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VIA EMAIL - glenn.meeks@waterboards.ca.gov

Dr. Karl Longley and Board Members (
Ms. Pamela Creedon and Mr. Patrick Pulupa, Executive Officers
(Pamela.Creedon@waterboards.ca.gov and Patrick.Pulupa@waterboards.ca.gov)
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, #200
Rancho Cordova, California 95670-6114

Re: Proposed Basin Plan Amendments related to Central Valley Salt and Nitrate Control

Dear Regional Board Members and Ms. Creedon:

Valley Water Management Company (Valley Water), a non-profit oil field produced water management organization in Kern County, has been participating in CV-SALTS since late 2015 and is currently a member of the Executive Board and of the Central Valley Salinity Coalition (CVSC). Valley Water is generally supportive of the proposed Basin Plan amendments, which represents many years of stakeholder and Regional Board staff involvement and compromise. However, Valley Water submits the following substantive comments primarily related to the regulation of boron and Maximum Contaminant Levels (MCLs), along with other comments. In addition to the comments contained in this letter, Valley Water previously provided typographical and editorial corrections to the draft Staff Report and Basin Plan Amendments to Regional Water Board staff. Valley Water hopes that the Board will seriously consider and incorporate the changes requested herein into the final Basin Plan Amendments (BPA).

Primary Issue Statement:

The Tulare Lake Basin Plan currently contains implementation provisions in Chapter 4 that include stringent salinity and boron effluent limits. The recently proposed Basin Plan Amendment language issued on March 22nd includes strikeouts of the salinity limits in Chapter 4, as currently shown on pages 51-52 of the proposed amendments, but not of the boron limits even though Valley Water has raised boron as an important issue bound up with the regulation of salinity since its involvement in CV-SALTS began.

If these amendments were to take effect as proposed, then the only remaining limit in these sections of Chapter 4 would be 1 mg/L boron. This number is NOT a water quality objective (WQO) and the derivation of this 1.0 mg/L boron limit is generally not known. Regional Board

staff has said that this number was traced in the files back to 1970 water quality control policies adopted prior to the first official Basin Plan in 1974. The intent of including these numbers in the Basin Plan was to grandfather in the earlier policies, protect groundwater overall, and limit degradation even though many areas in the Tulare Basin exceeded this value at that time.¹ According to Regional Board staff, 0.5 mg/L had originally been proposed as a water quality objective in 1974, but that number was never adopted.

The Sacramento River/San Joaquin River (SJR) Basin Plan WQOs for boron contain water quality objectives with an average monthly concentration of 0.8 mg/L from March 15 to September 15, 1.0 mg/L from September 16 to March 14, and 1.3 mg/L during critical year types for the SJR from the Merced River to Vernalis. The Basin Plan also stipulates a maximum concentration of 2 mg/L from March 15 to September 15, and 2.6 mg/L from September 16 to March 14, during non-critical year types for the SJR from the mouth of the Merced River to Vernalis.

Table 7-1 Lower San Joaquin River Boron Water Quality Objectives.

Period of Applicability	Maximum (mg/L)	Monthly Mean (mg/L)	Critical ^[1] WY Monthly Mean (mg/L)
March 15 th through September 15 th	2.0	0.8	1.3
September 16 th through March 14 th	2.6	1.0	1.3

¹ Table IV-3, Basin Plan

The Sacramento/SJR Basin Plan’s Table III-1 includes boron objectives for Salt Slough, Mud Slough (north), San Joaquin River from Sack Dam to the mouth of Merced River of 5.8 mg/L maximum, with 2.0 mg/L as a monthly maximum from 15 March to 15 September.

These WQOs are presumably established to be sufficiently protective of beneficial uses, including agriculture to avoid boron toxicity in plants, which is characterized by leaf malformation (such as leaf cupping in young grape leaves) and by thickened, curled, wilted, and chlorotic leaves (CVRWQCB 2004b).

¹ For example, the Tulare Lake Basin Plan at p. IV-3 recognizes that “Levels of boron, molybdenum, sulfates, and chlorides in the Lower Kings River are high enough to impact agricultural uses and aquatic resources.” However, boron in groundwater is not confined to the Tulare Lake region. The State Water Board cited statistics in November of 2017, that 175 out of 3,292 wells tested between 2007 and 2017 (approximately 5%) had boron levels exceeding 1 mg/L boron. See https://www.waterboards.ca.gov/gama/docs/coc_boron.pdf. The counties with the most affected wells were Yolo (23), San Joaquin (20), and Contra Costa (20); areas that are not regulated using the 1 mg/L limit currently in the Tulare Lake Basin Plan. (*Id.*) Pushing off inclusion of boron in these policies until the P&O Study, as proposed on pg. 321, is not acceptable.

