

Comments on Texas RRC Proposed Revisions to 16 TAC Chapter 5 – DRAFT June 10, 2022

Citation	Language in Proposal	Recommended Revision	Comment
47 TR 2944 May 20, 2022	The Commission proposes to add a definition for "offshore" to reflect the definition included in HB 1284.	The Commission proposes to add a definition for "offshore" to reflect the definition included in HB 1284, which adopts the definition from section 27.040 of the Texas Water Code.	HB 1284 SECTION 1. Section 382.501, Health and Safety Code, is amended by adding Subdivisions (5) and (6) to read as follows: (5) "Offshore" has the meaning assigned by Section 27.040, Water Code. Sec. 27.040. DEFINITION. In this subchapter, "offshore" means the area in the Gulf of Mexico seaward of the coast that is within three marine leagues of the coast. It is worth noting that this definition encompasses the full extent of state jurisdiction over the offshore area and that the Federal government exercises jurisdiction over the OCS beyond that area.
47 TR 2944	The Commission proposes amendments in §5.201(b) to add a title to the subsection and to include the factors that the Commission will consider when determining whether there is an increased risk to underground sources of drinking water such that a Class VI permit is required.		While it is appropriate to incorporate these factors, it is also important to recognize that the Class VI regulations do not dictate exactly how the Director should apply these factors when making the determination. More importantly, the factors themselves will play very different roles in affecting the assessment of risks. The following statement is crucial.
47 TR 2945	The potential need to transition from Class II to Class VI will be based on the increased risk to USDWs related to significant storage of carbon dioxide in the reservoir, where the regulatory tools of the Class II program cannot successfully manage the risk.		This is the important recognition of the ultimate determination the Director will make in deciding whether a Class VI permit is necessary.
47 TR 2945	In §5.202(a), the Commission proposes wording to require a storage operator to obtain a permit before engaging in certain activities and proposes new paragraph (2) regarding when injection may begin.		The language of the proposed revision is too broad. To avoid confusion over the ability to construct a well, such as a stratigraphic test well, that will later be converted to a Class VI well, it would be better to use "Class VI well" here. In addition, there is potential for precluding

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			<p>activities that could be essential steps that are not within the purview of the UIC program because the definition of "geologic storage facility" is so broad and includes "surface buildings and equipment", "surface and subsurface rights and appurtenances", and "and any reasonable and necessary areal buffer and subsurface monitoring zones". Particularly because section 45Q of the IRS Code requires that construction start before specified deadlines, this regulation should not include language that might preclude an operator from constructing capture equipment (e.g., compressors) that might be located within the area included within a geologic storage facility. Accordingly, it should be sufficient to preclude operation of the storage facility without the necessary permits.</p>
47 TR 2946	<p>Such data includes the permit application and associated data, as well as all required reports, submittals, and notifications. As of the time of this proposal, EPA is requiring the use of its Geologic Sequestration Data Tool (GSDT), which is a centralized, web-based system that receives, stores, and manages Class VI data, and satisfies the Class VI electronic reporting requirement. Whether or not the State has primacy for the Class VI UIC program, an applicant is required to submit to EPA all application and reporting information through the GSDT</p>		<p>The RRC should work with EPA to provide clearer guidance regarding exactly what data and information operators must submit to EPA through the GSDT. In particular, once a state obtains primacy for the Class VI program, it should not be necessary for a permit applicant to submit to EPA every response to the RRC's requests for additional information or revision of the permit application. It should be sufficient to submit the final complete permit application and associated data.</p>
47 TR 2946	<p>The Commission proposes to amend §5.203(d)(1)(A)(i)(III) to clarify that the initial delineation of the area of review must be estimated from initiation of injection until the plume movement ceases, for a minimum of 8</p>	No revision proposed	<p>This is an acceptable planning horizon, but the 8 years should not be deemed a required minimum post-injection monitoring or site care period. As noted below, the PISC period and the required period for monitoring should be determined on</p>

