CVCWA
Central Valley Clean Water Association
Representing Over Fifty Wastewater Agencies

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February 8, 2011

Submitted Via U.S. Mail and Electronic Mail
Kari Kyler
State Water Resources Control Board
P.O. Box 2000
Sacramento, California 95812-2000
bay-delta@waterboards.ca.gov

Re: The Central Valley Clean Water Association's Comments on the Review of, and Potential Amendments to, the San Joaquin River Flow and Southern Delta Salinity Objectives

Dear Ms. Kyler:

The Central Valley Clean Water Association (CVCWA) submits these comments regarding the State Water Resources Control Board's (State Water Board) review of, and potential amendments to, the San Joaquin River flow and southern Delta salinity objectives in the 2006 *Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary* (2006 Bay-Delta Plan). CVCWA is a non-profit organization that represents more than 50 publicly owned treatment works (POTWs) throughout the Central Valley Region in regulatory matters affecting surface water discharge and land application. Our POTW members must comply with waste discharge permits issued by the Central Valley Regional Water Quality Control Board (Central Valley Water Board) implementing applicable water quality objectives. We approach these matters with a perspective to balance environmental and economic interests consistent with state and federal law.

A primary concern for CVCWA is the application of salinity objectives throughout the southern Delta, beyond the compliance points identified in the Bay-Delta Plan. Our concerns are discussed in detail below. Since the 2006 amendments to the Bay-Delta Plan were adopted, the Central Valley and State Water Boards have interpreted the southern Delta salinity objectives to apply to POTW discharges to protect the agricultural beneficial use. These objectives are currently 700 micromhos per centimeter (μmhos/cm) electrical conductivity (EC) (April-August) and 1,000 μmhos/cm EC (September-March). (2006 Bay-Delta Plan at p. 13.) In addition, the boards have applied the objectives beyond the four discrete compliance points specified in the Bay-Delta Plan. (*Ibid*.) Current application of the objectives to locations outside the four compliance points and specifically to POTWs is improper, as the State Water Board did not comply with Water Code sections 13000, 13241 and 13242 in adopting the original salinity objections as well as in adopting the 2006 amendments.

As a preliminary matter, CVCWA does not advocate that POTWs be free from salinity regulation. Rather, we are concerned with POTWs having to install and operate extremely expensive treatment technology that will not provide meaningful benefit to the Delta. If the southern Delta salinity objectives are to apply throughout the south Delta and to POTWs, the State Water Board must first consider the Water Code sections 13000 and 13241 factors and adopt an implementation program that complies with Water Code section 13242. As explained below, these prerequisite steps include adequate consideration of economic impacts associated with compliance costs balanced against any environmental benefit to be obtained. Further, the State Water Board must develop an implementation program that describes the actions necessary to achieve the objectives and recommends how POTWs and others would comply with the objectives. We respectfully request that the State Water Board conduct the requisite analysis under Water Code sections 13000 and 13241, and provide the implementation program mandated by Water Code section 13242 to determine the appropriateness of applying the salinity objectives outside the four compliance points identified in the Bay-Delta Plan and POTW discharges.

A. The 2006 Water Quality Objectives Were Improperly Adopted and Therefore Do Not Lawfully Apply to POTWs Nor the Entire Southern Delta

Until 2006, the southern Delta salinity objectives did not apply to municipal discharges and applied only at discrete locations identified in the Bay-Delta Plan. As explained below, its history, Revised Water Right Decision 1641 (D-1641) and the 2005 Manteca Order[1] reveal as much. The 2006 amendments to the Bay-Delta Plan did not change the objectives despite substantial evidence that they are unnecessary to

[1] *In the Matter of the Petition of City of Manteca for Review of Waste Discharge Requirements Order No. R5-2004-0028*, Order WQ 2005-0005 (2005 Manteca Order).

protect the agricultural beneficial use.[2] (State Water Board Resolution No. 2006-0098 (Dec. 13, 2006); Tracy Order[3] at p. 8, n12 [notes the objectives are unchanged from the prior Bay-Delta Plan].) However, added to the Bay-Delta Plan was the following:

> Unless otherwise indicated, *water quality objectives cited for a general area, such as for the southern Delta, are applicable for all locations in that general area* and compliance locations will be used to determine compliance with the cited objectives. (2006 Bay-Delta Plan at p. 10, emphasis added.)

