

REVISED SETTLEMENT AGREEMENT

This Revised Settlement Agreement (“Settlement Agreement”) is made as of { ~~October 24, 2005,~~ } February 10, 2006, by and between the Staff of the California Regional Water Quality Control Board, Central Valley Region (“Regional Board Staff” or “Staff”), on the one hand, and Hilmar Cheese Company, Inc. and Hilmar Whey Protein, Inc. (collectively “Hilmar”), on the other. At times, the Regional Board Staff and Hilmar are referred to herein individually as a “Party” or collectively as the “Parties.”

{RECITALS} {—— A.—— The} This Settlement Agreement modifies and supersedes the Settlement Agreement between the Parties that was made as of October 24, 2005, in order to address concerns raised by members of the California Regional Water Quality Control Board, Central Valley Region (“Regional Board”), the Regional Board’s advisory team and members of the public at the public meeting held November 29, 2005, regarding the October 24, 2005, Settlement Agreement.

RECITALS

A. **The Regional Board** is a state agency, and is part of the California Environmental Protection Agency. (Water Code, §§ 175, 13100.) The Regional Board is one of nine such boards created to establish and enforce water quality control plans, policies, and regulations to ensure the protection of beneficial uses of the waters of the state within nine designated regions in the State of California. (Water Code, §§ 13200, 13201, 13240, *et seq.*) The Regional Board has primary enforcement authority, including power to remedy unlawful discharges, and to achieve cleanup and abatement of water pollution and nuisance. (Water Code, § 13300, *et seq.*)

B. The summaries of arguments contained in this Paragraph B are the Parties’ respective allegations only. Neither Party necessarily ascribes to or agrees with the allegations of the other. These allegations are not evidence and no hearing has occurred. Based on the timing of this Settlement Agreement, Staff has not had the opportunity to respond to Hilmar’s prepared testimony and expert reports, and reserves the right to do so if this Settlement Agreement is not approved.

1. Staff’s Allegations:

On January 26, 2005, {~~the Executive Officer of the~~} Regional Board {(~~“~~)Executive Officer(~~”~~)} **Thomas R. Pinkos** issued Administrative Civil Liability Complaint No. R5-2005-0501 to Hilmar (“ACL Complaint”) pursuant to Water Code section 13323. The ACL Complaint alleged that Hilmar violated its discharge permit, Waste Discharge Requirements Order No. 97-206 (the “Permit”), by discharging wastewater containing salt, as measured by Electrical Conductivity (“EC”), in excess of the Permit’s limit for EC of 900 µmhos/cm. The ACL Complaint more specifically alleged, among other things: that monthly discharger self-monitoring reports (“SMRs”) covering the period January 27, 2002 through November 30, 2004 contain daily measurements for EC exceeding 900 µmhos/cm for 1,039 days; that the EC in the wastewater discharged during this period ranged from 1,750 to 4,160 µmhos/cm on a monthly basis; and that the wastewater was discharged where salt in the

wastewater discharged or would discharge to waters of the state (specifically groundwater). Based on these allegations, ~~{the}~~ Executive Officer Pinkos proposed that administrative civil liability in the amount of \$4,000,000 (four million dollars) be imposed against Hilmar. Copies of the ACL Complaint, the subsequently issued Regional Board Staff Report supporting the ACL Complaint (both of which were previously provided to the interested persons list for the Hilmar facility), and further related information are publicly available at the Regional Board's office at 1685 E Street, Fresno, California, and on the Regional Board's web-site: <http://www.waterboards.ca.gov/centralvalley>.

2. Hilmar's Allegations:

Hilmar has vigorously disputed the proposed administrative civil liability. Hilmar has submitted prepared testimony and expert reports that Hilmar contends demonstrate, among other things: that for the past eight years Hilmar has fully cooperated with Regional Board Staff in an attempt to meet the EC discharge limit of 900 μ mhos/cm in the Permit, which Hilmar contends is an unprecedented standard; that Hilmar has made every reasonable effort in its innovative attempts to meet this limit, including expending over \$85 million in an attempt to do so; that this limit never should have been imposed on Hilmar in the first instance and has proven to be unachievable for all of Hilmar's wastewater; that this limit has resulted in Hilmar's being required not only to treat its wastewater to a salinity level lower than is present in its incoming potable water supply, but also to treat its wastewater to a quality better than the drinking water that community water providers actually supply to the consuming public at the tap; that, at the current state of research and development, there is no proven, reliable technology to treat food processing wastewater like Hilmar's to the 900 μ mhos/cm EC limit that is economically or environmentally sustainable; that Hilmar's wastewater is not toxic; that impacts to groundwater as a result of Hilmar's wastewater discharge are limited, do not pose a threat to public health, and are susceptible to cleanup and abatement; that Hilmar has not derived any economic benefit from non-compliance with the EC limit in the Permit; and that for all of these, as well as other reasons, the proposed administrative civil liability is grossly excessive and should be eliminated or significantly reduced. Copies of ~~{the}~~ Hilmar's prepared testimony and expert reports are publicly available at the Regional Board's office at 1685 E Street, Fresno, California, and on the Regional Board's web-site (excluding voluminous supporting documents that are present in the Regional Board's public file in Fresno): <http://www.waterboards.ca.gov/centralvalley>.

~~{D}~~C. After arms-length negotiations, the Regional Board Staff~~{, through the Executive Officer,}~~ and Hilmar have reached and entered into this Settlement Agreement in a good faith effort to avoid the uncertainty and expense of protracted litigation, and for Hilmar to focus its resources and efforts instead on seeking solutions to salinity issues confronting the Central Valley and other areas of the State of California. The "Matters Covered," as defined below, having been thoroughly investigated and diligently prosecuted, the ~~{Executive Officer}~~ Regional Board Staff recommends approval of this Settlement Agreement by the Regional Board as being appropriate, proper and in the public interest. **This Settlement Agreement is authorized by Government Code section 11415.60, which provides: "(a) An agency may formulate and issue a decision by settlement, pursuant to an agreement of the parties, without conducting an adjudicative proceeding. Subject to subdivision (c) [which provides that "[a] settlement is subject to any necessary agency approval."], the settlement**

may be on any terms the parties determine are appropriate.”

AGREEMENT

THEREFORE, the Parties agree as follows:

1. Regional Board Approval Required

This Settlement Agreement shall be of no force or effect unless unconditionally approved and adopted by the Regional Board in an Order ~~{Approving}~~ **Ratifying** Settlement Agreement after consideration at a public meeting.

2. No Admission of Liability

The Parties expressly acknowledge that this Settlement Agreement reflects the compromise of disputed civil claims and that there has been no adjudication of any fact, issue or claim. This Settlement Agreement shall not constitute, and no action taken pursuant to this Settlement Agreement shall constitute, any admission of liability by Hilmar.

