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PROPOSED TENTATIVE WASTE DISCHARGE REQUIREMENTS AND TIME SCHEDULE ORDER FOR HILMAR CHEESE COMPANY, INC. AND RECLAMATION AREA OWNERS, HILMAR CHEESE PROCESSING PLANT

I am a resident of the city of Fresno and a California registered civil engineer with 20 years experience in water resource and water resource control engineering. I am currently employed as a Senior Water Resource Control Engineer at the Fresno office of the Regional Water Quality Control Board, Central Valley Region (Regional Board). I have been advised by my immediate supervisor to not submit comments as a private citizen on the subject tentative orders. However, I am not aware of any law, regulation, or Regional Board policy that prohibits Regional Board employees from submitting public comments on Regional Board agenda items. Moreover, as a Regional Board employee I am mandated "**to preserve, enhance and restore the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations,**" that is, to implement the State Water Board's mission statement. Therefore I have decided to endure whatever consequences may result from exercising my freedom of speech, and to submit the following comments to the members of the Regional Board before they consider the proposed Hilmar Cheese orders at their January 2010 meeting.

General Comments

The proposed Waste Discharge Requirements (WDRs) Order for Hilmar Cheese Company, Inc. (Hilmar Cheese) and Reclamation Area Owners proposes to carry over a modified version of an effluent limitation for salinity expressed as electrical conductivity (EC) of 900 micromhos per centimeter (umhos/cm) contained in WDRs Order 97-206. This Order required Hilmar Cheese to achieve full compliance with the EC limit effective 15 March 1999. The Regional Board had prescribed this EC limit back in 1997 to ensure that Hilmar Cheese's discharge of cheese processing wastewater did not impair the beneficial uses of shallow groundwater affected by its discharge, and to implement a mitigation measure contained in a mitigated negative declaration the Regional Board approved for Hilmar Cheese's discharge pursuant to the California Environmental Quality Act.

Hilmar Cheese did not contest the WDRs or mitigated negative declaration, and attempted to comply with the EC limit by constructing a wastewater treatment facility (WWTF) that featured a technology that was unproven for Hilmar Cheese's discharge, and which proved unsuccessful. Hilmar Cheese next implemented conventional secondary treatment followed by ultrafiltration (UF) and reverse osmosis (RO). But Hilmar Cheese also increased the Plant's cheese processing capacity and wastewater discharge flows. It did so without installing sufficient treatment capacity to process the Plant's entire wastewater flow, and continued to discharge partially-treated wastewater to land in a manner that polluted groundwater and created nuisance conditions (objectionable odors and flies). These conditions,

and the accompanying complaints by Hilmar Cheese's neighbors (and – some say – the negative press coverage given the situation), prompted the Regional Board's Executive Officer to issue Hilmar Cheese Cleanup and Abatement Order R5-2004-0772 (CAO), and subsequently, Administrative Civil Liability Complaint R5-2005-0501 in the amount of four million dollars.

The March 2006 Settlement Agreement between Hilmar Cheese and the Regional Board settled the Complaint and authorized Hilmar Cheese to continue to discharge fully-treated cheese processing wastewater that met the EC limit to crop land in the Plant vicinity (Secondary Lands), and to continue to discharge partially-treated wastewater characterized by high EC and organic and nitrogen content to lands immediately adjacent to the Plant (Primary Lands). The Settlement Agreement required Hilmar Cheese to submit a Report of Waste Discharge (RWD) by October 2006. Findings 8 and 9 of the Tentative WDRs explain why Hilmar Cheese required additional time beyond October 2006 to submit an RWD that identified how it was going to conduct its discharge, and why it requires even more time to experiment with a salinity reduction treatment technology – Electrodialysis Reversal (EDR) – that remains untested for industrial discharges such as Hilmar Cheese's.

The tentative Time Schedule Order (TSO) accompanying the tentative WDRs proposes to allow Hilmar Cheese to still further delay implementing the type and capacity of salinity reduction treatment technology it should have implemented over 10 years ago. Because it never fully complied with the EC limit, Hilmar Cheese's discharge created nuisance (Finding 19 of the CAO) and polluted groundwater from EC, total dissolved solids, iron, and manganese (the latter two from organic overloading) and threatened to pollute groundwater from sodium, chloride, and ammonia (Findings 22 and 23 from the CAO). Since the March 2006 Settlement Agreement, Hilmar Cheese has not increased its WWTF capacity to process the Plant's entire wastewater flow because of reported excessive operational costs, yet it found the financial resources to increase the Plant's cheese processing capacity and to build a new cheese processing plant in Texas.

