

INFORMATION SHEET

ORDER NO. R5-2009-_____
HILMAR CHEESE COMPANY, INC., AND
REUSE AREA OWNERS
HILMAR CHEESE PROCESSING PLANT
MERCED COUNTY

Hilmar Cheese Company, Inc. (Hilmar Cheese) is expanding its Wastewater Treatment Facility (WWTF) that serves its cheese processing plant (hereafter Plant) located north of the unincorporated community of Hilmar in Merced County. Hilmar Cheese submitted a *Report of Waste Discharge* (RWD) dated 2 June 2008 followed by an *Addendum to Report of Waste Discharge* (RWD Addendum) dated 13 November 2008. Both reports were prepared by Kennedy/Jenks Consultants on behalf of Hilmar Cheese. The RWD Addendum was submitted in anticipation of updating Waste Discharge Requirements (WDRs).

Background

WDR Order 97-206, adopted in 1997, currently regulates the discharge of cheese processing wastewater to a designated disposal area called the Primary Lands. It authorizes Hilmar Cheese to discharge a monthly average daily flow of up to 0.75 million gallons per day (mgd) and prescribes an effluent limitation for electrical conductivity at 25°C (EC) of no greater than 900 micromhos per centimeter ($\mu\text{mhos/cm}$) effective 15 March 1999.

Because of its elevated organic and salt content, the discharge to the Primary Lands created conditions of nuisance (flies and odors) and pollution in groundwater underlying the Primary Lands. In December 2004, the Executive Officer of the Central Valley Regional Water Quality Control Board (Central Valley Water Board) issued Cleanup and Abatement Order R5-2004-0772 (CAO), which directs Hilmar Cheese to abate nuisance and address groundwater impacts. On 26 January 2005, the Executive Officer issued Administrative Civil Liability Complaint R5-2005-0501, which assessed \$4,000,000 in administrative civil liability for chronic violations of the effluent EC limitation. On 16 March 2006, the Central Valley Water Board adopted Order R5-2006-0025, *Ratifying the 16 March Settlement Agreement between Central Valley Water Quality Control Board and Hilmar Cheese Company, Inc., and Hilmar Whey Protein, Inc., Merced County* (hereafter Revised Settlement Agreement). The Revised Settlement Agreement and CAO required Hilmar Cheese to submit by 31 October 2006 a RWD and exercise good faith and best efforts to work with staff to draft revised waste discharge requirements for Central Valley Water Board consideration. The Revised Settlement Agreement also establishes Interim Operating Limits for the discharge. The CAO continues to regulate groundwater evaluation and cleanup work, and groundwater investigations under the CAO are ongoing.

Existing Wastewater Treatment Facility

The WWTF consists of: three subsurface collection sumps or basins; three 350,000-gallon equalization tanks with one equalization tank designated for wastewater resulting from abnormal operational conditions; two 55,000-gallon Dissolved Air Flotation (DAF) tanks; a heat exchanger; a granular sludge bed anaerobic digester; a 1,000,000-gallon pre-aeration tank; two 1,000,000-gallon sequencing batch reactors (SBRs); a 1,000,000-gallon surge tank; three DAF tanks, two with a capacity of 10,000 gallons and one with a capacity of 11,000

gallons; membrane separation using Ultrafiltration (UF); a two-stage Reverse Osmosis (RO) system; and an evaporator.

Wastewater is generated from sanitizing equipment and tanks, general facility wash down, assorted sources of equipment blow down, and truck washing. Wastewater is temporarily contained in three collection basins prior to the Plant's WWTF. A collection basin designated the "Cheese Basin" accepts wastewater from the milk receiving area, the three cheese plants, and the protein plant (about 60 percent of the discharge). Wastewater from the lactose plant is discharged to the "Lactose Basin" (about 35 percent of the discharge), and a third basin, designated the "Wastewater Basin" accepts truck wash wastewater (about 5 percent of the discharge).

Existing Discharge and Reuse Areas

The Interim Operating Limits of the Revised Settlement Agreement allow for the discharge of up to 1.2 mgd of partially treated wastewater with an EC of up to 3,700 $\mu\text{mhos/cm}$ to the Primary Lands. The Interim Operating Limits also permit the discharge of no less than 0.6 mgd of UF and RO treated wastewater with a maximum EC of 900 $\mu\text{mhos/cm}$. Hilmar Cheese has been operating within those limits since adoption of the Revised Settlement Agreement in March 2006, which became effective in April of 2006.