3. Payments by Hilmar

(a) In compromise of the proposed administrative civil liability and in consideration of the terms of this Settlement Agreement, Hilmar shall pay the following sums by the methods specified within ten (10) business days of "Final Approval" of this Settlement Agreement as defined in Paragraph 7 below:

(1) \$1,850,000 (one million eight hundred fifty thousand dollars) made payable to the State Water Resources Control Board, Waste Discharge Permit Fund, pursuant to Water Code section 13350(k). This payment shall be by certified or cashier's check mailed within ten (10) business days of Final Approval to Richard Loncarovich, Central Valley Regional Water Quality Control Board, 11020 Sun Center Drive, Suite 200, Rancho Cordova, 95670-6114, with a copy to M. Catherine George, Senior Staff Counsel, State Water Resources Control Board, Office of Chief Counsel, 9174 Sky Park Court, Suite 100, San Diego, CA 92123-4340.

(2) \$1,000,000 (one million dollars) made payable to an escrow account ("SEP Account"), to be established at a financial institution mutually agreed upon by the Parties, for the purpose of funding the "Supplemental Environmental Project" defined and described below. This payment shall be by certified or cashier's check mailed within ten (10) business days of Final Approval to the financial institution that is the holder of the SEP Account, or within ten (10) business days of the establishment of the SEP Account if the SEP Account has not yet been established as of the time of Final Approval, with a copy to M. Catherine George, Senior Staff Counsel, State Water Resources Control Board, Office of Chief Counsel, 9174 Sky Park Court, Suite 100, San Diego, CA 92123-4340.

(3) \$150,000 (one hundred fifty thousand dollars) made payable to the California Attorney General's Office to reimburse the Office of the Attorney General for its costs and attorneys' fees incurred in assisting Regional Board Staff in prosecuting the ACL Complaint. This payment shall be by certified or cashier's check mailed within ten (10) business days of Final Approval to Tracy Winsor, Deputy Attorney General, Office of the

Attorney General, 1300 I St., Ste 125, Sacramento, CA 95814.

(b) In the event Hilmar fails timely to pay in full the amounts specified in this Paragraph 3, interest on the amount(s) remaining unpaid shall accrue at the rate provided in Code of Civil Procedure section 685.010 and shall be added to the amount(s) remaining unpaid. If enforcement of this Settlement Agreement for failure timely to pay is necessary, Hilmar agrees not to oppose the issuance of a clerk's judgment pursuant to Water Code section 13328 for the amount(s) remaining unpaid, and further agrees that Regional Board Staff and the Regional Board shall be entitled to their reasonable attorneys fees' and costs for such enforcement.

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}4. Supplemental Environmental Project

(a) The payment to the SEP Account shall be used to fund a Supplemental Environmental Project ("SEP"), which shall consist of the **Revised** Proposal to Study the Management of Salinity in Wastewater in the California Food Processing Industry attached to this Settlement Agreement as Exhibit A ("SEP Study").

(b) On February 19, 2002, the State Water Resources Control Board ("State Board") adopted Resolution No. 2002-0040 amending the Water Quality Enforcement Policy ("Enforcement Policy"). The Enforcement Policy was approved by the Office of Administrative Law and became effective on July 30, 2002. The Parties agree that the SEP Study proposed by Hilmar satisfies the general conditions and criteria for SEPs set forth in Section IX of the Enforcement Policy. The SEP Study meets the General SEP Qualification Criteria set forth in the Enforcement Policy, **including that "The SEP should directly benefit or study groundwater or surface water quality, and the beneficial uses of waters of the State. Examples include . . . (ii) studies or investigations (e.g., pollutant impact characterization, pollutant source identification, etc.)"**. The SEP Study is not otherwise required of Hilmar, will include a study of aspects of groundwater quality and beneficial uses of waters of the state, and will not directly benefit the State Board or Regional Board functions or staff. **In addition, the Parties believe the SEP Study will provide the State Board and/or Regional Board with "added value," and thus is the type of project which is "encouraged" according to the Additional SEP Qualification Criteria set forth in the Enforcement Policy.**

(c) The SEP Study also satisfies the Nexus Criteria set forth in the Enforcement Policy. The SEP Study proposes to study and offer possible solutions for management (**including source control, treatment and disposal**) of salinity in food processing wastewater discharges within the Central Valley. The SEP Study has a geographic nexus to the violations alleged in the ACL Complaint because the area to be studied in the SEP Study includes the area in which Hilmar's alleged violations occurred.

(d) A copy of all correspondence between Hilmar and the SEP Study directors (Professor David Sunding and Dr. Mark Berkman) regarding SEP Study activities shall be sent to the attention of ~~{Bert Van Voris}~~ **the Assistant Executive Officer, Fresno Office,** Central Valley Regional Water Quality Control Board, via fax at (559) 445-5910 or via mail at 1685 E Street, Fresno, CA 93706.

(e) Hilmar, or the SEP Study directors, shall provide the Regional Board with quarterly progress reports regarding SEP Study activities. Such quarterly progress reports shall be sent to the attention of Regional Board Staff as indicated in Paragraph (4)(d) above.

(f) Hilmar shall hire, payable from the SEP Account, an independent third-party auditor of SEP Study expenditures. The independent third-party auditor shall be a certified public accountant and shall report solely to the Regional Board to independently audit SEP Account expenditures. The independent auditor shall provide the Regional Board with quarterly accountings of SEP Study expenditures. In addition, within thirty (30) days of completion of all SEP Study activities, the independent third-party auditor shall provide the

Regional Board with a post-project accounting of all SEP Study expenditures. Such quarterly accountings, and the post-project accounting, shall be sent to the attention of Regional Board Staff as indicated in Paragraph (4)(d) above, with a copy to Hilmar. Hilmar shall retain copies of all records and files regarding the SEP Study, and shall make them available to the independent third-party auditor and/or Regional Board Staff for inspection upon reasonable notice.

(g) The Parties contemplate that the Peer Review Panel **and/or Stakeholder Review Panel** specified in the SEP Study will oversee the implementation of the SEP Study to ensure that it reasonably follows the approved project and achieves the project objectives. In the event that the Regional Board determines that this oversight is inadequate, the Regional Board may require Hilmar to hire, payable from the SEP Account, an independent third-party to reasonably evaluate compliance with the SEP Study's objectives and milestones, and to periodically report to the Regional Board regarding timely and successful completion of the SEP Study. As directed by the Regional Board, Hilmar shall meet periodically with the independent third-party and/or Regional Board Staff to ensure that the SEP Study, as implemented, reasonably follows the approved project and achieves the project objectives.

(h) Regional Board Staff, by entering into this Settlement Agreement, assumes no liability for any injuries or damages to persons or property resulting from acts or omissions by Hilmar, or Hilmar directors, officers, employees, agents, representatives, successors, assigns, contractors or consultants in carrying out any action or activity pursuant to this Settlement Agreement. Neither the Regional Board nor the State of California may be deemed to be a party to any contract entered into by Hilmar, its directors, officers, employees, agents, successors, assigns, contractors, or consultants in carrying out any action or activity pursuant to this Settlement Agreement.

