March 22, 2016

Mr. Michael Montgomery
United States Environmental Protection Agency
Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901

Dear Mr. Montgomery:

This letter summarizes the current status of California Water Code section 13267 orders (information orders) that were issued by applicable Regional Water Quality Control Boards (Regional Water Boards) to oil and gas operators in response to the Underground Injection Control (UIC) well review. The Division of Oil, Gas, and Geothermal Resources (Division) and the State Water Resources Control Board (State Water Board), collectively known as the State, has completed the UIC well review, the results of which are summarized in letters to the USEPA dated May 15, 2015, July 31, 2015 and October 21, 2015.

UIC Well Review Summary

The Division identified a total of 6,157 UIC wells injecting into non-exempt aquifers for review, of which 532 were originally permitted as disposal wells and 5,625 originally permitted as EOR wells. The State reviewed these 6,157 UIC wells according to the criteria outlined in Enclosure D of the February 6, 2015 letter (Enclosure D) to the United States Environmental Protection Agency (USEPA). As part of the review process, and consistent with Enclosure D, information orders were issued by applicable Regional Water Boards to gather additional information on these UIC wells prior to initiating any further action, if warranted.

Screening Criteria

The screening criteria used for disposal and non-thermal EOR wells (water flood) are consistent with the criteria outlined in Enclosure D. For thermal EOR wells (steam flood and cyclic steam wells), the State is screening for water supply wells located within one-quarter mile and 300 feet, respectively, of the injection well. This screening distance represents the Division's determination of lateral zone of endangering influence (ZEI) for these types of wells. Based on these criteria, 14 EOR wells are to receive information orders from the Central Valley Regional Water Board.

Status of Issued Information Orders

Regional Water Boards issued 64 information orders to the operators of 243 UIC wells as summarized on the attached table. Most of the orders were for wells (155) permitted to inject into aquifers with less than 3,000 milligrams per liter (mg/L) total dissolved solids (TDS). The remaining orders were for wells permitted to inject into 3,000 to 10,000 TDS aquifers. These 64 information orders were issued between July 2014 and November 2015 and require operators to submit water quality information for the injected fluids and zone(s) of injection and to identify the location of any water supply wells within a one-mile radius of the injection wells.

Information orders will not be issued for the remaining balance of UIC wells identified by the Division (5,691 wells) because they did not meet Enclosure D criteria (for disposal or water flood wells) or the criteria discussed above (for steam flood or cyclic steam wells). A summary of the status of the information orders issued and pending is also summarized below.

The State Water Board and Regional Water Boards are currently evaluating data and information submitted by operators. A UIC well is not considered to be a potential risk to current groundwater resources if any of the following conditions exist: 1) the well is either shown to be properly plugged and abandoned, shut-in, idle, or converted to an oil and gas production well, 2) the well is shown to be currently perforated in a zone that is exempt or greater than 10,000 TDS, or 3) current injection practices demonstrate no impacts to groundwater resources.

Of the 243 UIC wells associated with the information orders:

- One hundred and sixty five (165) wells were determined not to pose a potential risk to groundwater resources.
- Operators for 78 wells have not submitted all of the required information to complete an evaluation of potential impacts to current groundwater resources. The majority of these operators are working cooperatively with Regional Water Board staff to resolve outstanding issues and assemble the required information.

Based on data provided thus far by the operators, water quality in nearby water supply wells have not been impacted by injection activities. The Water Boards will continue to evaluate data received in response to the information orders and will coordinate with the Division if injection activities are impacting groundwater resources.

Notices of Violations

Operators that have failed to respond to information orders have been issued Notices of Violations (NOVs) or will receive a NOV. Between August 2014 and January 2016, the Central Valley Regional Board issued 22 NOV letters to the operators of 59 wells. The attached table includes information on which operators received NOVs. In most cases, NOVs were issued due to incomplete or late work plans or technical reports.

Pending Information Orders

Information orders are planned to be issued in March 2016 to the operators of an additional 223 wells. Of these, 209 are permitted for disposal into 3,000 to 10,000 TDS aquifers or unsaturated zones (commonly referred to as "air sands"), and an additional 14 are permitted as EOR injection wells.

Summary

To date, 64 information orders have been issued for 243 UIC wells. Information orders will be issued for 223 UIC wells after review and final approval. The Division identified a total of 6,157 wells, therefore, 5,691 wells will not be issued information orders because they did not meet Enclosure D criteria (for disposal or water flood wells) or the criteria discussed above (for steam flood or cyclic steam wells). The table below summarizes the status of the State Water Board's review of the injection wells, status of information orders, and wells pending information orders.

Category of Well	Number of Wells Reviewed	Wells Issued Orders (orders)	Wells Pending Orders
1 (sub-3,000 TDS)	176 (disposal)	156 (34)	0
1 (3,000 to 10,000 TDS)	356 (disposal)	87 (30)	209
2 (sub-10,000 TDS)	5,625 (EOR)	0	14
Total	**6,157**	**243 (64)**	**223**

Please let us know if you have any questions regarding this information.

Sincerely,

Jonathan Bishop
Chief Deputy Director

cc: [Via email]

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