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	years after the end of the injection period proposed by the applicant.		the basis of the iterative process of history matching operational data and information with modeling predictions and a conformance process that provides the basis for formal risk assessments that provide the foundation for such determinations as well as the basis for closure approval.
47 TR 2947	To meet the minimum federal requirements, the Commission proposes to amend §5.203(m) to include the data and information required to make a demonstration that an alternative timeframe is appropriate and ensures non-endangerment of USDWs. The proposed amendment would require additional effort for each Class VI permit application, but would provide a more appropriate, site-specific post injection site care timeframe. The Commission anticipates that the benefit of this change would be reflected in the costs associated with post injection site care monitoring.	No revision proposed	This is an excellent proposal and moves the determination of proper PISC timeframes into the center of the formal modeling, operational data collection, history matching, conformance, and risk assessment and management process where it belongs. Adopting a default 50-year PISC period avoids that process. It is extremely important to recognize that the iterative process of modeling, projection, operational data collection, history matching and conformance will be ongoing during the entire period of operation and PISC, and that the PISC period and closure demonstration must be subject to updating throughout the entire lifetime of the project as better and better understanding of the site specifics develops.
47 Tex Reg at 2947	The Commission requests comments on whether the Commission should finalize the rules as proposed or adopt the federal 50-year default timeframe with the option for an alternative timeframe. In addition, the Commission requests comment on whether the Commission should consider a minimum post injection site care monitoring period.	No revision proposed	The RRC should not adopt a 50-year default period for post injection site care and use instead agreed criteria for demonstrating nonendangerment of USDWs. Experience shows that reductions in pressure and fluid movement within storage reservoirs are likely to occur much sooner than the fifty-year period. In unusual cases where such demonstrations take longer, the current regulatory language already allows that even without specification of the default period. Estimates to support financial assurance should be based on more realistic projections. The default 50-year PISC period is longer than it

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			needs to be for well-chosen sites, and more flexibility should be included in Class VI permits so that shorter PISC timeframes can be specified with possibility of adjustment depending on actual site conditions.
47 Tex Reg at 2948	The Commission also proposes to amend subsection §5.206(o) to add new paragraph (2)(G) to state that the permittee of a geologic storage well will be required to coordinate with any operator planning to drill through the area of review (AOR) to explore for oil and gas or geothermal resources.	No revision proposed	This is a very important and appropriate addition to the rule. Operators should be allowed to coordinate these operations, with the recognition that ultimate approval from the Commission will not be forthcoming if the operators fail to agree on operational procedures that will assure containment of the stored CO2 and avoidance of endangering any USDWs.
47 Tex Reg at 2949	Achieving meaningful reductions in CO ₂ emissions while preserving the benefits of our energy-intensive economy cannot be accomplished without significant deployment of carbon sequestration.	No revision proposed	This is a very important recognition and underpinning for the permitting and operation of Class VI wells.
47 Tex Reg at 2952 §5.102. Definitions.	(33) Offshore--The area in the Gulf of Mexico seaward of the coast that is within three marine leagues of the coast.	This is an important addition and appropriate to make.	It is worth noting that this definition encompasses the full extent of state jurisdiction over the offshore area and that the Federal government exercises jurisdiction over the OCS beyond that area.
47 Tex Reg at 2952 §5.102. Definitions.	(36) Permit--An authorization, license, or equivalent control document issued by the Commission to implement the requirements of chapter.	(36) Permit--An authorization, license, or equivalent control document issued by the Commission to implement the requirements of this chapter.	For clarification, the provision should state "of this chapter".
47 Tex Reg at 2954 §5.201. Applicability and Compliance.	(f) Injection depth waiver. An operator may seek a waiver from the Class VI injection depth requirements for geologic storage to allow injection into non-USDW formations while ensuring that USDWs above and below the injection zone are protected from	(f) Injection depth waiver. An operator may seek a waiver from the Class VI injection depth requirements for geologic storage to allow injection	Injection depth waivers should be available for existing wells through amendment of a permit to use an alternative injection interval.