(i) Hilmar agrees that, notwithstanding participation by Regional Board or State of California employees, agents or representatives in any manner and at any stage of the SEP process, Hilmar will not argue or imply, nor will Hilmar encourage third-parties to argue or imply, that the Regional Board participated in drafting recommendation(s), or proposed outcome(s) or use(s), of the SEP Study. This agreement by Hilmar not to attempt to impute SEP Study recommendations, outcomes or uses to the Regional Board and the State of California, as an admission by either of them, applies to any challenge by Hilmar or any third-party against the Regional Board or the State of California, including without limitation any challenge to basin plans, regulations or statutes. Consistent with the foregoing, Hilmar shall direct that the following disclaimer be prominently stated in all versions of the SEP Study submitted to the Regional Board or otherwise publicized: "The opinions, conclusions, and recommendations expressed herein are not binding on the Regional Board or any other entity. This study was undertaken as part of a settlement of an enforcement action by the Regional Board against Hilmar." If Hilmar publicizes the SEP Study or the results of the SEP Study, Hilmar must include the same disclaimer in a prominent manner.

(j) The SEP Study shall commence no later than thirty (30) days following Final Approval of this Settlement Agreement. Hilmar may request in writing an extension of the timeline provided for in Exhibit A for completion of the SEP Study or any of its milestones. The Executive Officer shall grant in writing a reasonable extension of time for completion of any milestone for any matter beyond Hilmar's reasonable control or for good

cause. If any SEP milestone is not completed to the satisfaction of the Executive Officer by the date of the milestone and the Executive Officer has not granted an extension of time for completion of that milestone, the Executive Officer shall provide Hilmar with a notice of noncompliance. If Hilmar fails to cure the noncompliance within thirty (30) days from the date of mailing of any such notice, the funds then remaining in the SEP Account shall become immediately due and payable to the State Water Resources Control Board's Waste Discharge Permit Fund. It shall be Hilmar's responsibility to pay the amount then due regardless of any agreements between Hilmar and any third-party contracted to implement the SEP Study. Should Hilmar continue to dispute the Executive Officer's noncompliance determination, Hilmar's remedy is to file a petition for review of the Executive Officer's determination as provided in the Water Code.

(k) In the event any funds remain in the SEP Account after the post-project accounting of SEP Study expenditures is completed, such funds shall be immediately paid to the State Water Resources Control Board's Waste Discharge Permit Fund.

5. Regional Board's ~~{Release and Covenant Not to Sue}~~ Specific Releases

(a) The ~~{release}~~ releases given in this Paragraph ~~{is}~~ are for certain civil liability only. Upon unconditional approval of this Settlement Agreement by the Regional Board, and provided Hilmar thereafter makes the monetary payments specified in Paragraph 3 above, the Regional Board Staff and the Regional Board shall and do release and covenant not to sue or take administrative ~~{or other enforcement}~~ action against Hilmar, including its officers, directors, shareholders, employees, consultants, attorneys, predecessors-in-interest, successors and assigns, for civil liability with respect to the "Matters Covered" by this Settlement Agreement. The Matters Covered by this Settlement Agreement are ~~{(1) all past and present}~~:

(1) Past Matters. All violations of Hilmar's ~~{current Waste Discharge Requirements, Order No. 97-206,}~~ Permit, the Water Code, or the federal Clean Water Act, occurring on or before the date this Settlement Agreement is made, of which Regional Board Staff had actual knowledge of the alleged facts as of the date this Settlement Agreement is made ~~{, including without limitation}~~. These violations consist of (i) the violations alleged in the ACL Complaint, {and (2) any continuation or recurrence of the same known alleged violations} (ii) the violations alleged in the Regional Board Staff Report supporting the ACL Complaint, including in the Notices of Violation referred to therein, (iii) the alleged violations that were investigated in the criminal investigation concluded by the Office of the Attorney General in July 2005, and (iv) any other violations that Regional Board Staff had actual knowledge of the alleged facts as of the date this Settlement Agreement is made.

(2) Prospective Matters During Interim Operating Period Only. Any and all violations of the following provisions in Hilmar's Permit (or of provisions of the Water Code or the federal Clean Water Act predicated upon such violations), after the date this Settlement Agreement is made and through the date ~~{Hilmar obtains}~~ the Regional Board adopts updated, revised Waste Discharge Requirements ~~{that are final}~~ as set forth in Paragraph 6 below ~~{. This release is further conditioned upon Hilmar's}~~ ("the Interim Operating Period"), provided that Hilmar is in compliance with the "Interim

Operating Limits” as set forth below{;} and timely {~~submission of~~} submits the “Progress Reports” and “Report of Waste Discharge” as set forth below. The provisions in Hilmar’s Permit that are covered by the release in this Paragraph 5(a)(2) are Discharge Specifications B.1, B.2 (with respect to discharges to Primary Fields only), B.4, B.5, and B.6 (with regard to subsurface flow only), Discharge Prohibitions A.3, A.4 (with respect to discharges of any “designated” waste to Primary Fields only), and A.5, and Groundwater Limitation D. The pages from Hilmar’s permit containing the text of these specifications, prohibitions and limitation are attached to this Settlement Agreement as Exhibit B. The specifications, prohibitions, and limitation identified in this Paragraph 5(a)(2) are included in the Matters Covered, on a prospective basis during the Interim Operating Period only, because the Interim Operating Limits reflect the status quo and Hilmar’s existing discharge is or may be inconsistent with these provisions.

(b) Nothing in this Paragraph 5, or elsewhere in this Agreement, in any way restricts the Regional Board Staff’s or the Regional Board’s ability to seek relief {~~other than civil liability, such as~~} for any violation or matter not included within the Matters Covered as defined above. This includes, without limitation, the Regional Board Staff’s or the Regional Board’s ability:

(1) to seek civil liability for any violations of provisions in Hilmar’s Permit after the date this Settlement Agreement is made, that are not included within the Matters Covered as defined above;

(2) to seek injunctive relief or issue administrative orders{;} to address any conditions of nuisance, pollution, odors or vectors that may be created by Hilmar’s wastewater discharge after the date this Settlement Agreement is made{;} or

(3) to take enforcement action, including seeking civil liability, to ensure compliance by Hilmar with Cleanup and Abatement Order No. R5-2004-~~{0722. This release shall have no further application following the date Hilmar obtains updated, revised Waste Discharge Requirements that are final as set forth in Paragraph 6 below}~~0722 or other administrative orders that may be issued by the Regional Board.

Thus, nothing in this Settlement Agreement precludes the Regional Board from seeking to require Hilmar to cleanup and abate, or otherwise address, in accordance with applicable law the effects of any waste discharged at the Hilmar facility at any time, including during the Interim Operating Period.

