

Regional Water Quality Control Board  
Central Valley Region  
Board Meeting

Response to Written Comments – Tentative Order – Waste Discharge Requirements  
(NPDES No. CA0078930), City of Biggs Wastewater Treatment Plant Butte County

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The following are responses to written comments received from interested parties in response to the tentative Waste Discharge Requirements (NPDES No. CA0078930), City of Biggs Wastewater Treatment Plant, Butte County. Written comments from the interested parties on the tentative Order were required to be received by the Regional Water Quality Control Board (Regional Board) by 22 October 2006 in order to receive full consideration. Comments were received from the following parties:

1. City of Biggs (received on 22 October 2006)
2. California Sportfishing Protection Alliance (CSPA) (received on 23 October 2006)
3. Central Valley Clean Water Association (CVCWA) (received on 24 October 2006)
4. California Rice Commission and Sacramento Valley Water Quality Coalition (received on 30 March 2007)
5. CVCWA (received on 3 April 2007)

CSPA requested status as designated party for this agenda item at the Regional Board hearing. The requested status has been granted.

Written comments from the above interested parties are summarized below, followed by the response of the Regional Board staff.

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**CITY OF BIGGS COMMENTS**

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**City of Biggs – Comment #1:** *Lateral K is referred to as an agricultural drain, however I wish to point out that the lateral is not directly connected to Butte Creek. In fact this Lateral outlets to Hamilton Slough, which then flows approximately 5 miles east to Cherokee Canal, before ultimately joining Butte Creek. Lateral K is a “constructed” drain and has a defined grade and easement. We request that language be inserted to describe this situation, and that any inferences to Lateral K being part of a beneficial use as defined by the basin plan be either eliminated or further clarified.*

**Response:** Staff concurs with the comment. Lateral K is an agricultural drain, and is not subject to the tributary rule, however, there are beneficial uses of Lateral K, which must be protected. The Order includes the identified beneficial uses of Lateral K (agriculture, and protection of fish, wildlife, and other aquatic resources). The Basin Plan indicates that all water bodies within the basins that do not have beneficial uses

designated in Table II-I are assigned MUN designations in accordance with the provisions of State Water Boards Resolution No. 88-63 which is, by reference, a part of the Basin Plan. However, Resolution 88-63 indicates that all waters are considered to be suitable, or potentially suitable for municipal or domestic water supply with the exception of surface waters in systems designed or modified for the primary purpose of conveying or holding agricultural drainage waters are exempt from the municipal or domestic water beneficial use designation. Therefore, the MUN beneficial use is not a beneficial use of Lateral K.

**City of Biggs – Comment #2:** *Discharge prohibition E Page 9. This provision references the discharge of waste that causes violation of any “narrative” water quality objective contained in the Basin Plan. As a small discharge with limited funds, manpower and resources, we operate mostly in relation to numerical effluent limitations. This provision is somewhat abstract in the context on other related provisions, and subject to a wide range of interpretation. We request this be removed from the permit.*

**Response:** The statement that “The discharge of waste that causes violation of any narrative water quality objective contained in the Basin plan is prohibited” is standard language in all of our NPDES permits. Some of the water quality objectives identified in the Basin Plan are narrative and some are numerical. The prohibition refers to the water quality objectives such as: biostimulatory substances that promote aquatic growth, color, floating material, oil and grease, sediment, taste and odors, and toxicity. These narrative water quality objectives are included in the permit to prohibit these items that may cause or adversely affect the beneficial uses of the receiving water. These “narrative” water quality objectives do not necessarily lend themselves to “numeric” quantifiers (e.g. a numerical water quality objective of 3 in reference to color is meaningless).

**City of Biggs – Comment #3:** *Discharge prohibition G, Page 9. Remove the “narrative” reference from this prohibition.*

**Response:** See Response to City of Biggs – Comment #2 above.

**City of Biggs – Comment #4:** *Total Residual Chlorine. We request this limitation be reconfigured to allow the City to monitor for the presence of sodium bisulfite or other such “dechlorination” chemicals which can accurately be measured and monitored reliably. While as a pragmatic requirement for monitoring chlorine with a tertiary treatment scheme, with a pond facultative pond system such as the cities, it’s nearly impossible. We have struggled with this at great expense through our last permit, where the City spent in excess of \$100,000 in equipment alone to meet this requirement. We have an adopted Standard Operating Procedures to ensure that adequate dechlorination is taking place. We would like to work with the board to develop a limitation that accomplishes this water quality objective, allowing the city*

*to utilize equipment and resources that will allow both the board and the city the ability to keep the system accurate and reliable.*

**Response:** Regional Board staff concurs with your comment. Additional language (Section VII.D of the tentative Order) has been added to provide clarification on compliance determination of the total residual chlorine effluent limitations.

**City of Biggs – Comment #5:** *Effluent limit for peak wet weather flow. I'm unclear why we have a permit that is being written with limitations based on both average dry weather flow and peak wet weather flow. This seems to be inconsistent with previous permits, both with the City and from my experience statewide. I'm not sure that peak wet weather limits are the critical item which ensures protecting the beneficial uses of the receiving water limits. This is especially true since the dilution during this time of year exceeds 40:1 in the referenced agricultural drain. We request the permit be written to reflect ADWF limits only.*

**Response:** Regional Board staff concurs with your comment. Table 3 of the tentative Order and Table F-11 of the Fact Sheet will be revised to only include Average Dry Weather Flow. The mass based effluent requirements, included in Table 3 and Table F-11, are based on the average dry weather flows.

**City of Biggs – Comment #6:** *Final effluent limit for Electrical Conductivity. We would request that the final effluent limit be withheld from this permit until the City has completed its electrical conductivity study required by the permit order. We would like the final effluent limit removed from this permit temporarily.*

**Response:** The Commentator has requested that the final effluent limitations for electrical conductivity be removed from the permit. Regional Board staff has revised the tentative Order to include a final effluent limitation for electrical conductivity of 900 umhos/cm (Table 3 of the tentative Order and Table F-11 of the Fact Sheet). Based on the effluent and receiving water sample data, the wastewater discharge regularly causes increases in the electrical conductivity concentration within the receiving stream, therefore a effluent limitation for EC was required to be placed in the tentative Order. Based on existing effluent data the facility should be able to meet the proposed final effluent limitation, therefore no interim effluent limitation was proposed. Additionally, all requirements for an electrical conductivity study have been removed from the tentative Order. Based on discussions with the University of California, Davis, Farm Advisor (UCDFA) the soil in the vicinity of the Biggs WWTP is a very heavy gray-black clay adobe that has poor internal drainage making it generally unsuitable for almost all crops other than rice. The 700 umhos/cm in the original tentative Order was based on salt sensitive crops. Based on comments from the UCDFA, these salt sensitive crops cannot be grown in the Biggs area. The 900 umhos/cm final effluent limitation is based

on the agricultural beneficial for rice propagation, as referenced in the Fact Sheet, Section IV.C.3.g.