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	<p>endangerment. An operator seeking a waiver of the requirement to inject below the lowermost USDW shall submit, concurrent with the permit application, a supplemental report that complies with 40 CFR §146.95. The Commission adopts 40 CFR §146.95 by reference, effective July 1, 2022.</p>	<p>into non-USDW formations while ensuring that USDWs above and below the injection zone are protected from endangerment. An operator seeking a waiver of the requirement to inject below the lowermost USDW shall submit, concurrent with the permit application or a permit amendment application, a supplemental report that complies with 40 CFR §146.95. The Commission adopts 40 CFR §146.95 by reference, effective July 1, 2022.</p>	
<p>47 Tex Reg at 2954 §5.201. Applicability and Compliance.</p>	<p>(g) This subchapter does not apply to the injection of any CO2 stream that meets the definition of a hazardous waste.</p>	<p>(g) This subchapter does not apply to the injection of any CO2 stream that meets the definition of a hazardous waste under 40 CFR part 261.</p>	<p>The RRC should revise this provision to avoid any confusion about the potential applicability of EPA's promulgated hazardous waste exclusion for carbon dioxide streams injected into Class VI wells for geologic sequestration.</p> <p>40 CFR § 261.3 establishes the "Definition of hazardous waste". Carbon dioxide streams injected for geologic storage could potentially exhibit a hazardous characteristic (e.g., corrosivity) that would meet the definition of hazardous waste. But EPA promulgated 40 CFR § 261.4(h) to provide: "Carbon dioxide streams that are captured and transported for purposes of injection into an underground injection well subject to the requirements for Class VI</p>

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			<p>Underground Injection Control wells, including the requirements in 40 CFR Parts 144 and 146 of the Underground Injection Control Program of the Safe Drinking Water Act, are not a hazardous waste, provided [specified] conditions are met". Thus, 40 CFR § 261.4 provides specific exclusions, stating that certain solid wastes are not hazardous waste. By adding the reference to 40 CFR part 261, the regulation will include the applicability of section 261.4(h). Texas uses the federal regulations to define what is a hazardous waste.</p>
<p>47 Tex Reg at 2954 §5.202. Permit Required, and Draft Permit and Fact Sheet.</p>	<p>§5.202. Permit Required, and Draft Permit and Fact Sheet. (a) Permit required. (1) A person shall may not begin drilling or operating an anthropogenic CO2 injection well for geologic storage or constructing or operating a geologic storage facility regulated under this subchapter without first obtaining the necessary permits [permit(s)] from the Commission.</p>	<p>§5.202. Permit Required, and Draft Permit and Fact Sheet. (a) Permit required. (1) A person shall not begin drilling or operating an anthropogenic CO2 a Class VI injection well for geologic storage or constructing or operating a geologic storage facility regulated under this subchapter without first obtaining the necessary permits from the Commission.</p>	<p>The language of the proposed revision is too broad. To avoid confusion over the ability to construct a well, such as a stratigraphic test well, that will later be converted to a Class VI well, it would be better to use "Class VI well" here. In addition, there is potential for precluding activities that could be essential steps that are not within the purview of the UIC program because the definition of "geologic storage facility" is so broad and includes "surface buildings and equipment", "surface and subsurface rights and appurtenances", and "and any reasonable and necessary areal buffer and subsurface monitoring zones". Particularly because section 45Q of the IRS Code requires that construction start before specified deadlines, this regulation should not include language that might preclude an operator from constructing capture equipment (e.g., compressors) that might be located within the area included within a geologic storage facility. Accordingly, it should be sufficient to preclude operation of the storage facility without the necessary permits.</p>

