

David Foster



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## The Texas Railroad Commission Has Failed to Protect Underground Sources of Drinking Water in a Manner Consistent with Federal Law or Consistent with its 1982 Agreement with EPA

### What are aquifer exemptions and why do they matter for Texas?

- ◆ The oil and gas industry in Texas generally disposes of its wastewater by injecting it into groundwater by means of Class II injection wells.
- ◆ Class II wells can also be used to inject water, steam, gas or other fluids for enhanced recovery (ER).
- ◆ The federal Safe Drinking Water Act (SDWA) is meant to protect Underground Sources of Drinking Water (USDWs), defined as groundwater containing less than 10,000 mg/l total dissolved solids (TDS).
- ◆ An aquifer exemption allows the oil and gas industry to inject wastewater or other fluids into an aquifer that would otherwise be protected under federal law as an Underground Source of Drinking Water (USDW); aquifer exemptions, which can only be granted by US EPA, remove SDWA protections and allow injection activity.
- ◆ Texas has approximately 53,000 Class II injection wells, more than any other state,
- ◆ Texas faces critical water challenges as population continues to grow; drought is a recurrent phenomenon.
- ◆ Texas is looking to aquifers once thought too saline for human consumption to help meet these challenges; desalination techniques are improving and Texas policy supports desalination.
- ◆ It is therefore critical, and mandated by federal law, that Texas has a UIC Class II program that protects USDWs.

### The Railroad Commission of Texas (RRC) signed an Memorandum of Agreement (MOA) with US EPA in 1982 as condition of gaining primacy over the UIC Class II injection well program.

- ◆ EPA agreed in a March 29, 1982 letter to RRC that all existing productive oil fields ('zones') into which injection had already occurred would be granted blanket aquifer exemptions and therefore remain open to additional injection activity.
- ◆ Texas agreed to provide EPA with a map of these exiting zones.
- ◆ Texas agreed to obtain aquifer exemptions from EPA for injection activity into USDWs in fields that began producing after the 1982 MOA.
- ◆ Texas agreed to obtain aquifer exemptions from EPA for any injection activity into non-producing zones ('disposal wells' in the RRCs terminology) that are USDWs.
- ◆ Texas stated that the RRC had financial resources sufficient to implement this MOA.

### Through a series of open records requests filed with both the RRC and EPA, Clean Water Action has determined that the RRC has not implemented the 1982 MOA. The TX UIC Class II program has not ensured protection of USDWs and is not compliant with SDWA.

- ◆ The EPA has no record of receiving a map or a list of producing zones with less than 10,000 mg/l TDS, as agreed to in the 1982 MOA. After repeated requests, the RRC has not been able to provide a map or list of these aquifers.
- ◆ The RRC has no record of receiving a request for an aquifer exemption application for an injection or disposal well from the industry.

- ◆ The RRC has therefore never submitted a single request to EPA for an aquifer exemption.
- ◆ The RRC acknowledged in a March 26, 2016 letter to EPA that it has allowed injection into aquifers of less than 10,000 TDS, that is, into what should have been protected as USDWs.
- ◆ The RRC provided EPA two examples of allowing injection into an aquifer with less than 10,000 TDS without requiring an aquifer exemption or getting prior approval from EPA.
- ◆ RRC asserts it does not have the resources to determine how many such incidents may have occurred since 1982.
- ◆ All of the above are clear violations of the 1982 MOA.
- ◆ A July 14, 2015 letter from EPA to the RRC references a December 2014 agreement between the agencies whereby RRC would comply with the 1982 MOA going forward, and would also describe in a detailed letter to EPA how future applications for injection into SDWSs will be “identified and differentiated for aquifer exemption;” but the RRC has yet to provide such a description. EPA’s August 15, 2016 FY 2015 Evaluation of the RRC UIC Class II program recommends “high prioritization of this effort.”
- ◆ Allowing injection into a USDW is a failure to implement SDWA, and puts potential drinking water resources at risk.