**City of Biggs – Comment #7:** *Effluent limits for Total Dissolved Solids – If this requirement is to remain, then we would request removing the Electrical Conductivity requirements as this is duplicative effort.*

**Response:** Requirements for total dissolved solids (TDS) have been removed from the Order. The Order does contain electrical conductivity (EC) limitations, which should be protective of the beneficial uses of Lateral K. Including EC and TDS monitoring is duplicative and unnecessary.

**City of Biggs – Comment #8:** *Time limits to complete studies and work – We request that the time limits proposed within the permit regarding all studies, work, etc.. be extended an additional 1-year as the City of Biggs is a 51% low income community with very limited resources and manpower.*

**Response:** Regional Board staff concurs with your comments. The required submittal dates in the tentative Order have been revised to include additional time for the special studies, technical reports, and additional monitoring requirements. Modifications have been made to Tables 6 through 10 of the tentative Order and Tables F-18 through F-20 of the Fact Sheet.

**City of Biggs – Comment #9:** *Collection System Requirements – The City of Biggs is opposed to any collection system requirements contained within the permit of waste discharge. The City of Biggs is a General Law City and the collection and transport system are publicly owned and operated. We require via city ordinance for the connection to the cities system. We have an adopted Sewer master plan, which includes collection, transport, treatment and disposal. Should additional statewide or regional requirements be necessary, we will address those separately from our treatment and effluent limits. We request that all collection system references be removed from this order.*

**Response:** Regional Board staff concurs with your comments. The tentative Order still describes the Statewide General WDR for Sanitary Sewer Systems, and refers that the Discharger is subject to requirements of that Order. All other information regarding the collection system requirements has been removed from the tentative Order (Section VI.C.5.e of the tentative Order and Sections VII.B.4.b of the Fact Sheet), since the Statewide General Order now regulates the collection system.

**City of Biggs – Comment #10:** *Compliance Determination References – This seems inappropriate to include in a discharge order as the purview of this issue belongs under the enforcement section, not in permits. We request this be removed from the order.*

**Response:** The compliance determination information is part of the NPDES standard template and is inserted to implement Basin Plan Objectives. Regional Board staff has modified the compliance determination section to correspond to the latest NPDES template (i.e., Sections VII. A through E of the tentative Order were removed).

**City of Biggs – Comment #11:** *Lowest Ambient Hardness to Calculate CTR Metals - We request this be modified to a geometric mean of hardness values, as the “lowest” is indicative of absolute worst case and is a burden to the City. From a practical aspect, given the dilution, and existing quality of the water in the agricultural drain, this criteria does nothing extra to protect water quality and is “over regulatory” without just cause. This does nothing to protect the organisms downstream. We request the Regional Board reconsider this calculation value to some form of a geometric mean.*

**Response:** Regional Board staff followed standard procedures and utilized a reasonable worst-case condition ambient hardness for CTR metal calculations, in order to protect beneficial uses for all discharge conditions.

**City of Biggs – Comment #12:** *Use of a compilation of water quality goals to select water quality goals. We are, at a minimum, confused about how to interpret this statement(s). This especially concerns the City when we use the “narrative” water quality objectives from the Basin Plan. To be honest, we are concerned about the implications this may have and would request it be eliminated from the permit.*

**Response:** Regional Board staff concurs with your comment, and has removed (from Section IV.C.4.a of the Fact Sheet) any reference to the document entitled “A Compilation of Water Quality Goals” prepared by the Central Valley Regional Water Board.

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## CALIFORNIA SPORTFISHING PROTECTION ALLIANCE (CSPA) COMMENTS

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**CSPA – Comment #1:** *The proposed permit is incomplete, in accordance with Federal Regulations 40 CFR 124.7, 124.8 and 124.56, by failing to include sufficient information to determine the basis for not including Effluent Limitations for priority pollutants. There is insufficient information to determine if the proposed Permit complies with requirements of the SIP and Federal Regulations, 40 CFR 122.44, which mandate that an effluent limitation be established if the discharge presents a reasonable potential to exceed a water quality standard or objective. Federal Regulation, 40 CFR 122.4 (a), (d) and (g) and California Water Code, Section 13377, require that no permit may be issued when the conditions of the permit do not provide for compliance with the applicable requirements of the CWA.*

**Response:** The Policy for Implementation of Toxic Standards for Inland Surface Water, Enclosed Bays, and Estuaries of California (SIP) allow the Regional Board to have the discretion to consider if any data are inappropriate or insufficient for use in implementing the SIP policy. The Regional Board can make the justification that the data is not representative of the effluent or ambient receiving water quality, and/or questionable quality control/quality assurance practices. The Discharger submitted three data sets (dated July 2001, February 2002, and July 2003). The data set in February 2002 did not include any background data (the upstream receiving water sample point did not contain any water). There are also quality control/quality assurance issues with the other data sets. An example is the receiving water analytical data for nickel – one sample was at 2.1 mg/L, one sample at non-detect (at 10.0 mg/L detection level), and one sample at non-detect (at 20.0 mg/L detection level). The detection levels for the three samples vary as much as 20 mg/L between the three samples. Based on Regional Board staff's review of the analytical data, the tentative Order was written to require additional sampling, which would be used to determine if a water quality-based effluent limitation is required. The Discharger is required to collect bi-monthly samples for the CTR constituents for the first year after adoption of the tentative Order. According to Step 8 of Section 1.3 of the SIP, if data is insufficient to conduct the analysis for a pollutant, than the Regional Board shall require additional monitoring for the pollutant in place of a water quality-based effluent limitation. Upon completion of the required monitoring, the Regional Board shall use the gathered data to conduct the reasonable potential analysis and determine if a water quality - based effluent limitation is required.