In addition, the State Water Board amended the implementation program to require "discharge controls on in-Delta discharges of salts by agricultural, domestic, and *municipal* discharges." (2006 Bay-Delta Plan at p. 28, emphasis added.) This was the first time the Bay-Delta Plan called for potential attainment of the southern Delta salinity objectives by controlling municipal discharges. The 2006 amendments removed a footnote clarifying the compliance locations and entities responsible for complying with the objectives. (See *id.* at p. 13; *Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary*, 95-1WR, May 1995 (1995 Bay-Delta Plan) at p. 17.) The State Water Board deemed these changes to be non-substantive even though they substantially altered the regulatory requirements for the objectives, and the State's application thereof. (State Water Board Resolution No. 2006-0098 at p. 2.) The 2006 Bay-Delta Plan supersedes all prior versions of the Bay-Delta Plan. (2006 Bay-Delta Plan at p. 1.)

Based on the 2006 amendments, the Central Valley and State Water Boards have applied the salinity objectives to POTWs and at locations other than the four compliance points identified in the Bay-Delta Plan. (See e.g., Order No. R5-2009-0095[4] at pp. F-50 to F-51; Tracy Order at pp. 5-10; Stockton Order[5] at p. 5.) As these comments explain, such regulation of POTWs is improper and violates the Water Code.

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[2] "The water quality objectives in Table 2 provide reasonable protection of the beneficial use AGR . . . *These objectives are unchanged from the 1991 Bay-Delta Plan*." (2006 Bay-Delta Plan at p. 11, emphasis added.)

[3] *In the Matter of the Petition of Environmental law Foundation and California Sportfishing Protection Alliance for Review of Waste Discharge Requirements Order No. R5-2007-0136 and Time Schedule Order No. R5-2007-0037* (May 19, 2009) (Tracy Order).

[4] *Waste Discharge Requirements for City of Manteca and Dutra Farms, Inc., City of Manteca Wastewater Quality Control Facility,* R5-2009-0095 (adopted Oct. 8, 2009).

[5] *In the Matter of the Petitions of City of Stockton, California Sportfishing Protection Alliance, San Luis & Delta-Mendota Water Authority and Westlands Water District for Review of Waste Discharge Requirements Order No. R5-2008-0154*, Order WQ 2009-0012 (Oct. 6, 2009) (Stockton Order).

1. The Salinity Objectives Were Not Intended to Apply to POTWs or the General Geographic Areas Near the Specified Locations Until the 2006 Bay-Delta Plan Amendments

Prior to the 2006 amendments, the Bay-Delta Plan relied primarily on responsibilities assigned to water right holders through water rights proceedings to implement the EC objectives. The State Water Board established the EC objectives in the 1978 version of the Bay-Delta Plan to protect the agricultural beneficial use. (See *Water Quality Control Plan, Sacramento-San Joaquin Delta and Suisun Marsh*, Aug. 1978 (1978 Bay-Delta Plan) at p. VI-29.) The objectives specified EC levels of 0.7 millimhos per centimeter (mmhos/cm) or 700 μmhos/cm (April 1-August 31) and 1.0 mmhos/cm or 1000 μmhos/cm (September 1-March 31). (*Ibid.*) The objectives applied at four locations—Vernalis on the San Joaquin River, two Old River locations and Brandt Bridge. (*Ibid*.) This was the first time the State Water Board fully combined its water quality and water rights functions to develop a set of water quality objectives. (*Id*. at p. I-2.) The plan stated that the State Water Board would adopt a *water right* decision to implement the objectives. (*Id*. at p. VII-2.) The clear intent was to control *water quantity/flow* in the Delta—not municipal discharges—to meet the EC objectives.