### **CONCLUSIONS AND RECOMMENDATIONS**

In view of the evident failure of the RRC to implement the Class II injection well program in a way that is transparent and truly protective of USDWs; and in view of the growing emphasis in Texas on desalination of groundwater as a means of augmenting drinking water supplies; and in view of the documented failures of California’s UIC program, where over 2,500 instances of unauthorized injection into USDWs have been identified; Clean Water Action recommends that the RRC be required to:

- ◆ Complete an inventory of all injection wells and disposal wells to determine water quality information for the injection zone and to determine whether or not injection has occurred into USDWs.
- ◆ Provide the necessary documentation for all injection wells that operated in <10,000 mg/l TDS groundwater, and develop a database with all the necessary water quality, location, regulatory criteria and *Statement of Basis* information for associated aquifer exemptions. This database needs to be easily accessible by the public.
- ◆ Immediately halt injection activities that are occurring in USDWs, until all necessary aquifer exemptions are granted by EPA.
- ◆ Require water quality information of the injection zone and demonstration of zonal isolation from USDWs in all future UIC permit applications prior to project and well approvals.
- ◆ Provide a clear process for all future injection well permit applications to ensure that injection into USDWs does not occur.
- ◆ Develop a process for submitting aquifer exemption applications to EPA that includes public notice and a public hearing and opportunities for public comment.
- ◆ Map all current, past and future oil and gas production fields and wastewater disposal fields to determine if these zones contain USDWs
- ◆ Until these protections are put in place, there should be statewide moratorium on approving any injection well injecting into a formation containing less than 10,000 mg/l TDS
- ◆ Undertake a comprehensive review of UIC regulations to ensure protections of USDWs and other future potential drinking water supplies.

**From:** [Sunset Advisory Commission](#)  
**To:** [Janet Wood](#)  
**Subject:** FW: Public Input Form for Agencies Under Review (Public/After Publication)  
**Date:** Thursday, August 25, 2016 3:17:50 PM

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-----Original Message-----

From: sundrupal@capitol.local [mailto:[sundrupal@capitol.local](mailto:sundrupal@capitol.local)]  
Sent: Thursday, August 25, 2016 1:36 PM  
To: Sunset Advisory Commission  
Subject: Public Input Form for Agencies Under Review (Public/After Publication)

Agency: RAILROAD COMMISSION TEXAS RRC

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Your Comments About the Staff Report, Including Recommendations Supported or  
Opposed:

On behalf of Clean Water Action, I offer the following comments on the Sunset Advisory Commission's Staff Report and Staff Recommendations on the Railroad Commission of Texas.

Issue 1: "Change the name of the Railroad Commission of Texas to the Texas Energy Resources Commission." Clean Water Action supports this recommendation and believes this new name will advance transparency by better reflecting the work the Railroad Commission actually does.

Issue 2: "Contested Hearings and Gas Utility Oversight Are Not Core Commission Functions and Should Be Transferred to Other Agencies to Promote Efficiency, Effectiveness, Transparency, and Fairness." Clean Water Action supports the Sunset Commission staff's recommendations.

Issue 3: "Oil and Gas Monitoring and Enforcement Need Improvements to Effectively Ensure Public Safety and Environmental Protection." Clean Water Action supports the Sunset Commission staff's recommendations. Clean Water Action also agrees with the Lone Star Sierra Club's recommendations for additional measures, in the interest of depriving entities that violate their permits of the economic benefit of non-compliance, and increasing penalties for repeat violations:

- Raise the maximum statutory penalty on oil and gas violations from \$10,000 per violation per day, to \$25,000 per violation per day;
- Adopt a new penalty policy that penalizes repeat violators more substantially and recovers the full economic benefit of non-compliance;
- Publish enforcement data on-line and create a searchable, county-by-county, company-by-company online

database;

- Create a complaint policy that allows complaints to be tracked, and create a role and responsibility for the individual or local government making the complaint;
- Establish a “Memorandum-of-Understanding” program with local governments, including counties, cities and local groundwater districts, that will allow these governments to inspect, monitor and enforce state rules.

Issue 4: “Insufficient and Inequitable Statutory Bonding Requirements Contribute to the Large Backlog of Abandoned Wells.” Clean Water Action supports the Sunset Commission staff’s recommendations.

Issue 5: “Improved Oversight of Texas’ Pipeline Infrastructure Would Help Further Ensure Public Safety.” Clean Water Action supports the Sunset Commission staff’s recommendations.

Issue 6: “The Railroad Commission’s Contracting Procedures Are Improving, but Continued Attention Is Needed.” No position.