While all of the Plant's wastewater is treated by the SBRs, not all of the flow is treated by the UF and RO units. Effluent from the SBRs is referred to as "partially-treated" wastewater while effluent from the RO units is referred to as "fully-treated" wastewater or reuse water. Hilmar Cheese disposes of partially-treated and fully-treated wastewater on nearby farm land that are divided into two reuse areas designated the "Primary Lands" and the "Secondary Lands." Hilmar Cheese owns some of the Primary Lands and leases the rest from other land owners. The Primary Lands comprise about 95 acres directly adjacent to the Plant and receive partially-treated wastewater.

The Secondary Lands receive fully-treated wastewater. Prior to discharge to the Secondary Lands, wastewater is stored in two clay-lined storage ponds with a combined capacity of approximately 44 million gallons. The Secondary Lands consist of several interconnected individual parcels generally to the west of the Plant that are owned mostly by other parties. Crops grown on the Secondary Lands are fodder crops such as silage corn, wheat, and oats. Hilmar Cheese periodically adds or removes parcels from the Secondary Lands and notifies the Central Valley Water Board staff in writing. The Primary and Secondary Lands are collectively referred to as Reuse Areas. Hilmar Cheese owns some of the Primary Lands and leases the rest from others (Primary Land Owners). All of the Secondary Lands are owned by others (Secondary Land Owners). The Primary and Secondary Land Owners are collectively referred to as Reuse Area Owners. The parcels and Reuse Area Owners for this Order are shown in Attachment C and listed in Attachment D, which are attached hereto and made part of this Order by reference. Hilmar Cheese and the Reuse Area Owners are collectively referred to as Discharger. Hilmar Cheese is the primary discharger responsible for

compliance with this Order. Each Reuse Area Owner is responsible for compliance with the requirements of this Order concerning discharge to its respective parcels that are included within the Reuse Area.

Discharge flows to the Primary Lands decreased as Hilmar Cheese implemented improvements to the WWTF. In 2008, the monthly average flow of partially-treated wastewater to the Primary Lands to about 0.65 mgd, with an average EC of about 3,500 $\mu\text{mhos/cm}$. In 2009, the discharge of partially-treated wastewater to the Primary Lands was about 0.57 mgd, with an average EC of about 3,300 $\mu\text{mhos/cm}$.

Discharge of fully-treated wastewater to the Secondary Lands increased steadily through July 2008 to a maximum of about 1.4 mgd. The flows decreased in the second half of 2008, but were still above 1.0 mgd, which is greater than the 0.6 mgd minimum flow requirement prescribed by the Revised Settlement Agreement. Hilmar Cheese has indicated the decrease occurred as it was pushing the operation limits of the WWTF through the summer to assess its treatment potential and help design the proposed expansion.

Data from Hilmar Cheese's self-monitoring reports indicates that the wastewater applied to the Primary Lands from April 2006 through 2008 had the following average characteristics.

Primary Lands Effluent Data

<u>Flow (mgd¹)</u>	<u>BOD² (mg/L³)</u>	<u>Total N⁴ (mg/L)</u>	<u>TDS⁵ (mg/L)</u>	<u>EC⁶ ($\mu\text{mhos/cm}$⁷)</u>	<u>Cl⁸ (mg/L)</u>	<u>Na⁹ (mg/L)</u>
0.73	362	187	2,217	3,532	327	631

1. million gallons per day (mgd)
2. 5-day biochemical oxygen demand (BOD)
3. milligrams per liter (mg/L)
4. Total nitrogen (Total N) equals TKN + Nitrate, as N.
5. Total Dissolved Solids
6. Electrical Conductivity (EC)
7. Micromhos per centimeter ($\mu\text{mhos/cm}$)
8. Chloride (Cl)
9. Sodium (Na)

In 2009, the wastewater applied to the Primary Lands had the following average characteristics.

