California Regional Water Quality Control Board
Central Valley Region
ACL Complaint No. R5-2005-0501

In the Matter of Hilmar Cheese Company, Inc. and Hilmar Whey Protein, Inc.

Expert Report and Prepared Direct Testimony Regarding:

Unfair and Inconsistent Regulation and Enforcement

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Executive Summary

Kennedy/Jenks Consultants (Kennedy/Jenks) has prepared this report on behalf of Hilmar Cheese Company, Inc. and Hilmar Whey Protein, Inc. (HCC) to address the appropriateness of the Administrative Civil Liability Complaint (ACLC) issued by the Executive Officer of the Regional Water Quality Control Board, Central Valley Region (RWQCB) on 26 January 2005. The ACLC relates to the management of process wastewater at HCC's milk processing and cheese production facility located at 9001 North Lander Avenue in Hilmar, California (the site). The ACLC proposes a penalty in the amount of $4,000,000 associated with HCC's land application of process wastewater with electrical conductivity (EC) values exceeding the 900 micromhos per centimenter (µmhos/cm) discharge limit specified in the Waste Discharge Requirements Order No. 97-206 (WDR).

Section 13327 of the Water Code requires the RWQCB to consider a number of factors when determining proposed civil liability. These factors include the nature, circumstance, extent, and gravity of the violation or violations, whether the discharge is susceptible to cleanup or abatement, the degree of toxicity of the discharge, voluntary cleanup efforts undertaken, any prior history of violations, the degree of culpability, economic benefit or savings, if any, resulting from the violation, and other matters as justice may require. The latter includes the question of fairness, equity and comparable treatment. Moreover, it is the stated policy of the State Water Resources Control Board that the State and Regional Boards strive to be "fair, firm and consistent" in matters of enforcement throughout the state.

Based on evaluation of conditions specified in permits issued to industrial dischargers, HCC has not been treated fairly or equitably; HCC was disparately treated by the RWQCB. The effluent EC limit set forth in HCC's WDR permit is inconsistent with requirements in other industrial WDR permits issued by the RWQCB. The effluent limit for salinity in HCC's permit is uniquely restrictive; most permits issued to other dischargers outside the Tulare Lake Basin area during the same time period contain no salinity limit(s).

In addition, the validity of the effluent limit is questionable. The EC of HCC's influent water supply is comparable to or exceeds the effluent EC limit specified in the WDR, thus requiring HCC to improve the quality of the water through its use and subsequent treatment of the water. Other permits (i.e., those issued to dischargers located in the area covered by the Tulare Lake Basin Plan) specifically allow an incremental increase in EC as a result of use of the water. The requirement to improve the quality of the supply water appears unprecedented.

The interpretation of the permit as requiring compliance on a daily basis is the foundation of the proposed ACL penalty amount and magnifies the issue of the inequitable effluent EC limit. This interpretation is not consistent with other permits issued to the majority of similarly situated dischargers. These other permits typically specify either a monthly average basis or, in some cases, an annual average basis. Effluent wastewater monitoring for salinity is required on a much less frequent basis by many of the other permits.

Of particular note in the case of HCC is imposition of the most stringent salinity effluent limits imposed on any discharger among the industrial permits evaluated coupled with the largest proposed penalty amount ever issued by the RWQCB. This fine was proposed despite HCC's diligent efforts to develop, implement and operate extensive treatment for the process wastewater to remove organic and inorganic constituents. The actual impact of the increased salinity levels in groundwater underlying and in the vicinity of the HCC site is relatively limited and is being mitigated; many instances exist where more egregious impacts resulted in significantly smaller penalties.

Based on consideration of the information provided herein, a substantial reduction in the proposed penalty is warranted, if one is to be assessed at all. Considering the nature of the effluent wastewater and the extremely limited impact to groundwater, as described in a separate submittal prepared by Kennedy/Jenks evaluating subsurface conditions at the site, and considering HCC's extensive efforts to achieve compliance with a uniquely stringent permit condition via source reduction and state-of-the art wastewater treatment, the penalty proposed in the ACLC is unwarranted and should be substantially reduced or eliminated.