If these levels (some of which exceed 1.0 mg/L) are adequately protective, then a 1 mg/L across-the-board boron limit, which has been interpreted to be an instantaneous maximum, is unnecessary and unreasonable to be applied as an effluent limit to affected dischargers only in the Tulare Lake Basin Plan. As with the Draft Amendments's appropriately removal of the salinity limits, salinity annual increases, and consumption use guidelines from the Tulare Lake Basin Plan, the boron limits should be removed because their applicability today to wastewater is questionable. As with the proposed removal of the salinity limits, removal of the boron limits will not cause further degradation because any necessary effluent limits can be included based upon the applicable narrative water quality objective instead, as discussed below.

Request #1:

Remove both salinity and boron limits from Chapter 4 of the Tulare Lake Basin Plan.

Valley Water supports the removal of the salinity limits from Chapter 4 of the Tulare Lake Basin Plan because the entire region should be regulated consistently for salinity. This consistency should include boron. Maintaining the current Tulare Lake Basin Plan limits creates a disparity in how salinity and boron are treated in one of the three sub-regions of the Central Valley. No justification exists for maintaining this disparate treatment.

Currently, in the remainder of the Central Valley Region, constituents, such as boron, which do not have an adopted numeric objective, are regulated through the use of the narrative Toxicity objective.² The modifications proposed by Valley Water would make the Tulare Lake Basin Plan consistent with the other Basin Plan in the Central Valley Region in this regard. Without these specific numeric limits, the Regional Board would then determine whether effluent limitations are reasonably necessary on a case-by-case basis, in light of site-specific conditions, and must comply with Water Code sections 13000, 13263, and if applicable 13377 (for surface water discharges). See *accord* precedential order of *In re Matter of the City of Woodland*, SWRCB Order No. WQO 2004-0010 (2004) and confirmatory court opinion in *City of Woodland v. California Regional Water Quality Control Board, Central Valley Region*, Case No. RG04-188200, Order Granting Writ of Administrative Mandamus (May 16, 2005).

This determination requires a review of available criteria. Those criteria pertain to particular beneficial uses, such as agricultural (AGR) or municipal drinking water (MUN) uses. Several sources are available to be used to translate the narrative criteria, but those criteria need to be considered based on a site-specific analysis.

For example, Ayers & Westcot (1994) at Table 16 contains boron sensitivity levels for various crops, which are estimated to range from 0.5 mg/L for very sensitive crops (such as lemons and blackberries) to 15 mg/L for very tolerant crops (such as cotton and asparagus). Not only does this table recommend levels based on the actual crops that could be affected, but this table also recognizes that "Boron tolerances vary depending upon climate, soil conditions and crop

² See *Proposed Executive Summary* at p. 9 – "For salts, numeric water quality objectives have been established to protect AGR for certain water bodies in the Central Valley. For all other water bodies, no numeric water quality objective has been established for salt to protect the beneficial use. These Basin Plan Amendments do not change these objectives."

varieties,” and that “Factors affecting tolerance include climate, irrigation management, leaching fraction, drainage, growth stage of the crop and crop maturity date.” The frequency of harvest can also affect boron uptake; “Alfalfa grown in the Clear Lake area of California using relatively high boron water (> 10 mg/l) is apparently cut frequently enough to avoid recognizable problems; similarly, golf course greens at Calistoga, California, irrigated with high boron wastewater (2 to 3 mg/l) have not shown toxicity symptoms, presumably for the same reason.”

Thus, prior to imposing an effluent limit for boron on agricultural discharges, other discharges to land or navigable waters, or oil field wastewater under either Basin Plan, the Regional Board would consider the proximity to agriculture, types of local crops, climate, irrigation type and leaching, crop stage, harvest frequency, and other site-specific factors, instead of applying the single not-to-exceed 1 mg/L limit currently included in the Tulare Lake Basin Plan.

Relative to drinking water, boron is an unregulated chemical without an established Maximum Contaminant Level (MCL). See https://www.waterboards.ca.gov/gama/docs/coc_boron.pdf The California State Notification Level (CA-NL) is 1 mg/L (*id.*), but the Action Level for recommending source removal occurs at ten times that amount, or 10 mg/L.

https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/NotificationLevels.shtml

Thus, no adopted drinking water standard justifies an across-the-board limit of 1 mg/L. Site specific considerations would need to occur prior to determining that a limit was necessary to protect any MUN use, particularly since the Basin Plans “do not require improvement over naturally occurring background concentrations.”