2009 Primary Lands Effluent Data

<u>Flow (mgd)</u>	<u>BOD (mg/L)</u>	<u>Total N (mg/L)</u>	<u>TDS (mg/L)</u>	<u>EC ($\mu\text{mhos/cm}$)</u>	<u>Cl (mg/L)</u>	<u>Na (mg/L)</u>
0.57	119	68	2,112	3,334	391	621

Data from Hilmar Cheese’s self-monitoring reports indicates that the wastewater applied to the Secondary Lands in from April 2006 through 2009 had the following average characteristics.

Secondary Lands Effluent Data

<u>Flow (mgd¹)</u>	<u>BOD² (mg/L³)</u>	<u>Total N⁴ (mg/L)</u>	<u>TDS⁵ (mg/L)</u>	<u>EC⁶ (µmhos/cm⁷)</u>	<u>Cl⁸ (mg/L)</u>	<u>Na⁹ (mg/L)</u>
1.06	42	18	452	817	68	145

1. million gallons per day (mgd)
2. 5-day biochemical oxygen demand (BOD)
3. milligrams per liter (mg/L)
4. Total nitrogen (Total N) equals TKN + Nitrate, as N
5. Total Dissolved Solids
6. Electrical Conductivity (EC)
7. Micromhos per centimeter (µmhos/cm)
8. Chloride (Cl)
9. Sodium (Na)

From April 2006 through 2009, the full treatment system removed about 88 percent of BOD, 79 percent of total dissolved solids (TDS), 80 percent of chloride, 78 percent of sodium, and reduced EC by 77 percent.

Hydrogeology/Groundwater Conditions

The Plant is located within the Turlock groundwater subbasin that forms a part of the San Joaquin Valley Groundwater Basin. The region is reported to contain three primary water bearing zones: an uppermost unconfined aquifer (Modesto Formation) from about 0 to 75 feet bgs; a semi-confined aquifer (Turlock Lake Formation) from about 75 to 125 feet bgs; and a confined aquifer that is beneath the Corcoran Clay layer at depths from about 200 to 300 feet bgs.

The direction of groundwater flow in the unconfined aquifer is generally to the west/southwest, but the direction is influenced by the discharge of wastewater and irrigation water, as well as by the operation of nearby pumping of wells, including wells that discharge shallow groundwater from area tile drainage networks to surface canals. The overall direction of the flow is to the southwest. The depth to first-encountered groundwater is shallow ranging from about 5 to 15 feet bgs.

Groundwater quality in the Hilmar area is highly variable and, in general, the concentration of mineral constituents increases from east (upgradient) to the west (downgradient). It is typical for groundwater quality to decrease along the axis of its flow as it moves downgradient. The water quality appears to have been impacted by past and current land uses (the Plant and its discharges, dairies, farming, industry, etc) and irrigation with water of varying quality.

Groundwater investigations have assessed groundwater quality to about 200 feet bgs both upgradient and downgradient of the Plant. As would be expected, the greatest impact is observed in the unconfined aquifer in the vicinity of the Primary Lands. Groundwater containing TDS concentrations greater 1,000 milligrams per liter (mg/L) extends about one mile from Lander Avenue of the east to nearly Columbus Avenue to the west and is about one-half a mile wide extending from south of August Avenue to a concrete-lined canal called TID Lateral No. 6, which runs generally east-west along the northern edge of the Primary Lands. The maximum TDS concentration recorded was 2,700 mg/L (which corresponds to an EC of about 3,800 μ mhos/cm). TDS concentrations in the semi-confined and confined aquifers were significantly lower with concentrations ranging from about 260 to 1,000 mg/L. While some impact has occurred, the existing aquitards have limited the amount of downward movement of the salts.

In an effort to establish water quality conditions upgradient (east) of the Plant, James & Associates, Inc. (Jacobson James) collected groundwater samples over the last several years from 11 direct push technology borings and a monitoring well to provide preliminary data for the evaluation of ambient conditions in the Upper Aquifer (above the Corcoran Clay) upgradient (east) of the Plant. The results were presented in a 23 June 2008 *Determination of Ambient TDS Concentrations for the Upper Aquifer* prepared by Jacobson James. Two of the wells sampled appear to have been influenced by discharge of waste by Hilmar Cheese on its Primary Lands. Removing data from these two wells from the data set, the following values characterize upgradient groundwater quality to a 95% confidence level for several constituents of concern.

