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July 1, 2022

VIA EMAIL: rulescoordinator@rrc.texas.gov

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Rules Coordinator
Office of the General Counsel
Railroad Commission of Texas
P.O. Box 12967
Austin, Texas 78711-2967

Re: Comments on Proposed Amendments to 16 TAC Chapter 5 and Pre-Application for Class VI Primacy from EPA

Dear Rules Coordinator:

The Texas Industry Project ("TIP") appreciates the opportunity to submit the following comments on the Railroad Commission of Texas's ("RRC's") proposed amendments to 16 Texas Administrative Code ("TAC") Chapter 5, related to carbon capture, use, and storage ("CCUS") and Class VI Underground Injection Control ("UIC") wells, as well as the RRC's pre-application to EPA for primacy to administer the Class VI UIC program. TIP is composed of 61 companies in the chemical, refining, oil and gas, electronics, forest products, terminal, electric utility, transportation, and national defense industries with operations in Texas.

TIP believes that CCUS is a critical tool for reducing carbon dioxide in the atmosphere, and that Texas is uniquely situated to become a national leader in CCUS. Efficient permitting of CCUS operations is important to TIP members. Accordingly, TIP strongly supports the RRC's request for primacy to administer the Class VI UIC program in Texas.

TIP members, who include potential participants in various aspects of the CCUS value chain, also have great interest in the RRC's rules related to CCUS and Class VI UIC wells. TIP endorses the attached comments submitted by the Texas Oil and Gas Association ("TXOGA") related to the RRC's proposed rules in 16 TAC Chapter 5 and urges the RRC to give those comments serious consideration.

We appreciate your consideration of these comments. If you have any questions, please do not hesitate to contact me.

Respectfully,

Aileen M. Hooks

Aileen M. Hooks
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TEXAS OIL & GAS ASSOCIATION | SINCE 1919

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July 1, 2022

Chairman Wayne Christian
Commissioner Christi Craddick
Commissioner Jim Wright
1701 N. Congress
Austin, Texas 78701

RE: RRC Rulemaking related to Class VI UIC Injection Wells

Mr. Chairman and Commissioners:

The Texas Oil & Gas Association (TXOGA) writes to comment on the Railroad Commission of Texas' (Commission) Proposed Amendments to 16 TAC Chapter 5 and Pre-Application for Class VI Primacy from the U.S. Environmental Protection Agency ("Proposed Rule"). TXOGA is the oldest statewide organization representing all aspects of the oil and gas industry in Texas. Our members range from smaller, independent producers to major ones; collectively, TXOGA's membership produces more than 80% of Texas' crude oil and natural gas, operates over 80% of the state's refining capacity, and is responsible for the majority of the state's pipelines. TXOGA and its members have a great interest in the regulations surrounding Class VI wells and appreciate the opportunity to comment.

TXOGA fully supports the Commission's application for primacy from the U.S. Environmental Protection Agency (EPA) for the permanent geologic sequestration and storage of carbon dioxide (CO_2) via Class VI underground injection control (UIC) wells. TXOGA greatly appreciates both the U.S. EPA and Commission's efforts towards achieving that goal. TXOGA submits these comments in order to offer a perspective on some changes that may improve the rule as well as identify provisions that may be overly burdensome or may operate as deterrents to carbon storage projects, such as the increased stringency in notice and monitoring requirements, and additional fee requirements.

5.102 - Definitions

TXOGA requests that "interested person", as defined in Section 5.202(d)(1), be included as a newly defined term in Section 5.102. This will provide greater consistency and clarity throughout the proposed rule, as the terms "interested person" and "affected person" are used throughout the proposed rule but have distinct meanings. Additionally, TXOGA suggests that the language describing what "interested person" includes should be revised to replace the proposed subsection 5.202(d)(1)(c) with the following: "(c) any affected person.". This revision is consistent with the Commission's proposed text and maintains the existing framework and terminology used in 16 TAC Chapter 5.

5.201 - Applicability and Compliance

TXOGA would also like to comment on the language in 5.201(c) that appears to place new and unnecessary restrictions on the use of Class II wells for the injection of CO_2 and other acid gases generated from oil and gas activities. The first sentence in this proposed section states that Class VI well rules do not apply to such gases generated "from a single lease, unit, field, or gas processing facility." TXOGA is concerned that this language could be construed to require Class VI permits for any acid gas disposal well used to inject CO_2 or other acid gases that come from more than one lease, field, unit, or gas processing facility. There is no requirement under federal law or in the Commission's current rules that places such a restriction on the use of Class II acid gas disposal wells. Under both the federal UIC rules and current Commission rules, CO_2 and other acid gases can be injected into a Class II well as long as they are generated from oil and gas activities, without regard to how many sources or locations the CO_2 comes from.