The 1991 version of the Bay-Delta Plan carried forward the EC objectives and four compliance points and established associated compliance schedules. (*Water Quality Control Plan for Salinity, San Francisco Bay/Sacramento-San Joaquin Delta Estuary* 91-15WR, May 1991 (1991 Bay-Delta Plan) at Table 1-1, p. 4 of 8, p. 7-4.) Like the 1978 Bay-Delta Plan, the 1991 version did not apply the EC objectives to POTWs. Rather, the plan required that the "salinity objectives [be] largely met by the regulation of water flow." (*Id.* at p. 2-2; see 2005 Manteca Order at p. 13.) The 1991 Bay-Delta Plan stated that if the California Department of Water Resources (DWR), United States Bureau of Reclamation (USBR) and the South Delta Water Association negotiated a contract, it would be reviewed and could result in revision of the objectives and compliance points. (*Ibid*.) Further, the plan established a goal to reduce salt loadings to the San Joaquin River by at least 10 percent through increased irrigation efficiency. (1991 Bay-Delta Plan at p. 7-4.) The 1991 Bay-Delta Plan refers to development of a salt load reduction policy to "be achieved through development of best management practices and waste discharge requirements *for non-point source dischargers.*" (*Id.* at p. 7-5, emphasis added; see 2005 Manteca Order at p. 7.)

The 1995 Bay-Delta Plan incorporated the 1991 Bay-Delta Plan's EC objectives at the four compliance points, but delayed the implementation date for the two Old River sites. (1995 Bay-Delta Plan at pp. 14, 17; 2005 Manteca Order at p. 7.) The plan stated that the State Water Board would evaluate implementation measures for the objectives during a *water rights proceeding*. (1995 Bay-Delta Plan at p. 29; 2005 Manteca Order at p. 8.) While the 1995 Bay-Delta Plan continued to place primary compliance

responsibility on USBR and DWR, the implementation program also implicated agricultural drainage flows:

> Elevated salinity in the southern Delta is caused by low flows, salts imported in irrigation water by the State and federal water projects, and discharges of land-derived salts primarily from agricultural drainage. *Implementation of the objectives will be accomplished through the release of adequate flows to the San Joaquin River and control of saline agricultural drainage to the San Joaquin River and its tributaries.* (1995 Bay-Delta Plan at p. 29, emphasis added.)

In March 2000, the State Water Board adopted D-1641 addressing the relationship between water diversions (flow) and implementation of water quality objectives for the Delta. D-1641 found that "the actions of the CVP [Central Valley Project] are the *principal cause of the salinity concentrations* exceeding the objectives at Vernalis." (D-1641 at p. 83, emphasis added.) The State Water Board explained that "[w]ater quality in the southern Delta downstream of Vernalis is influenced by San Joaquin River inflow; tidal action; diversions of water by the SWP [State Water Project], CVP, and local water users; agricultural return flows; and channel capacity." (*Id.* at p. 86.) D-1461 deferred compliance with the 700 μmhos/cm EC objective at Brandt Bridge and Old River until 2005 and confirmed that obtaining the EC objectives in the 1995 Bay-Delta Plan was USBR and DWR's responsibility. (See *id*. at pp. 87-88, 182 n5.) D-1461 stated that the State Water Board would consider revising the objectives if the salinity-control projects of USBR and DWR failed to attain the objectives. (*Id.* at p. 88.)

