

**Regional Water Quality Control Board
Central Valley Region
Board Meeting – 24/25 April 2008**

**Response to Written Comments for
The City of Vacaville – Easterly Wastewater Treatment Plant
Tentative Waste Discharge Requirements
8 April 2008**

At a public hearing scheduled for 24/25 April 2008, the Regional Water Quality Control Board, Central Valley Region (Regional Water Board) will consider adoption of a renewed National Pollutant Discharge Elimination System (NPDES) permit and Time Schedule Order (TSO) for the City of Vacaville Easterly Wastewater Treatment Plant. A tentative NPDES permit and TSO were issued on 11 February 2008. This document contains Regional Water Board staff responses to written comments received from interested persons. Written comments from interested persons were required to be received by the Regional Water Board by 17 March 2008 for the tentative Orders in order to be included in the record. Comments were received by the deadline from the City of Vacaville (Discharger or City) and Central Valley Clean Water Association (CVCWA). Written comments are summarized below, followed by Regional Water Board staff responses.

DISCHARGER’S COMMENTS

DISCHARGER COMMENT # 1: NPDES permit timing. The City remains concerned with the Regional Water Quality Control Board's ("Regional Water Board") timing in releasing the Tentative Orders and the anticipated schedule for Board consideration. Many issues in this Tentative Order are currently under consideration in Contra Costa Superior Court. The City respectfully requests that any formal action by the Regional Water Board be suspended until the Court has ruled. Until the Court has ruled on all of the relevant issues, the requirements contained in the Tentative Order may be subject to modification.

RESPONSE: The previous NPDES Order No. 5-01-044 expired 1 March 2006. It's been nearly three years since the Regional Water Board received the Report of Waste Discharge on 1 September 2005. The Discharger is requesting delay of adoption of the NPDES permit until the results from the court case. This Order includes re-openers for issues before the court if and when decisions are made that require a reopener. The previous NPDES Order No 5-01-044 was adopted nearly 4 years after the Report of Waste Discharge was submitted. Many of the limitations were stayed by the State Water Resources Control Board. Therefore, any further delay is not justified.

DISCHARGER COMMENT # 2: Seasonal Requirements for Title 22 Tertiary Level (or Equivalent) Treatment for 1 May – 31 October (Tentative Order at p. 12).

Seasonal filtration is more than adequate to protect the receiving waters in question. It provides for a level of protection that the California Department of Public Health (“DPH”) in their 22 March 2002 letter has determined to be appropriate based on *Evaluation of Public Health Risks Concerning Infectious Disease Agents Associated with Exposure to Treated Wastewater Discharge by the City of Vacaville, Easterly Wastewater Treatment Plant Final Revised Report* (EOA, Inc. dated August 2001, Revised January 2002 (“Health Risk Assessment”). For wet weather periods, DPH has determined that the City’s existing treatment with disinfection to 23 MPN is adequate to protect public health. The seasonal tertiary treatment requirements contained in the Tentative Order are the most consistent with DPH’s recommendation and the findings contained in the Health Risk Assessment. Furthermore, this option is straightforward for the City to implement from both a design and operational standpoint. It allows the City to design and operate tertiary treatment facilities based on the period established in the Tentative Order, an advantage over the two alternative options because it removes the complexity of operators having to guess when filters may or may not need to be operated, and at what loading rates. Because these requirements are protective of public health and capable of being administered, they are the most reasonable and appropriate alternative presented, although some minor modifications are necessary. Discharger recommended some editorial changes throughout the permit and Fact Sheet to clarify operating the WWTP under seasonal tertiary limitations and corrections of typographical errors.

RESPONSE: Comment noted. Where Regional Water Board staff felt clarification was needed the permit and Fact Sheet were modified. The dates for compliance have been changed to be consistent throughout the permit, Monitoring and Reporting Program, Fact Sheet, and Time Schedule Order.

DISCHARGER COMMENT # 3 Year-Round Requirements for Title 22 Tertiary (or Equivalent) Option 1. Option 1 is untenable as it would require the City to build additional treatment capacity that is not necessary. The cost of building tertiary treatment for all flows would greatly exceed the estimated \$40 million for adding seasonal tertiary treatment, without providing any discernible added benefit for the protection of public health. Also, should the Regional Water Board decide to adopt Option 1 from the noticed Tertiary Treatment Options Enclosure, the Tentative Order would be deficient for failing to fully consider Water Code section 13241. The Tentative Order includes some evidence that the Regional Water Board has considered the necessary factors as required by Water Code section 13241 for seasonal tertiary treatment. (See Tentative Order at pp. F-26 – F-29.) However, the Tentative Order and the Tertiary Treatment Options Enclosure collectively provide no evidence that the Regional Water Board has considered Water Code section 13241 factors for year-round tertiary treatment. In summary, the City is opposed to year-round requirements for

Title 22 tertiary treatment (or equivalent) and no such alternative could be adopted based on the existing record.

RESPONSE: Regional Water Board staff are recommending Seasonal Tertiary requirements.

However, with respect to costs the Discharger is only considering increasing filtering capacity at a large capital cost without considering the standard engineering practice of equalizing flows. Equalizing flows not only results in a lesser cost, but would eliminate the need for the subsequent WWTP construction the discharger has proposed to resolve the wet weather issues of primary/secondary blending issue.

The Fact Sheet considers Water Code section 13241 factors in requiring any tertiary or equivalent limitations. The Board can further modify the proposed findings as necessary to accurately describe the Board's findings.

DISCHARGER COMMENT # 4: Seasonal Requirements for Title 22 Tertiary (or Equivalent) – With Requirement to Operate the Filters to the Maximum Extent Possible from 1 November – 30 April (Option 2 – Tertiary Treatment Options Enclosure). (a) -First, as already discussed, there is no need to run the tertiary filters between November 1 and April 30 to protect beneficial uses. Like Option 1, this proposed alternative is inconsistent with the recommendation and position expressed by DPH. In addition, this option attempts to specify the manner of treatment, which violates Water Code section 13360(a).

(b) -Second, operation of the filters on a year-round basis will increase the City's operation and maintenance cost, which has not been accounted for in the Tentative Order and its Fact Sheet. In addition, this alternative could require the City to include bypass from the tertiary treatment process when flows exceed filter capacity. From a more practical perspective, inclusion of the capability to bypass in the design of the tertiary filtration systems will add cost and complexity to the facility for the following reasons:

(c) -Added complexity would be created to the facilities to create a diversion and control system that would limit the flows to the effluent filters during events in which the plant flows exceeded the hydraulic capacity of the filters. Since secondary effluent is produced at two locations in the plant, these complex diversion and control facilities would need to be provided at two locations. These systems would add capital costs to the project. The added complexity of the diversion and control systems would also introduce an additional failure mode to the facility thereby reducing its reliability.

(d) -Operation of the facilities in this manner may result in the intermittent use of some hydraulic elements of the plant. Consequently, unless properly designed, effluent

could be left in these conduits for extended periods of time leading to bacterial growth, which may adversely affect the performance of the effluent disinfection system.

(e) -Finally, this alternative would present serious implementation and enforcement difficulties for plant personnel and Regional Water Board staff. The City is uncertain as to what would be considered "to the maximum extent possible" in the minds of Regional Water Board staff. Such a permit provision is vague and open for various interpretations, which therefore creates tremendous ambiguity in determining compliance for both the City and Regional Water Board staff.

RESPONSE: (a) Comment noted.

(b) – O & M costs would be expected to be greater than operating the filters seasonally and that was not discussed in the Fact Sheet, but the capital costs of the filters would not change. Staff understand that the additional costs are unknown until the Discharger conducts a pilot study on various filtration methods.

(c) – The Discharger chose a design that split the primary and secondary treatment trains into two separate plants when expanded its WWTP in 2002. The disinfection facilities are not split. Thus, staff does not understand why centralized filtration facilities would be any more complex than the existing centralized disinfection facilities.

(d) – Regional Water Board staff have confidence the hydraulic elements of the plant will be properly designed.

