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Tentative WDRs Order for Califia Farms, LLC and North Kern Water Storage District Califia Farms, Bakersfield Facility, Kern County

This letter transmits my comments on the subject Tentative Waste Discharge Requirements Order (TWDRs). I am a resident of Fresno County California and, for 30 years and counting, a registered civil engineer. From 1998 to 2010, I worked in the Central Valley Water Board's Fresno office mostly in the WDR Program. I have experience overseeing discharges of secondary treated municipal wastewater to canals (e.g., City of Lemoore, Kettleman City). In the 1990s when I worked for DWR, I document its MODFLOW-based groundwater operation model of the Kern Water Bank. From this experience, I gained an appreciation of the groundwater banking operations in Kern County and the important role they play in the region's water supply. As I recall, the Rosedale Spreading Basins is an exceptionable groundwater recharge site due to the rapid infiltration of its high permeable soils.

The TWDRs proposes to replace WDRs Order R5-2017-0019 issued to Califia Farms, LLC (Califia) and Kern County Water Storage District (District), Process Water Reuse Project. The TWDRs names the discharging facility, Bakersfield Facility (Facility). The current WDRs authorizes Califia two means of Facility wastewater disposal: (1) continuously by pipeline to the District's Lerdo Canal, which conveys surface water, groundwater, and produced water to District growers and various groundwater recharge basins; and (2) periodically (each year) by truck to the District's Rosedale Spreading Basins (Basins), about four miles away, where it is blended with Kern River water and/or produced water prior its to discharge to the Basin's lateral delivery canals. The direct discharge to the Basin is necessary to dispose of Facility wastewater when the Lerdo Canal is dry for annual maintenance, which takes up to two weeks. The tentative WDRs Order (TWDRs) authorizes an increase in discharge flow to 0.5 MGD. Below are my comments, questions, and recommendations:

1) Califia's Bakersfield Facility (Facility) is situated on a 485-acre parcel owned by Paramount Ranch Co LP. The TWDRs should name this property owner as co-discharger or provide a reason for not doing so.

2) The TWDRs mentions source water treatment (Finding 20) prior to its use in the Facility's plant-based products (e.g., almond milk). It does not characterize untreated source water, which makes up most of the Facility's wastewater flow. The TWDRs (or Response to Comments) should include an explanation for this. The current WDRs requires quarterly source water monitoring. Califia's self-monitoring reports do not

contain source water data, nor apparently does Califia's 2021 Report of Waste Discharge. Califia should have *some* relevant data available on treated source water quality that it can provide staff for use in the TWDRs. Even if it is post treatment, its quality should be relevant for assessing Califia's salinity control efforts.

3) Salinity is not the only water quality concern with Califia's discharge of Oxidation Ditch effluent to the Lerdo Canal. Its high BOD (above 500 mg/L) is also a concern, if only for odor nuisance control. Its discharge, either to the Lerdo Canal or to the Basin's lateral canals, will exert an oxygen demand that may cause nuisance odors. The TWDRs (or Response to Comments) should state whether this ongoing discharge has ever resulted in nuisance odor complaints.

4) The TWDRs should include receiving water limitations for the Lerdo Canal discharge to protect its beneficial use of agricultural supply. These include:

   a) **Biostimulatory Substances**. Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses;

   b) **Suspended Material**. Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses; and

   c) **Dissolved Oxygen.** The dissolved oxygen concentration to be reduced below 1.0 mg/L at any time.

5) The TWDRs Monitoring and Reporting Program (MRP) should add dissolved oxygen to the parameters monitored in receiving water.

6) The direct discharge of high BOD wastewater to the Basin's lateral canals without sufficient produced water for dilution threatens to cause anoxic conditions in the vadose zone that, in the long run, may unreasonably degrade high quality groundwater. The potential for this degradation requires the discharge be conducted in a manner that reflects best practicable treatment of control (BPTC). The direct discharge of undiluted, high-strength industrial wastewater to prime groundwater recharge soils is not BPTC and should be prohibited or otherwise restricted when produced water is unavailable for blending.

7) The TWDRs identifies blending as a BPTC measure (Finding 67.c). Blending has been cited as a BPTC measure in other WDRs for similar discharges. So, there is precedent. But, please consider. The Basin Plan's designed beneficial uses of surface waters and groundwaters do not include "blending supply" for diluting wastes to achieve a quality protective of designated beneficial uses. The TWDRs should delete Finding 67.c (and elsewhere if mentioned) and revise Finding 68 as follows: "The Discharger's implementation of the above-listed BPTC measures, *and the dilution provided by higher quality water in the Lerdo Canal and Rosedale Spreading Basins,* will minimize the extent of water quality degradation resulting from the Facility's continued operation."

8) Typically, oxidation ditches are operated to provide a two-day hydraulic detention time for effective BOD removal. The Board should recognize this long-standing rule-of-thumb as BPTC. The Facility's Oxidation Ditch has a maximum hydraulic capacity of 0.6 million gallons. A two-day minimum detention time requirement would limit flow to 0.3 MGD. At 0.5 MGD, the detention time decreases to 1.2 days, which will decrease BOD removal performance. If it doesn't already, the TWDRs should disclose that discharge BOD will increase at higher flows.

9) The current WDRs did not require influent monitoring for BOD, which is needed to characterize BOD removal performance. The TWDRs should not make that same mistake again by

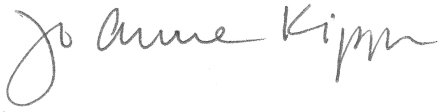
   a) Establishing an influent monitoring location at a location where a representative sample of wastewater can be obtained prior to discharge to the Oxidation Ditch, and

   b) Requiring monthly monitoring of influent BOD concurrent with effluent BOD, and

   c) Requiring reporting monthly average percent influent BOD removal.

In closing, I recommend that staff be advised to enforce any significant monitoring and reporting deficiencies early on when updating WDRs for ongoing discharges. In this instance, Califia should have been issued a Notice of Violation last year ago for chronically failing to comply with requirements for quarterly source water monitoring and daily reporting of discharge flow.

Thank you for your time and consideration.



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