In 2004, the State Water Board adopted a resolution affirming the Bay-Delta Plan as it then existed. (State Water Board Resolution No. 2004-0062 (Sept. 30, 2004) at p. 3; 2005 Manteca Order at p. 10.) In adopting the staff report, the State Water Board accepted the recommendation to receive information on whether to amend the EC objectives. (Resolution No. 2004-0062 at p. 1; 2005 Manteca Order at p. 10.) The State Water Board also agreed to consider whether to amend the associated implementation program. (Resolution No. 2004-0062 at p. 2; 2005 Manteca Order at p. 10.) At no time did the State Water Board identify treated municipal discharges as a source of salinity in the southern Delta to be regulated under the Bay-Delta Plan.

The State Water Board's 2005 Manteca Order acknowledged that municipal dischargers are not part of the Bay-Delta Plan's program to implement the southern Delta salinity objectives.[6] (2005 Manteca Order at p. 13.) The State Water Board reached

[6] As a result of concluding in the 2005 Manteca Order that the EC objectives did not apply to POTWs, the State Water Board revised the City of Manteca's permit to delete the water quality-based effluent limitations for EC that the city was unable to meet. (2005 Manteca Order at pp. 14-15.)

several conclusions regarding the objectives in adopting the 2005 Manteca Order. (*Id.* at pp. 10-12.) For example, the State Water Board found:

> [A]lthough discharge of treated wastewater to the Delta or its tributaries under an NPDES permit can affect EC in the southern Delta, *previous State Board decisions and water quality control plans do not discuss treated effluent discharges as a source of salinity in the southern Delta. Similarly, previously adopted implementation programs for complying with the EC objectives in the southern Delta have focused primarily on providing increased flows and reducing the quantity of salts delivered to the Delta and its tributaries by irrigation return flows and groundwater.* The record also establishes that the implementation date for actions to implement the 0.7 mmhos/cm EC objective for April through August has been repeatedly postponed and that the State Board recently adopted a report recommending review of southern Delta EC objectives. *Revised Water Right Decision 1641 places primary responsibility for meeting the EC objectives on the Department of Water Resources and the Bureau of Reclamation . . . .* (*Id.* at pp. 10-11, emphasis added.)

2. The State Water Board Did Not Conduct the Water Code Analysis and Develop the Implementation Program Required for the Salinity Objectives to Apply to POTWs

The 2006 Bay-Delta Plan amendments related to the EC objectives were substantive nature in that the amendments significantly altered the objectives' geographic scope and applied them to municipal discharges for the first time. The amendments occurred in violation of the reasonableness requirements of Water Code section 13000 and 13242, absent the analysis mandated by Water Code section 13241, and without the comprehensive implementation plan required by Water Code section 13242.[7]

A fundamental requirement of basin planning is the duty to regulate water quality in a *reasonable* manner. (See *United States v. State Water Resources Control Board* (1986) 182 Cal.App.3d 82, 116, 122.) Under Water Code section 13000, activities affecting water quality "shall be regulated to attain the highest water quality which is

[7] CVCWA is aware of the recent decision in *City of Arcadia v. State Water Resources Control Board* (2010) 191 Cal.App.4th 156 (*Arcadia*). In *Arcadia*, the Court of Appeal overturned the trial's court ruling that the Los Angeles Regional Water Quality Control Board was obligated to consider Water Code sections 13000 and 13241 when conducting the 2004 triennial review of the basin plan. (*Id.* at p. 177.) *Arcadia* is distinguishable from the present case primarily because that case involved stormwater and the court found (based on the record) that the board considered the requisite Water Code factors with regard to stormwater when adopting a prior version of the basin plan and the challenged municipal stormwater permit and bacteria objectives. (*Id.* at pp. 166, 177-178.)

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." (Emphasis added.) Moreover, Water Code section 13241 requires the State Water Board to adopt water quality objectives to "ensure the *reasonable* protection of beneficial uses . . . ." (Emphasis added.) Water Code section 13241 "recognize[s] that it may be possible for the quality of water to be changed to some degree without unreasonably affecting beneficial uses." The factors that the State Water Board must consider when it adopts water quality objectives include:

(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. (Wat. Code, § 13241.)