Specific Comments on the Tentative WDRs

Effluent Limitations. To ensure that Hilmar Cheese consistently optimizes pretreatment for salinity removal treatment (either by RO or EDR), the tentative WDRs should prescribe a performance-based effluent limitation for turbidity that equals the maximum turbidity values recommended by RO and EDR treatment technology manufacturers. Such a limit would serve a similar purpose to turbidity effluent limits in WDRs for discharges of tertiary disinfected recycled water, and would require Hilmar Cheese to consistently optimize pretreatment for solids removal prior to RO or EDR treatment.

Treatment Redundancy and/or Emergency Storage Capacity. Discharge Prohibition A.2 prohibits the bypass of untreated wastes except as allowed under certain conditions specified in Standard Provisions. Finding 24 states, "In case of short-term operational issues or equipment failures, Hilmar Cheese will construct a wastewater blending system to ensure that effluent discharged to the two storage ponds and the Reclamation Areas meets the effluent limits." The current wastewater blending proposal implies treatment bypass and, consequently, threatens to violate Discharge Prohibition A.2 as well as Provision E.5, which requires back-up or auxiliary facilities or similar systems "only when the operation is necessary to achieve compliance with the conditions of the Order."

Most dischargers subject to effluent limits for recycling of wastewater of domestic origin are required to install redundant treatment trains or emergency storage capacity to retain untreated or partially-treated

wastewater until it can be run through the treatment system. The proposal described in Finding 24 implies that the Plant's WWTF will be consistently capable of generating an effluent containing waste constituents in concentrations much less than the limitations imposed in the WDRs. This does not appear to be realistic. Given that Hilmar Cheese is contemplating implementing a salinity removal technology that is untested for industrial wastewaters, it is prudent for the tentative WDRs to require Hilmar Cheese to either install redundant treatment trains for all vital treatment units or emergency storage capacity. At a minimum, the tentative WDRs should identify which facilities or systems in the WWTF are subject to Provision E.5.

Wet Weather Storage Capacity. Most WDRs for land discharges contain a finding describing the discharger's monthly water balance that demonstrates that the discharger has sufficient land disposal capacity to dispose of all the requested flow during wet years of a 100-year frequency. The tentative WDRs indicate that the Plant's existing effluent storage ponds have a combined storage capacity of 44 million gallons, but do not indicate whether and how Hilmar Cheese plans to expand its effluent storage capacity to accommodate its requested increase in discharge flow from the 1.9 million gallons per day (mgd) authorized in the Settlement Agreement to 2.5 mgd. While the tentative WDRs contain discharge specifications regarding hydraulic loading (C.5 – wastewater applications to the Reclamation Area shall be at reasonable agronomic rates; C.6 – wastewater shall not be discharged to the Reclamation Area during periods of heavy rain), the tentative WDRs should contain a finding explaining how Hilmar Cheese can increase its discharge flow without expanding its wet weather effluent storage capacity.

Indirect Hydraulic Connection to the San Joaquin River. Finding 38 describes how area groundwater depth is controlled by the operation of tile drain systems that discharge to canals owned and operated by the Turlock Irrigation District (TID) (e.g., Lateral No. 6 north of the Plant). The tentative WDRs should disclose that these canals discharge ultimately to the San Joaquin River, a water of the United States that is already impaired, in part from excessive salinity and oxygen-demanding substances (as documented by total maximum daily loads under development for salinity and dissolved oxygen). The tentative WDRs state, "Tile drains under the Primary Lands have been sealed off and no longer discharge to TID canals." However, even though Hilmar Cheese may have sealed off the tile drains under the Primary Lands, in the absence of physical barriers to restrict the offsite flow of shallow groundwater under the Primary Lands (e.g., via perimeter sheet piles), groundwater underlying the Primary Lands above the level of offsite tile drain systems will flow offsite and will be intercepted by these tile drains systems and will be pumped to TID canals that discharge to the San Joaquin River. The tentative WDRs should disclose this, and disclose whether and which parcels comprising the Secondary Lands are underlain by or adjacent to tile drainage systems.

