



Via Electronic Mail

October 23, 2015

Clay L. Rodgers
Assistant Executive Officer
Central Valley Regional Water Quality Control Board
1685 E. Street
Fresno, CA 93706

RECEIVED

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RWQCB-CVR
FRESNO, CALIF.

RE: Tentative Waste Discharge Requirements for Drought Relief Project

Dear Mr. Rodgers:

On September 18, 2015, the Central Valley Regional Water Quality Control Board (Regional Board) issued a Notice of Tentative Waste Discharge Requirements (Tentative WDRs) for California Resources Production Corporation (CRC) and the North Kern Water Storage District (District) for the Kern Front Oil Field Produced Water Reclamation Project (Drought Relief Project). This letter provides comments on the Tentative WDRs, and addresses what we believe is a misinterpretation of SB-4 that is referenced in the Tentative WDRs.

The Tentative WDRs Should Recognize Reclaimed Water as a Product

The Tentative WDRs should recognize both CRC's treated, reclaimed water and the District's blended irrigation water as products. The WDRs should use the terms "reclaimed water" or "blended reclaimed water" consistently in places such as paragraphs 13, 59 and 61, instead of "wastes," "wastewaters" or "oil field produced water." Essentially, we successfully convert our production fluids from our oil and gas production wells into three products – oil, natural gas and reclaimed water. While we welcome the Regional Board's longstanding permitting of reclaimed water use for agricultural irrigation under WDRs, we think the Regional Board should reflect that this water is a valuable product.

Paragraph 60 of the Tentative WDRs should similarly reflect that the oil and grease removed from produced water at the CRC treatment facility is also a valuable product which is sold with our crude oil, and not a waste. While the material is handled in tanks that meet containment specifications in Title 27, we do not believe Title 27 applies to the oil and grease.

The Tentative WDRs Warrant a Few Minor Clarifications

Please note that the operator of the Kern Front Field is California Resources Production Corporation, a Delaware corporation, rather than California Resources Corporation, LLC, a California limited liability company, so the WDRs should be issued to that entity.

In paragraph 11, it should be noted that CRC will provide "up to an average of 58 acre-feet per day". Later in that paragraph, and in paragraph 14, the WDRs should clarify that the discharge would be sent to the spreading basin during the non-irrigation season "or other times if less reclaimed water is needed directly for irrigation," which was the intent and was evaluated in the application. This clarification ensures that the District can continue to receive a reliable volume to meet irrigation and recharge needs.

In paragraphs C.5, D.1 and D.2, we interpret the limitations regarding odor or changes in electrical conductivity or other constituents in groundwater at the spreading basin to apply if attributable to and caused by the discharge of the project's reclaimed water.

The Tentative WDRs Misinterpret SB-4 and Should Not Address Reclaimed Produced Water from Wells that Have Received Well Stimulation Treatments

Well stimulation treatment as defined by Senate Bill (SB) 4, including hydraulic fracturing, is not used in the Kern Front Oil Field, so the reclaimed produced water from the Drought Relief Project does not come from wells that have undergone well stimulation treatments (WST Wells). We request the removal of the following prohibitions (WST Discharge Prohibitions) on the reuse of produced water, since they are inapplicable to the North Kern Drought Relief Project and we believe they reflect a misinterpretation of SB 4 that would interfere with the State's objective of increasing the reclamation and beneficial reuse of produced water at many other fields in California:

4. "The discharge of any produced fluids from wells that have undergone either a 'well stimulation treatment,' as defined by California Code of Regulations, title 14, section 1761 (including hydraulic fracturing, acid fracturing, and acid matrix stimulation), or frac-packing on or after 1 July 2015 is prohibited."

5. "The discharge of any produced fluids from wells that have undergone either a 'well stimulation treatment,' as defined by California Code of Regulations, title 14, section 1761 (including hydraulic fracturing, acid fracturing, and acid matrix stimulation), or a frac-packing prior to 1 July 2015 is prohibited, unless the Discharger meets the requirements of Provision E.13."

Order R5-2015-XXXX, Tentative WDR, Discharge Prohibitions A.4-5, at 18 (emphasis added).

13. "The discharge of any produced fluids from wells that have undergone a 'well stimulation treatment' as defined in California Code of Regulations, title 14, section 1761 (including hydraulic fracturing, acid fracturing, and acid matrix stimulation) or a frac-packing prior to 1 July 2015 may only be authorized in writing by the Executive Officer following a demonstration by the Discharger that well stimulation chemicals are not present in the oil field produced water from the specific well or wells that have been stimulated and/or frac-packed."