Upgradient Groundwater Quality

<u>TDS</u> ¹ (mg/L ²)	<u>EC</u> ³ (μ mhos/cm ⁴)	<u>NO₃ as N</u> ⁵ (mg/L)	<u>Cl</u> ⁶ (mg/L)	<u>Na</u> ⁷ (mg/L)
570	847	18	54	76

1. Total Dissolved Solids (TDS)
2. Milligrams per liter (mg/L)
3. Electrical Conductivity (EC)
4. Micromhos per centimeter (μ mhos/cm)
5. Nitrate as nitrogen (NO₃ as N)
6. Chloride (Cl)
7. Sodium (Na)

Most of the constituents are within water quality objectives with the exception of nitrate. Elevated nitrate concentrations are a regional concern and are likely due to impacts from local agricultural land uses such as nearby dairies and farmland including almond orchards.

Hilmar Cheese has an existing groundwater monitoring network consisting of 23 groundwater monitoring wells and more wells are planned both upgradient and downgradient of the Plant. Most of these wells are in the vicinity of the Primary Lands and have been impacted by

discharge from Hilmar Cheese or nearby properties. Additional wells are planned to monitor new Secondary Lands that will be used for discharge.

Compliance History

Since the Interim Operating limits were issued in 2006, Hilmar Cheese has been generally in compliance with the numerical effluent limits. There were no effluent limits exceeded in discharge to the Primary Lands, and one exceedance of the 900 $\mu\text{mhos/cm}$ EC limit for the Secondary Lands. Hilmar Cheese typically submits timely and complete self-monitoring reports.

The Revised Settlement Agreement required Hilmar Cheese to submit a RWD by 31 October 2006. Hilmar Cheese submitted a RWD in October 2006, but needed additional time to complete the evaluation of WWTF improvements and groundwater investigations required by the CAO. Hilmar Cheese submitted two additional RWDs in Month 2007 and June 2008 and an RWD addendum in November 2008 (November 2008 Addendum).

The November 2008 Addendum updates the June 2008 RWD, proposes a time schedule to further treat wastewater discharged to nearby farmland, and identifies Hilmar Cheese's objectives as: (1) to implement improvements to the onsite treatment system, (2) identify and obtain additional acreage needed for disposal of fully-treated wastewater (a.k.a WWTF effluent or reuse water); and (3) to develop a long-term wastewater management system. The November 2008 Addendum evaluates irrigation practices to protect groundwater quality and includes a model to evaluate potential downgradient impacts. It indicated improvements to the WWTF would be complete by December 2009, allowing Hilmar Cheese to treat all its wastewater to the levels now in place for discharge to the Secondary Lands (e.g., discharge EC not to exceed 900 $\mu\text{mhos/cm}$).

No odor or vector complaints were received by Central Valley Water Board staff regarding the discharge of the fully-treated wastewater to the Secondary Lands. However, discharge of the partially-treated wastewater to the Primary Lands caused or threatened nuisance conditions on several occasions in 2008. Complaints were received from several nearby residents, mostly about odors, but some about the generation of flies and the dissatisfaction with water quality in the area. The complaints resulted in four inspections by staff and the issuance of three notices of violation (NOVs) for creating nuisance conditions at the reuse area that could be detected outside Hilmar Cheese's property boundaries.

Upon the completion of the WWTF Expansion Project, all wastewater will be subjected to full treatment and discharged to clay-lined ponds then to Secondary Lands parcels to irrigate fodder crops; the discharge of all wastewaters to the Primary Lands will cease, thereby eliminating conditions that caused or threatened nuisance conditions.

In July 2009, Hilmar Cheese reported that costs associated with the UF and RO units may not be sustainable and that it was evaluating a new salinity-removal technology, Electrodialysis

Reversal (EDR), an electrochemical separation process that removes ions and other charged species from water and other fluids. Hilmar Cheese reported the EDR system may function more effectively than UF/RO treatment and its associated costs in labor, maintenance, and equipment would be considerably less. EDR treatment technology has been successfully employed to treat brackish water for use as drinking water, but has not been tested on industrial wastes such as those from a cheese processing plant.

Hilmar Cheese indicated it would need until May 2010 to complete a testing program to evaluate the EDR technology. If testing indicates EDR is effective, Hilmar Cheese proposed a date of July 2011 to have the equipment installed and operating. Should testing indicate EDR is not applicable, the previously proposed UF/RO system would be in place by February 2011.