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47 Tex Reg at 2954 §5.202. Permit Required, and Draft Permit and Fact Sheet.	§5.202(b)(2) Compliance with plan amendments required by this subchapter does not necessarily constitute a material deviation in conditions requiring an amendment of the permit.		Interesting how this applies to plan updates
47 Tex Reg at 2956 §5.202. Permit Required, and Draft Permit and Fact Sheet.	§5.202(e)(1)(B) If the director tentatively decides to deny the permit application, the director shall issue a notice of intent to deny. A notice of intent to deny the permit application is a type of draft permit which follows the same procedures as any draft permit prepared under this section.		Although it may be appropriate to call a proposed denial a type of “draft permit” to make the same procedures applicable to a proposed denial, the following subsection 5.202(e)(1)(C) should be revised to differentiate a denial from an actual draft permit that would include permit conditions.
47 Tex Reg at 2956 §5.202. Permit Required, and Draft Permit and Fact Sheet.	§5.202(e)(1)(C) If the director decides to prepare a draft permit, the draft permit shall contain the permit conditions required under §5.206 of this title (relating to Permit Standards).	§5.202(e)(1)(C) If the director decides to prepare a draft permit other than a denial , the draft permit shall contain the permit conditions required under §5.206 of this title (relating to Permit Standards).	Subsection 5.202(e)(1)(C) should be revised by adding “other than a denial” to differentiate a denial from an actual draft permit that should include permit conditions.
47 Tex Reg at 2959 §5.203. Application Requirements.	§5.203(e)(1)(B)(vii) The director may exempt existing wells that have been associated with injection of CO ₂ for the purpose of enhanced recovery from provisions of these casing and cementing requirements if the applicant demonstrates that the well construction meets the general performance criteria in subparagraph (A) of this paragraph.	§5.203(e)(1)(B)(vii) The director may exempt existing wells that have been associated with injection of CO₂ for the purpose of enhanced recovery are being converted to Class VI wells from provisions of these casing and cementing requirements if	The RRC should not limit this provision to conversion of Class II enhanced recovery wells, as other wells may also be converted to Class VI wells if the wells meet the requirements of subparagraph (A). The applicable provision of the EPA Class VI regulations is in 40 CFR 146.81(c) (below). Accordingly, other types of wells could be converted, with the exception of plugged and abandoned Class I wells.

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		<p>the applicant demonstrates that the well construction meets the general performance criteria in subparagraph (A) of this paragraph.</p>	<p>“(c) This subpart also applies to owners or operators of permit- or rule-authorized Class I, Class II, or Class V experimental carbon dioxide injection projects who seek to apply for a Class VI geologic sequestration permit for their well or wells. Owners or operators seeking to convert existing Class I, Class II, or Class V experimental wells to Class VI geologic sequestration wells must demonstrate to the Director that the wells were engineered and constructed to meet the requirements at § 146.86(a) and ensure protection of USDWs, in lieu of requirements at §§ 146.86(b) and 146.87(a).”</p>
<p>47 Tex Reg at 2967 §5.206. Permit Standards.</p>	<p>§5.206(c)(3) Except in the case of an emergency repair, the operator of a geologic storage facility must notify the director in writing at least 30 days [48 hours, and obtain the director’s approval,] prior to conducting any well workover that involves running tubing and setting packers [packer(s)], beginning any workover or remedial operation, or conducting any required pressure tests or surveys. In the case of an emergency repair, the operator must notify the director of such emergency repair as soon as reasonably practical. No such work may commence until approved by the director.</p>	<p>§5.206(c)(3) Except in the case of an emergency repair, the operator of a geologic storage facility must notify the director in writing at least 30 days prior to conducting any well workover that involves running tubing and setting packers, beginning any workover or remedial operation, or conducting any required pressure tests or surveys. No such work may commence until approved by the director. In the case of an emergency repair, the operator must notify the director of such emergency repair as soon as reasonably practical. No such work may</p>	<p>The proposed wording creates confusion about whether the prohibition on commencing work also applies to “emergency repairs”, which does not appear to be the intent. By relocating the final sentence to follow the sentence that excludes emergency repairs, the intent will be clarified.</p>

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