Order R5-2015-XXXX, Tentative WDR, Provisions E.13, at 22 (emphasis added).

We ask that you remove the WST Discharge Prohibitions for several reasons. First, the produced water from the Drought Relief Project does not come from WST Wells so the prohibitions are unnecessary and inapplicable. To the extent using produced water from WST Wells is a concern, it would be sufficient to state as background information (as opposed to a discharge prohibition) that no produced water for the Drought Relief Project comes from WST Wells. Second, as explained in detail below, SB 4, the Final Regulations implementing SB 4 (14 CAL. CODE REGS. §§ 1751 *et seq.*), the Water Conservation Act of 2009, the Sustainable Groundwater Management Act and longstanding California water policy all favor reclaiming and reusing produced water from WST Wells. Finally, the Final Regulations under SB 4 went into effect on July 1, 2015, and retroactive application of SB 4 and the Final Regulations to regulate produced water is not permitted.¹

¹ The WST Discharge Prohibitions also exceed the scope of SB 4 by including the undefined term "frac-packing," which is not a part of SB 4 and not defined in the Final Regulations.

Senate Bill 4 Does Not Prohibit the Reuse of Produced Water

While no rationale has been provided for the WST Discharge Prohibitions, we understand that these prohibitions arise from the Regional Board's interpretation of the Final Regulations implementing SB 4. However, nothing in SB 4 prohibits the use of produced water from a WST Well. In fact, section 3160(b) states: "(2) Full disclosure of the composition and disposition of well stimulation fluids, including, but not limited to, hydraulic fracturing fluids and acid stimulation treatment fluids, shall, at a minimum, include: (F) The specific composition and disposition of all well stimulation treatment fluids, including waste fluids, **other than water.**" (Emphasis added).

SB 4 makes clear the Legislature's intent that SB 4 was not meant to regulate the use of produced water.

SB 4 Final Regulations (California Code of Regulations) Support the Reuse of Produced Water from WST Wells

The Water Management Plan

Section 1783.1(a) of the Final Regulations expressly supports the reuse and reclamation of produced water from WST Wells. This section states that "[a]n application for a permit to perform a well stimulation treatment shall include the following: "A water management plan that includes . . . [a] description of how and where the water from a well stimulation treatment will be **recycled**, including a description of any treatment or reclamation activities to be conducted prior to recycling or reuse." 14 CAL. CODE REGS. § 1783.1(a)(23)(C) (emphasis added).

WST Fluids and Wastes Differ from Produced Water

Section 1786(a) of the Final Regulations, titled "Storage and Handling of Well Stimulation Treatment Fluids and Wastes," lists separate requirements for managing WST fluids and wastes. Section 1786(a)'s introductory language provides that "[o]perators shall adhere to the following requirements for the storage and handling of well stimulation treatment fluid, additives, and produced water from a well that has had a well stimulation treatment."

Under section 1786(a), requirements 1 through 7 relate specifically to WST fluids – meaning the product to be used in the treatment – and requirement 8 applies specifically to wastes generated during the treatment. In requirement 8, the Final Regulations state that "[a]n operator who generates a waste . . . **in the course of conducting well stimulation activities**, including but not limited to well stimulation fluid, additives, produced water from a well . . . shall determine if the waste is a hazardous waste." (Emphasis added.) In other words, despite the introductory portion of section 1786(a) – which the Regional Board appears to rely on in its attempt to apply SB 4 to produced water – both the title of section 1786(a) and the only specific section relevant to wastes (i.e., requirement 8) regulate wastes and flowback generated during the WST, not all produced water from WST Wells. Further, the Tentative WDRs already incorporate the mandate contained in requirement 8 by prohibiting the discharge of hazardous waste in Discharge Prohibition Number 7: "Discharge of waste classified as 'hazardous,' as defined in the California Code of Regulations, title 22, section 2510 et seq., is prohibited." Finally, as noted above, the reclaimed water is a valuable product fulfilling a critical need during the drought and we do not believe it meets the definition of waste under Federal and State regulations.