The average discharge flow rate to the Primary Lands since 2006 has been about 0.73 mgd. In 2008, the average flow was about 0.65 mgd. Even with flows considerably less than the 1.2 mgd limit in the Interim Operating Limits, Central Valley Water Board staff received numerous complaints from nearby residents in 2008 and issued three NOVs because of standing wastewater that had caused or threatened to cause objectionable odors and potential nuisance conditions.

Because Hilmar Cheese will not comply with the effluent limitations of the proposed Order, an accompanying draft Time Schedule Order provides a time schedule for Hilmar Cheese to complete the Expansion Project. The Time Schedule Order includes a flow limitation that requires Hilmar Cheese to limit flows to whatever is necessary to preclude wastewater from standing in the Reuse Area for greater than 48 hours and to preclude the creation of nuisance conditions. The Time Schedule Order also limits EC to 3,600 $\mu\text{mhos/cm}$.

Basin Plan, Beneficial Uses, and Regulatory Considerations

One of the greatest long-term problems facing California's groundwater is increasing salinity. The Tulare Lake Basin Plan's salt management requirements have been successfully implemented for several decades. Widespread and long-term compliance with these requirements justify them as appropriate best practicable treatment and control measures for salinity applicable to discharges in the Sacramento River and San Joaquin River Basins. The Regional Board encourages proactive management of waste streams by dischargers to control addition of salt through use. More restrictive limitations on salt constituents added through use is appropriate where necessary to assure compliance with a groundwater limitation for any constituent established by the Regional Water Board.

Antidegradation

State Water Resources Control Board Resolution No. 68-16 (hereafter Resolution 68-16) requires the Regional Water Board to maintain high quality waters of the State until it is demonstrated that any change in quality will be consistent with the maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water

quality less than that described in State and Regional Water Board policies (e.g., quality that exceeds water quality objectives).

The current WDRs considered Resolution 68-16 and found that some degradation by typical waste constituents was in the best interest of the people of the State. The WDRs also included an effluent limitation for EC of 900 umhos/cm to ensure the discharge did not result in water quality less than prescribed in the Basin Plan. Constituents of concern that have the potential to cause degradation include EC, TDS, total nitrogen, sodium, and chloride.

The average EC concentration in effluent discharged to the Secondary Lands in 2007 and 2008 was 818 umhos/cm, which is slightly lower than the EC of ambient groundwater. The TDS concentration in effluent discharged to the Secondary Lands was about 455 mg/L in 2007 and 2008, which is similar to and slightly lower than background groundwater quality. Because Hilmar Cheese is treating wastewater to reduce salinity to levels below ambient water quality, it would appear no degradation will occur. However, increases in concentration due to evaporation and evapotranspiration could contribute to groundwater degradation. Such degradation would be equivalent to what would occur from the use of groundwater for irrigation and would be within existing water quality objectives.

Hilmar Cheese's consultant, Kennedy/Jenks, prepared a technical report to estimate the potential degradation to groundwater from the discharge and the amount of land needed for disposal. The report's model indicated that up to 1,200 acres will be required. The model predicted the concentration of TDS in the vicinity of the proposed Secondary Lands would be approximately 700 mg/L, with or without the discharge. This value (700 mg/L) is the predicted value for ambient water quality in the vicinity of the proposed Secondary Lands. The conclusion of the report was that there would be no degradation from the discharge as it is of comparable quality to existing downgradient water quality. The model considered a combination of precipitation, Turlock Irrigation District water used for irrigation in the area, irrigation with wastewater from local dairies, and discharge of Hilmar Cheese's treated wastewater.

Regionally, nitrogen concentrations in groundwater in the Hilmar area are highly variable and likely influenced by agricultural land uses (e.g., dairies and irrigated agriculture). Historically, total nitrogen in the discharge to the Primary Lands degraded groundwater to the point of affecting beneficial use for drinking water. However, total nitrogen concentrations in the fully-treated effluent discharged to the Secondary Lands is equal to or lower than that of upgradient water quality. The average total nitrogen concentration in the effluent discharged to the Secondary Lands in 2008 was 14 mg/L. Jacobson-James reported the ambient total nitrogen concentrations upgradient of the Plant was about 27 mg/L, greater than the concentration in the treated effluent. Well MW-21 was installed upgradient and offsite to the northeast in April 2008 and total nitrogen has ranged between 34 and 64 mg/L. Almond orchards are present just upgradient of well MW-21 and likely contribute to the higher concentrations observed in well MW-21.