(e) – Regional Water Board staff agrees.

DISCHARGER COMMENT # 5: TIME SCHEDULE ORDER FOR COMPLIANCE WITH FINAL EFFLUENT LIMITATION FOR NITRATE. The City requests the Regional Water Board revise the TSO to extend the compliance date, from 1 April 2012 to "Five years from the effective date of this Order."

RESPONSE: The Time Schedule Order erroneously included the compliance date of 1 April 2012 from earlier draft versions of the permit. The Time Schedule Order has been modified to reflect the corrected date of 1 May 2013 and it corresponds with the 5 year request by the Discharger.

DISCHARGER COMMENT # 6: FINAL EFFLUENT LIMITATION FOR TOTAL TRIHALOMETHANES. The total THMs effluent limitation should be removed, because there is no reasonable potential for effluent from the EWWTP to cause or contribute to a violation of the applicable water quality criterion. For this criterion, the Tentative Order incorrectly uses the maximum effluent concentration from the EWWTP to determine reasonable potential. Because THM compounds are volatile and thus attenuated

through the Old Alamo Creek channel, reasonable potential should be determined for the terminus of Old Alamo Creek, immediately prior to its confluence with New Alamo Creek. This location is appropriate because, under the Tentative Order, the municipal ("MUN") beneficial use first applies at New Alamo Creek and does not apply to Old Alamo Creek. When data from this location are evaluated against the total THM criterion, there is no reasonable potential. The approach we propose for determining reasonable potential here is not inconsistent with state or federal regulations. The total THMs criterion used by the Regional Water Board is not a California Toxics Rule (CTR) criterion subject to the state's *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* ("SIP").

The Discharger requests the following changes:

"The THM compounds are volatile and thus are attenuated through the Old Alamo Creek channel where the total THM MCL is not applicable because MUN is not a designated use. The first downstream location where the total THM MCL is applicable is New Alamo Creek. Therefore, for the purposes of assessing reasonable potential, the MEC for total THMs was determined for the monitoring station located at the terminus of Old Alamo Creek, immediately prior to its confluence with New Alamo Creek, and 5.943 µg/L, based on 386 samples. The MEC for total THMs was 23.7113 µg/L, based on 336 monthly samples. Chloroform samples collected over the same period contained a maximum concentration of 1979 µg/L at this location, and an average concentration of 11.845 µg/L. Total THMs in the discharge does not have a reasonable potential to cause or contribute to an in-stream excursion above the USEPA primary MCL for total THMs in the first downstream water body where this MCL is applicable. Therefore, an effluent limitation for total THMs is not required by this Order. No chloroform has been detected in the background receiving water (New Alamo Creek). The lowest detection level of the receiving water chloroform concentrations at RSW-003 is <0.5 µg/L; therefore, some assimilative capacity for chloroform is available. The minimum available dilution credit of 1.1 was used in developing of the WQBEL for total THMs for the protection of the applicable MUN use at New Alamo Creek, resulting in a WQBEL of 167 µg/L as an average annual effluent limitation for total THMs. However, the Regional Water Board finds that based on Facility performance, the Discharger can reliably meet a more stringent performance-based effluent limit. Therefore, granting of the dilution credit could allocate an unnecessarily large portion of the receiving water's assimilative capacity for human health water quality criteria and could violate the Antidegradation Policy. For this reason, a performance-based effluent limitation is included in this order that is calculated in the same way that interim limits are calculated (see Section IV.E.1 below). A maximum daily effluent limitation for total THMs of 122 µg/L is included in this Order."

Furthermore, we request that the fact sheet language regarding risk levels, pp. F-30 – F-31, be deleted as follows because the 1-in-a-million cancer risk level is not used by DPH in setting maximum contaminant levels (“MCLs”). If it were, then the total THM MCL would be 6.7 µg/L – equal to the sum of the individual constituent criteria that are based on a 1-in-a-million cancer risk level. The fact that DPH issued an MCL of 80 µg/L is largely due to working with a risk level greater than 10^{-6} .

RESPONSE: Regional Water Board staff disagree. Although the Total THMs water quality objective is a USEPA primary maximum contaminant level, Total THMs include bromoform, dichlorobromomethane, chloroform, and chlorodibromomethane, all of which are CTR constituents. The SIP requires reasonable potential analysis (RPA) procedures for CTR and National Toxics Rule (NTR) constituents and must be followed for these constituents regardless of whether the CTR or NTR criteria are the most stringent criteria. In addition, the Regional Water Board is not precluded from using the SIP’s RPA procedures for non-SIP constituents, and frequently does so. Using the SIP procedures for Total THMs is particularly appropriate where the component constituents are priority pollutants. The RPA using the SIP shows reasonable potential for total THMs, therefore, water quality-based effluent limitations (WQBELs) are required. A dilution credit has been applied in the WQBELs calculation to account for the fact that the MUN beneficial use does not apply in Old Alamo Creek.

The Fact Sheet describing the 1-in-a-million cancer risk has been clarified.

DISCHARGER COMMENT # 7: The Tentative Order contains groundwater limitations for total coliform, ammonia, total dissolved solids (“TDS”), nitrate + nitrite (as N) and pH that are improper for several reasons. In general, the Tentative Order fails to provide proper justification for the imposition of all the groundwater limitations. The Regional Water Board is required to support decisions with specific findings and must relate evidentiary findings to the ultimate order. In particular, the Regional Water Board must “set forth findings to bridge the analytic gap between the raw evidence and ultimate decision or order.” (*Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515; see also *In re Petition of the City and County of San Francisco, et al.*, SWRCB Order No. WQ 95-4 (Sept. 21, 1995) at pp. 4-5.) The Tentative Order does not satisfy these requirements for the imposition of groundwater limitations. It does not, for example, explain why the numeric criteria used to derive groundwater limitations are relevant and appropriate to the situation at hand. The Fact Sheet concludes that the limits are appropriate because “there is little ability for attenuation in the shallow permeable vadose zone beneath this facility.” (Tentative Order at pp. F-54 – F-55.) There is no evaluation to determine if the numeric criteria applied here are relevant to the groundwater limits.

Moreover, the Tentative Order would apply the groundwater limits in the shallow groundwater. (Tentative Order at pp. F-54 – F-55.) We submit that the beneficial uses,

which the limits are intended to protect, do not actually occur in the shallow groundwater. In this regard, consideration must be given to the appropriate and reasonable point of compliance and any mixing zone.

At the very least, the groundwater limitations should not apply until such time that the City has the opportunity to collect additional data, characterize the natural background, determine the most appropriate groundwater limits, and demonstrate that the lowering of groundwater is consistent with Resolution 68-16. (See *In the Matter of the Petition of Sacramento County (Boys Ranch Wastewater Treatment Facility)*, Order WQO 2003-0014 (Sept. 16, 2003) (“Boys Ranch Order”) at p. 3 [“Groundwater monitoring was not previously conducted at the site; therefore, data are not available to establish the most appropriate groundwater limits.”]; and see also *In the Matter of the Review on own Motion of Waste Discharge Requirements Order No. 5-01-044 for Vacaville’s Easterly Wastewater Treatment Plant* Order WQO 2002-0015 (Oct. 3, 2002) (“Vacaville Order”) at p. 60.) Also, the collection of additional data will allow the City and Regional Water Board to consider the groundwater’s assimilative capacity for the constituents in question. (Boys Ranch Order at p. 6.)

Thus, we recommend that the groundwater limitation language be revised as follows:

“5. Effective immediately, the Discharger shall comply with the provisions contained in VI.C.2.c., VI.C.2.d., and VI.C.2.e.. These study requirements shall apply in lieu of the groundwater limits specified in V.B.1 through V.B.4, or any adjustment of such limits, including consideration of point of compliance or mixing zones until such time that the Discharger completes the requirements specified in VI.C.2.c., VI.C.2.d., and VI.C.2.e. and achieves BPTC, as applicable

RESPONSE: The Basin Plan designates all groundwaters, including the shallow groundwater in the vicinity of the Facility, to have the beneficial of MUN, AGR, IND and PRO. Regional Water Board staff have clarified this in the Findings and Fact Sheet of the proposed Order. The groundwater limitations are protective of these beneficial uses and information is provided in the Fact Sheet referencing the appropriate limits for the beneficial uses. The Discharger was required to collect additional data, and characterize the natural background in the previous Order No. 5-01-044. Unfortunately, neither the Discharger nor its consultant recognized the questionable location for the background monitoring well, thus requiring additional analyses be conducted as a requirement of the proposed Order.