The federal government—both the Treasury Department and EPA—has acknowledged that Class II UIC wells may be used for the permanent sequestration of CO_2 generated from oil and gas activities if the operator has a Monitoring, Reporting, and Verification (MRV) plan that has been approved by EPA. To date, EPA has approved MRV plans for significant carbon sequestration projects using Class II wells in New Mexico and Wyoming. There is no reason for operators in Texas to be put at a competitive disadvantage compared to operators in other states.

TXOGA believes that the Commission has ample authority under its current rules to ensure that the injection of CO_2 and other acid gases generated from oil and gas activities will not harm underground sources of drinking water (USDW) or otherwise pose a risk to human health and the environment. Disposal of acid gas that contains CO_2 generated as part of oil and gas processing under approved Class II permits has been evidenced as a safe and effective means of disposing of such wastes over many years. The disposal of such wastes from two or more such leases, units, fields, or gas processing facilities utilizing a single approved Class II disposal well for disposal of such wastes may present no increased risk to USDW sources and can be sufficiently managed using Class II well regulatory tools. This determination should be made on a well-specific basis taking into consideration factors specific to acid gas disposal. Therefore, TXOGA requests that the Commission delete the words "from a single lease, unit, field, or gas processing facility" from the first sentence of proposed section 5.201(c).

TXOGA would also like to comment on the language in 5.201(c) that cross-references the factors listed in 5.201(b) for transition of Class II EOR wells to Class VI wells when determining whether a Class II well used for the disposal of acid gas containing CO_2 should be converted to a Class VI well. Rather than cross-referencing the factors applicable to EOR wells, TXOGA recommends including specific factors applicable to acid gas disposal wells, as listed below,

(A) the reservoir pressure within the injection zone;
(B) the quantity of acid gas being disposed of;
(C) distance between the injection zone and USDWs;
(D) suitability of the disposed waste AOR delineation;
(E) quality of abandoned well plugs within the AOR;
(F) the source and properties of injected acid gas; and
(G) any additional site-specific factors as determined by the Commission.

5.202 - Permit Required, and Draft Permit and Fact Sheet

TXOGA has identified certain issues with Section 5.202(d), which generally addresses causes for permit modification, revocation, reissuance, or termination.

First, TXOGA suggests that 5.202(d)(2)(A)(ii) be revised to "new material information" to emphasize that the threshold for permit modification or for revocation and reissuance be based on new information must be "material" in order to trigger this significant action. And second, we suggest that 5.202(d)(2)(A)(iii) be revised to include language that indicates a "new regulation" that may cause a modification or a revocation and reissuance of a permit should be based on a new, material change to applicable standards or regulations. This is generally consistent with the type of modification contemplated by the federal equivalent of this section, found in 40 CFR § 144.39(a)(3).

TXOGA also requests clarification from the Commission on how the as-drafted provisions on causes for modification, revocation and reissuance, or termination in section 5.202(d)(2) will operate in practice given the Commission's incorporation by reference of EPA regulations in whole or in part in this proposal. TXOGA has some concerns that any change in EPA regulations could potentially serve as an automatic basis for a permit modification, revocation and reissuance, or termination. One way to address this would be to state in the rules that the federal regulations would be incorporated as issued on a certain date, and any subsequent federal regulatory change would be subject to the Commission's rulemaking process to maintain appropriate opportunities for notice and comment to the rule changes. And more generally, TXOGA requests that the Commission include a materiality standard for permit modification triggers that would allow "minor modification" changes to be made in a streamlined process, consistent with the federal equivalent in 40 CFR § 144.39.

TXOGA's last comment with respect to Section 5.202(d) relates to the CO_2 composition consideration. We request that the Commission acknowledge that different emitters may alter the CO_2 composition in the pipeline and that pipeline criteria may also impact CO_2 composition. As a result, TXOGA requests clarification on what might qualify as a sufficient modification of the volume or chemical composition of the CO_2 stream.

5.203 - Permit Application Requirements

TXOGA would like to address some of the Commission's proposed changes with respect to requirements for well construction. First, in Section 5.203(a)(2)(D), the Commission proposes requiring that all applicants obtain letters of determination from the Texas Commission on Environmental Quality (TCEQ) prior to being issued a permit by the Commission. Understanding that HB 1284 and Texas Water Code Section 27.0461 require this TCEQ determination, TXOGA requests greater detail and information on the framework for that two-step process and related timeframes for TCEQ and Commission coordination. In particular, TXOGA supports efforts by the TCEQ and Commission to streamline this process and minimize delays in providing timely approval of the relevant permit action.