The ponds used to store treated effluent are clay-lined and the effluent is used to irrigate crops that use the available nitrogen. Application of the wastewater at agronomic rates of irrigation will allow crop uptake of the majority of the nitrogen in wastewater and reduce the amount reaching groundwater in the Reuse Areas. The amount of nitrogen reaching groundwater through the clay-lined storage ponds will be minimal. Therefore the discharge would not cause degradation of groundwater above background, nor above the MCL for nitrate.

Sodium concentrations in effluent discharged to the Secondary Lands averaged about 145 mg/L since April 2006. Sodium in groundwater beneath the Secondary Lands and downgradient typically exceeds the ambient concentration and exceeds Agricultural Water Quality Objectives for salt sensitive plants (i.e. 69 mg/L). Sodium concentrations in MW-11 and MW-17 have averaged about 115 mg/L. Sodium concentrations in MW-21, a well upgradient of the Plant, are about 42 mg/L. Compared to the sodium concentrations in either MW-11 or MW-21, the effluent has the potential to degrade groundwater.

Ayers and Westcott (Ayers and Westcott, Water Quality for Agriculture) indicate sodium concentrations up to 70 mg/L have no restrictions for salt-sensitive crops and concentrations from 70 to 210 mg/L have only slight to moderate restrictions for sprinkler irrigation. Crops are typically flood irrigated or drip system irrigated in the Hilmar area. Land use surveys for the Hilmar area by DWR indicate salt sensitive crops irrigated by sprinklers are not grown in the area.

Based on all of the above, the existing effluent sodium concentrations will not limit the use of the groundwater in the Hilmar area. Based on the current and historical crops grown in the area, the types of soils in the area, irrigation practices, and reference material by Westcott and Ayers, the effluent will be within the range that would have only slight moderate restrictions for sprinkler application to salt sensitive crops (typically not grown in the area).

Chloride concentrations in the fully-treated effluent discharged to the Secondary Lands averaged about 62 mg/L in 2007 and 2008. Ambient chloride concentrations in groundwater appear to be about 40 mg/L, so some degradation will occur. However, the Secondary MCL for chloride is 250 mg/L and the lowest typical agricultural limit for chloride is 106 mg/L. Both limits are well above the chloride concentration of the fully-treated effluent, so while some degradation will occur, it will be within applicable water quality objectives.

Economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State, and therefore sufficient reason exists to accommodate growth and limited groundwater degradation around the Plant, provided that the terms of the Basin Plan are met. Degradation of groundwater quality by some of the typical waste constituents released with discharge from a food processing wastewater treatment plant after effective source reduction, treatment and control, and considering the best efforts of Hilmar Cheese

and magnitude of degradation, is of maximum benefit to the people of the State. Hilmar Cheese contributes to the economic prosperity of the region by directly employing over 700 workers, provides incomes for numerous surrounding dairies and associated trucking firms, and provides a tax base for local and county governments. The proposed Order requires treatment that constitutes best practicable treatment or control.

Title 27

Title 27, CCR, Section 20005 et seq. (Title 27) contains regulations to address certain discharges to land. Title 27 establishes a waste classification system, specifies siting and construction standards for full containment of classified waste, requires extensive monitoring of groundwater and the unsaturated zone for any indication of failure of containment, and specifies closure and post-closure maintenance requirements. Generally, no degradation of groundwater quality by any waste constituent in a classified waste is acceptable under Title 27 regulations.

Unless exempt, release of designated waste is subject to full containment pursuant to Title 27 requirements. Title 27 Section 20090(b) exempts discharges of designated waste to land from Title 27 containment standards and other Title 27 requirements provided the following conditions are met:

- a. The applicable regional water board has issued waste discharge requirements, or waived such issuance;
- b. The discharge is in compliance with the applicable basin plan; and
- c. The waste is not hazardous waste and need not be managed according to Title 22, CCR, Division 4.5, Chapter 11, as a hazardous waste.

