Gosselink on behalf of TMRA-UC in support of the rulemaking and suggesting changes to the rulemaking.

Response to Comments

30 TAC §331.84, Monitoring Requirements

Comment

TMRA-UC stated the revisions work to accomplish the goals of TMRA-UC's petition and agrees with TCEQ's proposed rule revisions.

Response

The commission appreciates the support for the rulemaking and proposed changes. No changes have been made in response to this comment.

30 TAC §331.105, Monitoring Standards

Comment

TMRA-UC commented that §331.105(3) should be revised as requested in the original rulemaking petition, dated October 28, 2016. TMRA-UC suggested changes regarding monitoring standards and excursions related to uranium mining operations.

Response

The requirement in §331.105(3) triggers the requirements for the permittee to conduct further verifying analysis. Regarding the requested change to §331.105, the commission responds that the current rules provide sufficient flexibility to allow for the selection of appropriate parameters for excursion monitoring as well as for allowing the permittee to demonstrate that the change in water quality is not due to the presence of mining solutions or fluids from mining activities. No changes have been made in response to this comment.

30 TAC §331.107, Restoration

Comment

TMRA-UC believes the proposed revisions accomplish TMRA-UC's goal of improving the restoration sampling process.

Response

The commission appreciates the support for the rulemaking and proposed changes. No changes have been made in response to this comment.

SUBCHAPTER E: STANDARDS FOR CLASS III WELLS

§331.84

Statutory Authority

The amendment is adopted under Texas Water Code (TWC), §5.103, concerning Rules, and TWC, §5.105, concerning General Policy, which authorize the commission to adopt rules necessary to carry out its powers and duties under the TWC and other laws of the state. The amendment is also adopted under TWC, §27.019, which requires the commission to adopt rules reasonably required for the performance of duties and functions under the Injection Well Act; and TWC, §27.0513, which requires the commission to establish rules for procedural, application and technical requirements for production area authorizations.

The adopted amendment implements TWC, §27.0513.

§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) The injection pressure, the injection volume, and the production volume shall be recorded.

(c) Fluid level when required by permit and the parameters chosen to measure water quality in monitor wells completed in the injection zone shall be monitored twice each calendar month. Every sample shall be collected between 10 and 20 days from when the previous sample was collected.

(d) Specified wells within 1/4 mile of the injection site shall be monitored at least once every three months to detect any migration from the injection zone into fresh water.

(e) All Class III wells may be monitored on a field or project basis rather than on an individual well basis by manifold monitoring. Manifold monitoring may be used in cases of facilities consisting of more than one injection well operating with a common manifold. Separate monitoring systems for each well are not required, provided the owner/operator demonstrates that manifold monitoring is comparable to individual well monitoring.

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

SUBCHAPTER F: STANDARDS FOR CLASS III WELL PRODUCTION AREA DEVELOPMENT

§331.107

Statutory Authority

The amendment is adopted under Texas Water Code (TWC), §5.103, concerning Rules, and TWC, §5.105, concerning General Policy, which authorize the commission to adopt rules necessary to carry out its powers and duties under the TWC and other laws of the state. The amendment is also adopted under TWC, §27.019, which requires the commission to adopt rules reasonably required for the performance of duties and functions under the Injection Well Act; and TWC, §27.0513, which requires the commission to establish rules for procedural, application and technical requirements for production area authorizations.

The adopted amendment implements TWC, §27.0513.

§331.107. Restoration.

(a) Aquifer restoration. Groundwater in the production zone within the production area must be restored when mining is complete. Each Class III permit or production area authorization shall contain a description of the method for determining that groundwater has been restored in the production zone within the production area. Restoration must be achieved for all values in the restoration table of

all parameters in the suite established in accordance with the requirements of §331.104(b) of this title (relating to Establishment of Baseline and Control Parameters for Excursion Detection).

(1) Restoration table. Each permit or production area authorization shall contain a restoration table for all parameters in the suite established in accordance with the requirements of §331.104(b) of this title. The restoration value for each parameter listed in the restoration table cannot exceed the maximum value for the respective parameter in the permit range table required under §331.82(e)(7) of this title (relating to Construction Requirements). A restoration table value for a parameter shall be established by:

(A) the mean concentration or value for that parameter based on all measurements from groundwater samples collected from baseline wells prior to mining activities; or

(B) a statistical analysis of baseline well information proposed by the owner or operator and approved by the executive director that demonstrates that the restoration table value is representative of baseline quality.

(2) Achievement of restoration. Achievement of restoration shall be determined using one of the following methods:

(A) when all mean concentration values from groundwater samples from all baseline wells for a restoration parameter are equal to or below (or, in the case of pH, within an established range) the restoration table value for that parameter, then restoration for that parameter will be assumed to have occurred. Complete restoration will be assumed to have occurred when mean concentration values from all samples from all baseline wells for all restoration parameters are equal to or below (or, in the case of pH, within an established range) each respective restoration table value; or

(B) a statistical analysis of information from groundwater samples from baseline wells proposed by the owner or operator and approved by the executive director that demonstrates that the groundwater quality is representative of the restoration table values.