The groundwater limitations are either the numeric limitations in the Order or the background water quality, whichever is greater. Since the natural background water quality has not been characterized, compliance with the groundwater limitations can not be determined until an adequate background groundwater monitoring well is established. Therefore, the proposed permit has been modified by making the groundwater limitations (Section V.B.2.) effective within

42 months of adoption of the Order or upon submission of the Groundwater Quality Characterization Study, whichever is sooner.

The Discharger can request de-designation of the beneficial uses of groundwater. However, until a Basin Plan amendment is adopted, the beneficial uses remain. Similarly, the Regional Water Board is not required to authorize utilization of the assimilative capacity of receiving waters, and cannot do so without adequate data. Unless the Discharger demonstrates that assimilative capacity is available in groundwater, and the Regional Water Board makes findings consistent with Resolution 68-16, a groundwater "mixing zone" is not appropriate. (Boys Ranch Order at page 6; CWC section 13263(b).)

DISCHARGER COMMENT # 8: TDS (pp. 19, F-54): First, the groundwater limitation is being derived from the agricultural water quality goals as contained in *Water Quality for Agriculture, Food and Agriculture Organization of the United Nations – Irrigation and Drainage Paper No. 29, Rev. 1* (1985) ("UN Report"). Because the agricultural water quality goals in the UN Report are not intended to be interpreted as absolute values, the Regional Water Board must consider site-specific factors such as rainfall, soil quality and type, rainfall, etc. before applying the values as contained therein. Because the Tentative Order fails to properly justify the imposition of a groundwater limitation set at 450 mg/L for TDS, the limitation needs to be removed from the Tentative Order.

The TDS concentrations in four of the five existing monitoring wells have always been greater than 450 mg/L, and TDS concentrations in MW-1 have been greater than 450 mg/L with the exception of sporadic measurements in 2001-2005. Additionally, the existing monitoring well network does not include a well that is consistently up-gradient of the EWWTP and therefore representative of ambient groundwater quality to determine natural background levels. The groundwater limit should be removed until the City can conduct appropriate studies to determine the appropriate TDS limit considering site-specific factors and until the City can determine what constitutes natural background for TDS in the groundwater.

RESPONSE: The permit requires a site-specific electrical conductivity (EC) study that will determine appropriate salinity levels to protect the beneficial use of agricultural supply for the most salt sensitive crops in areas irrigated with Old Alamo Creek, New Alamo Creek, and Ulatis Creek waters in the vicinity of the discharge under reasonable worst-case conditions. If the site-specific EC study demonstrates that a TDS concentration greater than 450 mg/L is appropriate for this area, the Order may be reopened to modify the groundwater limitation for TDS. The salinity study reopener provision (Section VI.C.1.f.) will be modified to discuss possible changes to the groundwater limitations. The groundwater limitations in the proposed Order are either the numeric limitations in the Order or the background water quality, whichever is greater. Since the natural background water quality has not been characterized, compliance with the

groundwater limitations can not be determined until an adequate background groundwater monitoring well is established. Therefore, the proposed permit has been modified by making the groundwater limitations (Section V.B.2.) effective within 42 months of adoption of the Order or upon submission of the Groundwater Quality Characterization Study, whichever is sooner.

DISCHARGER COMMENT # 9: pH (pp. 19, F-54): Like TDS, the Tentative Order includes a groundwater limit for pH based on the agricultural water quality goals contained in the UN Report. Thus, the groundwater limit for pH should be suspended until the Regional Water Board considers a number of site-specific factors to determine the appropriate applicable level of pH for groundwater near the EWWTP.

RESPONSE: Comment noted. The EC site-specific study requirement will be expanded to include pH. However, the Basin Plan also requires groundwater projective for MUN uses and the California secondary MCL requires the pH to fall between 6.5 – 8.5. This information will be added to the Fact Sheet for further clarification.

DISCHARGER COMMENT # 10: Ammonia (pp. 19, F-54): The Tentative Order purports to implement the narrative taste and odor objective by including an ammonia groundwater limitation of 1.5 mg/L. (Tentative Order at pp. F-54 – F-55.) According to the Tentative Order, the ammonia groundwater limitation is based on a study contained in the Journal of Applied Toxicology by Amoores and Hautala. (Tentative Order at p. F-55; Amoores & Hautala, *Odor as an Aid to Chemical Safety: Odor Thresholds Compared with Threshold Limit Values and Volatilities for 214 Industrial Chemicals in Air and Water Dilution* (1983), Journal of Applied Toxicology, Vol. 3, No. 6, p. 272, Attachment 2 hereto.) The City is very concerned with the use of this study to interpret the narrative taste and odor objective for groundwater because the ammonia groundwater limitation in the Tentative Order is not consistent with the intent and purpose of the referenced article. The purpose of the Journal article is to provide quantitative data on odor thresholds of potentially hazardous chemical vapors and gases. The intent is to merely identify at what concentration the chemical is identified for industrial health and safety specialists to further determine if threshold limit values are exceeded.¹ The ammonia value in the article is the “concentration of the substance in water, which will generate the air [odor threshold] concentration in the headspace of a stoppered flask.” (*Id.* at p. 282.) There is nothing in the article that represents, suggests or implies that ammonia at such concentrations in water will impair municipal or domestic uses of groundwater due to adverse odors. Thus, the Tentative Order improperly takes a numeric criterion developed for an unrelated purpose and applies it to groundwater.

The use of a numeric criterion that is developed for an unrelated purpose has already been determined by the State Water Board to not be appropriate. In the previous permit issued to Vacaville (Order No. 5-01-044), the Regional Water Board adopted a receiving water limit for ammonia based on an interpretation of the narrative taste and odor objective. The receiving water limit was subsequently challenged and part of the City's appeal to the State Water Board. In its precedential decision, the State Water Board found that the Regional Water Board's use of the European Union's standard was inappropriate because it was used in a manner that was not consistent with its intent. (Vacaville Order WQO 2002-0015 at p. 47.) Here, the Tentative Order again attempts to interpret the narrative taste and odor objective by using a value for ammonia that was developed for an unrelated purpose. Because the proposed use is inconsistent with the numeric value that was developed for ammonia in the aforementioned article, and because the value identified has not been developed in accordance with Porter-Cologne (e.g., Wat. Code, § 13241), the groundwater limitation for ammonia should be removed from the Tentative Order.

RESPONSE: The reference cites concentrations in water that are associated with threshold air odor concentrations, calculated via equilibrium partitioning. They represent thresholds in water that could cause water to smell bad. The discharger has not provided a better, more direct criterion that can be used to apply the Basin Plan's narrative objective. In the absence of other information, this reference provides a criterion that implements the narrative objective.

The Policy for Application of Water Quality Objectives states, in part:

"To evaluate compliance with the narrative water quality objectives, the Regional Water Board considers, on a case-by-case basis, direct evidence of beneficial use impacts, all material and relevant information submitted by the discharger and other interested parties, and relevant numerical criteria and guidelines developed and/or published by other agencies and organizations (e.g., State Water Board, California Department of Health Services, California Office of Environmental Health Hazard Assessment, California Department of Toxic Substances Control, University of California Cooperative Extension, California Department of Fish and Game, USEPA, U.S. Food and Drug Administration, National Academy of Sciences, U.S. Fish and Wildlife Service, Food and Agricultural Organization of the United Nations). In considering such criteria, the Board evaluates whether the specific numerical criteria, which are available through these sources and through other information supplied to the Board, are relevant and appropriate to the situation at hand and, therefore, should be used in determining compliance with the narrative objective. **For example, compliance with the narrative objective for taste and odor may be evaluated by comparing concentrations of pollutants in water with numerical taste and odor thresholds that have been published by other**

agencies. This technique provides relevant numerical limits for constituents and parameters which lack numerical water quality objectives.” (emphasis added)

The 1.5 mg/L limit is a calculated odor threshold in water. It is therefore relevant and appropriate for determining compliance with the narrative tastes and odors objectives, which state for groundwater:

"Ground waters shall not contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses."