**CSPA – Comment #2:** *The proposed Permit fails to contain an adequately protective Effluent Limitation for coliform organisms in violation of Federal Regulations and the CWC and fails to adequately protect the beneficial uses of irrigated agriculture and contact recreation and provide best practicable treatment and control (BPTC) of the discharge.*

**Response:** The Commentator cited some monthly averages of total coliform for the receiving water and effluent. Regional Board staff conducted an inspection in the Spring of 2006 to determine why there were some high effluent coliform samples, and noticed that the Discharger was not using the entire chlorine contact basin. After discussing the issue with the Discharger, the effluent data for the last several months has averaged less than 4.0 MPN/100 mL of total coliform on a monthly average.

The Commentator provided information regarding the California Department of Health Services Title 22 Regulations, which indicated if the wastewater is discharged to water bodies with beneficial uses of irrigation and/or contact recreation, and there is dilution of less than 20:1, than the coliform concentration should not exceed (1) 2.2 MPN/100 mL as a 7-day median, (b) 23 MPN/100 mL more than once in any 30 day period, and (c) never exceed 240 MPN/100 mL. Title 22 Regulations are regulations for recycled water usage, and is not directly applicable to discharges to surface water (NPDES permits).

The DHS regulations are for recycled water usage, and given the quality of the receiving water (up to 160,000 MPN/100 mL), Regional Board staff has determined that the existing limitations (23 MPN/100 mL – monthly median, and 500 MPN/100 mL – daily max) are protective of the receiving water. Regional Board staff was concerned of the high coliform in the receiving water upstream from the discharge point, and conducted a sampling event (September 2006) to determine the actual coliform levels in the Lateral K agricultural ditch. Based on 12 surface water samples taken from the Biggs WWTP and proceeding upstream approximately 5 miles (to the beginning of the Lateral K ditch), the upstream water quality all exceeded 2,419 MPN/100 mL (detection limit of test) for total coliform.

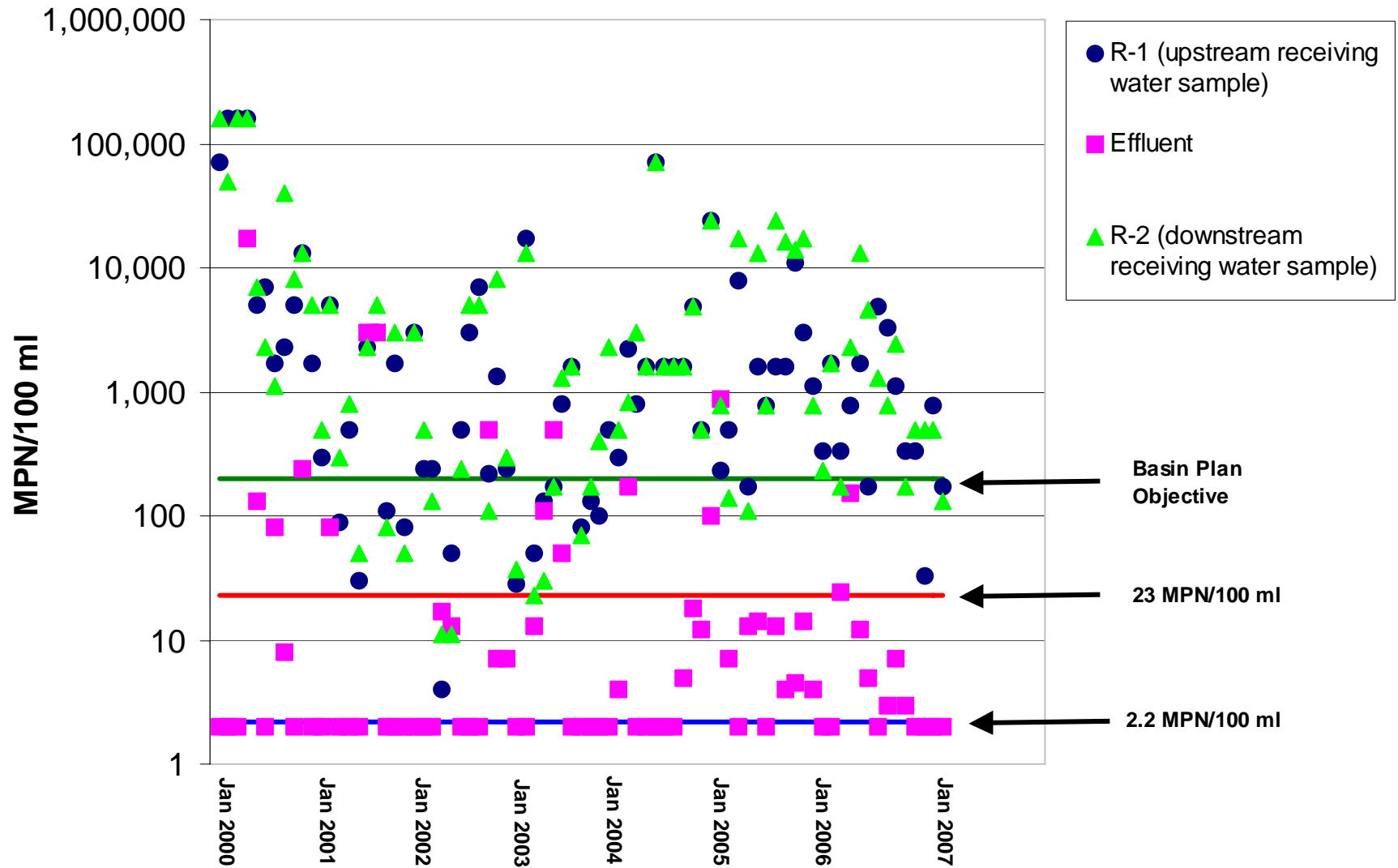
In a 1 July 2003 letter from DHS to Thomas Pinkos, former Executive Officer, DHS stated “Waters that receive secondary, 23-MPN effluents should not be used for rice irrigation unless the DR [dilution ratio] exceeds 20:1 due to a potential for enhanced mosquito breeding in waters that include significant amounts of such effluents. Based on the high background coliform levels found along the entire length of Lateral K and the history of elevated coliform levels upstream of the discharge application of this DHS recommendation does not appear appropriate. It should be noted that this 1 July 2003 letter from the DHS is only guidance and is not regulation.