As the technical terminology can be confusing and easily muddled, consider the following definitions for clarity. The California Council on Science and Technology ("CCST") clearly differentiated between WST flowback fluid or waste and produced water with the following definitions: "Wastewater generated from stimulated wells in California includes 'recovered fluids' (flowback fluids collected into tanks following



stimulation, but before the start of production) and ‘produced water’ (water extracted with oil and gas during production).” CCST INDEPENDENT SCIENTIFIC STUDY, Vol. II, ch. 2, at 50 (July 9, 2015), *available at* <https://ccst.us/publications/2015/vol-II-chapter-2.pdf>. The only produced water that section 1786(a) regulates is the formation water that returns with flowback water during a WST’s flowback phase. The Final Regulations define flowback fluid as “the fluid recovered from the treated well before the commencement of oil and gas production from that well following a well stimulation treatment.” CAL. CODE REGS. § 1781(j) (emphasis added).

The Final WST Regulations Do Not Apply Retroactively

The Final Regulations took effect on July 1, 2015. Those regulations defined a “well stimulation treatment” (WST) as “treatment of a well designed to enhance oil and gas production or recovery by increasing the permeability of the formation,” and imposed a number of specific requirements that apply prospectively to WSTs occurring after the Final Regulations took effect on July 1, 2015.

Discharge Prohibition Number 5 of the Tentative WDRs states that the “discharge of any produced fluids . . . prior to 1 July 2015” is prohibited without written authorization. Under SB 4 and the Final Regulations, DOGGR and the Regional Board cannot retroactively regulate WST fluids from wells that underwent well stimulation before July 1, 2015 – just as they cannot retroactively require operators to apply for a permit, notify neighbors, install a groundwater monitoring program, conduct pressure testing or cement evaluation for WSTs that were completed prior to July 1, 2015. The entirety of the Final Regulations, including notice, application for a permit to perform, neighbor notification, testing, groundwater monitoring programs, pressure testing, cement evaluation, and, notably, the storage and handling of well stimulation treatment fluids and wastes, is effective on and after July 1, 2015. PUB. RES. CODE § 3161(a).

State Water Statutes and Policy Support the Reuse and Reclamation of Produced Water

The State has enacted legislation, including the Water Conservation Act of 2009 and the Sustainable Groundwater Management Act last year, that strongly favor reuse and reclamation of water from all sources through best management practices. The California State Water Resources Control Board (“State Water Board”) and the Regional Board have specifically recognized the beneficial recycling and reuse of produced water. The State Water Board’s website specifically recognizes the recycling of produced water: “Produced water can be disposed of in either class II injection wells, produced water ponds, or is recycled.” STATE WATER RES. CONTROL BD., *Water Quality in Areas of Oil and Gas Production* (Sept. 3, 2015), http://www.swrcb.ca.gov/water_issues/programs/groundwater/sb4/index.shtml (emphasis added). Further, the Tentative WDRs reference the Tulare Lake Basin Plan which “encourages the use of recycled water on irrigated crops wherever feasible” and the Basin Plan specifically allows for oil field wastewater disposal for irrigation and other beneficial uses. Order R5-2015-XXXX, Tentative WDR, Basin Plan, Beneficial Uses, and Water Quality Objectives, ¶¶ 27-35, at 8-9.

Finally, in addition to the statutory and regulatory provisions favoring use of reclaimed produced water, perhaps the strongest argument lies in current water policy. California water policy strongly supports reclaiming and recycling water as a valuable product, including encouraging and approving reclamation and reuse of ocean water through desalination and sewage water through toilet-to-tap programs. Prohibiting all produced water from treatment and reuse is not only inconsistent with State policy but grossly inefficient and wasteful in an era of severe drought, especially when the State of California is actively reclaiming desalinated water, sewage water, and agricultural water.

Notably, DOGGR recently issued a Notice to Operators that encourages the reuse of produced water. Notice to Operators: A Strategy for Produced Water (Sept. 15, 2015), *available at* ftp://ftp.consrv.ca.gov/pub/oil/Notice_to_Operators/NTO_9-



2015 A%20Strategy%20for%20Produced%20Water.pdf. In light of the increasing demand for groundwater, the "Division [DOGGR] wishes to encourage operators to consider options for reuse of produced water and to take a strategic approach to location and depth of disposal wells." Specifically, DOGGR urges operators to consider "[t]reating and reusing the water for beneficial uses, such as agricultural irrigation, industrial supply, and groundwater recharge."

In consideration of the above information, we respectfully ask that you revise the Tentative WDRs for the Drought Relief Project to remove the unnecessary WST Discharge Prohibitions and to incorporate CRC's requested clarifications.

Thank you for your attention to this matter. Please contact me if you have any questions or need more information.

Sincerely,

Jim Robinson
CRC HSE Manager Northern Operations