The State Water Board's Office of Chief Counsel has explained the duty to be reasonable under Water Code section 13241 as a "balancing" of environmental and economic factors. (Memorandum to Regional Water Boards from W. R. Attwater, Office of Chief Counsel, State Water Board (Jan. 4, 1994) (Attwater Memo) p. 3.); see *United States v. State Water Resources Control Board* (1986) 182 Cal.App.3d at pp. 116, 121-122.) "[E]conomic considerations are a necessary part of the determination of reasonableness." (Attwater Memo at p. 3.) The water boards must assess the costs of an adopted or amended objective based on: (1) whether it is being attained; (2) the methods available to achieve compliance if the objective is not being attained; and (3) the costs of those methods. (*Id.* at p. 1.) The State Water Board has an "affirmative duty" to consider any information on compliance costs or other economic impacts provided by the regulated community and other interested parties. (*Ibid*; see *City of Arcadia v. State Water Resources Control Board* (2006) 135 Cal.App.4th 1392, 1415.) If the potential economic impacts are significant, the State Water Board must articulate why the objective is necessary to protect beneficial uses in a reasonable manner despite the adverse consequences. (Attwater Memo at p. 3.) Where an amended objective is at issue, the associated staff report or resolution may address the economic considerations. (*Id.* at pp. 1-2.)

When the State Water Board adopts new or modified water quality objectives, it must include a program of implementation describing the actions necessary to achieve

the objectives. (Wat. Code, § 13242.) This includes recommendations for appropriate action by any public or private entity, such as POTWs. (Wat. Code, § 13242(a).)

The record for the 2006 amendments to the Bay-Delta Plan and Bay-Delta Plan itself demonstrate that the State Water Board did not fulfill its duties under Water Code sections 13000, 13241 and 13242. There is no analysis in the administrative record as to the costs of applying the southern Delta salinity objectives to POTWs or areas beyond the original compliance locations. For example, the State Water Board failed to develop or consider any information on the costs associated with treatment technologies, such as microfiltration/reverse osmosis. (See *In the Matter of the Review on Own Motion of Waste Discharge Requirements Order No. 5-01-044*, Order WQO 2002-0015 (Oct. 3, 2002) at p. 35.) Due to the failure to consider economics, attainability, and the other factors required by law, application of the objectives to POTWs and expanded locations violates Water Code sections 13000 and 13241. Further, the 2006 amendments violated Water Code section 13242 by failing to include an implementation program that addresses how POTWs would comply with the expanded applicability of the objectives and recommends compliance actions.

B. For Southern Delta Salinity Objectives to Apply to POTWs or Beyond the Four Compliance Points Listed in the Bay-Delta Plan, the State Water Board Must Comply with Water Code Sections 13000, 13241 and 13242

Unless and until the State Water Board amends the southern Delta salinity objectives and associated implementation program in accordance with Water Code sections 13000, 13241 and 13242, the objectives cannot lawfully apply to municipal discharges, or beyond the compliance locations listed in the Bay-Delta Plan. As previously explained, amending the objectives to apply to POTWs requires the State Water Board to balance environmental benefits and economic costs associated with POTW compliance. This means the State Water Board must consider any information the regulated community and others submit regarding the potential need for, and associated costs of, installing and operating advanced treatment technologies.

C. Additional Factors to Consider in Evaluation of the Southern Delta Salinity Objectives

Other factors the State Water Board must consider where information is available include, but are not limited to, the water quality reasonably required to protect beneficial uses; the degree to which POTWs contribute to existing salinity levels in the Delta; and whether POTWs may reasonably achieve meaningful reductions in salinity levels. The information is available to the State Water Board to perform the analyses called for in Water Code sections 13000, 13241 and 13242.