For these reasons, Valley Water respectfully requests that the implementation sections in Chapter 4 of the Tulare Lake Basin Plan related to boron be removed. Alternatively, the boron limit should be changed to a reference to the applicable boron objective. However, since these changes merely reflect existing law, this language does not need to be included and removal is preferred.

Proposed Language Changes (currently proposed text modifications are shown in black ~~strikeout~~; new changes are shown in red):

- Pg. 51 - Irrigated Agriculture³ - Tulare Basin Plan Pg. IV-3

Agricultural drainage may be discharged to surface waters provided it does not ~~exceed 1,000 μ mhos/cm EC, 175 mg/l chloride, nor 1 mg/l boron~~ cause the receiving water to exceed an applicable water quality objective for boron. Other requirements may also apply. An variance or exception from an imposed the EC and/or the chloride boron limit for agricultural drainage discharged to surface waters may be permitted consistent with the Variance Policy or Program for Exception from Implementation of Water Quality Objectives for Salinityboron.

³ Attachment A, Table 4 in the Lower San Joaquin River Salinity BPA shows that agricultural drainage from the San Luis Drain varied over time, but levels generally registered between 4 and 14 mg/L. Therefore, agricultural levels can be similar to levels seen in produced water.

- Pg. 51 - Discharges to Navigable Waters - Tulare Basin Plan Pg. IV-10

Discharges shall not ~~cause the receiving water to~~ exceed an EC of 1,000 µmhos/cm, a chloride content of 175 mg/l, or a boron content of 1.0 mg/l an applicable water quality objective for boron.

- Pgs. 51 and 52 - Discharges to Land – Tulare Basin Plan Pg. IV-11

Discharges to areas that may recharge to good quality ground waters shall not ~~cause the receiving water to~~ exceed an EC of 1,000 µmhos/cm, a chloride content of 175 mg/l, or a boron content of 1.0 mg/l an applicable water quality objective for boron.

An exception from ~~the an imposed~~ EC and/or the chloride boron limit for discharges to land may be permitted consistent with the Program for Exception from Implementation of Water Quality Objectives for Salinity.⁴

- Pg. 52 - Oil Field Wastewater – Tulare Basin Plan Pg. IV-15

~~Maximum salinity boron~~ Limits for wastewaters in unlined sumps overlying ground water with existing and future probable beneficial uses ~~are 1,000 µmhos/cm EC, 200 mg/l chlorides, and 1 mg/l boron~~ shall not cause the receiving water to exceed an applicable water quality objective for boron, except in the White Wolf subarea where more or less restrictive limits apply. The limits for the White Wolf subarea are discussed in the “Discharges to Land” subsection of the “Municipal and Domestic Wastewater” section.

⁴ The following sections are not included in the proposed BPA changes for some unexplained reason, but should be modified similarly as these are also not WQOs:

In the Poso Creek Subarea, discharges shall not ~~cause the receiving water to~~ exceed ~~1,000 µmhos/cm EC, 200 mg/l chlorides, and 1.0 mg/l boron~~ an applicable water quality objective for boron. The Poso Creek subarea consists of about 35,000 acres of land between State Highways 99 and 65 about six miles north of Bakersfield, and is defined more specifically in Regional Water Board Resolution No. 71-122, which is incorporated by reference into this plan.

In the White Wolf Subarea only, the following shall be considered when translating the narrative toxicity objective for application in waste discharge requirements and shall use averaging periods consistent with those set forth in the Secondary Maximum Contaminant Level Policy. For areas overlying Class I irrigation water, discharges shall not exceed 1,000 µmhos/cm EC, 175 mg/l chlorides; 60 percent sodium, and 1.0 mg/l boron. For areas overlying Class II or poorer irrigation water, discharges shall not exceed 2,000 µmhos/cm EC, 350 mg/l chlorides, 75 percent sodium, and 2 mg/l boron. In areas where ground water would be Class I except for the concentration of a specific constituent, only that constituent will be allowed to exceed the specified limits for Class I water. In no case shall any constituent be greater than those limits specified for areas overlying Class II irrigation water. The White Wolf subarea consists of 64,000 acres within the valley floor, at the southern tip of the Tulare Lake Basin, about 20 miles south of Bakersfield. The subarea is bounded on the west by the San Emigdio Mountains, on the south and east by the Tehachapi Mountains, and on the north by the White Wolf Fault.