DISCHARGER COMMENT # 11: Total Coliform (p. 19): The total coliform groundwater limitation should be expressed as fecal coliform which is a much more reliable indicator of sewage contamination as compared to total coliform. Total coliforms are present throughout the environment and would likely result in false positive data that would not correlate with any actual effect of EWWTP effluent.

RESPONSE: Regional Water Board staff agree and have modified the proposed permit accordingly.

DISCHARGER COMMENT # 12: Groundwater Related Studies (pp. 28-29): The City is also concerned with some of the provisions and time schedules contained in the Groundwater Monitoring Workplan, Groundwater Water Quality Characterization and Best Practical Treatment or Control (BPTC) study requirements. In particular, there are compliance dates in the studies directly linked to adoption of the Tentative Order by the Regional Water Board. The City believes that most of the compliance dates in these study provisions are more appropriately linked to Executive Officer approval of some of the internal reports, especially where approval is necessary before proceeding forward with next steps. To address these concerns, we recommend the following revisions to the three study requirements.

(a) -Groundwater Monitoring Workplan (p. 28):

“Additionally, the background monitoring wells may have been influenced by previous disposal or treatment practices or influenced by the effluent discharge to Old Alamo Creek. the existing network of monitoring wells does not include a well that has been consistently upgradient of facility operations and/or a well that clearly represents ambient groundwater quality conditions. As a result, site-specific background groundwater quality has not been formally determined. Within 6 months the following adoption of the Order,.... Within 9 months following Executive Officer approval of the Groundwater Monitoring Work Plan, the Discharger shall submit a Well Installation Report.”

(b) - Groundwater Water Quality Characterization (p. 29): To reflect the additional requirement for a Well Installation Report, the Groundwater Water Quality Characterization study must be revised accordingly, as suggested here:

“The Discharger shall commence quarterly monitoring activities in any new monitoring wells upon construction according to the MRP (Attachment E). After 2 years of quarterly collection of monitoring data, the Discharger shall characterize natural background quality of monitored constituents in a Groundwater Water Quality Characterization technical report, to be submitted within 27 months following the construction of new monitoring wells adoption of this Order.”

(c) - Best Practical Treatment or Control (BPTC) (p. 29): The Tentative Order would require the City to submit a BPTC work plan within 48 months from adoption of the Order. However, the Regional Water Board’s approval of the various studies and work plans necessary for the development of the BPTC work plan is not guaranteed or specified on any time schedule. As such, it would be more appropriate if submittal of the BPTC work plan was tied directly to the Regional Water Board’s approval of the Groundwater Water Quality Characterization Technical Report. To accommodate this change in scheduling, we recommend the BPTC study language be revised as follows:

“If the groundwater monitoring results show that the discharge of waste is threatening to cause or has caused groundwater to contain waste constituents in concentrations statistically greater than background water quality, the Discharger shall submit, within 42 6 months of the Regional Water Board’s approval of the Groundwater Water Quality Characterization Technical Report following adoption of this Order, a BPTC Evaluation Work Plan that sets forth.... The schedule to complete the evaluation shall be as short as practicable, and shall not exceed 1 year following the Regional Water Board’s approval of the BPTC Evaluation Work Plan.”

RESPONSE: (a) – Regional Water Board staff do not agree with the proposed changes. The Discharger is asking for a time extension for submitting required report by 9 months without any justification. The well installation “report” the Discharger is referring to are the minimum standards for monitoring well installation as set forth by Department of Water Resources (DWR) and do not require additional time. Regional Water Board staff believe this work should have been completed as required under the previous Order.

(b) – Regional Water Board staff have allowed 3 ½ years (42 months) to complete monitoring well installation, collect at least 8 consecutive quarterly samples, and evaluate and submit a groundwater water quality characterization technical report. The Discharger proposes a similar schedule, but contingent on construction of the

new monitoring wells. Should the monitoring well installation extend beyond 15 months of the adoption of the Order, the technical report would be submitted after 42 months from Order adoption, which is not acceptable.

(c) – Staff agree and the appropriate modifications have been reflected in the proposed permit.

DISCHARGER COMMENT # 13: We also recommend that the BPTC study requirement be revised to include additional language that clarifies next steps following completion of the comprehensive technical evaluation. The following language is consistent with other BPTC study language found in other Regional Water Board permits.

“Following completion of the comprehensive technical evaluation, the Discharger shall submit a technical report describing the evaluation’s results and critiquing each evaluated component with respect to BPTC and minimizing the discharge’s impact on groundwater quality. Where deficiencies are documented, the technical report shall provide recommendations for necessary modifications (e.g., new or revised salinity source control measures, WWTP component upgrade and/or retrofit) to achieve BPTC and identify the source of funding and proposed schedule for modifications. The schedule shall be as short as practicable but in no case shall completion of the necessary modifications exceed four years past the Executive Officer’s determination of the adequacy of the comprehensive technical evaluation, unless the schedule is reviewed and specifically approved by the Regional Water Board. The technical report shall include specific methods the Discharger proposes as a means to measure processes and assure continuous optimal performance of BPTC measures. The Discharger shall comply with the following compliance schedule in implementing the work required by this Provision:

<u>Task</u>	<u>Compliance Date</u>
<u>1 - Submit BPTC evaluation work plan and schedule for comprehensive evaluation</u>	<u>Within 6 months after Executive Officer approval of the Groundwater Quality Characterization Technical Report.</u>
<u>2 - Commence comprehensive evaluation</u>	<u>30 days following Executive Officer approval of Task 1.</u>
<u>3 - Complete comprehensive evaluation</u>	<u>As established by Task 1 or 2 years following Task 2, whichever is sooner</u>

<u>Task</u>	<u>Compliance Date</u>
<u>4 - Submit technical report: comprehensive evaluation results</u>	<u>60 days following completion of Task 3.</u>
<u>5 - Submit annual report, if applicable, describing the overall status of BPTC implementation and compliance with groundwater limitations over the past reporting year</u>	<u>To be submitted in accordance with the MRP</u>

RESPONSE: Regional Water Board staff does not agree with the modification discussed above. The schedule proposed exceeds the 1 year limit on the evaluating BPTC or allows the Discharger to propose an alternative schedule.

DISCHARGER COMMENT # 14: Facility Information, Facility Design Flow (p. 1): “Dry weather flow” should be changed to “Average Dry Weather Flow.” Similar changes are required on pp. F-1, F-12, and footnote #2, Table F-3. (Tentative Order at pp. F-12 and F-13.)

RESPONSE: Regional Water Board staff agree and have modified the proposed Order where necessary.

DISCHARGER COMMENT # 15: Water Quality-based Effluent Limitations (p. 2): This paragraph states: “The Regional Water Board has considered the factors listed in CWC Section 13241 in establishing these requirements.” However, nowhere in the Tentative Order, Fact Sheet, or attachments is there an evidentiary basis to support this statement. A mere statement of “consideration” does not equate with complying with CWC Section 13241 requirements; rather, the factors need to be assessed by Regional Water Board staff and staff’s findings from the assessment must be disclosed. This has not been done.

RESPONSE: The State Water Board found in Order WQ 2002-0015 that the Regional Water Board considered economics as required by Section 13241 but failed to make adequate findings. Since that order was issued, the California Supreme Court ruled that the Regional Water Boards are not required to consider the Section 13241 factors in establishing WQBELs or other limits that are necessary to comply with the Clean Water Act. (*City of Burbank v. State Water Res. Control Board* (2005) 35 Cal.4th 613, 625-627.)