Assessment of the ACLC penalty as proposed by the Executive Officer would be unfair, inconsistent, and inequitable in contravention of State Board policy.

Section 1: Introduction

Kennedy/Jenks Consultants (Kennedy/Jenks) has prepared this report on behalf of Hilmar Cheese Company, Inc. and Hilmar Whey Protein, Inc. (HCC) to address the appropriateness of the Administrative Civil Liability Complaint (ACLC) issued to HCC by the Executive Officer of the Regional Water Quality Control Board, Central Valley Region (RWQCB) on 26 January 2005 and the associated RWQCB staff report issued in April 2005. The ACLC relates to the management of process wastewater at HCC's milk processing and cheese production facility located at 9001 North Lander Avenue in Hilmar, California (the site).

The basis of the ACLC is that on 1,039 days during the period from 27 January 2002 through 30 November 2004, HCC discharged process wastewater with EC values exceeding the EC effluent limit established in Waste Discharge Requirements Order No. 97-206 (WDR), which states "Effective 15 March 1999, the electrical conductivity (EC) of the discharge shall not exceed 900 µmhos/cm". The ACLC states that HCC discharged 821,000,000 gallons of wastewater to land during the 1,039 days in question and, as a result, impacted groundwater.

Based the above, the ACLC proposes a penalty in the amount of $4,000,000. This report evaluates the permit conditions and the proposed ACLC amount in relation to other similarly situated industrial dischargers. The report was prepared primarily by Ms. Paula Hansen, a Senior Engineer at Kennedy/Jenks. Her educational background and qualifications and those of the firm are briefly described in Kennedy/Jenks other submittal concerning the evaluation of the extent and gravity of impacts.

Section 2: Consistency/Equitable Treatment

Information addressing the disparate treatment of HCC in terms of the permit conditions and proposed penalty in the ACLC is provided here. The lack of technical justification demonstrated in assignment of permit conditions for the HCC wastewater discharge is also addressed in the following sections.

2.1 Disparate Treatment – Permit Conditions

The State Water Resources Control Board Water Quality Enforcement Policy provides that the State and Regional Boards "shall strive to be fair, firm and consistent in taking enforcement actions throughout the state."

Section 13327 of the Water Code requires the RWQCB to consider a number of factors when determining proposed civil liability. These include the nature, circumstance, extent, and gravity of the violation or violations, whether the discharge is susceptible to cleanup or abatement, the degree of toxicity of the discharge, voluntary cleanup efforts undertaken, any prior history of violations, the degree of culpability, economic benefit or savings, if any, resulting from the violation, and other matters as justice may require. The latter factor includes the question of fairness, consistency, and equity.

The effluent EC limits specified in HCC's WDR are inconsistent with those established for other dischargers in the Central Valley Region and were established on a questionable basis, as discussed in Section 3 below. Based on review of a number of permits issued to other industrial entities for application of process wastewater to land, HCC has not been treated in an equitable manner relative to other similarly situated dischargers. A list of the industrial permits reviewed is included in Table 1 and copies of many of these permits are provided as Appendix A.

The inorganic salinity limits included in HCC's permit are the most restrictive and the daily monitoring requirement specified for effluent EC is the most frequent of any permit reviewed. The interpretation of the EC limit as a daily limit is unusual, based on comparison with other discharge permits. HCC's wastewater production and characteristics are not sufficiently different from those of other dischargers to warrant the stringent conditions set forth in HCC's WDR and the RWQCB's sudden enforcement action despite HCC's extensive efforts to comply with the WDR.

2.1.1 Effluent Limits

The effluent EC limit of 900 µmhos/cm assigned in HCC's WDR is based on the more restrictive (lower) number in the range of secondary MCLs established for drinking water supply and is not comparable to discharge specifications in the majority of other contemporaneous industrial dischargers' land application permits.