~~(b)~~ (c) It is the Parties’ understanding and intent that Hilmar’s payment of the sums specified in Paragraph 3, above, will constitute a full and final satisfaction of any civil liability that may be owed by Hilmar for the Matters Covered, and that upon unconditional approval of this Settlement Agreement by the Regional Board, and provided Hilmar thereafter pays the sums specified in Paragraph 3 above, no other or further civil liability will be imposed on Hilmar (including its officers, directors, shareholders, employees, consultants, attorneys, predecessors-in-interest, successors and assigns) for the Matters Covered. The Regional Board Staff covenants not to request, directly or through the Regional Board or any other agency, that any law enforcement agency consider criminal charges associated with the Matters Covered.

~~(e)d~~ Effective November 1, 2005, and through the ~~{date Hilmar obtains updated, revised Waste Discharge Requirements that are final as provided in Paragraph 6 below (the “} Interim Operating Period{”}~~}, Hilmar shall comply with the following Interim Operating Limits (all of which are monthly averages for daily discharge to land):

Maximum Total Non-RO Discharge To Primary Fields	1.2 mgd
Maximum EC to Primary Fields	3700 μ mhos/cm ¹
Minimum RO Permeate Discharge	0.6 mgd ⁽¹⁾²
Maximum EC of RO Permeate	900 μ mhos/cm ⁽²⁾³
Maximum Total Discharge to Land	1.9 mgd ⁽³⁾

These Interim Operating Limits reflect Hilmar’s existing discharge and do not permit an increase in either the quantity of that discharge or the level of EC in that discharge. As such, these Interim Operating Limits are lawful and appropriate for the Interim Operating Period to allow for the development of additional information necessary for Hilmar to submit a revised/new Report of Waste Discharge, for Regional Board Staff to issue tentative new Waste Discharge Requirements, and for the Regional Board to adopt updated, revised Waste Discharge Requirements as provided below.⁴ Any failure by Hilmar

¹ Based upon 24-hour composite samples collected at least weekly and analyzed by a certified third-party laboratory.

⁽¹⁾² This minimum does not require any land discharge, but applies if the total discharge to land exceeds 0.6 mgd.

⁽²⁾⁻³ Based upon 24-hour composite samples collected at least weekly and analyzed by a certified third-party laboratory. This limit applies to the entire discharge to land if the total land discharge is 0.6 mgd or less.

⁽³⁾ ~~In addition to the Interim Operating Limits for EC, in no event shall the maximum salt mass discharged to land in any month during the Interim Operating Period exceed the TDS load that is equivalent to a TDS concentration of 1654 mg/L at 1.9 mgd. Compliance with this requirement shall be determined using (1) the monthly average daily flows of Non-RO Discharge To Primary Fields and of RO Permeate Discharge To RO Permeate Storage Ponds (both in mgd) and (2) the monthly average TDS (in mg/L) in 24-hour composite samples collected at least weekly of Non-RO Discharge To Primary Fields and of RO Permeate Discharge To RO Permeate Storage Ponds.-}~~

⁴ These Interim Operating Limits acknowledge the status quo and are established for purposes of resolving the ACL Complaint only. Revised or new Waste Discharge Requirements for Hilmar's discharge will be developed based on Hilmar's new Report of Waste Discharge together with consideration of applicable regulatory authority and requirements. Inclusion of these Interim Operating Limits in this Settlement Agreement shall not be interpreted to limit the Regional Board's regulatory authority in any way in adopting revised or new Waste Discharge Requirements.

to comply with these Interim Operating Limits, except in the circumstances or events that ~~{that}~~ **Hilmar demonstrates** fall within the defenses found in Water Code section 13350(c), shall invalidate the release ~~{and covenant not to sue}~~ in ~~{this}~~ Paragraph 5(a)(2) above only for the period of such non-compliance. **In order to maintain the existing discharge during the Interim Operating Period, Hilmar shall not increase its total discharge as a result of any deep well injection. Hilmar is seeking an injection control permit from the United States Environmental Protection Agency (“EPA”) for deep well injection. If Hilmar receives such a permit followed by an “Authorization to Inject” letter, Hilmar agrees to reduce its allowed Maximum Total Discharge to Land during the Interim Operating Period by an amount equal to the amount that it is injecting into the well(s).**

(~~d~~)e Separate from the progress reports required concerning the SEP Study as provided in Paragraph 4 above, Hilmar shall prepare and submit the following Progress Reports and Report of Waste Discharge (**ROWD**) in accordance with the following schedule, which may be extended in writing by the Executive Officer for good cause:

Progress Reports

Monthly progress reports regarding completion of the following tasks necessary for submission of a revised/new ~~{Report of Waste Discharge}~~ **ROWD**:

- identification of additional land suitable for irrigation/percolation;
- investigation of the alteration of SBR decant quality to minimize sodium and alkalinity (including investigation of the effects of substituting potassium hydroxide for sodium hydroxide, and of reducing and mitigating bicarbonate alkalinity);
- investigation of calcium removal technology;
- identification and characterization of land suitable for direct discharge of treated wastewater;
- development of distribution/storage systems;
- hydrogeologic studies of areas for land disposal and percolation ponds;
- antidegradation study of land based disposal/percolation ponds to poor background water quality; ~~{and}~~
- investigation of long-term running of reverse osmosis units at greater concentration (including investigation of single pass reverse osmosis for concentrating minerals); **and**

- investigation of the feasibility of deep well injection for discharge of mineral containing wastewater.

These monthly progress reports shall be due {~~November 30, 2005, December 31, 2005, January 31, 2006, February 28, 2006 and March 31, 2006.~~} within ten days following the last day of each month beginning December 10, 2005 (covering the month of November 2005), and continuing until Hilmar submits its revised/new ROWD.

Report of Waste Discharge; Tentative New Waste Discharge Requirements

Revised/new ~~{Report of Waste Discharge—Due April 30, 2006.}~~ ROWD – Without regard to whether this Settlement Agreement has yet to receive Final Approval under Paragraph 7 below, Hilmar shall submit a revised/new ROWD within ninety (90) days after any issuance by the EPA of an “Authorization to Inject” letter, or by October 31, 2006, whichever is earlier. Regional Board Staff shall only thereafter ~~{ shall }~~ issue tentative new Waste Discharge Requirements to Hilmar.

Any failure by Hilmar timely to submit these reports shall invalidate the release ~~{and covenant not to sue-}~~ in ~~{this-}~~ Paragraph 5(a)(2) above only for the period during which a report is late.