Criteria for mineral quality of irrigation water is described below:

Constituent	Class I	Class II	Class III
TDS (mg/l)	<700	700 - 2,000	>2,000
EC (µmhos/cm)	<1,000	1,000 - 3,000	>3,000
Chlorides (mg/l)	<175	175 - 350	>350
Sodium (percent base constituents)	<60	60 - 75	>75
Boron (mg/l)	<0.5	0.5 - 2	>2

- Discharges of oil field wastewater that exceed the ~~above maximum salinity~~ proposed limits for boron may be permitted to unlined sumps, stream channels, or surface waters if the discharger successfully demonstrates to the Regional Water Board in a public hearing that the proposed discharge will not substantially affect water quality nor cause a violation of water quality objectives in the receiving water.
- An exception from ~~the an imposed EC and/or the chloride~~ boron limit may also be permitted consistent with the Program for Exception from Implementation of Water Quality Objectives for Salinityboron.

These proposed changes are consistent with the proposal to remove the salinity limits from the Tulare Basin Plan, and create greater consistency in salinity regulation, including for boron, on a Central Valley-wide basis. The text on pg. 220 should also be modified to explain that boron limit is being removed for the same reasons as salinity limits (e.g., proven to be overly restrictive, etc.).

Request #2:

Incorporate boron into the definition of “Salinity” in the Basin Plan Amendments and regulate boron as a constituent of salinity/salt under the Conservative or Alternative Salinity Permitting Approaches.

- **Modify the “Salinity” definition on pg. 85 as follows (red underlining added):**

SALINITY: For purposes of implementing the Salt and Nitrate Control Plan, the definition of “salinity” and “salt” include only: electrical conductivity (EC), total dissolved solids (TDS), boron, chloride, sulfate, and sodium.⁵

For regional consistency and consistency with the Lower SJR BPA, the currently proposed Basin Plan amendments should utilize the same list of nine (9) salinity constituents (EC, TDS, sodium, chloride, sulfate, magnesium, calcium, bicarbonate, and boron). *See Lower SJR Salinity Basin Plan Amendments* at pages 35-36.

Treat boron the same as the other included constituents of salinity.

- **Modify the Exceptions Policy on pg. 100 to state:**

Under Phase I of the Salt Control Program, permittees that are in compliance with the conditions for the Alternative Permitting Approach are in compliance with their salinity limits. For the purposes of this Program, salinity and its constituents include, and are

⁵ There was also recent discussion of adding and request by CVSC to add “fixed dissolved solids” to this list. Valley Water supports this addition, and this addition would be no different than adding boron as there was no specific review of or requirements adopted related to fixed dissolved solids, or for any of the salinity constituents in isolation. All environmental and antidegradation analyses were done generally for “salinity” or “salt.” These analyses would apply equally to fixed dissolved solids and boron if included in the definition of “salinity.”

limited to, the following: electrical conductivity (EC), total dissolved solids (TDS), boron, chloride, sulfate, and sodium. Additional conditions for exceptions to water quality objectives for salinity under Phase II and Phase III of the Salt Control Program may be incorporated in the future.

With this change, there would be less need for a boron-specific Exception process as an Exception for boron would not be needed during Phase I. The analysis for justifying a boron exception would justify inclusion of boron into the Salt/Salinity Control Program.

- **Treat dischargers of boron like other dischargers of salinity.**
 - Require boron dischargers to participate in the Prioritization and Optimization (P&O) Study
 - Add boron to the Surveillance and Monitoring Program
 - A boron threshold of 1 mg/L could be added for AGR protection to the Conservative Salinity Permitting Approach set forth on pgs. 326, 330, and elsewhere where the 700/900 EC thresholds are discussed.
- **Make other necessary wording changes to the proposed Basin Plan Amendments to incorporate boron into the definition of salinity and/or salt as used throughout the Salt Control Program.** (As currently proposed, the definitions of salinity throughout are not consistent throughout the Basin Plan Amendment documents. For example, pg. K-47 uses the initial definition of “Salinity (as measured by EC and/or TDS)...” prior to the addition of other constituents, such as chloride, sodium, and sulfate).
 - Add boron to the list of considerations in the last paragraph of page 370 of the Draft Staff Report since boron was analyzed as part of the BPA process, at least in relation to Exceptions. The language should read: “The constituents of concern to water quality degradation with the Proposed Project include salts (EC, TDS, chloride, sulfate, boron, and sodium), nitrate, and additional parameters with secondary MCLs...”
 - Modify the language near the end of page 284 to read: “Specific requirements similar to the Salt and Nitrate Control Program ~~have not yet been developed for boron, therefore, requirements~~ specific to boron reflect those ~~previously~~ adopted for salinity discharges.”

Justifications for Implementing these Requests related to Boron:

1) **This Alternative is partially included in Appendix D Alternatives.**

On page D-51, boron is discussed as being included in the section related to “Constituents that apply” with regard to Exceptions, when it should also be included on pg. D-43 as an alternative proposal for the definition of Salinity.