Kennedy/Jenks reviewed approximately 70 WDR permits issued by the RWQCB to industrial dischargers during the period from 1990 to 2004, including the WDR issued to HCC in 1997. The majority of these permits do not contain effluent limits for discharge of inorganic constituents. Of the permits reviewed, eleven (11) contained limits on effluent EC; three (3)

contained limits on the inorganic fraction of total dissolved solids (TDS); one (1) contained an effluent limit on total fixed dissolved solids (TFDS); and twenty (20) contained limits on effluent TDS levels.

Our analysis of effluent limits and permit conditions focuses on permits containing limits for inorganic salinity expressed as EC/IDS/TFDS. Effluent limits based on TDS levels are difficult to compare directly with the HCC permit, which contains a limit expressed as EC, and the assignment of effluent limits for process wastewater based on TDS is problematic because the TDS measurement reflects both the organic fraction and the inorganic content of the wastewater.

Salinity limits should refer only to the inorganic portion of the dissolved solids and should be measured as EC or inorganic dissolved solids (IDS), as this is more representative of the dissolved mineral content of the effluent that defines the protected beneficial use. This distinction has been explicitly recognized in many WDR permits.

While it is understood that the water quality criterion is expressed as TDS and not IDS, the limitations of the analytical method and how the imprecise term TDS is applied as a surrogate for salinity must be recognized. *Standard Methods* recognizes that TDS is a surrogate for the mineral content of water and suggests that it is less useful for this purpose when the measured value is more than 20 percent greater than the sum of the cations and anions, especially when that difference is due to organic matter. Food processing process wastewater discharges often contain significant amounts of organic matter (dissolved volatile matter), which can account for a large portion of the residual solids measured by the TDS analysis. In such cases, the recommended practice under *Standard Methods* is to characterize the organic matter by the more meaningful parameter BOD_5, a commonly-used measure of biochemical oxygen demand during a five-day period.

The RWQCB recognizes that TDS is a surrogate for salinity in surface water and groundwater and applies TDS for that purpose. For example, in its Water Quality Objectives for the Lower San Joaquin River, the RWQCB defines salinity as "...the dissolved mineral concentration in water.... The salinity level is measured as total dissolved solids (TDS) or electrical conductivity (EC).... and .... is reported in terms of weight of salt per volume of water." It is clear that the RWQCB associates TDS with dissolved mineral concentrations and uses the term in the traditional manner when setting water quality objectives. The RWQCB also recognizes a close relationship between EC and TDS, which have a TDS to EC ratio typically between 0.59 and 0.70. IDS or TFDS are more representative of the mineral content of the process wastewater and are more appropriate parameters for assessment of salinity content.

Of the fifteen (15) permits reviewed that contained limits on EC or with limits expressed as either the inorganic fraction of TDS or TFDS, eleven (11) were issued for regulation of discharges in areas covered by the Tulare Lake Basin Plan. Within the Tulare Lake Basin Plan, allowance is made for an incremental increase in EC of the discharge over incoming source water. Specifically, the Tulare Lake Basin Plan makes allowance for the discharge to have an increase in the EC of incoming supply water, typically by 500 µmhos/cm. The permits for dischargers located within Tulare Lake Basin were consistent with this, typically being expressed as an effluent EC limit based on source water EC plus 500 µmhos/cm or effluent IDS limit of source water TDS plus 315 mg/l.

Of the discharge permits issued in Central Valley areas not covered by the Tulare Lake Basin Plan, only three dischargers other than HCC were issued WDR permits specifying effluent limits on EC or the equivalent IDS (inorganic fraction of the TDS) or TDFS. Of these, HCC's effluent EC limit was the most stringent and has been interpreted in a more restrictive manner for the purpose of evaluating compliance, as discussed below.

- In the case of a fruit concentrate manufacturer located in Madera, California, the IDS effluent limit of 500 mg/l applied to a blended discharge consisting of the combination of well water and process wastewater in a 1:1.7 ratio. The effluent wastewater discharge blended with the well water is allowed to contain a significant salinity level (as reflected by the EC measurement of the wastewater) prior to blending and application.