Issue 7: “The Railroad Commission’s Statute Does Not Reflect Standard Elements of Sunset Reviews.” Clean Water Action supports the Sunset Commission staff’s recommendations.

Any Alternative or New Recommendations on This Agency:

Clean Water Action respectfully requests that the issue of the Railroad Commission’s Class II UIC program, specifically as it relates to aquifer exemptions, be added to the list of issues under consideration. Clean Water Action believes that this program, as currently implemented, is in violation of the federal Safe Drinking Water Act and in violation of the 1982 Memorandum of Agreement (MOA) the Commission entered into with the U.S. Environmental Protection Agency as a condition of assuming primacy over the Class II UIC program, because it fails to protect Underground Sources of Drinking Water (USDWs). A USDW is defined as groundwater containing less than 10,000 mg/l total dissolved solids or TDS. An aquifer exemption allows the oil and gas industry to inject wastewater or other fluids into an aquifer that would otherwise be protected as a USDW; aquifer exemptions can only be granted by the EPA and remove SDWA protections and allow injection activity.

Under the terms of the 1982 MOA:

- EPA agreed that all existing productive oil fields ('zones') into which injection had already occurred would be granted blanket aquifer exemptions and therefore remain open to additional injection activity.
- The Railroad Commission agreed to provide EPA with a map of these exiting zones.
- Texas agreed to obtain aquifer exemptions from EPA for injection activity into USDWs in fields that began producing after the 1982 MOA.
- Texas agreed to obtain aquifer exemptions from EPA for any injection activity into non-producing zones ('disposal wells' in the Railroad Commission's terminology) that are USDWs.
- Texas stated that the RRC had financial resources sufficient to implement this MOA.

Through a series of open records requests filed with both the Railroad Commission and EPA, Clean Water Action has determined that the Railroad Commission has not implemented the 1982 MOA. The Railroad Commission’s Class II program UIC has therefore not ensured protection of USDWs and is not compliant with SDWA:

- The EPA has no record of receiving a map or a list of producing zones with less than 10,000 mg/l TDS, as agreed to in the 1982 MOA.
  - The Railroad Commission has no record of receiving a request for an aquifer exemption application for an injection or disposal well from the industry.
- The Railroad Commission has therefore never submitted a single request to EPA for an aquifer exemption.

- The Railroad Commission acknowledged in a March 26, 2016 letter to EPA that it has allowed injection into aquifers of less than 10,000 TDS, that is, into what should have been protected as USDWs.
- The Railroad Commission provided EPA two examples of allowing injection into an aquifer with less than 10,000 TDS without requiring an aquifer exemption or getting prior approval from EPA.
- Railroad Commission asserts it does not have the resources to determine how many such incidents may have occurred since 1982.

All of the above are clear violations of the 1982 MOA.

Clean Water Action supports adding these recommendations in order to strengthen the Commission's Class II Underground Injection Program so that it complies with the requirements of the federal Safe Drinking Water Act and fulfills the commitments the Railroad Commission made in its 1982 Memorandum of Agreement with the U.S. Environmental Protection Agency, in order to assure adequate protection Underground Sources of Drinking Water (USDWs).

Clean Water Action specifically recommends that the Railroad Commission:

- Undertake a comprehensive review of UIC regulations to ensure protections of USDWs and other future potential drinking water supplies.
- Map all current, past and future oil and gas production fields and wastewater disposal fields to determine if these zones contain USDWs. The Railroad Commission agreed to map existing fields in 1982 and has failed to do so.
- Complete an inventory of all injection wells and disposal wells to determine water quality information for the injection zone and to determine whether or not injection has occurred into USDWs.
- Provide the necessary documentation for all injection wells that operated in <10,000 mg/l TDS groundwater, and develop a database with all the necessary water quality, location, regulatory criteria and Statement of Basis information for associated aquifer exemptions. This database needs to be easily accessible by the public.
- Require water quality information of the injection zone and demonstration of zonal isolation from USDWs in all future UIC permit applications prior to project and well approvals.
- Provide a clear process for all future injection well permit applications to ensure that injection into USDWs does not occur.
- Develop a process for submitting aquifer exemption applications to EPA that includes public notice and a public hearing and opportunities for public comment.
- Declare a statewide moratorium on approving any injection well injecting into a formation containing less than 10,000 mg/l TDS until these protections are put in place.

My Comment Will Be Made Public: I agree