(b) Mining completion. When the mining of a permit or production area is completed, the permittee shall notify the appropriate commission regional office and the executive director and shall proceed to reestablish groundwater quality in the affected permit or production area aquifers in accordance with the requirements of subsection (a) of this section. Restoration efforts shall begin as soon as practicable but no later than 30 days after mining is completed in a particular production area. The executive director, subject to commission approval, may grant a variance from the 30-day period for good cause shown.

(c) Timetable. Aquifer restoration, for each permit or production area, shall be accomplished in accordance with the timetable specified in the currently approved mine plan, unless otherwise authorized by the commission. Authorization for expansion of mining into new production areas may be contingent upon achieving restoration progress in previously mined production areas within the schedule set forth in the mine plan. The commission may amend the permit to allow an extension of the time to complete restoration after considering the following factors:

(1) efforts made to achieve restoration by the original date in the mine plan;

(2) technology available to restore groundwater for particular parameters;

(3) the ability of existing technology to restore groundwater to baseline quality in the area;

(4) the cost of achieving restoration by a particular method;

(5) the amount of water which would be used or has been used to achieve restoration;

(6) the need to make use of the affected aquifer; and

(7) complaints from persons affected by the permitted activity.

(d) Reports. Beginning six months after the date of initiation of restoration of a permit or production area, as defined in the mine plan, and until receiving written acknowledgment from the executive director that restoration for the production areas has been accomplished, the operator shall provide to the executive director semi-annual restoration progress reports. This report shall contain the following information:

(1) all analytical data generated to monitor restoration progress for certain parameters, as approved by the executive director, during the previous six months;

(2) graphs of analysis for each restoration parameter for each baseline well or for each restoration parameter that has been amended in accordance with subsection (g) of this section;

(3) the volume of fluids injected and produced;

(4) the volume of fluids disposed;

(5) water level measurements for all baseline and monitor wells, and for any other wells being monitored;

(6) a potentiometric map for the area of the production area authorization, based on the most recent water level measurements; and

(7) a summary of the progress achieved towards aquifer restoration.

(e) Restoration table values achieved. When the permittee determines that constituents in the aquifer have been restored to the values in the Restoration Table, the restoration shall be demonstrated by stability sampling in accordance with subsection (f) of this section.

(f) Stability sampling. The permittee shall obtain stability samples and complete an analysis for all parameters listed in the restoration table from all production area baseline wells. Stability sampling may commence 60 days after cessation of restoration operations. Stability samples shall be conducted at a minimum of 30-day intervals for a minimum of three sample sets and reported to the executive director. The permittee shall notify the executive director at least two weeks in advance of sample dates to provide the opportunity for splitting samples and for selecting additional wells for sampling, if desired. To ensure water quality has stabilized, a period of one calendar

year must elapse between cessation of restoration operations and the final set of stability samples. Upon acknowledgment in writing by the executive director confirming achievement of final restoration, the permittee shall accomplish closure of the area in accordance with §331.86 of this title (relating to Closure).

(g) Amendment of restoration table or range table values. After an appropriate effort has been made to achieve restoration in accordance with the requirements of subsection (a) of this section, the permittee may cease restoration operations, reduce bleed and request that the restoration table be amended. With the request for amendment of the restoration table values, the permittee shall submit stability sampling results in accordance with subsection (f) of this section. The permittee shall notify the executive director of his or her intent to cease restoration operations and reduce the bleed 30 days prior to implementing these steps. If any restoration table value for any parameter listed in the restoration table will exceed the maximum value for the respective parameter in the permit range table, the permittee must submit an application for a major amendment of the permit range table.

(1) In determining whether the restoration table or range table should be amended, the commission will consider the following items addressed in the request:

(A) uses for which the groundwater in the production area was suitable at baseline water quality levels;

(B) actual existing use of groundwater in the production area prior to and during mining;

(C) potential future use of groundwater of baseline quality and of proposed restoration quality;

(D) the effort made by the permittee to restore the groundwater to baseline;

(E) technology available to restore groundwater for particular parameters;

(F) the ability of existing technology to restore groundwater to baseline quality in the area under consideration;

(G) the cost of further restoration efforts;

(H) the consumption of groundwater resources during further restoration; and

(I) the harmful effects of levels of particular parameter.

(2) The commission may amend the restoration table or range table if it finds that:

(A) reasonable restoration efforts have been undertaken, giving consideration to the factors listed in paragraph (1) of this subsection;

(B) the values for the parameters describing water quality have stabilized for a period of one year;

(C) the formation water present in the exempted portion of the aquifer would be suitable for any use to which it was reasonably suited prior to mining; and

(D) further restoration efforts would consume energy, water, or other natural resources of the state without providing a corresponding benefit to the state.

(3) If the restoration table is amended, stability sampling shall be repeated and conducted as described in subsection (f) of this section, except that only the parameters that were amended in accordance with this subsection will be sampled and a period of two calendar years must elapse between cessation of restoration

operations and the final set of stability samples unless the permittee can demonstrate through modeling or other means that a period of less than two years is appropriate for a demonstration of stability.

(4) If the request for an amendment of the restoration table or range table values is not granted, the permittee shall restart restoration efforts.