The discharge of effluent and the operation of treatment or storage facilities associated with a food processing facility is exempt from Title 27, provided any resulting degradation of groundwater is in accordance with the Basin Plan and the waste need not be managed as a hazardous waste. None of the waste regulated by the proposed Order is hazardous waste nor required to be treated as hazardous waste. With treatment to remove organics and salinity, lined storage ponds, and application at agronomic rates, the discharge authorized by the proposed WDRs will not cause exceedance of groundwater quality objectives and complies with the Antidegradation Policy and is therefore exempt from Title 27. In addition, effluent applied to Secondary Lands is a reuse that is exempt under Title 27, Section 20090(h).

CEQA

On 2 January 2009, Merced County, as Lead Agency, circulated a draft Mitigated Negative Declaration for the proposed expansion of the Plant. Central Valley Water Board staff reviewed and commented on the draft Mitigated Negative Declaration. On 11 February 2009, the Merced County Planning Commission adopted the Mitigated Negative declaration.

Mitigation measures include a condition that restricts discharge flows to current levels until Hilmar Cheese completes the WWTF Expansion Project, treats all cheese processing wastewater flows for salinity reduction, and prepares and implements a Nutrient Management Plan.

Proposed Order Terms and Conditions

Discharge Prohibitions, Effluent Limitations, Discharge Specifications, and Provisions

The proposed Order prohibits discharge to surface waters and water drainage courses.

The proposed Order would maintain the flow limit at 1.9 mgd, until the expansion activities are complete and Hilmar Cheese is compliant with the effluent limits.

The proposed Order would require that the discharge from the WWTF to the effluent storage ponds not exceed the following monthly averages for the constituents listed:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Value</u>
Electrical Conductivity	µmhos/cm ¹	1,000
Total Dissolved Solids	mg/L ²	600
5-day Biochemical Oxygen Demand	mg/L ²	50
Chloride	mg/L ²	85
Total Nitrogen	mg/L ²	20

1. micromhos per centimeter (µmhos/cm)
2. milligrams per liter (mg/L)

The proposed Order would require that the discharge from the WWTF to the effluent storage ponds not exceed the following 12-month rolling average for the constituents listed:

<u>Constituent/ Parameter</u>	<u>Units</u>	<u>Value</u>
Electrical Conductivity	µmhos/cm	900
Total Dissolved Solids	mg/L	500

The discharge requirements regarding dissolved oxygen, pH, and freeboard are consistent with Regional Water Board policy for the prevention of nuisance conditions, and are applied to all such facilities.

The proposed WDRs would prescribe groundwater limitations that implement water quality objectives for groundwater from the Basin Plan. The limitations require that the discharge not cause or contribute to exceedance of these objectives or background water quality, whichever is greater. The groundwater limits reflect current information and what is expected to be achievable by implementing BPTC. The limits may be revisited once additional wells in the Secondary Lands are installed and more information on groundwater quality is available.

General WDRs Order R5-2007-0035, *General Order for Existing Milk Cow Dairies* (General Order) requires dairy waste that is blended with waste generated off-site be regulated by a separate order. The proposed Order authorizes Plant effluent and dairy wastewater to be applied to Secondary Lands, providing the Discharger accounts for both in its loading calculations and the facility meets the requirements for nutrient management plans, monitoring and reporting, and runoff contained in the General Order.

Monitoring Requirements

Section 13267 of the CWC authorizes the Regional Water Board to require monitoring and technical reports as necessary to investigate the impact of a waste discharge on waters of the State. In recent years there has been an increased emphasis on obtaining all necessary information, assuring the information is timely as well as representative and accurate, and thereby improving accountability of any discharger for meeting the conditions of discharge. Section 13268 of the CWC authorizes assessment of civil administrative liability where appropriate.

The proposed Order includes effluent, groundwater, pond, soil, and water supply monitoring. The monitoring is necessary to evaluate the extent of the potential degradation from the discharge.

Reopener

The conditions of discharge in the proposed Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans, and are intended to assure conformance with them. The proposed Order would set limitations based on the information provided thus far. If applicable laws and regulations change, or once new information is obtained that will change the overall discharge and its potential to impact groundwater, it may be appropriate to reopen the Order.

JSP/DKP: 12/08/2009