Based on best professional judgment (BPJ), Regional Board staff recommends that the existing coliform requirements be carried into the tentative Order. The average monthly

coliform in the upstream receiving water for the past six years was 5,704 MPN/100 mL (minimum of 4 MPN/100 mL and maximum of 160,000 MPN/100 mL). Based on BPJ, setting a limitation of 2.2 MPN/100 mL on the discharge instead of the current 23 MPN/100 mL, will have no observable effect on the receiving water quality. The existing coliform limitations are protective of the receiving water quality. The following graph depicts the total coliform detected during the last seven years at R-1 (upstream receiving water), Effluent (from the City of Biggs WWTP) and R-2 (downstream receiving water) sample points. Based on the graph, there was only one sample in the upstream receiving water below 23 MPN/100 mL of total coliform (February of 2002) over the past seven years.



# Biggs WWTP Coliform Sampling Results



**CSPA – Comment #3:** *The proposed Permit fails to clearly identify the municipal and domestic beneficial uses of the receiving stream.*

**Response:** Lateral K is the identified receiving water for the discharge from the Biggs WWTP as shown in Table 2 of the tentative Order (Limitations and Discharge Requirements). There are no specific beneficial uses for the drainage canal Lateral K in the Basin Plan. The Basin Plan indicates that water bodies within the basin that do not have beneficial uses designated in Table II-1 are assigned MUN designation in accordance with the provisions of State Water Board Resolution No. 88-63, which is, by reference, a part of the Basin Plan. However, Resolution 88-63 indicates that all waters are considered to be suitable, or potentially suitable for municipal or domestic water supply with the exception of surface waters in systems designed or modified for the primary purpose of conveying or holding agricultural drainage waters. Therefore, the MUN beneficial use is not a beneficial use of Lateral K.

**CSPA – Comment #4:** *The proposed Permit fails to include an Effluent Limitation for Oil and Grease in violation of Federal Regulation 40 CFR 122.44(d).*

**Response:** The tentative Order contains the standard NPDES language for receiving water limitations. Section V.A.7 (Limitations and Discharge Requirements) which prohibits “Oils, greases, waxes, or other materials to be present in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial use”. The wastewater treatment plant service area does not have any unusual sources of oil and grease. The tentative Order already contains receiving water limitations that implement the Basin Plan’s prohibition on oil and grease that cause nuisance, result in a visual film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses. The 15 mg/L limitation cited by CSPA has been sporadically included in some past permits, without citation of a source, or justification. The origin of this limitation is from a 1974 USEPA guidance document for petroleum marketing terminals, not wastewater treatment plants. It would be inappropriate to establish an effluent limitation on a wastewater treatment plant based on this guidance. Also, as stated above, the tentative Order already contains receiving water limitations that implement the Basin Plan’s prohibition regarding oil and grease.

**CSPA – Comment #5:** *The proposed Permit does not contain an Effluent Limitation for nitrate and nitrite in violation of Federal Regulations 40 CFR 122.44 and California Water Code, Section 13377.*

**Response:** No effluent or receiving water data exists for nitrate or nitrite. The water quality standards the commenter cites are the California Department of Health Services (DHS) Primary Maximum Contaminant Levels (MCLs) of 10 mg/L for nitrate and 1 mg/L for nitrite. Nitrite is normally a short-lived intermediary form of nitrogen in the nitrification processes and is not expected to be present in concentrations exceeding 1 mg/L (MCL).

In order to ensure that the discharge is not causing the receiving water to contain nitrate in excess of the MCLs, the tentative Order requires effluent and receiving water monitoring for nitrate (Table E-3 and E-6 of the Monitoring and Reporting Program and Table F-14 and F-15 of the Fact Sheet). No drinking water intakes are located in Lateral K between the discharge point and the downstream receiving water monitoring point.

**CSPA – Comment #6:** *The proposed Permit contains an Effluent Limitation for pH that violates the Basin Plan Water Quality Objective in violation of Federal Regulations and the CWC.*

**Response:** Federal technology based standards for secondary treatment requires effluent limitations for pH to be 6.0 to 9.0. The Basin Plan allows for averaging periods to determine compliance with the water quality objective of 6.5 to 8.5. The effluent limitations are consistent with the Basin Plan, and, therefore, were not modified.

**CSPA – Comment #7:** *The proposed Permit fails to contain an Effluent Limitation for dissolved oxygen (DO) in violation of Federal Regulations and the CWC.*

**Response:** The tentative Order does contain receiving water limitations for dissolved oxygen, (Section V.A.5 of the tentative Order), which states “The monthly median of the mean daily dissolved oxygen concentration shall not fall below 85 percent of saturation in the main water mass, and the 95 percentile dissolved oxygen concentration to fall below 75 percent of saturation, nor, the dissolved oxygen concentration to be reduced below 7.0 mg/L at any time.” This is consistent with the Basin Plan, which specifies that the dissolved oxygen in waters outside of the legal boundaries of the Deltas shall not fall below those levels.

**CSPA – Comment #8:** *The proposed Permit contains compliance time schedules for ammonia and electrical conductivity (EC) in violation of federal law.*

**Response:** The SIP is the governing policy in California for implementing the CTR and it allows compliance schedules. USEPA approved the section of the SIP concerning compliance schedules. Although the CTR provisions for compliance schedules expired, that does not preclude the State Water Board from establishing its own version of compliance schedules since the SIP is intended to implement the CTR. The SIP allows compliance schedules that are short as practicable but in no case (1) allows more than 5 years to come into compliance with CTR-based effluent limitation and (2) allows compliance schedule to extend beyond 10 years from the effective date of the SIP (18 May 2000) to establish and comply with CTR-based effluent limitations.

An interim compliance date has been added to the tentative Order (Section IV.A.2 of the tentative Order, and Section IV.C.3.c of the Fact Sheet), which essentially allows the

interim effluent limitations to be effective until **December 31, 2008** or upon permit **reopener**. Interim effluent limitations have been revised, and only list ammonia as the constituent with proposed interim effluent limitations. Based on discussions with the University of California, Farm Advisor, the interim effluent limitations of electrical conductivity have been removed and replaced with final effluent limitations (secondary MCLs). These final effluent limitations should be protective of the beneficial uses of Lateral K and downstream waters.