While the Clean Water Act exempts discharges of tile drainage water affected by agricultural activities from regulation under the National Pollutant Discharge Elimination System (NPDES), it does not specifically exempt from regulation any pollutants in tile drainage discharges released to surface waters of the United States that originate from industrial activities. A case can be made that the hydraulic connection between Hilmar Cheese's discharge and TID Lateral No. 6 warrants regulation of the discharge via an NPDES permit. At a minimum, the tentative WDRs should require Hilmar Cheese to monitor TID Lateral No. 6 (and other TID canals receiving discharges of groundwater potentially affected by the Plant's discharge) for salinity constituents (e.g., EC, sodium, chloride), total organic carbon, total nitrogen, priority pollutants such as trihalomethanes (if chlorine is used in Plant sanitation and WWTF operations), and other pollutants of concern. The monitoring should be performed at least quarterly, both upstream and downstream from tile drainage pump systems that collect and discharge to

TID canals any groundwater potentially affected by the Plant's discharge. The resulting data should be evaluated after three years to determine whether the Plant's discharge should be regulated by an NPDES permit that implements federal categorical effluent limitations.

Domestic Wastewater Discharge. Finding 3 states that Hilmar Cheese discharges the Plant's domestic wastewater to "septic tanks and leachfields regulated separately." The tentative WDRs should identify the Merced County Environmental Health Department as the agency currently responsible for regulating the Plant's domestic wastewater discharge. Finding 38 describes groundwater as shallow (5 to 15 feet below ground surface) and states, "During wet periods, water can be at the ground surface." Regional Board guidelines for septic tank and leachfield systems (incorporated in the Basin Plan) require a minimum of five feet of vertical separation between the bottom of the leachfield trenches and highest anticipated groundwater. Merced County presumably implements and enforces these guidelines. However, since the Plant's domestic wastewater flow from 600 employees and up to 300 banquet guests (from Finding 3) is discharged to septic tanks and leachfields to land overlying shallow groundwater that surfaces during wet periods, it appears that the Regional Board's 5-foot vertical separation requirement has not been aggressively enforced in this discharge situation. Given the shallow groundwater conditions in the Plant vicinity and the current method of domestic waste disposal, waste constituents in the Plant's domestic discharge threaten to cause or contribute to exceedances of Groundwater Limitations in the tentative WDRs (e.g., for nitrate and total coliform organisms).

While many Central Valley industrial dischargers in rural areas treat and dispose of domestic wastewater via onsite septic tanks and leachfields regulated by county environmental health departments, there are some near or within urbanized areas that discharge to community sewer systems (e.g., E. & J. Gallo Winery in Fresno; Del Monte near Kingsburg; Lion Raisins near Selma). There are other industrial dischargers that treat domestic wastewater via package treatment plants prior to land disposal (e.g., Recot, Inc./Frito-Lay; Saint-Gobain; CertainTeed). If these industrial dischargers can afford to install and operate a package treatment plant for domestic wastewater, surely the Regional Board should require Hilmar Cheese to do likewise.

While the impact to groundwater from the Plant's domestic discharge pales in comparison with that from its industrial discharge, this should not preclude the Regional Board from requiring Hilmar Cheese to implement best practicable treatment or control for the Plant's domestic wastewater discharge, especially given the existing degraded condition of groundwater affected by the Plant's industrial discharge. The tentative WDRs should require Hilmar Cheese to discharge its Plant's domestic wastewater to either (1) the sewer system serving the Hilmar community or (2) install and operate a package treatment plant capable of reducing the concentration in wastewater discharged to leachfields of total nitrogen to 10 mg/L and of total coliform organisms to Groundwater Limitation E.a(iii) (i.e., 2.2 most probable number per 100 milliliters).

Tentative Monitoring and Reporting Program (MRP)

The tentative MRP should require the following:

> Continuous monitoring of wastewater turbidity immediately prior to salinity removal treatment and reporting of daily average and maximum wastewater turbidity.

Continuous monitoring of effluent EC and reporting of daily average and maximum effluent EC.

Monthly monitoring of effluent for trihalomethanes if wastewater is subjected to chlorination during Plant sanitation or treatment processes (chlorine is typically used to clean UF membranes).

Quarterly monitoring of effluent for iron and manganese, since these two constituents are not included in the table of General Minerals, and groundwater underlying the Primary Lands contains elevated concentrations of these two constituents.

Reporting of monthly average effluent total nitrogen, which is used to calculate total nitrogen loading to Reclamation Area parcels.

Monthly monitoring of water impounded in the Plant's storm water ponds for, at a minimum, EC, sodium, chloride, BOD_5, and total nitrogen, to evaluate whether these ponds only receive discharges of storm water and of essentially pollutant-free wastewater.