6. Updated, Revised Waste Discharge Requirements

~~{In addition to the obligations of}~~ After submittal of the ROWD in accordance with the schedule provided for in Paragraph 5(~~{d}~~e) above, Hilmar ~~{otherwise}~~ shall exercise good faith and best efforts to work with Regional Board Staff to bring agreed upon updated, revised Waste Discharge Requirements, along with a reasonable time schedule for compliance, to the Regional Board for consideration and adoption. Regional Board Staff likewise shall exercise good faith to work with Hilmar toward the same end. This Settlement Agreement is in no way contingent upon agreement between Hilmar and Regional Board Staff on the terms of the updated, revised Waste Discharge Requirements or time schedule, or upon Regional Board approval of the same. ~~{In the event Hilmar appeals the updated, revised Waste Discharge Requirements or time schedule, the challenged provisions shall not be considered to be final until the appeal is finally resolved and no further right to appeal exists. Hilmar shall not unreasonably delay any such appeal, and agrees not to oppose any motion to expedite any such appeal provided a reasonable briefing schedule is afforded. Hilmar further agrees not to seek any extension of time on appeal except for good cause shown.}~~

7. Final Approval of Settlement Agreement; Conditions Subsequent

(a) “Final Approval” of this Settlement Agreement shall be when the Regional Board’s unconditional approval of the Settlement Agreement as provided in Paragraph 1 above, has become final after the later of both of the following: (1) resolution of any and all appeals of the Regional Board’s unconditional approval taken by third-parties, or after the time for any such appeal has expired without any appeal having been taken; and (2) resolution of any State Board review of the Regional Board’s unconditional approval as provided in Paragraph 7(b) below.⁵ In the event a third-party successfully challenges the Regional Board’s

⁵ As used in this Settlement Agreement, the word “appeal” refers to any legal challenge to a ruling of the Regional Board and/or the State Board and/or a California court, including but not limited to a petition for

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unconditional approval of this Settlement Agreement, the Settlement Agreement shall be null and void ab initio at the election of either Hilmar or the Regional Board, provided that such election is made within ten (10) business days following service of any of the following: an order issued by the State Board reflecting the third-party's successful challenge of the Regional Board's unconditional approval; an order of the Superior Court reflecting the third-party's successful challenge of the Regional Board's unconditional approval; or a remittitur or mandate of an appellate court reflecting such successful challenge.

(b) The Water Code provides in part: "The state board may, on its own motion, *at any time*, review the regional board's action" Water Code §13320(a) (emphasis added). Because of the potentially open-ended nature of State Board review of Regional Board actions, including of settlement agreements such as this one, ~~{the Parties agree}~~ **Hilmar may elect** to petition the State Board for its unconditional approval of this Settlement Agreement. ~~{The Parties}~~ **Hilmar** shall file **any** such petition within thirty (30) days following the Regional Board's unconditional approval of this Settlement Agreement. In the event the State Board disapproves this Settlement Agreement, or a third-party successfully challenges the State Board's unconditional approval or dismissal of review of this Settlement Agreement, the Settlement Agreement shall be null and void ab initio at the election of either Hilmar or the Regional Board, provided that such election is made within ten (10) business days following service of any of the following: the State Board's order disapproving the Settlement Agreement; an order of the Superior Court reflecting the third-party's successful challenge of the State Board's unconditional approval or dismissal of review of the Settlement Agreement; or a remittitur or mandate of an appellate court reflecting such successful challenge.

8. Reservation of Rights

The Regional Board Staff and the Regional Board, on the one hand, and Hilmar, on the other, each reserve their respective rights to initiate or maintain judicial or administrative action against the other for any matter not released by this Settlement Agreement. Without limitation, nothing in this Settlement Agreement shall constitute or be construed as: a release by the Regional Board Staff or Regional Board of anything other than civil liability with respect to the Matters Covered; a release by the Regional Board Staff or the Regional Board of the ability to seek relief ~~{other than}~~ for ~~{civil liability to address any conditions of pollution, nuisance, odors or vectors that may be created by Hilmar's wastewater discharge after the date} this Settlement Agreement {is made, or to take enforcement action to ensure compliance by Hilmar with Cleanup and Abatement Order No. R5-2004-0722; } **any violation or matter not included within the Matters Covered, including for the matters specified in Paragraph 5(b) above;** a release by Hilmar of its claims and right to litigate the issues in *Hilmar Cheese Company v. California Regional Water Quality Control Board, Central Valley Region*, Merced Superior Court No. ~~{148824, or in any litigation that may be filed~~~~

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review by the State Board, a petition for a writ of mandamus or administrative mandamus filed in a California Superior court, and a petition or appeal to a higher California court.

~~following the State Board's dismissal of Hilmar's Petition to the State Board, State Board No. A-1717~~; 148824 (the "Basin Plan Litigation"); a release by Hilmar of its ability to challenge and/or seek a stay of any new Waste Discharge Requirements or order of the Regional Board except as provided in Paragraph 16 below; or a release of the Regional Board's or Hilmar's right to institute an action to enforce the terms of this Settlement Agreement or to declare rights hereunder. Resolution of the Basin Plan Litigation is beyond the scope of *this Settlement Agreement* inasmuch as Regional Board Staff is not a party to that litigation. However, Hilmar is amenable to discussing a negotiated resolution of that litigation with the Regional Board's counsel.

9. Interpretation; Venue

This Settlement Agreement shall be deemed to have been drafted equally by the Parties, and shall not be interpreted for or against either Party on the ground that any such Party drafted it. This Settlement Agreement shall be governed by and construed in accordance with the laws of the State of California. The Parties agree that Merced County Superior Court is the proper venue for any action to enforce the terms of this Settlement Agreement or to declare rights hereunder, and for any action challenging the updated, revised Waste Discharge Requirements or time schedule ~~{provided for}~~ discussed in ~~{Paragraph}~~ Paragraphs 5 and 6 above.

10. Enforcement of Order ~~{Approving Settlement}~~ Ratifying Settlement Agreement

Hilmar recognizes that the Order ~~{Approving}~~ Ratifying Settlement Agreement is not a formal administrative civil liability order pursuant to Water Code section 13350. Notwithstanding this fact, Hilmar agrees that the Order ~~{Approving}~~ Ratifying Settlement Agreement may be enforced in the manner provided in Water Code section 13328.

11. Integration; Amendment

This Settlement Agreement contains all of the terms and conditions agreed upon by the Parties relating to the matters addressed in this Settlement Agreement, and supersedes any and all prior and contemporaneous agreements, negotiations, correspondence, understandings, and communications of the Parties, whether oral or written, respecting the matters addressed in this Settlement Agreement. This Settlement Agreement may be amended or modified only by a writing signed by the Parties or their authorized representatives.

12. Knowing, Voluntary Agreement

Each Party acknowledges that it has been represented by legal counsel in connection with this Settlement Agreement, and that each Party has reviewed, and has had the benefit of legal counsel's advice concerning, all of the terms of this Settlement Agreement.

13. Authority to Execute

Each Party represents and warrants that the person who signs this Settlement Agreement on its behalf is duly authorized to execute this Settlement Agreement on

its behalf, and to bind that Party to the terms of this Settlement Agreement.

{

}14. Costs and Attorneys' Fees

Except as otherwise provided in Paragraphs 3(a)(3) and 3(b) above, Regional Board Staff and the Regional Board, on the one hand, and Hilmar, on the other, each shall bear its own costs and attorneys' fees in connection with the administrative proceeding initiated by the ACL Complaint, including costs and fees associated with negotiating and ~~{seeking}~~securing Final Approval of this Settlement Agreement, and any costs and fees associated with any action brought to enforce the terms of this Settlement Agreement or to declare rights hereunder.