**CSPA – Comment #9:** *The proposed permit fails to include mass limitations for ammonia, chlorine, and total dissolved solids in violation of Federal Regulation 40 CFR 122.45(f).*

**Response:** Federal regulations at 40 CFT 122.45(f)(1) and (2), states the following regarding effluent limitations for publicly owned treatment works:

“(1) All pollutants limited in permits shall have limitations, standards or prohibitions expressed in terms of mass except:

- (i) For pH, temperature, radiation, or other pollutants which cannot appropriately be expressed by mass;
- (ii) When applicable standards and limitation are expressed in terms of other units of measurement; or
- (iii) If in establishing permit limitations on a case-by-case basis under §125.3, limitations expressed in terms of mass are infeasible because the mass of the pollutant discharged cannot be related to a measure of operations (for example, discharges of TSS from certain mining operations), and permit conditions ensure that dilution will not be used as a substitute for treatment.

(2) Pollutants limited in terms of mass additionally may be limited in terms of other units of measurement, and the permit shall require the permittee to comply with both limitations.”

The tentative Order includes effluent limitations expressed in terms of both mass and concentration for some constituents. In addition, pursuant to the exceptions to mass limitations provided in 40 CFR 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature, and when the applicable standards are expressed in terms of concentration (e.g. CTR criteria and MCLs) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

Mass limitations are necessary for some constituents to ensure protection of the beneficial uses of the receiving water and/or to ensure the proper operations of the treatment facilities. Therefore, in the tentative Order, effluent limitations for oxygen-demanding substances and bioaccumulative constituents have limitations in terms of mass. However, for some constituents there are no water quality benefit for limiting the mass, thus, only limitations in terms of concentration were included in the tentative Order for biochemical oxygen demand and total suspended solids.

**CSPA – Comment #10:** *The proposed permit fails to include protective limitations for ammonia in violation of Federal Regulation 40 CFR 122.44(d) and the CWC.*

**Response:** The Commenter used the worst-case pH and highest temperature to calculate the effluent limitations for ammonia. The worst-case pH and highest temperature readings that were provided in the tentative Order did not occur during the same 30-day period, they were merely provided to show the maximum pH/temperature readings during the time period May 2003 – May 2006. Regional Board staff used the average 30-day period for pH/temperature for the period May 2003 – May 2006, which was 7.85 (pH) and 60.8 (°F). The average 30-day period for pH/temperature during this period was used to calculate the effluent limitations for ammonia, pursuant to USEPA’s Ambient National Water Quality Criteria for the Protection of Freshwater Aquatic Life for Ammonia.

The tentative Order has been corrected to list “Ammonia, Total (as N)” instead of “Ammonia, total” in Tables 3, 4 of the tentative Order, Tables E-3 and E-6 of the Monitoring and Reporting Program, and Tables F-11, F-14 and F-15 of the Fact Sheet.

**CSPA – Comment #11:** *The proposed permit fails to include Effluent Limitations for settleable solids in violation of Federal Regulations and the CWC.*

**Response:** The existing permit contained monthly average and daily maximum settleable solids limitations of 0.1 mL/L and 0.2 mL/L, respectively. Suspended solids limitations are in place and measure a similar parameter that is of greater concern in relation to water quality. This tentative Order eliminates the settleable solids limitations. With total suspended solids limitations in place, the settleable solids limitations can be eliminated and still protect water quality objectives in the receiving water. Additional language has been added to Section IV.D.2 of the Fact Sheet for the Backsliding analysis.

**CSPA – Comment #12:** *The proposed Permit contains an Effluent Limitation for acute toxicity that allows mortality that exceeds the Basin Plan water quality objective and does not comply with Federal regulations, at 40 CFR 122.44 (d)(1)(i).*

**Response:** The acute toxicity effluent limitations are consistent with numerous NPDES permits issued by the Central Valley Regional Water Board and throughout the state and are appropriate. The tentative Order as a whole contains several mechanisms designed to ensure that the discharge does not cause toxicity in the receiving water. The tentative Order contains Section V.A.16., which proscribes the discharge from causing toxicity in the receiving water. Additionally, end-of-pipe effluent limitations are included for all toxic pollutants with reasonable potential to cause or contribute to an exceedance of

water quality objectives in the receiving water. Where appropriate, these limitations are developed based on aquatic life toxicity criteria.

In addition to chemical-specific effluent limitations, the tentative Order requires chronic whole effluent toxicity (WET) testing that identifies both acute and chronic effluent toxicity. WET testing is necessary because chemical-specific effluent limitations do not address synergistic effects that may occur when the effluent mixes with receiving waters, synergistic effects of mixtures of chemicals, or toxicity from toxic pollutants for which there are no aquatic life toxicity criteria. To address toxicity detected in WET testing, the tentative Order includes a provision that requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity. If the discharge exhibits a pattern of toxicity, the Discharger is required to initiate a Toxicity Reduction Evaluation and take actions to mitigate the impact of the discharge and prevent reoccurrence of toxicity.

The acute toxicity effluent limitations establish additional thresholds to control toxicity in the effluent: survival in one test no less than 70% and a median of no less than 90% survival in three consecutive tests. Some in-test mortality can occur by chance. To account for this, the test acceptability criteria for the acute test allows ten percent mortality (requires 90% survival) in the control. Thus, the acute toxicity effluent limitation allows for some test variability, but imposes ceilings for exceptional events (i.e. 30% mortality or more), and for repeat events (i.e., median of three events exceeding mortality of 10%).

**CSPA – Comment #13:** *The proposed Permit does not contain Effluent Limitations for chronic toxicity and therefore does not comply with Federal regulations, at 40 CFR 122.44 (d)(1)(i).*

**Response:** The Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) does not contain direction or procedures regarding the appropriate form and implementation of chronic toxicity limitations. This has resulted in the petitioning of a NPDES permit in the Los Angeles Region<sup>2</sup> that contained numeric chronic toxicity effluent limitations. As a result of this petition, the State Water Board adopted WQO No. 2003-012 directing State Water Board staff to revise the toxicity control provisions in the SIP. The State Water Board states the following in WQO 2003-012, *“In reviewing this petition and receiving comments from numerous interested persons on the propriety of including numeric effluent limitations for chronic toxicity in NPDES permits for publicly-owned treatment works that discharge to inland waters, we*

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<sup>2</sup> In the Matter of the Review of Own Motion of Waste Discharge Requirements Order Nos. R4-2002-0121 [NPDES No. CA0054011] and R4-2002-0123 [NPDES NO. CA0055119] and Time Schedule Order Nos. R4-2002-0122 and R4-2002-0124 for Los Coyotes and Long Beach Wastewater Reclamation Plants Issued by the California Regional Water Quality Control Board, Los Angeles Region SWRCB/OCC FILES A-1496 AND 1496(a)

*have determined that this issue should be considered in a regulatory setting, in order to allow for full public discussion and deliberation. We intend to modify the SIP to specifically address the issue. We anticipate that review will occur within the next year. We therefore decline to make a determination here regarding the propriety of the final numeric effluent limitations for chronic toxicity contained in these permits.”* The process to revise the SIP is currently underway. Proposed changes include clarifying the appropriate form of effluent toxicity limitations in NPDES permits and general expansion and standardization of toxicity control implementation related to the NPDES permitting process.

