



SIERRA CLUB

LONE STAR CHAPTER

November 12, 2024

Re: Proposed Rulemaking Chapter 6 (16 TAC 6.101) on closed loop geothermal systems
From: Cyrus Reed, Sierra Club, Lone Star Chapter, cyrus.reed@sierraclub.org, 512-740-4086

The Lone Star Chapter of the Sierra Club is the state chapter of the Sierra Club. We were supportive of SB 786 to transfer regulatory authority of closed-loop geothermal injection wells to the Railroad Commission from TCEQ. With new advancements in geothermal technology and the growing electric demand needs of Texas, advancing geothermal energy - which does not produce carbon dioxide emissions - is incredibly important. Given that the technology involves underground injection in shallow (and deeper wells) it makes sense that the expertise of the Commission to take the lead on registration and permitting of newer geothermal projects.

As in any regulation, it is important to have a balanced approach. There should be sufficient requirements to assure that geothermal projects do not impact the health or environment of nearby residents or workers, protects surface and groundwater resources, but the regulations should not be so burdensome that it prevents a new emerging industry from delivering valuable jobs and emission-free generation, whether that generation is for onsite purposes (ie behind the meter) or connected to the transmission system. It is important to note that this proposed rulemaking is limited to certain kinds of shallow geothermal systems, as opposed to larger systems intended for large energy outlays. In fact, this rule does not cover wells intended for the wider energy market, but only for geothermal systems intended for onsite generation. While we are generally supportive of the proposed rule, we do believe that a more formal permitting process (as opposed to a registration process) for some facilities should be required, with a more formal role for nearby landowners and other stakeholders to comment. While we believe most communities will be supportive of these projects, assuring public transparency and input will be important to assure safety and public confidence. We suggest some cases where an individual permit should be required.

We are generally pleased with the definitions found in the rule, which specifically address shallow closed-loop geothermal injection wells, defined in proposed 6.102 as §6.102 as injection wells that are part of shallow closed-loop geothermal systems. These types of wells are limited to a depth of formations that contain water with a total dissolved solids content of 1000 parts per million (ppm) or less. This parts per million standard is proposed to ensure consistency with

definitions developed by the Texas Groundwater Protection Committee. Again we would note that shallow closed-loop geothermal wells are specifically defined as an onsite system and not one used or provided “to an energy market.”

Section 6.102 also contains proposed definitions for other terms used throughout the subchapter such as fresh water, injection well, license number, pump installer, water well driller, and well report. The Sierra Club supports these definitions.

Proposed §6.103 clarifies that the subchapter only applies to shallow closed-loop geothermal systems for which construction is commenced after the effective date of proposed Subchapter A. The Commission anticipates that the effective date will be January 6, 2025, and the Commission proposes §6.103 with that date. If the timeline changes during the rulemaking process, the Commission will update the effective date upon adoption of the new subchapter.

Proposed §6.103 also clarifies that the subchapter does not apply to open-loop air-conditioning return flow wells or other geothermal injection wells. Open-loop air-conditioning return flow wells remain under the jurisdiction of the TCEQ. Other geothermal systems such as geothermal systems that generate energy for sale or transfer to an energy market are not addressed in proposed Subchapter A. The rule clearly states that a person shall not drill or operate another type of geothermal injection well unless that person holds a valid individual permit issued by the Commission. We support this.

Under proposed §6.104, a person in compliance with Subchapter A may cause a shallow closed-loop geothermal system to be drilled and installed and may operate the system without obtaining an individual permit. In other words, a shallow closed-loop geothermal system is authorized by rule provided it is drilled, installed, and operated in accordance with proposed Subchapter A.

However, subsection b of §6.104 states that if the Director determines that a condition exists such as groundwater detrimental to human health or could cause violations of drinking water regulations or human health of the environment, than the Director could require an individual permit, refer the applicant for a violation or require them to take other actions.

Subsequent sections of the proposed rules lay out specific technical requirements of construction standards, casing, operational standards, well reports, plugging, enforcement and penalties. The Sierra Club is very supportive of these standards which we believe if followed will assure that these geothermal systems do not provide any pathways for pollution or migration of fluids or waters beyond zones.

We are also very supportive of the specific language in the rule that violations of the subchapter can lead to penalties up to \$10,000 per day per violation.

What is missing in the proposal

There appears to be no notice requirement to nearby landowners or other members of the public, no bonding or financial assurance requirement for well plugging, and no potential for

landowners to request a formal meeting, or contest an authorization. While we understand this rulemaking is limited to smaller, shallower systems, we believe that some basic requirements could improve confidence in the systems. We also would support some

How we would suggest improving the rule

The Sierra Club is generally supportive of the rule but requests four basic improvements.

First, we would suggest that the Commission require a fee to support the review of the registrations and application process. While we are unsure of the appropriate fee based upon the work for the agency, perhaps a fee of \$250 for a registration and \$1,000 for an individual permit would be an appropriate level.

Second, we would suggest requiring companies to have a bond, letter of credit or other financial instrument to assure that wells are plugged along with their application. The amount could be based on 50% of the expected cost to plug a well. With Texas's long history of problems of abandoned and

Third, we would suggest that the Commission add a notice requirement to adjacent landowners, as well as any landowners within one mile of the proposed well, and allow for public comment and input, including an option for the public to request that the applicant file an individual permit, or even contesting the registration. While it is highly unlikely that nearby landowners would object to a closed loop geothermal system, the public may be aware of particular site conditions that could make the application unsafe or risky. .

Fourth, we would suggest that all proposed owners of closed-loop geothermal systems be required to submit notice of their application to any groundwater conservation district if the well is located within the district boundaries. While a groundwater district might already have their own process for approving wells used for geothermal systems, at least requiring a notice to local groundwater districts could avoid problems in the future between the Commission and local groundwater districts.

Conclusions

We are pleased to provide comments on the proposed rules to implement provisions of SB 786. We are generally supportive but have pointed to four improvements we would suggest in the rule.