With respect to the water quality reasonably required to protect the agricultural beneficial use, the State Water Board must consider recent scientific studies. One such

study indicates that the 700 μmhos/cm is more restrictive than necessary. (See *Salt Tolerance of Crops in the Southern Sacramento-San Joaquin Delta*, Dr. Glenn Hoffman, January 5, 2010 (Hoffman Report).) In the Hoffman Report, transient and steady state models of the factors effecting irrigation water quality requirements were evaluated for use with conditions existing in the southern Delta. CVCWA maintains the transient models would ultimately be the preferred method to evaluate irrigation water requirements. Until the transient models are further developed and validated against field studies, CVCWA supports the State Water Boards use of the exponential steady-state model that incorporates effective rainfall as recommended in the Hoffman Report. CVCWA urges the State Water Board to support the development of transient models as they are identified as superior to steady state models. (*Id.* at p. 102.) The approaches contemplated in the Hoffman Report to determine appropriate salinity requirements for the southern Delta conditions result in EC objectives of 800 μmhos/cm to 1,400 μmhos/cm to protect crops during the summer irrigation season. (*Id.* at pp. 100.) However, under conditions reflective of the irrigation practices employed in the southern Delta, the Hoffman Report finds the objective could be increased to as high as 900 μmhos/cm to 1,100 μmhos/cm and all of the crops normally grown in the southern Delta would be protected. (*Id.* at p. 101.)

It is well established that the POTW discharges are minor contributors to the salinity in the southern Delta. As discussed above, the modeling performed in coordination with the Central Valley Water Board and DWR demonstrated the POTW discharges have minor effects on the salinity levels in the southern Delta, such effects have been described as "small even under reasonable worst-case conditions." (Delta Simulation Model II, City of Tracy and MHSCD (Mar. 29, 2007).) The State Water Board's own data confirm that *all* of the municipal discharges to the San Joaquin River *collectively* contribute less than 1 percent of the total salt loading. (San Joaquin River Annual Salt Loading WY 1985-1995, included in Materials for April 15, 2009 Special Meeting of the State Water Resources Control Board regarding Salinity Issues at p. 0009.) The technical report developed by the State Water Board demonstrates that the salt load from POTWs specifically in the southwestern portion of the southern Delta are a small percentage of the salt load entering Old River from upstream. (See *Draft Technical Report on the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives*, October 29, 2010; p.74)

Regarding the achievability of water quality conditions, the State Water Board must evaluate discharges from POTWs and take into account the effect of POTWs on Delta salinity levels is minute as compared to other sources. As such, limitations on POTW effluent salinity will have a minute affect on the salinity levels in the southern Delta. Furthermore, the reasonableness evaluation also requires consideration of fiscal and other economic impacts (e.g., compliance costs) on POTWs when adopting objectives applicable to municipal discharges. If, after considering all the pertinent information, the State Water Board properly adopts salinity objectives applicable to

POTWs despite adverse economic or other consequences, it must articulate why any such objectives are necessary for the *reasonable* protection of the beneficial use. Further, the State Water Board would have to develop an implementation program that describes how POTWs, other point and non-point discharges, and CVP and SWP operations would *reasonably* comply with the objectives.

In summary, CVCWA respectfully requests the State Water Board fulfill the requirements of Water Code sections 13000, 13241 and 13242 prior to upholding the 2006 amendments to the Bay-Delta Plan effectively applying salinity objectives beyond the four compliance points in the southern Delta and specifically to POTW discharges. Sufficient information is available to perform the evaluations specified in the Water Code and outlined in the Attwater Memo. Furthermore an implementation plan would be required in the event the State Water Board adopts objectives that apply beyond the four compliance points or to POTW discharges. Finally, CVCWA encourages the State Water Board to coordinate its efforts with the CV-Salts process, which is currently underway in the Central Valley.

CVCWA appreciates your consideration of these comments. If you have any questions or we can be of further assistance, please contact me at (530) 268-1338 or eofficer@cvcwa.org.

Sincerely,

Debbie Webster

Debbie Webster
Executive Officer