- In the case of a sugar processing facility located in Tracy, California, an effluent limit of 2,200 mg/l TFDS was assigned, based on the data characterizing the TDS content of background groundwater. This would allow discharge of process wastewater with an EC of approximately 3,440 µmhos/cm.

- Only one other industrial discharger, a lamb packing facility located in Dixon, California, had a 1997 permit containing an effluent limit similar in type to that in HCC's WDR. This packing facility was assigned an effluent EC limit of 1,000 µmhos/cm on a monthly average basis. The justification for this limit is not specified in the permit.

There does not appear to be a technically sound, rational basis for assignment of effluent limits on inorganic salinity for the dischargers outside of the Tulare Lake Basin Plan area. The majority of permits reviewed contained no effluent limit on salinity and some dischargers were allowed to blend wastewater with other supply water to meet limits. HCC was assigned the lowest, most restrictive limit of any permit reviewed despite lack of information regarding ambient groundwater quality and lack of an appropriate evaluation of measures needed to achieve compliance with the limit, as discussed in Section 3.

Based on review of the permits, there does not appear to be a correlation between the type of processing conducted at a given facility or the nature of the discharge and whether the facility was assigned effluent limits on inorganic salinity. No other milk processing facilities appear to have WDR permits that included similar effluent limits on inorganic constituents during the period 1997 through 2004.

2.1.2 Application of Effluent Limits

The effluent EC limit for the lamb packing facility is specified in the permit to be applied on a monthly average basis, as are the effluent limits in many of the other permits (the timeframe basis is either specified directly in the permit or can be inferred based on the frequency of effluent monitoring required in the permit).

The majority of permits containing effluent TDS limits specify a monthly average timeframe basis; in one case, the limit is specified as an annual loading limit; and in the only other case where a daily limit is specified, it is significantly higher than the monthly average limit also included in the permit. The permits issued to industrial dischargers typically specify a monitoring frequency for effluent sampling of one or two times per month or at most weekly for inorganic

parameters. The applicable timeframe for the effluent EC limit in HCC's permit is not clearly specified and the requirement of daily monitoring of the wastewater effluent for EC is not consistent with frequency of monitoring assigned to other dischargers. Interpretation of the EC limit as a daily limit for purposes of calculating violation events is not consistent with timeframes or sampling frequencies specified in other WDR permits.

Daily monitoring and compliance timeframes for inorganic salinity loading is not justifiable from a technical perspective, because of the dampening of variability in wastewater characteristics that occurs due to mixing during temporary storage of wastewater prior to application and the mixing of applied water with groundwater underlying the application areas. This concept has been clearly recognized in specifying the basis for calculating organic loading as an application cycle average and in basing monitoring for nitrogen loading on an annual basis.

2.1.3 Summary of Permit Evaluation

Based upon the evaluation of wastewater discharge permits issued by the RWQCB, the following findings were developed:

- The EC limit in HCC's WDR of 900 µmhos/cm appears to be uniquely restrictive relative to EC (or IDS or TFDS) limits specified in WDR permits issued by the RWQCB to other industrial dischargers during the applicable time period. Numerous other WDR permits issued by the RWQCB do not impose any EC or other salinity measurement limits.

- The EC of HCC's water supply exceeds the effluent EC limit specified in the WDR, thus requiring HCC to improve the quality of the water through its use and subsequent treatment of the water. Other permits (i.e., those issued to dischargers located in the area covered by the Tulare Lake Basin Plan) specifically allow an incremental increase in EC as a result of use of the water. No other permits appear to require an improvement in water quality through its use for industrial processes.

- The interpreted frequency of daily compliance and measurement – therefore the daily violation forming the basis of the proposed penalty – is not consistent with other permits reviewed, which specify either a monthly average basis and/or much less frequent effluent wastewater sampling interval.

- The ACLC and the proposed penalty magnify the issue of the inequitable effluent EC limit by interpreting compliance to be on a daily basis, in contrast to the majority of other permits.