2) **The Environmental Review and Antidegradation Analyses Are Broad Enough to Cover Boron as part of Salinity.**

In the recent amendments, sodium, chloride, and sulfate (and potentially fixed dissolved solids) are included in the definition of Salinity in addition to EC and TDS. As discussed above, the environmental analysis and antidegradation analysis do not discuss each of these constituents separately. Instead, whatever is on the list is discussed generally as part of “Salinity” and the Salinity Control Program. Adding boron, or even other frequent components of “salt” such as potassium, magnesium, or calcium,⁶ does not change the analysis; it just becomes part of the analysis and discussion of salts/salinity in the proposed Basin Plan amendments.

The conclusions on pgs. K-22 and K-23, which state that because the basin plans are not self-implementing and would not directly result in WQO violations or substantially degrade water quality, and that the continuation of discharges at current levels is not anticipated to result in substantial degradation relative to existing conditions, apply equally to boron. In addition, the analysis in the Exceptions Policy provisions related to boron could be used to justify adding boron to the definition of Salinity. The environmental analysis does not differentiate between constituents, specifically concluding that the water quality impacts of the Exceptions Policy as a whole will be less than significant, because, “as a regulatory tool that would be used in conjunction with other Salt and Nitrate Control Program actions,” the Exceptions Policy “would be expected to ultimately improve salt, nitrate, and boron concentrations, relative to existing conditions.”

3) **Boron acts like a salt and has many of the same regulatory/treatment issues.**

The State Water Board’s Groundwater Information Sheet on boron, available at: https://www.waterboards.ca.gov/gama/docs/coc_boron.pdf and incorporated here by reference, states that “Once boron compounds dissolve, they generally act as a salt (dissolved ion).” (*Id.*) Ayers & Westcot (1994) acknowledges that “[t]he potentially toxic ions sodium, chloride and boron can each be reduced by leaching in a manner similar to that for salinity” and that “Boron toxicity can affect nearly all crops but, like salinity, there is a wide range of tolerance among crops” (emphasis added).

Like other sources of salinity, boron can come from wastewater and agricultural sources and is difficult to treat.⁷ The SWRCB’s Information Sheet recognizes that complex and expensive treatment such as reverse osmosis, distillation, or ion exchange with a boron-

⁶ See Lower SJR Salinity Basin Plan Amendments at pages 35-36, which identified nine (9) salinity constituents (EC, TDS, sodium, chloride, sulfate, magnesium, calcium, bicarbonate, and boron).

⁷ Boric acid and sodium salts of boron (primarily borax, or disodium tetraborate decahydrate) are widely used for a variety of industrial purposes including manufacture of glass, fiberglass insulation, porcelain enamel, ceramic glazes, and metal alloys. These compounds are also used in cellulose insulation (as fire retardants), antifreeze agents, paints, wood preservatives, cosmetics, detergents, laundry additives, fertilizers (boron is an essential element for plants), herbicides (at high concentrations, boron is toxic to certain plant species) and insecticides. Elemental boron has only limited industrial applications. See EU, Directorate General for Health and Consumers. SCCS/1249/09, Opinion on boron compounds.

specific exchange resin are required for treatment of this element, which is naturally occurring in rocks, soil, and water.

4) **Boron is a constituent of concern, just like salinity.**

Pg. 156 states: “In general, groundwater constituents of concern in the San Joaquin River hydrologic area include TDS, nitrate, boron, and chloride.” These Basin Plan Amendments should address each of these constituents under the proposed Salinity Control Program.

5) **There are several examples of salt and boron being regulated together in the Central Valley in many contexts, including (with emphasis added):**

- The May 2010 Reclamation Compliance Monitoring and Evaluation Plan, issued in compliance with the Management Agency Agreement between the Central Valley Regional Board and the Bureau of Reclamation, executed on December 22, 2008, states at pg. 33 that “The WQOs that the Basin Plan Amendment addresses are Salinity and Boron at Vernalis in the lower San Joaquin River. The boron objectives are considered met if the salinity objectives are met.”
- SWRCB Resolution No. 2018-0002, approving a Basin Plan Amendment (CVRWQCB Res. No. R5-2017-0062) to establish new salinity and boron water quality objectives in the Lower San Joaquin River upstream of Vernalis, and determined that “Control actions that result in salt load reductions will be effective in the control of boron.”
- The Staff Report for the LSJR Salinity Basin Plan Amendments at pg. v. states that “the Central Valley Water Board requested that the Central Valley Salinity Alternatives for Long-term Sustainability (CVSALTS) initiative continue the effort on the upstream San Joaquin River beneficial use and salt and boron objectives evaluation and to continue to work on the policy and science to develop a basin plan amendment that would address those issues.” Thus, as early as 2009, boron was to be part of the CV-SALTS process.
- The LSJR Salinity Basin Plan Amendments set forth numeric ranges for the identified constituents of salinity (see footnote 6 above) to protect beneficial uses in Table 5-1. Boron was more tightly tied to salinity by a determination that “EC could be used as a surrogate for both boron and TDS.” *Id.* at pg. 38. Although the management and implementation of those amendments focused on salinity, “implementation actions described will be similar for boron and other ions.” *Id.* at pg. 58. The same could be said for the Salinity Control Program in the current Basin Plan amendments.
- The Office of Administrative Law’s approval of the salt and boron 2017/2018 Basin Plan amendments on April 19, 2018 (OAL Matter Number: 2018-0316-03) did not differentiate between salt and boron and instead referred to an action “to establish salinity water quality objectives in the Lower San Joaquin River upstream of Vernalis and reduce reliance on New Melones Reservoir water releases to meet salinity water quality objectives at Vernalis.”