Tertiary treatment is necessary to protect the designated uses of contact recreation and agricultural supply. Designated uses are part of the water quality

standards. Permit requirements to protect designated uses are required by the Clean Water Act. The limitations based on tertiary treatment are therefore required by the Clean Water Act even though they are more stringent than the technology-based secondary treatment standard. However, the State Water Board has consistently required Section 13241 findings when a permit imposes limits that are more stringent than applicable numeric objectives, or new limits based on narrative objectives. (In addition to Order WQ 2002-0015, see, Order WQ 2001-16, pp. 32-33; Order No. 2002-0016, p. 9.) It is not clear whether the State Water Board would reach the same conclusion in light of *Burbank*, but the Regional Water Board has included the findings regarding the Section 13241 factors. The proposed Order has similar requirements as Order 5-01-044, so consideration of the same economic factors before the Board in 2001 is appropriate. To correct the deficiencies noted in Order WQ 2002-0015, the Regional Water Board has included a finding in the Fact Sheet showing that it specifically considered the estimated cost of tertiary treatment.

DISCHARGER COMMENT # 16: Average Daily Discharge Flow (Dry Weather) (p. 13): It must be recognized that average dry weather flow (ADWF) is not a daily flow within the dry weather period; rather, it is the average of daily flows for the three driest months of the year. Defining ADWF as an average daily discharge flow during dry weather, as done here, is inconsistent with the ADWF design flow for this facility. The following edit should be made:

- b. **“Average Daily Discharge Flow (Dry Weather). The average daily flow over three consecutive dry weather months ~~Average Daily Discharge Flow~~ shall not exceed 15 mgd.”**

RESPONSE: Regional Water Board staff agree and have modified the proposed Order where necessary.

DISCHARGER COMMENT # 17: Table 7 (pp. 13-15): The Tentative Order currently has the table on pages 13-14 and the following table on page 15 both identified as “Table 7.”

Table 8 (p. 15): Add “ADWF” to footnote 1 of Table 8.

RESPONSE: Comments noted and typographical errors corrected.

DISCHARGER COMMENT # 18: Interim Effluent Limitations and Compliance Schedules (pp. 15, 36, F-20 – F-23): The Tentative Order makes final effluent limitations for cyanide, chlorodibromomethane, and dichlorobromomethane immediately enforceable on the CTR sunset date of May 18, 2010. The City’s Infeasibility Analysis

provides justification for a time schedule beyond May 18, 2010 to achieve compliance with final effluent limitations for these constituents. The time schedule extends beyond May 18, 2010 to, among other actions, continue addressing the MUN beneficial use designation in New Alamo Creek, which is the basis for limitations for these constituents, and site-specific objective development. The City requests the following statement be added to page 15, item 3.a. to explicitly acknowledge the Infeasibility Analysis and need for compliance schedule beyond May 18, 2010:

“The Discharger’s Infeasibility Analysis, dated February 2007, provides justification for a compliance schedule and meets the requirements of Section 2.1 of the SIP. The justification in the Infeasibility Analysis provides for a time schedule for the Discharger to comply with new limitations for cyanide, chlorodibromomethane, and dichlorobromomethane after May 18, 2010. Allowance of an additional compliance schedule beyond the date specified above may be granted in a subsequent enforcement order, as the Regional Water Board deems appropriate.”

Similar language has been included in other recently adopted orders.

RESPONSE: This language is already provided in Section VII.B.7 of the Fact Sheet (page F-66) of the proposed Order.

DISCHARGER COMMENT # 19: Bacteria (p. 16): This receiving water limitation is unnecessary because the effluent bacteria limitations are sufficiently restrictive to prohibit the discharge from ever being able to cause an exceedance of the Basin Plan’s fecal coliform bacteria objective. At a minimum, the City requests that the monitoring requirement for bacteria be removed from Table E-5 on page E-7/E-8.

RESPONSE: The Basin Plan requires the fecal coliform bacteria limitation of 200/400 MPN/100 ml for the receiving water. However, staff agrees the effluent could never cause an exceedance of the receiving water limitation if the discharge meets the effluent limitation of 2.2/23/240 MPN/100 ml. Therefore, the requirement for monitoring of the receiving water for fecal coliform is eliminated and compliance with the receiving water limitation will be determined based on compliance with the effluent limitation for total coliform organisms.

DISCHARGER COMMENT # 20: Salinity Reduction Goal (p. 30): To ensure that the salinity reduction goal maintains its character as a goal and cannot be misconstrued as a substantive permit requirement, the City requests the following revision:

“The Discharger shall provide to the Regional Water Board annual reports demonstrating reasonable progress in the reduction of salinity in its discharge to Old Alamo Creek. The Regional Water Board finds that an

annual average salinity goal of 864 $\mu\text{mhos/cm}$ as electrical conductivity is a reasonable intermediate goal ~~that can be met during~~ for the term of this Order. The goal is based on the weighted average electrical conductivity of the City of Vacaville's water supply (i.e. 364 $\mu\text{mhos/cm}$ in 2006), plus an increment of 500 $\mu\text{mhos/cm}$ for typical consumptive use."

RESPONSE: Regional Water Board staff agree and the proposed permit has been modified to include this change.

DISCHARGER COMMENT # 21: Other Special Provisions (p. 35): The statement "..., or equivalent" does not alter the fact that this special provision prescribes the manner of treatment, which is outside the Regional Water Board's legal authority. Water Code section 13360 prohibits the Regional Water Board from specifying the "design, location, type of construction, or particular manner in which compliance may be had" for meeting waste discharge requirements. (Wat. Code, § 13360(a).) The language as expressed here clearly equates to specifying design and/or the manner of compliance because it specifies the type of treatment necessary for compliance. At most, the Regional Water Board can specify effluent limitations or waste discharge requirements for certain pollutants that may be associated with the type of treatment specified. To ensure that the Regional Water Board does not exceed its statutory authority, the City requests the following revision:

- a. "Effective 1 May 2015, from 1 May – 31 October for each year, the treated wastewater shall comply with final effluent limitations for BOD, TSS, turbidity, and total coliform organisms (Effluent Limitations IV.A.1.a., IV.A.1.e., IV.A.1.f.) ~~be oxidized, coagulated, filtered, and adequately disinfected pursuant to the DPH reclamation criteria, California Code of Regulations, Title 22, Division 4, Chapter 3, (Title 22), or equivalent.~~"

Compliance Schedules (p. 35): For the same reasons expressed immediately above, the City requests the following revision:

- a. "~~Title 22~~ **Disinfection Requirements and Discontinuance of Bypass (blending) Practices.** The Discharger shall comply with the following time schedule to ensure compliance with Sections VI.C.6.a. and Discharge Prohibitions III.B. of this Order:"

RESPONSE: Special Provision VI.C.6.a. requires that seasonally (1 May – 31 October) the discharge be treated to meet the Title 22 CCR reclamation standards, **or equivalent**. The provision is in compliance with the Water Code, because it does not prescribe any particular treatment method or technology. Rather, it requires that the discharge comply with the prescribed effluent limits, according to a time schedule, and that the effluent receive tertiary treatment, "or equivalent" that meets the effluent limits (See, City of Woodland, State Water

Board Order 2004-0010, p. 10.) This provision includes the phrase “or equivalent”, which allows the Discharger flexibility in the specific manner of compliance.

DISCHARGER COMMENT # 22: Also, the City requests the following statement be added to the bottom of page 35, as footnote #3 to ensure consistency throughout the Tentative Order:

“The Discharger’s Infeasibility Analysis provides justification for a time schedule to comply with the limitations for cyanide, chlorodibromomethane, and dichlorobromomethane after May 18, 2010. Allowance of an additional compliance schedule beyond May 18, 2010 may be granted in a subsequent enforcement order, as the Regional Water Board deems appropriate.”

RESPONSE: See response to DISCHARGER COMMENT #18.

DISCHARGER COMMENT # 23: Table E-3 Effluent Monitoring (p. E-3): The City requests that the frequency of monitoring for effluent BOD and TSS be reduced from 1/day to 5 days/week, as follows.