Since the toxicity control provisions in the SIP are under revision it is infeasible to develop numeric effluent limitations for chronic toxicity. Therefore, the tentative Order requires that the Discharger meet best management practices for compliance with the Basin Plan’s narrative toxicity objective, as allowed under 40 C.F.R. 122.44(k). The tentative Order includes Provision VI.C.2.a., which contains a numeric chronic toxicity monitoring trigger and explicit protocols for accelerated monitoring and toxicity reduction evaluation implementation if a pattern of effluent toxicity is observed. This provision requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity.

**CSPA – Comment #14:** *The proposed Permit fails to include specifications for odor control.*

**Response:** Regional Board staff concurs with your comment. Additional language has been added to the Land Disposal Specification (Section IV.B of the tentative Order) regarding odor control. Additionally, specification for dissolved oxygen in the ponds, discharge of waste classified as “hazardous” or “designated”, pH requirements, management of ponds for mosquitoes, limiting public contact, and capacity requirements are also included.

**CSPA – Comment #15:** *The proposed Permit does not comply with the Board’s Antidegradation Policy and does not require the Discharger provide BPTC.*

**Response:** State Board Resolution No. 68-16 requires in part that:

- 1) High quality waters be maintained until it has been demonstrated that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies; and
- 2) Any activity, which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

The tentative Order contains effluent and receiving water limitations established to protect Lateral K's present and anticipated beneficial uses and a provision for best practicable treatment or control. Discharge Prohibition III.c of the tentative Order prohibits the wastewater treatment and discharge from causing a nuisance as defined by the California Water Code.

Limited degradation that does not cause exceedance of water quality objectives is warranted to allow for the economic benefit stemming from local growth. The increase in the discharge allows wastewater utility service necessary to accommodate housing and economic expansion in the area, and is considered to be a benefit to the people of the State. Additional language has been added to Section IV.D.3 of the Fact Sheet for the antidegradation analysis.

**CSPA – Comment #16:** *The proposed Monitoring and Reporting Program must be compliant with Federal Regulation 40 CFR 122.41 (j)(1) which states that: “Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity” and 40 CFR 122.44(i)(1) which requires that monitoring must be sufficient “To assure compliance with permit limitations...”.*

**Response:** The Standard Provisions III.A and III.B (Attachment D) contain standard language regarding the monitoring program pursuant to 40 CFR §122.41. The Standard Provisions (Attachment D) are considered part of the tentative Order.

**CSPA – Comment #16a:** *The Monitoring and Reporting Program for Groundwater Monitoring requires “static water depth” be measured as “feet below ground surface”. This should be modified to require the depth be measured to the nearest 100th of a foot. Failing to measure to the nearest 100th of a foot will prevent accurate assessment of the groundwater gradient and direction of flow.*

**Response:** Regional Board staff has removed all groundwater monitoring requirements in the tentative Order. The tentative Order now contains a requirement to conduct a permeability study of the soils beneath the pond system to determine if there is a possibility of the wastewater in the ponds migrating to the groundwater. The Biggs WWTP is bounded on two sides by irrigation canals, and groundwater monitoring might not be able to determine if any contamination that might be able to be identified is originating from the wastewater plant or the adjacent canals. Based on the coliform samples results (Response to CSPA Comment #2) which indicated that coliform was present in the upstream surface water samples at a significant level over the effluent from the Biggs WWTP, the permeability analysis would be a better investigative tool to determine if the ponds are potentially contributing to any groundwater contamination.



**CSPA – Comment #16b:** *The Monitoring and Reporting Program for Groundwater Monitoring fails to include monitoring requirements for non-priority pollutants with Basin Plan objectives. The Basin Plan includes the Chemical Constituents objective, which describes additional constituents of concern. The proposed Monitoring and Reporting Program should be revised to include monitoring requirements and characterization of these additional constituents.*

**Response:** See response to CSPA - Comment #16a

**CSPA – Comment #16c:** *Proposed ammonia sampling in groundwater should be replaced with nitrate. Ammonia converts to nitrate in the anaerobic zone of the pond and as it migrates to groundwater.*

**Response:** See response to CSPA - Comment #16a

**CSPA – Comment #16d:** *Effluent ammonia sampling prescribed at a monthly rate is insufficient to reflect the rapid changes that can occur to the nitrification process, a minimum of daily sampling should be required to determine whether the WWTP is nitrifying the wastewater or discharging toxic levels of ammonia.*

**Response:** Regional Board staff has modified the reporting requirements to require weekly ammonia sampling in the effluent, which they consider sufficient, and similar to other NPDES permits (Table E-3 of the Monitoring and Reporting Program and Table F-14 of the Fact Sheet).

**CSPA – Comment #16e:** *As detailed above, Effluent Limitations for nitrate and nitrite are required. Monitoring of the effluent for these constituents is also required. The proposed Monitoring and Reporting Program should be revised to include weekly monitoring of the effluent for nitrate (as N) and nitrite (as N).*

**Response:** No effluent or receiving water data exists for nitrate or nitrite. The water quality standards the commenter cites are the California Department of Health Services (DHS) Primary Maximum Contaminant Levels (MCLs) of 10 mg/L for nitrate and 1 mg/L for nitrite. Nitrite is normally a short-lived intermediary form of nitrogen in the nitrification processes and is not expected to be present in concentrations exceeding 1 mg/L (MCL). In order to ensure that the discharge is not causing the receiving water to contain nitrate in excess of the MCLs, the tentative Order has been modified to require effluent and receiving water monitoring for nitrate (Table E-3 and E-6 of the Monitoring and Reporting Program and Table F-14 and F-15 of the Fact Sheet) on a semimonthly (effluent) and monthly (receiving water) basis. Upon completion of the required monitoring, the Regional Board shall use the gathered data to conduct the reasonable potential analysis and determine if a water quality - based effluent limitation is required.