- The San Joaquin River TMDL was done for salt and boron together because of the similarity of issues and difficulties in treatment and control. Since there are no express boron objectives for most groundwater in the Central Valley, the Regional Board can continue to utilize the narrative toxicity objective as is done in the rest of the region to regulate salt and boron constituents, considering site specific conditions as required under the *Woodland* decision. This would be a consistent regulatory system, applicable throughout the Region.
- Basin Plan Amendments proposed in 2004 and later adopted (R5-2004-0108), and approved by USEPA on February 8, 2007, included changes to implement the “goal of the salt and boron control program [] to achieve compliance with salt and boron water quality objectives without restricting the ability of dischargers to export salt out of the San Joaquin River basin.”
- Other regions have also included boron in salinity regulations, such as the Calleguas Creek Boron, Chloride, Sulfate, and TDS TMDL adopted by the Los Angeles RWQCB in 2007.
- Studies routinely include boron with other forms of salinity. *See* Sacramento Valley Water Quality Coalition, Comprehensive Surface Water Quality Management Plan, prepared by Larry Walker Associates at Table 3 (defines Salinity in Table X - Salinity (including conductivity, TDS, and boron)).

Request #3:

Remove Basin Plan Language that Inappropriately Incorporates Maximum Contaminant Levels Prospectively by Reference as Water Quality Objectives.

Valley Water supports the changes to the SMCL Policy as very important and needed changes that should be adopted. However, no justification has been provided for the maintaining the prospective incorporation of all new primary and secondary MCLs as water quality objectives in the Basin Plans. For the reasons provided herein, maintenance of such language is not necessary, reasonable, or lawful. The following sentences should be removed from the proposed Basin Plan amendments set forth on pages 29-30:

~~“This incorporation by reference is prospective, including future changes to the incorporated provisions as the changes take effect.”~~

While it is one thing to incorporate numbers by reference from another source, it is quite another thing to incorporate new numbers without proper analysis required by law prior to this incorporation. Earlier drafts of the amendments had suggested adding similar paragraphs with this same language, but the current version drafted around the objectionable language. Nevertheless, when legal issues are raised with the legality of Basin Plan language, those objections cannot be ignored.

Although formerly adopted by the Department of Public Health, MCLs are now adopted by the State Water Resources Control Board's Division of Drinking Water (DDW) under their statutory authority related to drinking water regulation. As such, MCLs are only adopted to apply to treated drinking water at the tap, and were not intended to apply directly to surface waters or groundwater as WQOs. Thus, the DDW admittedly does *NOT* analyze proposed MCLs for use as surface or ground WQOs, does not conduct a Water Code §13241 analysis, and does not review these under CEQA for any purpose beyond regulating drinking water.

If the Regional Board desires MCL values to be used as WQOs in a Basin Plan, then the MCLs should be correctly and legally adopted directly as numeric WQOs after full compliance with the Water Code and CEQA. If MCLs become out of date, then these objectives can be updated or modified as needed to protect the MUN designated use by directly adopting new MCLs into the Basin Plan as is done for any other pollutant. In fact, all water quality objectives are required to be reviewed and updated periodically under both state and federal law. 33 U.S.C. §1313(c)(1); Water Code §13143. The prospective incorporation by reference ensures that neither the Water Code nor CEQA are ever required to be considered, which is unlawful.

Objectives must be set to protect specific uses, as required by both the Clean Water Act, and the Water Code. 33 U.S.C. §1313(c)(2)(A)⁸ and Water Code §13050(j) and §13241. Prospectively adopted objectives cannot be validly maintained as the Regional Water Board fails to substantively consider the factors set forth in Water Code section 13241 and CEQA prior to incorporation. Until this analysis is properly performed, the continued prospective incorporation of MCLs fails to comply with law.