Next, TXOGA requests clarification on the Commission's proposed addition to Section 5.203(d)(1)(A)(i)(III), and the preamble description of the requirement 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 10 years after the end of the injection period proposed by the applicant." As an initial matter, TXOGA recommends the Commission change the language in Section 5.203(d)(A)(i)(III) to "until the plume movement ~~ceases~~ **stabilizes**." Second, TXOGA requests that the Commission establish a time limit for this requirement to allow for greater modeling certainty.

Third, regarding 5.203(e)(1)(B)(ii), TXOGA respectfully requests that chrome tubulars not be included as a requirement. Years of EOR experience in the Permian Basin demonstrates that other types of tubulars can be used successfully when paired with other mechanical means of corrosion inhibition. Further, chrome tubulars are not a requirement for CO_2 flooding, and 5.203(e)(1)(B)(vii) notes that the director may exempt existing wells from the requirements of this section.

Fourth, regarding the long string requirements for injection well construction in Section 5.203(e)(1)(B)(v), TXOGA recommends changing the requirement from the long string "must extend ~~through~~ the injection zone" to the long string "must extend **to** the injection zone." This would allow for the potential use of a chrome liner to be run through the injection interval which could reduce cost and improve the quality of the cement job. The State of Wyoming uses similar language in its Class VI regulations.

Fifth, 5.203(f)(1) requires operators to run logs before installing surface and long string casing. TXOGA would appreciate clarification as to whether alternative logs and derived curves would be acceptable if applicable or necessary. Further clarification is similarly sought with respect to the geology logs which must be run in advance of long string casing installation, and whether the Commission is referring to formation imaging logs (fmi) or other log types.

TXOGA also requests clarification that section 5.203(f)(2)(B) assumes that a nearby well is accessible to perform a pressure fall-off test, and information on the minimum requirements for the coring and analysis required by 5.203(f)(3)(B).

TXOGA additionally suggests that the Commission specifically allow the use of chemical tracers for the confirmation of the absence of significant fluid movement into a USDW required by 5.203(h)(1)(D).

TXOGA also requests that the Commission consider adding language allowing for alternative methods to the pressure fall-off test to be used if approved by the director in 5.203(j)(2)(F).

Lastly, because operators at certain high-quality geologic storage sites will be able to demonstrate long-term containment and non-endangerment to USDWs before the end of the default 50-year monitoring period, TXOGA supports the Commission's proposal to allow for an alternative timeframe to the 50-year period for post-closure monitoring, which is reflected in the additional criteria language contained in Section 5.203(m). TXOGA additionally requests clarification on whether, if the demonstration requirements are not met, the default 50-year monitoring period would be required or whether monitoring would continue until the demonstration is effectively made. Furthermore, TXOGA requests that the Commission clarify that this demonstration can be made during permitting or post injection periods.

5.204 - Notice of Permit Actions and Public Comment Period

In Section 5.204(a), the Commission proposes a new provision that would require applicants to identify whether the area of review encompasses an environmental justice (EJ) or limited English proficiency (LEP) area. As a general premise, TXOGA recognizes the need to consider the potential impacts that a project may have on local, fenceline communities along with appropriate mitigation measures, while providing transparency in decision making related to the development of essential energy infrastructure. TXOGA is supportive of Commission efforts to establish effective procedures that are grounded in the Commission's enabling Texas statutes, and that allow affected communities to engage and participate in the permitting process so that concerns relating to project-specific issues may be addressed in a transparent, proactive, and efficient manner.

In order to provide a clear path for Class VI well permitting development, TXOGA supports the Commission's utilization of credible data sources as the best available basis to inform efforts to engage certain communities and facilitate participation in the permitting process. The U.S. Census Bureau 2018 American Community Survey data is a recognized source that can serve to identify and consider EJ communities. TXOGA requests that the Commission provide: 1) additional guidelines on the criteria that may be used to identify those communities, and to direct enhanced engagement efforts in the permitting process, and 2) what resources or tools may be acceptable to establish that sufficient efforts were directed to engage those communities.

TXOGA also requests that the Commission define "LEP," or alternatively suggests that the Commission use the term "limited English-speaking household" in Section 5.204(a)(6) in order to align with U.S. Census Bureau terminology.

TXOGA understands that proposed 5.202(d)(2) and 5.204(b) are referencing an opportunity for a public hearing, if warranted, and that a public hearing is distinct from a contested case hearing that is otherwise provided for under Commission rules in 16 TAC Chapter 1, Subchapter B. TXOGA suggests that for consistency, references to a "hearing" be revised to "public hearing" throughout the rule text, as appropriate, along with corresponding revisions to preamble references as well.

Finally, TXOGA requests that the Commission explain how it will handle confidential business information, such as seismic licensing and internal knowledge, in a public hearing.