RESPONSE: Regional Water Board staff agree and the monitoring frequency has been changed to be consistent with the previous Order.

DISCHARGER COMMENT # 24: Table E-3 Effluent Monitoring – Bromoform, Total THMs, Diazinon, and Chlorpyrifos (p. E-3): There is no reasonable potential for bromoform and no effluent limitation for bromoform. Therefore, it should be removed from the monitoring requirements. Based on comments provided above, total THMs also should be removed from this table. Similarly, neither diazinon nor chlorpyrifos have ever been detected in the EWWTP effluent. Therefore, the requirement to monitor these constituents quarterly also should be removed from Table E-3.

RESPONSE: Regional Water Board staff disagree that bromoform and Total THMs should not be monitored. The proposed permit includes an effluent limitation for total THMs, which includes bromoform. In order to determine compliance with the Total THMs effluent limitations, bromoform must be monitored. Staff agree that quarterly monitoring for Diazinon and Chlorpyrifos is excessive. The proposed permit already requires monitoring of these constituents in preparation of the next permit renewal, which is adequate considering these constituents have never been detected in the effluent.

DISCHARGER COMMENT # 25: Table E-3 Effluent Monitoring – Oil and Grease (p. E-3): There is no reasonable potential for Oil and Grease, based on over 300 consecutive non-detected results in weekly effluent monitoring since 2001. Therefore, the requirement to monitor for oil and grease monthly should be reduced to quarterly or semi-annual, or removed altogether from Table E-3.

RESPONSE: Based on the facts presented in the Discharger's comments, the tentative Order removed the oil and grease effluent limit and reduced the monitoring from weekly to monthly from the previous Order. Monthly monitoring is necessary to ensure the Discharger adequately controls oil and grease.

DISCHARGER COMMENT # 26: Table E-3 Effluent Monitoring – Nitrate (p. E-3): Absent and until construction of new denitrification facilities, levels of nitrate in the effluent are unlikely to change. As such, weekly monitoring for nitrate is excessive and the City requests that the monitoring frequency be changed to monthly for at least the first 3 years of the Tentative Order. At the end of the third year, the City is uncertain as to how additional monitoring for nitrate will provide useful information because at that point the City would be in the process of building new facilities. Thus, we recommend that the MRP be revised to include a footnote for nitrate to Table E-3 that states as follows: "After the first three years of monitoring, the monitoring frequency for nitrate (as N) shall be semi-annually until denitrification facilities have been fully constructed and are operational."

RESPONSE: Regional Water Board staff disagree with reducing monitoring for a constituent with an effluent limit. The nitrate effluent data is not only valuable for determining whether the WWTP is properly nitrifying and denitrifying, it will also contribute information on the groundwater degradation issue since Old Alamo Creek influences the groundwater, and Old Alamo Creek is comprised mostly of effluent from the WWTP.

DISCHARGER COMMENT # 27: Acute Toxicity Testing Monitoring Frequency (p. E-4): The Tentative Order changes the acute toxicity monitoring frequency in the current NPDES permit from monthly to weekly. The City requests that the frequency be changed from weekly to quarterly. At the very least, the frequency should be decreased to monthly for acute toxicity.

RESPONSE: Regional Water Board staff agree. The whole effluent toxicity (chronic and acute) monitoring frequency has been changed to be consistent with the previous Order. However, due to the pelagic organism decline in the Delta, in the future it may be prudent to increase the toxicity monitoring frequency in order to sufficiently control effluent toxicity.

DISCHARGER COMMENT # 28: Acute Toxicity Test Failure (p. E-4): The requirement to “re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure” will be difficult to comply with because test organisms are often not available for testing with only 7 days notice. Instead, the City recommends that language be revised to require “re-sample and retest as soon as possible, not to exceed 14 days following notification of test failure.” This would allow adequate time to acquire and validate health of test organisms.

RESPONSE: Regional Water Board disagree. Other dischargers have not had a problem with complying with this requirement. We suggest the Discharger discuss this concern with its laboratory.

DISCHARGER COMMENT # 29: Chronic Toxicity Testing Monitoring Frequency (p. E-5): The Tentative Order changes the chronic toxicity monitoring frequency in the current NPDES permit from quarterly to monthly. The City requests the monitoring frequency for chronic three-species testing be changed from monthly to quarterly and the City’s voluntary commitment of participation in the SWAMP study be credited.

RESPONSE: See response to DISCHARGER COMMENT # 27.

DISCHARGER COMMENT # 30: Table E-5 Receiving Water Monitoring Requirements (p. E-8): Monitoring for fecal coliform in the receiving water should be removed because, based on total coliform effluent limitations, the discharge could not cause an exceedance of the 400 MPN/100 mL limitation.

RESPONSE: See response to DISCHARGER COMMENT #19.

DISCHARGER COMMENT # 31: Monitoring Location RSW-001, RSW-002, RSW-003, and RSW-004 (p. E-8): The City requests the following clarifying edit: “1. The Discharger shall monitor the receiving waters ~~Old Alamo Creek~~ at RSW-001, RSW-002, RSW-003, and RSW-004 as follows:”

RESPONSE: Comment noted and the language has been changed to reflect the comment.

DISCHARGER COMMENT # 32: Table E-6 Receiving Water Monitoring Requirements-Groundwater Wells (p. E-9): The City requests the following edits to Table E-6. Neither pH nor ammonia have objectives applicable to groundwaters, thus they should be deleted from the table. Also, the monitoring of fecal coliform organisms in lieu of total coliform organisms provides a better indicator of the potential presence of pathogens that may be a result of groundwater contamination.—

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Depth to Groundwater	feet	Grab	Quarterly	
Groundwater Elevation ¹	feet	Grab	Quarterly	
pH	pH units	Grab	Quarterly	
Electrical Conductivity @ 25°C	µmhos/cm	Grab	Quarterly	
TDS	mg/L	Grab	Quarterly	
Total Coliform Organisms	MPN/100ml	Grab	Quarterly	
Fecal Coliform Organism	MPN/100ml	Grab	Quarterly	
Nitrate (as N)	mg/L	Grab	Quarterly	
Ammonia, Total (as NH ₄)	mg/L	Grab	Quarterly	

1 Groundwater elevation shall be used to calculate the direction and gradient of groundwater flow. Elevations shall be measured to the nearest one-hundredth~~th~~ tenth of a foot from mean sea level. The groundwater elevation shall be measured prior to purging the wells.

RESPONSE: See response DISCHARGER COMMENT #9, #10 and #11. The table will be changed as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Depth to Groundwater	feet	Grab	Quarterly	
Groundwater Elevation ¹	feet	Grab	Quarterly	
pH	pH units	Grab	Quarterly	
Electrical Conductivity @ 25°C	µmhos/cm	Grab	Quarterly	
TDS	mg/L	Grab	Quarterly	
Total Coliform Organisms	MPN/100ml	Grab	Quarterly	
Fecal Coliform Organism	MPN/100ml	Grab	Quarterly	
Nitrate (as N)	mg/L	Grab	Quarterly	
Ammonia, Total (as NH ₄)	mg/L	Grab	Quarterly	

1 Groundwater elevation shall be used to calculate the direction and gradient of groundwater flow. Elevations shall be measured to the nearest one-hundredth~~th~~ tenth of a foot from mean sea level. The groundwater elevation shall be measured prior to purging the wells.

DISCHARGER COMMENT # 33: Editorial comments and typographical errors:

Bypass (Blending) (p. F-3): The text under this heading has been deleted. The heading should also be deleted.

Compliance Summary (p. F-5): The City requests the following clarification:

“The City of Vacaville previously accrued MMPs that were assessed by ACLC No. R5-2004-0522 and ACLC No. 5-01-0521 for violations from 1 January 2000 to 31 March 2004 in the total amount of eighty-four thousand dollars (\$84,000). These cases are now closed. Most violations were for chlorine residual, settleable solids, total coliform and pH limits.