On May 10, 1995, the Office of Administrative Law ("OAL") issued a Notice of Approval and Disapproval, and Reasons for Approval and Disapproval of Parts of a Rulemaking Action on the 1994 Central Valley Basin Plan Amendments (OAL File No. 95-0328-01). This approval/disapproval decision on the 1994 Central Valley Basin Plan determined that "[a] prospective incorporation-by-reference (one that automatically incorporates future changes to an incorporated document) is of dubious validity." *Id.* at pg. 10 (emphasis added).

Maintaining the prospective incorporation by reference allows the Regional Water Board to abdicate its responsibility to consider the factors contained in Water Code sections 13241 or to conduct analyses required under CEQA, which is required each time a new or more stringent MCL or other criterion is newly incorporated into Title 22.

The continued use of the prospective incorporation-by-reference method of adopting water quality objectives further violates the requirement that affected state and local agencies be consulted with and their concerns be considered, the applicable public notice and participation requirements of the Water Code, and the requirement that changes to a Basin Plan must be approved by the State Board before those changes become effective. *See* Water Code §§13240,

⁸ "The federal Clean Water Act (Section 303, 33 U.S.C. § 1313) requires states to adopt water quality standards (water quality objectives and beneficial uses) for navigable waters of the United States and to review and update those standards on a triennial basis."

13244, and 13245. The Regional Water Board cannot defer or delegate⁹ its required analysis to any analysis previously undertaken by another agency, particularly where the previous analysis performed by DDW does not comply with explicit Water Code or CEQA requirements.

The California Supreme Court has weighed in on the problem with not undertaking the appropriate 13241 analysis when objectives are adopted:

“Applying this federal-state statutory scheme, it appears that throughout this entire process, the Cities [] were unable to have economic factors considered because the Los Angeles Regional Water Quality Control Board (Board)--the body responsible to enforce the statutory framework--failed to comply with its statutory mandate.

For example, as the trial court found, the Board did not consider costs of compliance when it initially established its basin plan, and hence the water quality standards. The Board thus failed to abide by the statutory requirement set forth in Water Code section 13241 in establishing its basin plan. Moreover, the Cities claim that the initial narrative standards were so vague as to make a serious economic analysis impracticable. Because the Board does not allow the Cities to raise their economic factors in the permit approval stage, they are effectively precluded from doing so. As a result, the Board appears to be playing a game of “gotcha” by allowing the Cities to raise economic considerations when it is not practical, but precluding them when they have the ability to do so.... the result here is an unseemly bureaucratic bait-and-switch.”

City of Burbank v. State Water Resources Control Board, et al, 26 Cal. Rptr. 3d 304, 316-318 (2005) (concurring opinion). Thus, if prospective incorporation continues to be maintained in the Basin Plan and utilized to create new WQOs (which Valley Water does not recommend), the Implementation Plan for the MCLs must expressly allow for a renewed review of CEQA and the 13241 factors not previously reviewed prior to imposition of effluent limits based on the MCLs or secondary MCLs at the permitting stage under Water Code section 13263 (which explicitly references the need for renewed 13241 analysis where appropriate).

In addition, the Regional Board could add an alternative of removing the MCLs altogether. As stated on pg. 311, “Several [5 of the 9] other Regional Water Quality Control Boards have not adopted SMCLs as water quality objectives in their respective Basin Plans. Instead, these other Boards rely on narrative water quality objectives to regulate mineral concentrations where necessary to protect water supply systems that may be adversely affected by a given discharge.” Therefore, this should have also been an alternative duly considered.

Failure to Conduct CEQA Analysis – Incorporation of a new MCL in to the Basin Plan requires environmental review under CEQA. CEQA applies to any discretionary project or approval that has the potential to result in a direct or indirect physical change to the environment. Pub. Res. Code §21065; CEQA Guidelines §15060. While the Water Board purports to avoid CEQA review by simply prospectively “incorporating by reference” any new applicable MCL, the critical facts remain that (1) the Water Board retains discretion over whether to adopt any

⁹ The Regional Water Board’s delegation of powers only allow delegation of certain activities, and only to the Board’s Executive Officer. See Water Code section 13223(a). Delegation of basin planning activities to another agency is not authorized.

particular MCL, and (2) the adoption of a new MCL has the potential to result in significant impacts on the environment. For example, adoption of a more stringent MCL might require a water agency to build additional infrastructure in order to comply. Under CEQA, the Regional Board must analyze, disclose, and mitigate for these reasonably foreseeable impacts.

