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From: Kathy Turner Jones <kjones@lonestargcd.org>
Sent: Monday, September 29, 2014 11:42 AM
To: rulescoordinator
Subject: Comments on Proposed Amendments to 16 Texas Administrative Code §§ 3.9 and 3.46 Relating to Disposal Wells and Fluid Injection (O&G Docket No. 20-0290951)
Attachments: LSGCD comments.RRC.09.29.14.pdf
Importance: High

Please find comments attached from the Lone Star Groundwater Conservation District regarding the recent proposed changes by the Railroad Commission of Texas to Rule 3.9, relating to disposal wells, and to Rule 3.46, relating to fluid injection into productive reservoirs.

Thank you –

Kathy Turner Jones

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September 29, 2014

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Re: O&G Docket No. 20-0290951: Comments on Proposed Amendments to
16 Texas Administrative Code §§ 3.9 and 3.46 Relating to Disposal Wells
and Fluid Injection

Honorable Railroad Commission of Texas and Staff:

The Lone Star Groundwater Conservation District ("District") submits these comments for your review and consideration regarding the recent proposed changes by the Railroad Commission of Texas ("the Commission") to Rule 3.9, relating to disposal wells, and to Rule 3.46, relating to fluid injection into productive reservoirs. The District is located in Montgomery County, Texas, one of the fastest growing counties in the state, and is charged by the Texas Legislature with protecting, preserving, conserving, and managing the groundwater resources underlying the county—the primary source of water supply for our citizens and economy.

The District commends the Commission on its promulgation of these proposed rules amendments, which take a positive step towards addressing the many serious threats that the exponential increase in disposal well activities across the state pose for protection of groundwater quality. Although disposal-well-induced seismic activity in the District has not been anything on the order of magnitude experienced in the North Texas region in recent years, the District is nonetheless concerned with ensuring that all disposal and injection well activities and the State's regulatory system for permitting and monitoring them be done in a sound and science-based manner that will ensure protection of groundwater supplies.

Generally, the District supports the proposed changes to the rules, and the Commission's efforts to ensure fluids from disposal wells are confined to the injection interval and not at risk of migrating to freshwater resources. Among other things, the proposed amendments to Rule 3.9 require a disposal well permit applicant to calculate the estimated radius of the 10-year, five pounds per square inch pressure front boundary from the disposal operations. It is a welcome improvement to see the Commission requiring site-specific, projected area-of-influence calculations for disposal well applications. The Commission's seismologist, Dr. Craig Pearson, recently testified before a subcommittee of the Texas House Committee on Energy Resources as follows:

"So, in the past, we have looked at fixed radii of areas of influence based on, pretty much, an ad hoc understanding of what's going on in a reservoir. We're going back to the science and engineering that will

allow us to do, on a case-by-case basis, an estimate of the area of influence that a disposal operation is going to have. And, the equations that are used for calculating this area of influence are published and well known, they are well-known in the reservoir engineering field, and they are not onerous to do. The parameters that go into the equations are easy to obtain from typical oil and gas operations, and calculation of the radius of influence is straightforward. It's not a huge, hard equation to solve."

The District would entreat the Commission to consider an important issue related to this proposed rule and the comments by Dr. Pearson. In Commission Rule 3.9(7), related to the area of review that a disposal well applicant must review for abandoned, unplugged, or improperly plugged wells that could serve as a conduit for injectate to migrate to freshwater resources, the Commission continues to require applicants to look at a fixed radius area of review of ¼ mile. Similar to its proposed amendment to Rule 3.9(3) to require "science and engineering" to allow the Commission to determine "on a case-by-case basis an estimate of the area of influence that a disposal operation is going to have" in terms of the pressure front boundary, the Commission should require such site-specific science and engineering for the area of review analysis under Rule 3.9(7). As noted by Dr. Pearson for the pressure front boundary analysis, the equations and parameters that go into them for calculating the area of influence for fluid migration projections are not difficult to perform. And the area of influence will often be much larger than the ¼ mile fixed radius under the current rule. Disposal well applicants should be required to include their calculations for determining the pressure front boundary and the area of influence for fluid migration in the disposal well application, so that the values that they use as the parameters for the equations and their calculations can be reviewed by the Commission staff and third parties.

Also, the District would suggest that the Commission amend the proposed rule amendment language to require all disposal well permit applicants to provide the Commission with the additional information, such as logs, geologic cross-sections, and/or structure maps, to demonstrate fluid confinement to the injection interval, rather than leaving this as a permissive option to the Commission staff to review on a case-by-case basis. The Legislature simply has not sufficiently funded the Commission for enough permit application review staff to review the thousands of disposal well applications at this level of detail to make such determinations on an individual application basis, and require staff to have to contact permit applicants after the fact to request additional information. The District would suggest the following language in lieu of that currently proposed for Rule 3.9(3)(C):

(C) The commission shall ~~may~~ require an applicant for a disposal well permit under this section to provide the commission with additional information such as logs, geologic cross-sections, and/or structure maps, to demonstrate that fluids will be confined if the well is to be located in an area where conditions exist that may increase the risk that fluids will not be confined to the injection interval. Such conditions may include, but are not limited to, complex geology, proximity of the basement rock ~~basereek~~ to the injection interval, transmissive faults, and/or a history

of seismic events in the area as demonstrated by information available from the USGS.

Note also that the reference to "baserock" in the proposed rule is suggested to be amended to "basement rock," which is the correct geologic terminology. The Commission should consider a similar change to the corresponding provisions in proposed Rule 3.46(D). The Commission should also consider providing additional definitional guidance through the proposed rules on what it will consider to constitute "complex geology" for purposes of requiring additional information from permit applicants to demonstrate confinement of fluids to the injection interval.

The Commission should also amend the term "disposal zone" in Rule 3.9(6)(A)(v) to and the term "injection zone" in Rule 3.46(d)(1)(E) to "injection interval" in and to be consistent with the use of the term "injection interval" throughout the proposed rules.

Finally, the District requests that the Commission continue to take the necessary steps to protect not only freshwater resources, but brackish resources as well, in the regulation of disposal wells and potential sources of contamination. As water demands continue to increase with current and projected population growth throughout the state, especially in Montgomery County, it is clear that current freshwater supplies are insufficient to sustain such growth. This reality has forced the utilization of brackish groundwater supplies in order to meet existing and future water demands. In fact, during the legislative interim, members of the legislature and various stakeholder groups have been working diligently to reach a consensus on draft legislation in preparation of the 84th Texas Legislative Session that encourages the use of brackish groundwater resources. Thus, in drafting rules for disposal wells and providing adequate measures to ensure the protection of groundwater resources, it is essential that the Commission extend those protections afforded to freshwater resources to brackish resources as well.

The District wishes to thank the Commission again for its recent efforts in promoting groundwater quality protection and for taking this first step in publishing some of the much-needed regulatory changes in the waste disposal well permitting process. We look forward to continue to work with you on these proposed amendments and the others that still need to emerge from the Commission's groundwater quality protection stakeholders process.

Sincerely,



Kathy Turner Jones

General Manager