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

*Via Electronic Filing*

RE: **Comments regarding Public Comment Hearing on the proposed amendments to Chapter 5, relating to Carbon Dioxide (CO2)**

To the Rules Coordinator:

As a petroleum geologist, I am concerned that carbon capture and sequestration underground has yet to be proven safe and reliable. Although the RRC has a long history of managing various well types in the past, Chapter 5 as written, does not resolve the facts of the complexities in the evaluation process to minimize risks to the health and safety of residents and groundwater within or near the AOR. Injection sites appear to be more of an area of convenience than that of a scientific thought-out evaluation with sound geoscience evidence. **I am profoundly against the RRC managing Class VI wells** based upon Chapter 5's lack of personnel to fully evaluate each permit and the gross responsibility of the director. **I urge that the EPA maintain their leadership in carbon capture and sequestration evaluation and determination of each permit.**

As a local geologist concerned with the impact of carbon sequestration in the Coastal Bend area. I have over 40 years of experience in the oil and gas industry and am a member in good standing with the Texas Board of Professional Geoscientists, American Association of Petroleum Geologists, South Texas Geological Society, the Coastal Bend Geophysical Society, Houston Geological Society, Society of Independent Earth Scientists (SIPES), and Corpus Christi Geological Society. The following comments and questions regarding the proposed amendments to Chapter 5 have been made based on my many years of experience in the Oil and Gas industry.

## **REMARKS and COMMENTS**

- 1. As Chapter 5 is written, it is clear the director would have too much power to control all aspects of the Class VI decision making. How does the RRC perceive how the chain of Class VI application information is disseminated to the director? What is the engineering, petrophysical, geochemical, geological, and geophysical checks and balances that would ensure public safety and freshwater protections?**
- 2. Since this is a new class of wells, why wouldn't the RRC form a Class VI RRC division to include certified petroleum engineers and Texas Board Professional Geoscientist (TBPG) geologist, petrophysicist, geochemical and geophysicists on a team to evaluate each aspect of the application and operations?**
- 3. How will penalties be assessed by the EPA and RRC for non-compliance of the permit? What happens if trespassing of the CO2 plume and/or pressure front extends beyond the AOR? What about wells that are not plugged or breached by CO2 injection? Are penalties assessed and what mitigation costs are included in the financial considerations?**
- 4. Explain how the modeling of the AOR, CO2 plume, and pressure front are calculated. Will rules for modeling be standardized or will the RRC rely on the operator's information provided?**
- 5. What happens to the facility supplying the CO2 in the event of an injection well shutdown? Will the facility providing the CO2 stream be allowed to vent the CO2? When does the EPA step in to address the unrestricted flow of CO2 into the atmosphere?**
- 6. In the event of non-compliance for wellbore integrity, will testing of the issues become more frequent until the issue is resolved? What about if AOR limit is exceeded, will modeling and testing be required at least semiannually to determine the short and long-term effects?**
- 7. What are the requirements for the third-party delegate financial evaluator? Will there be sufficient liability insurance for private or public property damages? Chapter 5 states that additional personnel for the RRC will not be needed. How is this justified when a third-party delegate is hired to evaluate the financial requirements of the permit?**
- 8. Carbon sequestration and protecting groundwater is essential. What assurances will the RRC enact for the protection of the public's health and safety?**
- 9. Will the Bureau of Economic Geology recommendation of 1000' of shale seal above the injection zone be required for Class VI wells? What about 3-D seismic requirements to limit transmissive faulting breach?**

- 10. Will stratigraphic test wells within the AOR be required to have the same casing requirements as an injection well? What happens if the CO2 plume encounters the test well and degradation to the cement and casing occurs?**
- 11. Will stratigraphic test wells requirement to have logging, coring and pressure testing be standardized for all new wells drilled within the AOR? Why or why not?**
- 12. Reporting of the status of the well integrity, equipment and AOR is critical to adherence to the EPA rules. Will penalties and fines be levied against operators for non-compliance?**
- 13. Will the retention period of the records be made public and why not for 10 years instead of the amended 3 years? If non-compliance or well integrity issues occur why not longer?**
- 14. Loss of internal mechanical integrity could result in a multitude of issues for the injection well. This could also increase risk for groundwater and public safety. Instead of allowing continuing injection at the unrestricted option of the director, shouldn't a team be assembled to determine the risks before continuing injection?**
- 15. Regarding reporting requirements of any physical alterations, would it not be safer for the public and freshwater supply to have operator report occurrence immediately? What are the monetary penalties for non-compliance?**

Comments below are by page number highlighted in yellow followed by the line number corresponding to response comments.