15. Counterparts

This Settlement Agreement may be executed by the Parties in counterpart originals with the same force and effect as if fully and simultaneously executed as a single, original document.

16. Appeal Rights

The Parties agree to support this Settlement Agreement and any order of the Regional Board unconditionally approving the Settlement Agreement as provided in Paragraph 1 above, and to waive their right to challenge any order by the Regional Board unconditionally approving this Settlement Agreement. Nothing in this Settlement Agreement shall be construed as a waiver of either Party's right, or the right of the Regional Board, to appeal from any successful challenge by a third-party to the Regional Board's unconditional approval of this Settlement Agreement or to the State Board's unconditional approval or dismissal of review of this Settlement Agreement, or to appeal from any order or judgment in any action to enforce the terms of this Settlement Agreement or to declare rights hereunder.

17. Successors and Assigns

This Settlement Agreement shall be binding upon and inure to the benefit of Hilmar and its successors and assigns, and to the Regional Board and any successor agency that may have responsibility for and jurisdiction over the subject matter of this Settlement Agreement.

18. No Third-Party Rights

This Settlement Agreement is made for the sole benefit of the Parties and the Regional Board, and no other person or entity shall have any rights or remedies under or by reason of this Settlement Agreement, unless otherwise expressly provided for herein.

19. No Severability

In the event that any provision of this Settlement Agreement is determined by a court of competent jurisdiction or the State Board to be improper or inappropriate or otherwise invalid, this Settlement Agreement shall be null and void ab initio at the election of either Hilmar or the Regional Board, provided that such election is made within ten (10) business days following service of any of the following: the court's or State Board's order determining

that a provision of the Settlement Agreement is inappropriate or improper or otherwise invalid; or an order in any appeal therefrom that determines that a provision of the Settlement Agreement is inappropriate or improper or otherwise invalid.

IN WITNESS WHEREOF, the Parties have executed this Settlement Agreement as of the date first set forth above.

IT IS SO AGREED:

STAFF OF THE REGIONAL WATER QUALITY
CONTROL BOARD, CENTRAL VALLEY
REGION

By: _____
{~~Thomas R. Pinkos,~~} Kenneth D. Landau,

Acting Executive Officer

HILMAR CHEESE COMPANY, INC.
AND HILMAR WHEY PROTEIN, INC.

By: _____
John Jeter, President and CEO

APPROVED AS TO FORM:

OFFICE OF CHIEF COUNSEL, STATE
WATER RESOURCES CONTROL BOARD

By: _____
M. Catherine George, Esq.
Senior Staff Counsel
Attorneys for Regional Board Staff

STEEFEL, LEVITT & WEISS

By: _____
Craig S. Bloomgarden
Attorneys for Hilmar

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**PROPOSAL TO STUDY THE MANAGEMENT OF
SALINITY IN WASTEWATER IN THE CALIFORNIA
FOOD PROCESSING INDUSTRY**

PREPARED BY

Mark Berkman, PhD

David Sunding, PhD

CRA International

5335 College Avenue, Suite 26

Oakland, Ca 94618

{October 17, 2005}February 10, 2006

Prologue

The impairment of surface and ground water ~~{-and groundwater}~~ by excessive concentrations of salt is ~~{an increasingly}~~ a significant issue ~~{for}~~ facing California's Central Valley. ~~{Discharges to land}~~ Salt discharges associated with municipal wastewater disposal, septic tanks, oil field brines, confined animal facilities, food processing plants and other local sources contribute to salinity levels in waters of the Central Valley ~~{-groundwater}~~. Rapid population growth ~~{will}~~ and economic development may exacerbate the salinity problem by increasing the volume of wastewater produced, and will increase the ~~{reliance on Central Valley groundwater}~~ demand for local water sources for municipal and industrial consumption.

This study will focus on the Central Valley's ~~{multi-billion dollar}~~ food processing industry, its role in the salinity issue and the potential solutions for the ~~{environmentally and economically}~~ sustainable management and ~~{/or}~~ ultimate disposal of salts ~~{-As a result, this}~~ resulting from food processing activities. This study will identify and evaluate ~~{alternatives}~~ alternative management strategies including source control, treatment and disposal, and their respective costs and benefits to identify workable solutions. ~~{The study}~~ It will be designed to ~~{consider}~~ account for the ~~{points of view}~~ input of key stakeholders including the food processing industry, agriculture, government, and environmental interests. The study will provide specific recommendations regarding the water quality policy changes and additional work necessary to successfully integrate the needs of the food processing industry into a salt management plan for the Central Valley.

These objectives are consistent with both the California Water Code and the State Water Resources Control Board's Water Quality Enforcement Policy SEP criteria.
The Water Code in part states:

1 DeltaView comparison of pcdocs://slw_docs_sf/6486445/1 and pcdocs://slw_docs_sf/6493047/1. Performed on 2/13/2006.

[A]ctivities and factors which may affect the quality of waters of the state shall be regulated to attain the highest water quality which is reasonable, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible. (Section 13000).

Factors to be considered by a regional board in establishing water quality objectives shall include, but not necessarily be limited to, all of the following:

(a) Past, present, and probable future beneficial uses of water.

(b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.

(c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area.

(d) Economic considerations.

(e) The need for developing housing within the region.

(f) The need to develop and use recycled water.

(Section 13241).

The SEP criteria require that the SEP should “study groundwater or surface water quality or quantity, and the beneficial uses of waters of the State.” (Section IX, C. (b)). Among the examples of such studies provided in the Enforcement Policy document are “studies or investigations (e.g., pollution impact characterization, pollution source identification, etc.)” (Section IX, C. (b) (ii)). The SEP criteria also call for an examination of “Regionwide use/benefit” and provide that “Projects, which provide the SWRCB or RWQCB with added value, are encouraged.”

(Section IX, D. (c)). This study satisfies these criteria and will address the factors set forth in Water Code Sections 13000 and 13241.

Proposal to Study the Management of Salinity in Wastewater in the California Food Processing Industry

I. Study Objectives to Improve Water Quality

- A. Describe the nature, location and extent of salinity constituents in wastewater discharges from ~~{California's}~~ the food processing ~~{industry}~~ facilities in the Central Valley and their impacts on regional water quality
- B. Identify short-~~{term}~~ and long-term management options for the treatment, control, and disposal of saline wastewater from ~~{California's}~~ the food processing industry
- C. Characterize the actual impairments ~~{in}~~ of beneficial uses of ~~{groundwater}~~ waters of the Central Valley resulting from salts in food processing ~~{wastewater discharges}~~ waste streams
- D. Measure the economic ~~{costs and benefits}~~ impacts of various salt management and disposal options in ~~{different}~~ the Central Valley on the regional economy and other affected regions of the state
- E. ~~{Recommend}~~ Identify and evaluate policies and actions to improve water quality control with respect to salt, including the following:
 - 1. Assess the adequacy of existing Basin Plans for, at a minimum, identifying and controlling salt impacts to waters of the state
 - 2. Identify any necessary modifications to update Basin Plans (e.g., to reflect current water quality conditions and ensure future protection of beneficial uses)
 - 3. Review and propose changes to existing regulatory structure and regulations to implement improvements to salt management
 - 4. Identify innovative policies to achieve water quality improvements and balance environmental and economic objectives