**CSPA – Comment #16f:** *As detailed above, Effluent Limitations for turbidity and dissolved oxygen (both concentration and percent saturation) should be included in the proposed permit. In addition, to determine whether the Discharger is the cause of noncompliance with Receiving Water Limitations for turbidity and dissolved oxygen, these constituents must be monitored in the effluent.*

**Response:** The Commentator has requested that turbidity and dissolved oxygen effluent limitations be included in the tentative Order. Dissolved oxygen and turbidity surface water limitations are already included in Section V.A.5 and V.A.17 of the tentative Order. Section V.A.5 of the tentative Order requires that the monthly median of the mean daily dissolved oxygen concentration shall not fall below 85 percent of saturation in the main water mass, and the 95 percentile dissolved oxygen concentration to fall below 75 percent of saturation, nor, shall the dissolved oxygen concentration to be reduced below 7.0 mg/L at any time. Section V.A.17 of the tentative Order indicates that the effluent discharge cannot cause the turbidity to increase as follows:

- a. More than 1 Nephelometric Turbidity Unit (NTU) where natural turbidity is between 0 and 5 NTUs.
- b. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
- c. More than 10 NTU where natural turbidity is between 50 and 100 NTUs.
- d. More than 10 percent where natural turbidity is greater than 100 NTUs.

**CSPA – Comment #16g:** *pH is shown to be metered; however the required frequency is weekly. If a meter is present it should be operated continuously since pH shifts can be observed hourly in pond treatment systems. Chemical usage for chlorination and dechlorination can also result in rapid fluctuation of effluent pH*

**Response:** The Commentator has requested that the pH meter be operated continuously, since pH shifts can be observed hourly in pond treatment systems. The meter that Regional Board staff identified in the Monitoring and Reporting Program is a hand-held meter for taking discrete samples, and is not inferred to be a continuously recording device. Table E-3 of the Monitoring and Reporting Program and Table F-14 of the Fact Sheet have been modified to clarify that the “hand held field meter” which will be used to take the weekly pH samples. Weekly pH reading in the effluent is consistent with monitoring requirements recently adopted by the Regional Board in other NPDES permits.

**CSPA – Comment #16h:** *Comment: Electrical Conductivity is only required to be sampled monthly. Electrical Conductivity is the subject of a special study in the proposed Permit. Electrical Conductivity sampling is very inexpensive and easy. The frequency should be required daily or continuously.*

**Response:** Regional Board staff concurs with increasing the frequency of Electrical Conductivity monitoring, and has modified the sampling frequency from monthly to weekly for the effluent Electrical Conductivity monitoring (Table E-3 of the Monitoring and Reporting Program and Table F-14 of the Fact Sheet). Additionally, the revised Order removes the Electrical Conductivity special study. The Discharger should be able to meet the final effluent limits placed in the Order for Electrical Conductivity.

**CSPA – Comment #16i:** *The priority pollutant sampling is required to be a “Grab” sample which is inappropriate for priority pollutant metals which should be 24-hour composite samples.*

**Response:** The tentative Order is consistent with monitoring requirements recently adopted by the Regional Board in other NPDES permits.

**CSPA – Comment #16j:** *The last sentence in Footnote 8 to Table E-3 (effluent monitoring requirements) states: “Upon approval of the Executive Officer, after two bimonthly sampling events, some constituents may be eliminated from further analyses if not detected.” This is inappropriate. According to the TSD, the percentile of the concentration range represented by the highest concentration in the available data can be calculated as being equal to (confidence level)  $n - 1$ . For the default confidence level of 99%, the highest concentration out of two data points represents only the 10th percentile of the actual concentration range. The proposed permit should be revised to remove the last sentence in Footnote 8 to Table E-3 of the proposed permit.*

**Response:** Regional Board staff concurs with your comment. The reference to only collecting two bimonthly sampling events “...Upon approval of the Executive Officer...” has been removed from the tentative Order (Tables E-3 and E-6 of the Monitoring and Reporting Program and Tables F-14 and F-15 of the Fact Sheet).

**CSPA – Comment #16k:** *The tentative Monitoring and Reporting Program fails to include effluent monitoring requirements for non-priority pollutants in the discharge. The Basin Plan includes the Chemical Constituents and Pesticides objectives, which describe additional constituents of concern (e.g., iron, manganese, turbidity, thiobencarb). The tentative Monitoring and Reporting Program should be revised to include monitoring requirements and characterization of these additional constituents.*

**Response:** The tentative Order (Discharge Prohibitions III.E and III.F - Limitations and Discharge Requirements) already prohibits the discharge of waste that causes violation of any narrative or numeric water quality objective contained in the Basin Plan. This is consistent with requirements in other NPDES permits adopted by the Regional Board.

**CSPA – Comment #16l:** *To determine compliance with proposed Receiving Water Limitation*

*V.A.5.a, the Receiving Water Monitoring requirements in Table E-6 in the proposed permit must be revised to include dissolved oxygen percent saturation in the receiving stream.*

**Response:** The tentative Order is consistent with monitoring requirements recently adopted by the Regional Board in other NPDES permits.

**CSPA – Comment #16m:** *The pond monitoring fails to require DO sampling to determine if the ponds are a source of odors. The pond monitoring also fails to require observation of the levee conditions.*

**Response:** Regional Board staff concurs with your comments, and has included the information in the tentative Order (Section IV.B.2 of the tentative Order, Table E-5 of the Monitoring and Reporting Program, and Table F-17 of the Fact Sheet).