**Page 15**

19 Micro businesses may have a higher risk of bankruptcy and potentially avoidance of compliance. No teeth for violations.

**\*\*THIS IS WRONG. SHOULD INCREASE RRC PERSONNEL TO APPROVE APPLICATIONS AND REVIEW FORMS AND NONCOMPLIANCE. THIS IS AN UNPROVEN TECHNOLOGY AND UNTIL ASSURANCES CAN BE MADE THAT IT IS SAFE FOR PUBLIC HEALTH AND WATER MORE QUALIFIED RRC PERSONNEL ARE NEEDED.**

**Page 18**

Commission jurisdiction to ensure standards comply with federal requirements of EPA set up special interest-bearing funds consisting of penalties. This alone will require more personnel.

**Page 23**

Line 6 must include injectivity testing of injection zone and 3D seismic.

**Page 25**

Line 33 what if the plume interacts with stratigraphic test well and degradation of cement and casing occurs? Shouldn't there be more requirements for casing and cement in a known stratigraphic test well?

**Page 31**

Line 10 What about if records indicate noncompliance and/or corrective action needed for an injection well? Then shouldn't AOR be delineated with more frequency, perhaps each year, until compliance achieved and AOR model determined to be stable?

**Page 35**

Line 20 we would suggest setting up a Class VI division consisting of certified petroleum engineers and a Texas Board of Professional Geoscientists that reports to Commission & Director instead of the Director having sole discretion. There's confusion in allowing the director to require further cores when once the injection well is cased then cores cannot be taken. Typically log analysis, core analysis, and formation fluid sample information is taken from an open hole and casing the well occurs immediately after.

**Page 37**

Line 25 we agree with the timing and monitoring regarding reports sent to commission, however the operator should be penalized monetarily for non-compliance of this provision.

**Page 38**

Lines 21,25 &26 regarding the director making all decisions we suggest setting up Class VI division consisting of certified petroleum engineers and a Texas Board of Professional Geoscientists that reports to Commission & Director.

**Page 58**

Line 3 regarding retention period should be 10 years or life of the project as well as the records being open to the public.

**Page 59**

Line 1 Disagree with director allowing operator to continue injection unless at least monthly monitoring of the well, AOR, and movement of the injection fluid are in place.

Line 4 & 5 should still be in place and not stricken.

**Page 63**

Line 16 regarding permit records retention should be 10 years after the last monitor well and facility closed and then made available for public use.

**Page 66**

Line 13 regarding reporting requirement planned changes should have a definitive time frame instead of as soon as possible verbiage.

**Page 67**

Lines 1 &2 should include monetary penalties for non-compliance.

**Page 71**

Lines 11-26 should require all records to be sent to the RRC and available for public use.

IN SUMMARY,

Carbon capture and sequestration is in its infancy of development. The RRC should align with the EPA for the first 5 years of time to insure the health and safety of the populations at risk as well as groundwater. It is obvious that we need to protect our environment, guard against climate change and reduce our carbon output immediately but the political statements made by Governor Abbott disallowing corporations that are more climate friendly and the non-inclusion of renewable energy in tax abatement illustrates the true nature of the RRC political arm. Until there is a real reform and acknowledgement of climate change and the safeguards to environmental justice communities as well as all communities in harms way the EPA should rule. Allowing corporations to build and then emit CO2 because of failed geoscience is a major step backwards. Not allowing residents to complaint to the TCEQ about air or water pollution is against our constitutional rights in the form of razor wire around our homes prohibiting our rights of free speech calling out those that are causing health harms via emissions.

Say no to RRC taking over the Class VI rules and allow EPA to show the safer way forward.

Sincerely,

A handwritten signature in cursive script that reads "Patrick A. Nye".

Patrick A. Nye

Geologist