2.2 Disparate Treatment – ACLC Evaluation

As described in this section, treatment of HCC in setting the proposed ACLC penalty amount relative to the magnitude of the violation and resultant impact of an area of groundwater with increased inorganic salinity is inconsistent with the RWQCB's treatment of other regulated dischargers. As a result, a significant reduction in the ACLC penalty proposed for HCC is appropriate.

2.2.1 ACLC Penalty

Kennedy/Jenks reviewed administrative civil liability complaints issued by each of the nine RWQCBs during the period 1998 to the present (August 2005), as obtained from the SWRCB Enforcement Action Order Database, to evaluate the ACLC penalty proposed for HCC relative to other violations. The ACLCs forming the basis of our review are summarized in Table 2 and copies are provided as Appendix B.

The ACLC issued to HCC for exceedance of the effluent wastewater EC limit during 1,039 days is the largest penalty amount of those reviewed by a wide margin and is inconsistent with penalties issued to other dischargers for more significant infractions and impacts. The amount proposed is excessive relative to the actual environmental harm resulting from the discharge.

The proposed penalty for HCC appears to be the largest ever issued by any RWQCB. Based on review of proposed ACLC penalty amounts, only one other proposed amount exceeded three million dollars; one was proposed for three million dollars; three (3) have exceeded two million dollars; and five (5) have exceeded one million dollars. All other proposed ACLC penalty amounts for any type of violation have been under one million dollars.

The proposed penalty amount for HCC significantly exceeds lesser amounts assessed for release of material containing toxic constituents or discharges of significant volumes of untreated sewage into waters of the state. Some violations associated with other larger proposed penalty amounts include:

- An ACLC proposed for Boyett Petroleum, et al. for discharge of gasoline into Santa Rosa Creek resulting in contamination of soil and groundwater ($1,305,000)
- An ACLC issued to Pacific Gas & Electric for failure to cleanup hydrocarbons in soil and groundwater ($650,000)
- An ACLC issued to the City of Hollister for discharge of 15 million gallons of undisinfected wastewater to San Benito River ($600,000)
- An ACLC issued to the City of Thousand Oaks for discharge of 86 million gallons of raw sewage into surface waters ($2,115,000)
- An ACLC issued to Chevron for discharge of 4.5 million gallons of jet fuel from an underground pipeline resulting in groundwater degradation ($2,254,200)
- An ACLC issued to Kern Oil for discharge of wastewater containing carcinogens over a thirty year period resulting in impacts to groundwater and drinking water ($3,000,000)
- An ACLC issued to IMC Chemicals for discharge containing hydrocarbons affecting waterfowl and discharges along pipelines ($2,000,000)
- An ACLC issued to the City of San Diego for discharge of 34 million gallons of sewage into surface waters and the Pacific Ocean ($3,469,000)

In the cases described above, the release or discharge affected groundwater or surface water in many instances, resulting in impaired water quality or impacts to sensitive receptors. Kern Oil and Refining Company (Kern Oil) was issued the third highest proposed ACLC penalty on record. Kern Oil's discharge of refinery process wastewater containing petroleum oil and toxic volatile organic compounds, including phenols, cyanide, boron, sulfides, benzene, toluene and xylene to land continued for over a twenty-year period, while Kern Oil continued to indicate pursuit of different disposal options. According to RWQCB staff reports concerning Kern Oil, Kern Oil continued to indicate progress towards achieving compliance with WDR requirements through underground injection, discharge to several publicly-owned treatment works (POTW) facilities, discharge to a surface water body, and process modifications. None of the alternative discharge options were implemented prior to 1995 and Kern Oil was reported to have remained in continuous violation of effluent limits resulting in impacts to soil and degradation of the underlying groundwater and to have failed to submit certain reports. For its ongoing discharge, which appears likely to have resulted in far more egregious environmental impacts than the HCC wastewater land application activities, Kern Oil was issued a proposed 3 million dollar penalty in 1995, which reportedly settled for less than 1 million dollars.