Since April 2004, the City accrued similar effluent violations. Also, the influent monitoring structure had not operated for over three years in violation of the permit requirement to monitor influent flows. The influent monitoring structure, a flume, was installed as part of the recent construction project to expand the treatment plant but was not providing consistent flow measurement. The flume was modified and has been providing influent flow measurements since ~~was temporarily repaired in~~ October 2007. The City has provided documentation that these interim modifications have resulted in accurate, reliable and repeatable influent flow measurements. Further, the City has taken appropriate actions to ensure that permanent modifications will be completed by end of summer 2008.

Discharge Prohibitions (p. F-11): The word "Order" has been inadvertently deleted from the last sentence.

RESPONSE: Comments noted and the Fact Sheet has been changed to reflect the comments.

DISCHARGER COMMENT # 34: Assimilative Capacity/Mixing Zone (p. F-15): It appears that the information presented in the Flow Science dye study report has been misinterpreted. To clarify the Flow Science report and its findings, the following edits are required:

- a. **"Assimilative Capacity/Mixing Zone.** The City completed an effluent dilution analysis, prepared by Flow Science to better assess the fate and dilution of the facility's effluent in its receiving waters. The analysis evaluated the fate and dilution of the effluent under a range of seasonal conditions. Based on results of the dilution dye study, and using the SIP's equation for calculating dilution ratios for the EWWTP discharge (i.e., long-term harmonic mean receiving water flow divided by long-term mean arithmetic effluent discharge rate), the dilution ratio is determined to be 0.62:1. ~~and protective of all scenarios, the minimum dilution available at the confluence of Old Alamo and New Alamo Creeks is 1.1 to 1.0.~~ Therefore, a dilution credit of ~~4.4~~ 0.62 was used in this order when establishing effluent limitations for the protection of MUN at New Alamo Creek.

RESPONSE: The comment is noted. At this time we do not have adequate information for determining a harmonic mean flow for New Alamo Creek, in which to calculate the human health criteria dilution credit. Therefore, a study to determine the harmonic mean flow and a reopener to re-assess the dilution credit has been added to the proposed permit.

DISCHARGER COMMENT # 35: Chlorodibromomethane (pp. F-21 – F-22): The following revisions are requested:

“The CTR includes a chlorodibromomethane criterion of 0.41 µg/L for the protection of human health and is based on a one-in-a-million cancer risk for waters from which both water and organisms are consumed. This compound is volatile and thus is attenuated through the Old Alamo Creek channel where the CTR criterion is not applicable, and the first downstream location where the CTR criterion is applicable is New Alamo Creek. Therefore, for the purposes of assessing reasonable potential, the MEC was determined for the monitoring location located at the terminus of Old Alamo Creek, immediately prior to its confluence with New Alamo Creek, which was 2.314 µg/L, based on 336 samples. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for chlorodibromomethane in New Alamo Creek, the first downstream location where the CTR criterion is applicable.”

RESPONSE: See response to DISCHARGER COMMENT #6.

DISCHARGER COMMENT # 36: The City also requests the following edits to the last paragraph.

“This Order requires the Discharger to submit a corrective action plan and implementation schedule to assure compliance with the final chlorodibromomethane effluent limitations. The interim effluent limitations are in effect through **17 May 2010**. As part of the compliance schedule for chlorodibromomethane, the Discharger shall develop a pollution prevention program in compliance with CWC section 13263.3(d)(3) and submit an engineering treatment feasibility study. The Discharger has demonstrated in its Infeasibility Report that additional time may be required beyond 17 May 2010 to comply with final effluent limits for chlorodibromomethane. Based on the Discharger’s performance in implementing its pollution prevention plan and submittal of an engineering treatment feasibility study, the Regional Board may consider at a future date issuance of a Time Schedule Order to provide additional time to comply with final effluent limits for chlorodibromomethane.”

RESPONSE: See response to DISCHARGER COMMENT #18.

DISCHARGER COMMENT # 37: Dichlorobromomethane (pp. F-22 – F-23): City requests the following edits:

“The CTR includes a dichlorobromomethane criterion of 0.56 µg/L for the protection of human health and is based on a one-in-a-million cancer risk for waters from which both water and organisms are consumed. This compound is volatile and thus is attenuated through the Old Alamo Creek channel where the CTR criterion is not applicable, and the first downstream location where the CTR criterion is applicable is New Alamo Creek. Therefore, for the purposes of assessing reasonable potential, the MEC was determined for the monitoring location located at the terminus of Old Alamo Creek, immediately prior to its confluence with New Alamo Creek, which was 5.943 µg/L, based on 336 samples. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for dichlorobromomethane in New Alamo Creek, the first downstream location where the CTR criterion is applicable.”

The City also requests the following edits to the last paragraph.

“This Order requires the Discharger to submit a corrective action plan and implementation schedule to assure compliance with the final dichlorobromomethane effluent limitations. The interim effluent limitations are in effect through **17 May 2010**. As part of the compliance schedule for dichlorobromomethane, the Discharger shall develop a pollution prevention program in compliance with CWC section 13263.3(d)(3) and submit an engineering treatment feasibility study. The Discharger has demonstrated in its Infeasibility Report that additional time may be required beyond 17 May 2010 to comply with final effluent limits for dichlorobromomethane. Based on the Discharger’s performance in implementing its pollution prevention plan and submittal of an engineering treatment feasibility study, the Regional Board may consider at a future date issuance of a Time Schedule Order to provide additional time to comply with final effluent limits for dichlorobromomethane.”

RESPONSE: See responses to DISCHARGER COMMENT # 6 and 18.

DISCHARGER COMMENT # 38: Pathogens, first paragraph (p. F-27): The Regional Water Board does not have the statutory authority to prescribe treatment, either directly or indirectly by comparison. It is limited to prescribing waste discharge requirements. Therefore, the City requests the following edit: “The method of treatment is not prescribed by this Order; however, wastewater must be treated to a level that complies with the total coliform organism effluent limitations included in this Order equivalent to that recommended by DHS.”

RESPONSE: See response to DISCHARGER COMMENT #21.

DISCHARGER COMMENT # 39: Also, “DHS” should be changed to “DPH” throughout the Tentative Order.

RESPONSE: Comment noted and has been change where appropriate.

DISCHARGER COMMENT # 40: Salinity, EC (p. F-30): To provide clarification, we recommend that the Tentative Order be revised as follows:

“The average effluent EC was 992 μ mhos/cm, with a range from 647 μ mhos/cm to 1320 μ mhos/cm for 1095 samples and typically exceeds the 700 μ mhos/cm agricultural water quality goal, which is a screening value. applicable water quality objectives for EC.”

Salinity, TDS (p. F-32): The following edit is requested:

“The average TDS effluent concentration was 636 mg/L and a ranged from 570 mg/L to 690 mg/L for 36 samples collected by the Discharger. The discharge exceeds the 450 mg/L agricultural water quality goal, which is a screening value. These concentrations exceed the applicable water quality objectives.”

RESPONSE: These changes are unnecessary.

DISCHARGER COMMENT # 41: Chloroform (p. F- 42): The City requests the following edits:

“USEPA has reserved the National Ambient Water Quality Criteria for water and fish for chloroform and is developing a new limitation criteria. Until a limitation is criteria are developed specifically for chloroform, the federal MCL for total trihalomethanes (chloroform, bromoform, dichlorobromomethane and chlorodibromomethane) will be used as the basis for determining reasonable potential and WQBEL for trihalomethane in New Alamo Creek, the first downstream location where the federal MCL applies. The discharge does not have reasonable potential to cause or contribute to an exceedance of the water quality criteria for total THMs in New Alamo Creek; therefore, no limitation for total THMs is included in this Order.” limit at of 133.3 167 μ g/L.”

RESPONSE: See response to DISCHARGER COMMENT #6.

DISCHARGER COMMENT # 42: Bromodichloromethane and Dibromochloromethane (p. F-42): The Tentative Order includes effluent limits for these two total trihalomethanes by using the terms, chlorodibromomethane and dichlorobromomethane, which are the same compounds. To ensure consistency, we recommend that the heading and the text be revised as follows.