II. Characterize Wastewater Discharges from the Food Processing Industry

- A. Review and synthesize the available literature and data sources on salinity management in general, and on sources and disposition of salt in the Central Valley.
- B. ~~{Conduct survey of}~~ Inventory Central Valley food processors to determine volume and composition of wastewater streams; also review data collected by SWRCB, and RWRCBs, as well as discharge permit terms and conditions
- C. Describe wastewater streams by
 - {1. Originating industry}
 - 1. Type of food processing activity (e.g., dairy, fruit processing, cheese manufacturing, winery, etc.)
 - 2. Operating location

- 3. Preventive measures undertaken
- 4. Treatment at source
- ~~{2. Location and management of discharge}~~ ~~{3.}~~ 5. Volume produced and ~~{waste}~~ constituents
- 6. Salt disposal method (e.g. Groundwater infiltration, WWTP with surface water discharge)
- D. Develop a GIS database of plant locations, wastewater disposal areas, and relevant environmental data
- E. ~~{Growth}~~ Develop growth projections by industry and location ~~{using GIS data}~~
 - 1. Review land use projections by census tract prepared by county and regional planning bodies
 - 2. Supplement by specific industry project information obtained by survey
 - 3. Project the locations of future plants and discharge locations
- ~~{F. Characterize role of food processing salt sources relative to other sources}~~

III. Characterize Beneficial Uses of Surface and Groundwater in the Central Valley

- A. By type, both current and projected
- B. Availability of other sources of supply
- C. ~~{Groundwater}~~ Water demand projections
 - 1. Reference regional and county level growth forecasts
 - 2. Account for price impacts and technological change
- ~~{D. Value of groundwater}~~
- D. Willingness to pay for water of varying quality
 - 1. Account for projected supply and demand conditions
 - 2. Consider substitute supplies and conservation options
 - 3. Hedonic analysis to value ~~{groundwater}~~ water availability and quality
 - 4. Programming analysis of ~~{groundwater}~~ water availability and quality
 - 5. Consideration of buffer and option values of groundwater
- ~~{D. Consider groundwater quality as a factor influencing groundwater value}~~
- 6. Consider the costs and feasibility of water treatment by water users
- E. Environmental benefits of improved salt management including source control, treatment and disposal alternatives

IV. Characterize Impairment of Beneficial Uses from Salinity in Food Processing Wastewater

- A. Review available evidence of salinity causing ~~{damages}~~impacts to water quality and beneficial uses
 - B. Project water quality changes and potential ~~{damages}~~impacts based on projected land use

V. Identify and Evaluate ~~{Technical}~~ Options ~~{and Regulatory Issues for Disposal of}~~ for Avoidance, and Management (including source control, treatment, and disposal alternatives) of Saline Wastewater Produced by the Food Processing Industry

- ~~{~~ ~~_____~~ **A. Best management practices** ~~}~~
 - A. Management practices and capital investments to avoid salt discharges from food processing facilities**
 - 1. Identification of sources of salt
 - 2. Removal of products and residuals ~~{quickly}~~
 - 3. Alternatives to manage small saline flows
 - B. In-Basin Management of Salt Discharges from Food Processing Facilities**
 - 1. Deep well injection
 - ~~{~~ ~~_____~~ **1. Establish technical feasibility** ~~}~~
 - ~~{~~ ~~_____~~ **2. Cost** ~~}~~
 - ~~{~~ ~~_____~~ **3. Environmental issues** ~~}~~
 - ~~{~~ ~~_____~~ **a. Sustainability** ~~}~~
 - ~~{~~ ~~_____~~ **b. Other** ~~}~~
 - ~~{~~ ~~_____~~ **C. Use of Publicly Owned Treatment Works (POTWs)** ~~}~~
 - ~~{~~ ~~_____~~ **1. Location** ~~}~~
 - ~~{~~ ~~_____~~ **2. Capacity** ~~}~~
 - ~~{~~ ~~_____~~ **3. Additional controls** ~~}~~
 - ~~{~~ ~~_____~~ **4. Costs** ~~}~~
 - ~~{~~ ~~_____~~ **5. Water quality benefits** ~~}~~
 - ~~{~~ ~~_____~~ **D. Land Application for Treatment and Disposal** ~~}~~
 - ~~{~~ ~~_____~~ **1. Costs** ~~}~~
 - ~~{~~ ~~_____~~ **2. Agricultural benefits** ~~}~~
 - ~~{~~ ~~_____~~ **3. Discharge in relation to ambient conditions** ~~}~~
 - ~~{~~ ~~_____~~ **4. Environmental changes** ~~}~~
 - ~~{~~ ~~_____~~ **a. Consider groundwater impacts from saline and non-saline decomposition by products** ~~}~~
 - ~~{~~ ~~_____~~ **E. Treatment and Reuse for Agricultural Irrigation Supply** ~~}~~
 - ~~{~~ ~~_____~~ **1. Costs** ~~}~~
 - ~~{~~ ~~_____~~ **2. Agricultural benefits** ~~}~~
 - ~~{~~ ~~_____~~ **3. Discharge in relation to ambient conditions** ~~}~~
 - ~~{~~ ~~_____~~ **4. Environmental changes** ~~}~~
 - ~~{~~ ~~_____~~ **F. Isolation and containment of high salinity wastestreams** ~~}~~
 - ~~{~~ ~~_____~~ **1. Costs** ~~}~~
 - ~~{~~ ~~_____~~ **2. Water quality benefits** ~~}~~

{G. Brine line alternatives}

{1. Establish technical feasibility}

~~{a. new lines}~~

~~{b. reuse of existing pipelines and/or rights-of-way}~~

{2. Develop conceptual model of optimal infrastructure}

~~{a. Draw on conveyance economics literature}~~

~~{b. Describe economic tradeoffs in facility design}~~

~~{1. Capacity}~~

~~{2. Length}~~

~~{3. Estimate costs}~~

2. Land application/blending

3. Evaporation ponds

4. POTWs

5. Agroforestry

6. Others to be identified

C. Out-of-Basin Disposal of Saline Wastewater Produced by the Food Processing Industry

1. Characterize volume and concentration of wastewater flows at various locations

2. Describe technological implications of various pipeline configurations with respect to capacity and length

3. Measure costs of various pipeline design alternatives

4. Assess rights-of-way issues

5. Evaluate end-of-pipe issues ~~{(access, water quality)}~~

6. Describe alternatives for financing

~~{6.}~~ **7. Refer to experience in southern California and assess transferability to central and northern California**

~~{H} **D. Identify and evaluate technical options {in-use} for salt management and disposal utilized elsewhere in the United States and {Abroad} abroad**~~

1. Literature review

2. Interviews with public officials and academics

3. Exchange information with Sandia Laboratory study team

~~{I. Salinity treatment by groundwater users—reactive v. preventive strategy}~~

~~{J. Consider regulatory issues raised by each option}~~

~~{VI. Estimate costs and benefits of various alternatives}~~

VI. Evaluation of Management Options Including Source Control, Treatment and Disposal

~~{A. Estimate implementation costs}~~

A. Identify most sustainable and economically efficient strategies to meet water quality objectives

1. Identify pattern of investments and expenditures by various users that meets existing water quality objectives in most efficient manner possible
2. Calculate resource costs needed to attain water quality objectives for various subregions comprising the Central Valley
3. Identify policy options to implement sustainable alternatives, drawing on experience from other environmental regulations. Such measures may include, but are not limited to, emissions trading mechanisms, water markets, taxes and other price incentives, regionally-differentiated regulations, technology subsidies, purchase funds, subsidies for use of saline water, land retirement and technology mandates.