This stands in stark contrast to the case of HCC where, in an effort to comply with permit conditions, the company has purchased, implemented and attempted to optimize extensive state-of-the art process wastewater treatment systems at a cost of in excess of approximately 80 million dollars and has diligently fulfilled and reported all known monitoring requirements.

HCC's discharge, food-processing wastewater, is primarily composed of dissolved inorganic ions such as bicarbonate alkalinity, potassium, sodium, chloride, and calcium and contains no toxic or hazardous constituents, with the possible exception of low concentrations of nitrate. The nitrate is degraded in the soil profile effectively at HCC's site and nitrate concentrations underlying the application areas are quite low.

Impacts to underlying groundwater associated with HCC's discharge are limited to an area primarily in the uppermost aquifer zone, which contains inorganic salinity constituents in concentrations above the range developed for secondary MCLs by the Department of Health Services for EC/TDS, as outlined in Kennedy/Jenks submittal evaluating the subsurface conditions in the vicinity of HCC's discharge. Based on sampling of domestic and agricultural supply wells in the vicinity of HCC, six domestic supply wells contain inorganic constituent levels above the secondary MCL standards. No known agricultural irrigation users have been impacted. The impacted domestic wells belong primarily to HCC or owners of HCC and HCC has provided bottled water upon request to well owners.

The majority of the proposed civil liabilities in the cases where substantial penalty amounts were proposed (e.g., those listed above) were significantly reduced through either immediate payment of a portion of the proposed amount with the remainder being suspended contingent upon certain actions; payment of a portion for staff labor time; funding of Supplement Environmental Projects (SEP) as part of a negotiated settlement; by remand following appeal to the State Water Resources Control Board; or in some instances through litigation.

Section 3: Validity of HCC's Effluent Limit

As indicated in the WDR, the basis for the effluent limit for EC assigned for HCC's wastewater discharge appears to have been established based on the lower, more restrictive number of the recommended secondary maximum contaminant limit (MCL) for drinking water listed in Title 22, California Code of Regulations, Division 4, Chapter 15. The upper range of the secondary MCL for EC is recognized in the WDR to be 1,600 µmhos/cm (RWQCB 1997).

The basis for establishing the effluent EC limit in the WDR is questioned for several reasons.

3.1 Lack of Ambient Groundwater Quality Information

Effluent limits were assigned in Hilmar's WDR absent adequate definition of background or ambient groundwater quality conditions. Lacking appropriate information concerning ambient groundwater quality, use of the lower more restrictive number in the range of secondary MCL values for drinking water is not appropriate. Effluent limits cannot be established absent ambient/background characterization information.

When the WDR was issued in 1997, the network of monitoring wells was comprised of ten onsite wells installed in the vicinity of the reclamation area. This network was insufficient to establish ambient groundwater quality because the wells did not yield data from areas farther upgradient and cross-gradient from the land application areas. The need to extend the monitoring network to adequately evaluate background groundwater quality and the extent of potential discharge impacts had been recognized and was provided for in the WDR. The WDR directs HCC to report the results of monitoring and to propose concentration limits for constituents listed in the WDR (RWQCB 1997).

In the vicinity of Hilmar's land application areas, impacts due to other, separate sources independent of Hilmar's discharge have been identified and the ambient groundwater quality may be influenced by generalized irrigation with Turlock Irrigation District (TID) supply water, which has very low electrical conductivity.

3.2 Use of Lowest Secondary MCL Number as Basis of Effluent Limit

Water quality objectives for surface and groundwater are sometimes established based on primary MCLs, which are promulgated by the Department of Health Services (DHS) for regulation of the quality of water that can be served by community water systems. Primary MCLs are established for protection of human health and generally established for toxic constituents, which could threaten human health if consumed in sufficient quantities. No primary MCLs have been established for EC or TDS characteristics, because these characteristics are not toxic.

Secondary MCLs, as set forth in Section 64449(a) of the California Water Code, are established for constituents that may affect aesthetic considerations such as taste, odor and appearance. Secondary MCLs provide guidance for quantities "not to be exceeded in the water supplied to

the public by community water supply systems", and can be waived by the Department of Health Services based on customer acceptance or economic considerations.