5.205 - Fees, Financial Responsibility, and Financial Assurance

The Commission proposes a few new requirements with respect to fee, financial responsibility, and financial assurance requirements. In Section 5.205(a)(3), the Commission proposes requiring applicants to pay an annual fee of $50,000 per year between the end of injection and site closure authorization. TXOGA seeks clarification on this annual fee, as it will add significant cost to a CO_2 storage project at a time when the project is not generating any revenue from the injection and permanent storage of CO_2 as a service, which could hinder deployment of this technology. It would also stray from current requirements under EPA's Underground Injection Control (UIC) Class VI regulation, which imposes no such fee.

Further, the EPA's UIC Class VI regulation requires a CO_2 storage operator to demonstrate and maintain a financial responsibility instrument sufficient to cover the cost of corrective action, injection well plugging, emergency and remedial response, and post injection site care and site closure (see §146.85). In Section 5.205(c), the Commission includes a similar requirement for financial assurance through the end of the post-injection facility care period. Therefore, CO_2 storage operators will be responsible for any incident that may occur during the post injection through site closure phase of the project and have a financial instrument, which could be surety bonds, a letter of credit, insurance, or self-insurance, sufficient to cover the cost of remediation. The annual fee can therefore be viewed as redundant, providing no clear benefit to the permanence of stored CO_2.

TXOGA has additional concerns about the Commission's proposed elimination of the anthropogenic CO2 storage trust fund cap of $5,000,000 in Section 5.205(a)(4). TXOGA would like clarification on why the trust fund cap is being eliminated and requests that the Commission make clear how the trust funds will be utilized in the future.

Finally, while geologic CO_2 storage is not without risk, these risks are well understood, can be mitigated, and decrease over time. For well-selected, designed, and managed geological storage sites, the CO_2 will gradually

be immobilized by various trapping mechanisms and retained for up to millions of years, which raises the question of what issue these fees are trying to resolve.

5.206 - Permit Standards

Another concern in the proposed changes is the modification of the notice requirement in Section 5.206(c) to require notice to the Commission 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." The rules currently require no more than 48 hours' notice. This is a significant change. It will cause our members significant difficulty, as they often will not be aware of the need for such work 30 days in advance of commencing workover or remedial operations. TXOGA suggests that the Commission consider including language allowing notice to be waived when the well endangers the public or USDW, such as when casing or cement failures may contaminate USDW, or when otherwise approved by director.

There is an inconsistency between Section 5.206(d)(2)(C) and Section 5.203(f)(2)(C). Section 5.206(d)(2)(C) limits the injection pressure to 90% of the fracture pressure of the injection zone, whereas subsection 5.203(f)(2)(C) is not clear on whether the 90% limit of the fracture pressure applies to the injection zone or the confining zone. TXOGA suggests that the limit of the fracture pressure be applied only to the confining zone, which is consistent with EPA's implementation manual. This will accomplish the State's objective of avoiding movement of injection or formation fluids that endanger USDW.

Accordingly, TXOGA suggests that Sections 5.206(d)(2)(C) and 5.203(f)(2)(C) should be amended as follows to resolve the inconsistency and to clarify that the 90% limit should be applied only to the confining zone:

> Sec. 5.206(d)(2)(C): The Commission shall include in any permit it might issue a limit of 90 percent of the fracture pressure **of the confining zone** to ensure that the injection pressure does not initiate new fractures or propagate existing fractures in the **confining zone** ~~injection zone(s)~~.
>
> Sec. 5.203(f)(2)(C): The operator must determine or calculate the fracture pressures for the injection and confining zone. The Commission will include in any permit it might issue a limit of 90% of the fracture pressure **of the confining zone** to ensure that the injection pressure does not exceed the fracture pressure **of the confining zone**.

In 5.206(d)(2)(D), where the Commission requires that the owner or operator maintain on the annulus a pressure that exceeds the operating injection pressure, TXOGA supports adding pressure to the annulus to improve monitoring efforts but cautions that this pressure should not exceed the safe working pressure for the well. Specifically, anything greater than the equivalent bottom hole injection pressure would be excessive.

Other Considerations

TXOGA also respectfully requests that the Commission, in consultation with U.S. EPA, outline a process whereby any Class VI UIC well permit applications pending before U.S. EPA, at the time primacy is granted, would be transferred to the Commission for further processing. In that same spirit, we seek assurance that a permit pursued under the EPA application process would not have to start over when the Commission receives primacy.

Conclusion

TXOGA would like to reiterate its thanks to the Commission and the EPA for their ongoing coordination and efforts to streamline the transition of Class VI well permitting authority to the Commission. TXOGA is grateful for the opportunity to provide comments in support and furtherance of carbon storage to improve environmental quality and allow continued economic growth.

Cory Pomeroy
Vice President & General Counsel
Texas Oil & Gas Association