B. Estimate ~~{Impacts Using}~~ regional impacts of various disposal and management alternatives using IMPLAN

- ~~{1. Firms}~~
- ~~{2. Workers}~~
- ~~{3. Consumers}~~
- ~~{4. Regional economies}~~

~~{C. Estimate benefits in terms of reduced plant specific control costs, reduced crop damage and mitigation costs, public health improvement, etc}~~

C. Compare costs of attaining water quality objectives in various subregions with measured willingness to pay to avoid salinity in surface and ground water supplies

D. ~~{Establish}~~ Characterize distribution of benefits ~~{—who benefits from reduced salinity levels, and who benefits from increased salinity levels}~~ and costs of various management options, including environmental justice implications.

~~{E. Compare costs and benefits of various water quality standards by location}~~

~~{F. Compare costs and benefits of salinity treatment by groundwater users—reactive v. preventive strategy}~~

VII. ~~{Investigate Financing and Compliance Alternatives}~~

~~{———A Financing and compliance options}~~

~~{———1. Infrastructure fees or taxes}~~

~~{2. Discharge trading—similar to emissions trading enabling high cost dischargers to purchase lower cost discharge from other dischargers}~~ ~~{VIII.}~~ Review Existing Regulatory Policies and Basin Plans

A. Review existing policies

1. Examine implementation history
2. Review policy in other states and countries

B. Review adequacy of Basin Plans in view of salinity and wastewater characterization

1. Assess need for update
2. Consider role of non-industrial sources

VIII. Study Outcomes

A. Final report (including comments from review panels)

B. Policy recommendations

C. Papers for publication in peer-reviewed scientific journals

D. Conference

IX. ~~{Policy Recommendations}~~

~~{A. Permit Conditions}~~

~~{1. Evaluate the need for local v. regional v. state discharge limits }~~

~~{2. Evaluate discharge limits set to maintain ambient conditions }~~

~~{3. Evaluate limits based on site specific environmental impacts }~~

~~{4. Evaluate discharge permit "cap and trade" system }~~

~~{B. Review optimal salinity level targets}~~

~~{1. Consider who pays and who benefits }~~

~~{2. Consider economic impacts }~~

~~{C. Make Policy Recommendations}~~

~~{D. Provide guidance on basin plan updates} {X.} Staffing~~

A. The study ~~{would}~~ will be directed by David Sunding and Mark Berkman

1. Dr. Sunding, a professor of agricultural and resource economics at U.C. Berkeley ~~{, has studied}~~ and the Director of the Berkeley Water Center, has researched water allocation and water quality issues in California for more than 15 years. He has served as project director/chief investigator on several large -scale policy studies for federal and state agencies ~~{and has worked with the Regional Water Boards}~~ including the U.S. Environmental Protection Agency, the U.S. Fish & Wildlife Service, the California Department of Water Resources and the U.S. Bureau of Reclamation. Dr. Sunding has testified before various House and Senate Committees on matters relating to environmental regulation, water resources, and environmental restoration.
2. Dr. Berkman, a vice president at CRAI, an economics and business consulting firm, has more than 20 years of experience directing large scale studies of environmental, health, and safety regulations. His clients have included federal, state and local agencies including the Oregon Department of Environmental Quality and the New York

City Department of Environmental Protection, as well as Indian tribes~~{,}~~ including the Navajo Nation and the Crow Tribe, and environmental groups, including the Natural Resources Defense Counsel and Save the Bay, industry trade groups, and corporations

B. The study team ~~{would also}~~ will include engineers and hydrogeologists to help ~~{east}~~ identify and evaluate the various technical options identified ~~{C. The study team would also include hydrologists and hydrogeologists to characterize current and projected water supply and quality}~~

C. A Peer Review Panel comprised of primarily academic experts in water quality, engineering and environmental quality, and economics will be formed to review the study design and to review the draft final report. The Peer Review Panelists will review and provide written comments on a draft final report. The study co-directors will incorporate these comments into the final draft. Peer reviewers will then produce a final set of comments on the study based on the revisions. These final comments will be published as part of the final project report.

D. A ~~{Peer}~~ Stakeholder Review Panel ~~{comprised of academics, industry experts, environmental experts, and government officials would be formed to review the study design and to review}~~ will be formed to provide detailed input into the study. Members of the stakeholder panel may include representatives of government agencies, environmental groups, and the food processing industry. Study co-directors will meet regularly with stakeholder panel members and solicit input to the draft and final ~~{report}~~ reports.

E. ~~{The study}~~ Board staff and stakeholders would ~~{be closely involved}~~ monitor progress through

- ~~{1.}~~ 1. Interim progress reports ~~{would be}~~ prepared at least quarterly
2. Presentations ~~{would be}~~ made at several milestones
3. ~~{Stakeholders would}~~ Formal review and comment before completion of the final report.

4. Inclusion of formal comments in the final report

F. Panel Members will be assembled by the Study Directors

1. Peer review panel members will be identified by the Study Directors

- a. The directors will seek recommendations from the Board, the Board staff and stakeholders
- b. The final panel composition will be presented to the Board staff for comment.
- c. The panel will consist of between 4 and 6 members to provide representation of a wide range of disciplines

2. Stakeholder panel members will be identified by the Study Directors

- a. The directors will seek recommendations from the Board and Board staff.

b. The final panel will be presented to the Board staff for comment.

c. The panel will consist of between 12 and 15 members to provide representation of a wide range of perspectives, and will include a representative of the Board if requested by the Board.

d. Presentations to the stakeholder panel will be public allowing for even greater participation of stakeholders not on the panel and other interested parties. Adequate public notice will be given to promote participation.

~~{XI}~~X. Budget and Schedule

A. This study could be completed in 78 weeks

B. A timeline for the study is attached

C. The budget for this study is \$1 million inclusive of any external audit expenses.

D. The level of emphasis on the various components of the study to accommodate this budget will be determined during the design phase in consultation with the peer and stakeholder review ~~{panel}~~ panels.

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