Establishing wastewater effluent limits based on the most conservative lower number in a range of secondary MCL values for EC is not appropriate. Secondary MCLs were established for the point of use in community water supply systems and may be used to provide guidance on aesthetic quality aspects or, at most, groundwater quality guidance. However, use of secondary MCLs is questionable for application as effluent wastewater limits. At a minimum, if secondary MCL values are to be applied in this manner, the full range should be recognized as a basis for the limit. Water with characteristics within the upper portion of the range may still be served as drinking water based on input from consumers and the DHS. Therefore, the beneficial use remains protected over the entire range of values.

3.3 Effluent Limit Relative to Incoming Source Water

Effluent limits assigned in the WDR are lower in inorganic concentration, as reflected in EC levels, than the incoming source water from HCC's water supply wells. This appears to be without precedent in comparison with other industrial dischargers.

According to analytical results from periodic monitoring of HCC's groundwater production/supply wells, inorganic dissolved solids concentrations in the incoming supply water, as reflected in the EC levels, were comparable to or higher than the effluent limit for the discharge during the ACLC period. The average EC of the combined supply from HCC's original water supply wells, Wells HC 1 and HC 2, was approximately 950 µmhos/cm during the period in question. The EC of groundwater from HCC's newer supply well, Well HC 4, is comparable and has been relatively constant from initial production through mid-2004.

The newer well, Well HC 4, was completed with a screened interval from approximately 300 to 380 feet below ground surface (bgs) or below the Corcoran Clay member. The quality of water from this well does not reflect influence by HCC's discharge and represents ambient water quality for this location and depth.

Establishing a permit effluent limit at levels lower than the quality of the incoming water appears to be without precedent. HCC is being required to provide treatment to reduce the inorganic content of the discharge to less than that of the incoming source water.

3.4 Technical Feasibility

Measures and technologies constituting technically and economically feasible means to meet the specified permit limits and a realistic definition of the timeframe required to develop and implement customized wastewater treatment appear not to have been adequately considered at the time HCC's permit was issued. The assignment of an effluent EC limit of 900 µmhos/cm in the permit appears to have left aside the matter of technical achievability, given the nature of milk-processing wastewater containing significant levels of organic material and inorganic deposits that significantly foul and/ or scale many types of membrane-based systems. In addition, the timeframe required to develop the means to achieve compliance appears to have been significantly underestimated.

Section 4: Conclusions

HCC has been treated unfairly and differently in comparison to other similarly situated dischargers, both in terms of permit conditions and in the amount of the proposed penalty.

The effluent EC limit imposed on HCC is the most stringent effluent EC limit imposed on an industrial discharger among the contemporaneous WDR permits reviewed. It does not adequately consider the quality of the incoming water supply, and it is inconsistent with limits contained in other industrial permits issued by the RWQCB, particularly considering the fact that most industrial dischargers have no effluent inorganic salinity limits at all.

As discussed above, the proposed penalty for HCC is based upon requirements of daily compliance with an effluent EC limit set forth in the WDR. This interpretation of the EC limit as having a daily basis for purposes of calculation of a proposed penalty is inconsistent with the basis used for the majority of other dischargers, exacerbating the disparate nature of HCC's compliance requirements. For the majority of other industrial dischargers with some form of effluent salinity limits, compliance is evaluated based on a monthly average of specified parameters, and in some cases, on an annual basis.

The proposed ACLC penalty is not consistent with other penalties issued historically by any of the RWQCBs for comparable or more egregious circumstances. Relative to penalties assessed to other dischargers, the amount of the penalty proposed in the case of HCC is not commensurate with the threat to human health or the environment.

HCC has invested, and continues to invest, significant and unprecedented resources to improve its wastewater management processes. The financial resources represented by the proposed penalty in the ACLC would be more beneficially used if invested in improved wastewater management systems at HCC.

Adoption of the ACLC as proposed by the RWQCB would be unfair, inconsistent, and inequitable.

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