“Bromodichloromethane and dibromochloromethane Chlorodibromomethane and dichlorobromomethane. The MUN designation for Old Alamo has been removed and the City has since completed a dilution evaluation for compliance in New Alamo Creek. Based on the Discharger’s dilution study, the harmonic mean minimum dilution determined for in New Alamo Creek at the confluence with Old Alamo Creek is 0.62:14.4:1. This dilution credit has been used when calculating the new effluent limitation for ~~bromodichloromethane and dibromochloromethane~~ chlorodibromomethane and dichlorobromomethane, which has resulted in less stringent effluent limitations.”

RESPONSE: Only the name change “~~Bromodichloromethane and dibromochloromethane~~ Chlorodibromomethane and dichlorobromomethane for consistency will modified. For other modifications, see response to DISCHARGER COMMENT #34.

DISCHARGER COMMENT # 43 Surface Water, second paragraph (p. F-43): The following edit is required:

“This Order includes effluent limitations that will requires Title 22 tertiary treatment or equivalent to achieve compliance, which is a high level of treatment that is considered best practicable treatment or control (BPTC) for most constituents in the wastewater and will result in attaining water quality standards applicable to the discharge.”

Interim Effluent Limitations (p. F-48): The following edit is required:

“Table 6 summarizes the calculations of the interim effluent limitations for cyanide, ~~carbon tetrachloride~~, chlorodibromomethane, and dichlorobromomethane:”

BOD, TSS, Turbidity, and Total Coliform Organisms (p. F-48): The following edit is required:

“The establishment of tertiary limitations was previously required for this discharge; however, ... Full compliance with the final effluent limitations for BOD, TSS, total coliform, and turbidity are not required by this Order until 1 May 2015 ~~1 June 2012~~.”

RESPONSE: Regional Water Board staff agree, edits have been made to the Fact Sheet.

DISCHARGER COMMENT # 44: Groundwater, #6 and #7 (pp. F-52 – F-53): The statement “pH, which ranged 6.4-7.9 standard units in the domestic wastewater, has the ability to degrade groundwater quality at this site because there is little potential for buffering in the shallow permeable vadose zone” is unsupported by any site-specific evidence and, therefore, represents mere speculation at this time. Moreover, the Order already requires a groundwater study and thus the utility of this paragraph is questionable. As such, it should be deleted. Similarly, the statement “Ammonia has the potential to degrade groundwater quality because there is little ability for ammonia attenuation in the shallow permeable vadose zone at this site” is unsupported by any site-specific evidence and, therefore, represents mere speculation at this time. For the same reason stated above for pH, this paragraph should be deleted.

RESPONSE: Regional Water Board staff disagree, see response to DISCHARGER COMMENT #7.

DISCHARGER COMMENT # 45: Influent Monitoring (p. F-55): The following edit is required because aluminum is not included in Table E-1, nor is it appropriate to include it in this table: “Previous required monitoring of antimony, arsenic, thallium, 4,4'-DDD, and ... ~~Aluminium is added to influent monitoring because aluminium is commonly found in raw wastewater.~~”

RESPONSE: Comment noted, aluminium is included in Attachment H as a constituent to be monitored for the Effluent and Receiving Water Characterization Study required in Special Provisions. The change has been made in the Fact Sheet.

DISCHARGER COMMENT # 46: Other Special Provisions, a. (p. F-69): This Order cannot legally prescribe treatment; rather, it can only specify permit limitations. In addition, Title 22 requirements are not applicable to surface water discharges. Therefore, the following edit is required:

- a. ~~“Effective 1 May 2015, pursuant to CDPH reclamation criteria, Title 22 CCR, Division 4, Chapter 3, (Title 22), wastewater discharged to Old Alamo Creek from 1 May through 31 October must meet the final effluent limitations for total coliform bacteria specified in this Order. be oxidized, coagulated, filtered, and adequately disinfected; or equivalent. Special Provision VI.C.6.a requires that effluent discharges to Old Alamo Creek meet the final total coliform bacteria effluent limitations requirements of Title 22,~~

or equivalent, for the protection of the REC-1, REC-2, and AGR beneficial uses.”

RESPONSE: Regional Water Board staff disagree, see response to DISCHARGER COMMENT #21.

DISCHARGER COMMENT # 47: Table F-11 (p. F-70): The following edits are requested by the City, consistent with comments made above:

Table F-11: New Permit Requirements and Compliance Schedule Restrictions

New Requirement	Compliance Schedule Restrictions	Compliance Schedules Allowed
<u>Treated wastewater shall comply with final effluent limitations for BOD, TSS, turbidity, and total coliform organisms (Effluent Limitations IV.A.1.a., IV.A.1.e., IV.A.1.f. Title 22 Tertiary Treatment, or equivalent, requirements (Special Provisions VI.C.6.a.)</u>	Basin Plan allows up to 10 years in the permit	Compliance Schedule in the permit with full compliance by 1 May 2015
Title 22 Tertiary Treatment, or equivalent, effluent limitations — BOD, TSS, turbidity, and total coliform organisms (Effluent Limitations IV.A.1.a., IV.A.1.e., IV.A.1.f.)	Basin Plan allows up to 10 years in the permit	Compliance Schedule in the permit with full compliance by 1 May 2015
Bypass Prohibition (Discharge Prohibitions III.B.)	Basin Plan allows up to 10 years in the permit	Compliance Schedule in the permit with full compliance by 1 May 2015
New CTR effluent limitations – cyanide, chlorodibromomethane, and dichlorobromomethane (Effluent Limitations IV.A.1.a. and IV.A.2.a.)	SIP allows up to 18 May 2010 in the permit	Compliance Schedule in the permit with full compliance by 18 May 2010, future enforcement order may be necessary <u>to provide schedule justified by Discharger</u>
New non-CTR effluent limitations – nitrate (Effluent Limitations IV.A.1.a. and IV.A.2.a.)	Basin Plan requires immediate compliance, time schedule required in separate enforcement order allows up to 10 years in the permit	Time Schedule Order with full compliance required by 1 May 2013 Compliance Schedule in the permit with full compliance by 1 May 2015

RESPONSE: Comment noted, but changes are not consistent with the responses made above. No changes have been made in Table F-11.

DISCHARGER COMMENT # 48: Second paragraph (p. F-71): The following edit is required:

“This Order includes two compliance schedules, one compliance schedule for the ~~Title 22~~ disinfection requirements and the discontinuance of bypass (blending) practices, and one compliance schedule for the new CTR effluent limitations.”

RESPONSE: Regional Water Board staff disagree. The Fact Sheet has not been changed.

CENTRAL VALLEY CLEAN WATER ASSOCIATION (CVCWA)

CVCWA COMMENT # 1: Tertiary treatment options. CVCWA believe the seasonal tertiary requirements contained in the tentative Order are preferable because they sufficiently protect both existing and potential beneficial uses. CVCWA does not support either of the options noticed separately, because they are not necessary to protect public health and are not directly tied to the protection of existing or probable beneficial uses.

RESPONSE: See responses to DISCHARGER COMMENT#2, #3 and #4.

CVCWA COMMENT # 2: Groundwater limitations for TDS. CVCWA object to the groundwater limit of 450 mg/L for TDS based on the agricultural water quality goals contained in the *Water Quality for Agriculture, Food and Agriculture Organization of the United Nations – Irrigation and Drainage Paper No. 29, Rev.1 (1985)* (UN Report)..

RESPONSE: See response to DISCHARGER COMMENT #8.

CVCWA COMMENT # 3: Groundwater limitations for ammonia. CVCWA object to the groundwater limit of 1.5 mg/L for ammonia for taste and odor and based on the Amore & Hautala, *Odor as an Aid to Chemical Safety: Odor Thresholds compare with Threshold Limit Values and Volatilities for 214 Industrial Chemicals in Air and Water Dilution* (1983), Journal of Applied Toxicology, Vol. 3, No. 6, p. 272.

RESPONSE: See response to DISCHARGER COMMENT #10.