No Regional Board CEQA analysis has properly and comprehensively considered the potential environmental changes caused by turning new MCLs in the future automatically into WQOs by maintaining the prospective incorporation by reference. Although Valley Water has numerous times testified before the Regional Board about the problems with this language being included in the Basin Plans, no alternative of removal of this language was explored and no substantive CEQA analysis was provided for maintaining the ability to allow WQOs that just appear in the Basin Plan upon approval of new MCLs without environmental impacts or review of other considerations related to these changes being undertaken.

Other Requested Changes:

1) Pg. 15 – Executive Summary, and pg. 134, Section 1: Introduction – add boron to the Exceptions Policy language:

“...(a) add nitrate and boron to the list of chemical constituents for which the Central Valley Water Board may authorize an exception....”

2) Pg. 18 – Executive Summary – in first sentence of first full paragraph, change “will” to “may” as each of the listed items may not be required.

“Dischargers electing the alternative permitting approach ~~will~~ may be required to....”

3) Pgs. 89-98 and 99-104 – Variance Policy and Exceptions Policy – make clear that variances and exceptions can apply to both effluent limits and water quality objectives. Without making this clear, a variance could apply just to discharge limits, and could result in the water quality objectives being exceeded instream if the variance does not also apply there. A TMDL might be required just because a discharge variance was given without a corresponding variance in the affected reach or segment of the water body. Similarly, exceptions should be granted for both the groundwater underlying a discharge and the discharge limits so there are not allegations of causing a condition of pollution or nuisance during the time period of the exception.

Language should reference “when granting a variance/exception to a water quality objective or a limitation or provision implementing a water quality objective...”

4) Pgs. 110-111 – Secondary MCL Policy - The current Basin Plans fail to incorporate the annual average application of the MCLs as applied to drinking water, thereby allowing the criteria to potentially be imposed as daily or instantaneous maxima, weekly averages, or monthly averages, when those time steps are not appropriate and are much more stringent than contemplated by the MCLs to protect human health.

If maintained as WQOs despite our comments above, Valley Water appreciates and encourages the changes to the Secondary Maximum Contaminants Level policy at pgs. 110-111 to add longer term averages to those values, clarify use of ranges for salinity concentration tables, and add filtering requirements since discharges and most surface waters are not intended to be used as direct sources of drinking water comparable to tap water.

5) The Secondary MCL Policy and Appendix G should also incorporate the need for a new 13263/13241 and CEQA analysis anytime new MCLs are applied to require new limits in a discharge permit in accordance with the *Burbank* decision.

6) Pg. 174 - Section 2: Environmental & Regulatory Setting – There is no mention of oil fields in the Industrial section, or otherwise. Since this is a large industry in the Central Valley, it should be mentioned.

7) Pg. 331 – Section 5: Antidegradation – Section 5.2.2.3 needs to discuss removal of the salinity (and hopefully boron) limits from the Tulare Lake Basin Plan.

8) Pg. C-12 – Appendix C – The Industrial Section incorrectly states the following as it applies to the Tulare Lake Basin:

“Oil field WDRs include limitations for EC, chloride and boron based on Basin Plan objectives.”

While this may be accurate in the Sacramento/San Joaquin Basin, these limitations are not necessarily based on WQOs in the Tulare Lake Basin, but instead may be set based on prescribed effluent limits contained in Chapter 4, which Valley Water requested above to remove. In addition, the permit cited for oil fields is from 2013 and has largely been superseded by the 2017 oil field General Orders.

9) CEQA analysis of Mineral Resources – Pg. K-35 states that the Basin Plan amendment proposal “does not involve mineral resources.” To the contrary, the proposal may significantly impact oil and gas exploration and production. CEQA requires analysis of “any reasonably foreseeable direct or indirect physical change in the environment.” Pub. Res. Code §21065. In evaluating impacts to mineral resources, Appendix G of the CEQA Guidelines requires lead agencies to ask whether a project will “result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.” The imposition of an onerous and long Exception process for any boron discharge will effectively proscribe oil and gas exploration in some regions of the Tulare Basin. To the extent that the Basin Plan amendments do not resolve issues related to boron such that discharges to land may continue without delay (e.g., by not requiring several years to obtain an exception), this may “result in the loss of availability of mineral resources of importance locally or to the state” by shutting in wells in the interim. *Id.* Being unable to discharge produced water could “prevent the extraction” of oil and gas resources. Therefore, unless boron is addressed as requested and adopted as an alternative salinity definition, the “No Impact” determination on pg. K-34 is inaccurate.

Thank you very much for your careful consideration of these comments. We request ten to fifteen minutes at the upcoming adoption hearing to raise these issues.

Respectfully submitted,

A handwritten signature in black ink that reads "Russell Emerson". The signature is written in a cursive, flowing style.

Russell Emerson
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