Miscellaneous Comments

The tentative WDRs contain several provisions that specify how the discharge is to be conducted (i.e., Provisions E.10 and E.11 regarding effluent storage pond capacity; E.12 regarding pond maintenance to preclude vector nuisance; E.13 regarding the grading of Reclamation Area parcels to preclude ponding along public roads; E.14 regarding management of Reclamation Area parcels to prevent vector nuisance; E.15 regarding dissolved oxygen content in effluent storage ponds; E.16 regarding the establishment of effluent pH limitations for discharges to the storage ponds; and E.17 regarding minimum pond freeboard). These discharge requirements are better placed in the "Discharge Specifications" section of tentative WDRs or, as appropriate, in a separate, new "Reclamation Area Requirements" section. [The tentative MRP actually refers to "Recycling Specifications" in the tentative WDRs]. The terms and conditions pertaining specifically to the discharge of effluent to Reclamation Area parcels should be contained in a separate section to make it easy for Reclamation Area parcel owners to identify which requirements apply specifically to them.

Provision E.8 concerns changes in ownership specific to "land or waste treatment and storage facilities presently owned or controlled by the Discharger." This provision should also specify how changes in ownership of Reclamation Area parcels will be handled (e.g., will ownership transfers require Executive Officer written approval?).

Provision E.22 requires Hilmar Cheese to submit by 1 June 2010 a Nutrient Management Plan for each separately-owned parcel where Plant effluent is applied for irrigation purposes. Such plans should have been submitted as part of Hilmar Cheese's RWD to demonstrate its discharge would not impair the beneficial uses of affected groundwater. In any event, the plans should be based on actual monitoring data of dairy wastewater and manure and not rely solely on text-book values that incorporate theoretical values for nitrogen loss.

Attachment D of the tentative WDRs should identify which Reclamation Area parcels are subject to the General Order for Existing Milk Cow Dairies.

Proposed Tentative Time Schedule Order (TSO)

Finding 12 of the tentative TSO cites CWC section 13385(j)(3), which exempts violations of effluent limitations prescribed in NPDES permits from mandatory minimum penalties prescribed by sections 13385(h) and (i) for several reasons, including: the discharge is in compliance with either a cease and desist order or a time schedule order issued on or after 1 July 2000; the enforcement order specifies actions the discharger is required to take in order to correct the violations; and the regional board finds that the discharger is not able to consistently comply with one or more effluent limitations because the effluent limitation is new, or more stringent and new, or modified control measures cannot be designed, installed, and put into operation within 30 days. Because the current and tentative WDRs do not authorize Hilmar Cheese to discharge to a water of the United States via an NPDES permit, the tentative TSO should be revised to remove this citation. Finding 12 also incorrectly states that the effluent limitation for EC contained in the tentative WDRs is a new limitation when, in fact, it has been in effect since 15 March 1999.

The tentative TSO requires Hilmar Cheese to comply with effluent limitations in the tentative WDRs by 1 February 2011 if UF/RO technology is implemented or by 1 July 2011 if anything other than UF/RO technology is implemented. Hilmar Cheese chose not to comply with the EC limit prescribed in WDRs Order 97-206 effective 15 March 1999, but increased cheese processing production at the Hilmar Plant, and constructed a new plant in Texas. Because of this history, the tentative TSO should prescribe a civil penalty if compliance is not achieved in accordance with the tentative TSO in accordance with CWC section 13308, which allows the Regional Board to prescribe a civil penalty of up to $10,000 for each day in which the violation occurs (section 13308(b)). This addition to the tentative TSO should provide a necessary financial incentive to ensure Hilmar Cheese this time will abide by its commitment to install, operate, and maintain a WWTF capable of generating an effluent that fully complies with the effluent limitations contained in the tentative WDRs by the dates established in the tentative TSO.

Finally, Task 2 prescribes an interim EC limit for discharges to the Primary Lands (3,600 umohs/cm) that essentially reflects the EC Limit in the Settlement Agreement (3,700 umhos/cm). The tentative TSO should also impose interim effluent limitations for BOD_5, and total nitrogen that reflect optimum operation of the WWTF's conventional treatment trains (i.e., 80 mg/L for BOD_5 and 20 mg/L for total nitrogen). This would reduce the potential for waste discharges to the Primary Lands to create odor nuisance and exacerbate existing conditions of pollution created by Hilmar's past discharges.

I appreciate the opportunity to comment on this important matter.

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cc: State Water Resources Control Board, Division of Water Quality, Sacramento