**CSPA – Comment #17:** *The Basin Plan, Implementation, Page IV-24-00, prohibits the discharge of wastewater to low flow streams as a permanent means of disposal and requires the evaluation of land disposal alternatives, Implementation, Page IV-15.00, Policies and Plans (2) Wastewater Reuse Policy.*

**Response:** The Commentator indicates that the discharge can, in accordance with the cited Basin Plan Prohibition, reasonably be eliminated in accordance with the Basin Plan, Implementation, Page IV-15.00, Policies and Plans (2) Wastewater Reuse Policy. The cited policy indicates that the Regional Water Board encourages the reclamation and reuse of wastewater where practicable, however it does not indicate that the discharge can be reasonably eliminated. With the current influent flow levels, there is not enough storage capacity at the wastewater plant to eliminate the discharge, and there is no land disposal activities occurring at the wastewater plant. The Discharger has spent approximately \$2.7 million (from the fall of 1998 to the current date) to alleviate effluent violations. These improvements included installing rock filters, updating the chlorination/dechlorination processes, and working on the sewer collection system to decrease infiltration and inflow problems.

The Basin Plan does not explicitly prohibit direct discharges to streams with intermittent flow. It states that it may be inappropriate. Although it is listed in the Prohibition section of the Basin Plan, direct discharge to an intermittent stream is not explicitly prohibited.

The tentative Order sets prohibitions, effluent limitations and monitoring and reporting requirements to support the use of treated effluent for disposal. The Discharger is maintaining the same facility operation and surface water discharges as allowed in their existing NPDES permit.

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## **CENTRAL VALLEY CLEAN WATER ASSOCIATION (CVCWA) COMMENTS**

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**Received on 24 October 2006:**

**CVCWA – Comment #1:** *Lateral K is an Agricultural Drain and therefore the tributary footnote does not apply*

**Response:** See response to City of Biggs – Comment #1

**CVCWA – Comment #2:** *Discharge Prohibitions E, F & G are vague, defeat the purpose of the permit and are contradictory*

**Response:** See response to City of Biggs – Comment #3

**CVCWA – Comment #3:** *Effluent Limit for Peak Wet Weather Flow*

**Response:** See response to City of Biggs – Comment #5

**CVCWA – Comment #4:** *Final Effluent Limit for EC*

**Response:** See response to City of Biggs – Comment #6

**CVCWA – Comment #5:** *Final Effluent Limit for TDS*

**Response:** See response to City of Biggs – Comment #7

**CVCWA – Comment #6:** *Time frame for Completion of the Electrical Conductivity Study*

**Response:** See response to City of Biggs - Comments #6 and #8

**CVCWA – Comment #7:** *Collection System Requirements*

**Response:** The Commentator is opposed to the inclusion of collection system requirements in the tentative Order. Regional Board staff concurs with your comments. The tentative Order still describes the Statewide General WDR for Sanitary Sewer Systems, and refers that the Discharger is subject to requirements of that Order. All other information regarding the collection system requirements has been removed from the tentative Order, since the Statewide General Order regulates the collection system (Section VI.C.5.e of the tentative Order and Section VII.B.4.b of the Fact Sheet).

**CVCWA – Comment #8:** *Compliance Determination Section*

**Response:** The Commentator requests that the Compliance Determination section be deleted from the tentative Order, as the new NPDES template has removed certain sections that are more enforcement related. Regional Board staff has modified the compliance determination section to correspond to the latest NPDES template (i.e., Sections VII. A through E of the tentative Order were removed).

**CVCWA – Comment #9: *Use of Lowest Ambient Hardness to Calculate CTR Metals Criteria***

**Response:** The Commentator is concerned over the Regional Board staff utilizing the lowest ambient hardness to calculate hardness dependent CTR metals criteria, instead of using the average ambient hardness value. The Commentator encourages the Regional Board to reconsider using the average ambient hardness values to calculate CTR hardness based criteria. Regional Board has modified the text to include “utilizing a reasonable worst-case ambient hardness” for CTR metal calculations, in order to protect beneficial uses for all discharge conditions.

**CVCWA – Comment #10: *Use of A Compilation of Water Quality Goals to select Water Quality Goals***

**Response:** Regional Board staff concurs with your comment, and has removed any reference to the document (from Section IV.C.4.a of the Fact Sheet) entitled “A *Compilation of Water Quality Goals*” prepared by the Central Valley Regional Water Board.

**Received on 3 April 2007:**

**CVCWA – Comment #11: *Maximum Daily Limit for Total Dissolved Solids***

**Response:** See response to City of Biggs – Comment #7.

**CVCWA – Comment #12: *Application of State Water Board Resolution 88-63 (Sources of Drinking Water Policy)*** *The tentative Order recognizes that the receiving water – Lateral K – likely fits within one of the exceptions set forth in Resolution 88-63, but the tentative Order incorrectly states that the exceptions may not be determined in a permit, but must be determined through a Basin Plan amendment.*

**Response:** The Regional Board disagrees with the comment that the exceptions to Resolution 88-63 may be implemented through a permit and a Basin Plan amendment is not required. This issue was directly addressed in State Water Board Order WQ 2002-0015 (City of Vacaville). The State Board adopted a state policy for water quality control

known as the Sources of Drinking Water Policy in 1988. In it the Board resolved that “[a]ll surface and ground waters of the State are considered to be suitable, or potentially suitable, for municipal or domestic water supply and should be so designated by the Regional Boards” with certain exceptions. The exceptions include, among others:

“1. Surface and ground waters where:

- c. The water source does not provide sufficient water to supply a single well capable of producing an average, sustained yield of 200 gallons per day.

2. Surface waters where:

- a. The water is in systems designed or modified to collect or treat municipal . . . wastewaters, . . . or storm water runoff, provided that the discharge from such systems is monitored to assure compliance with all relevant water quality objectives as required by the Central Valley Regional Boards; or,
- b. The water is in systems designed or modified for the primary purpose of conveying or holding agricultural drainage waters, provided that the discharge from such systems is monitored to assure compliance with all relevant water quality objectives as required by the Central Valley Regional Boards.”

The Central Valley Regional Board modified its Basin Plan in 1989 to implement Resolution No. 88-63. The amendment added language stating that water bodies within the region “that do not have beneficial uses designated” in the tables identifying specific waters and their uses “are assigned MUN designations in accordance with the provisions of . . . Resolution No. 88-63 . . . .”<sup>2</sup> The resolution was made a part of the 1990 Basin Plan.

Shortly thereafter, the Office of Administrative Law (OAL) issued a determination that the Sources of Drinking Water Policy contained regulatory language and, therefore, must be adopted pursuant to the rulemaking provisions of the Administrative Procedure Act (APA).<sup>3</sup> This determination was advisory only. At that time OAL and the State Board had

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<sup>2</sup> See 1990 Basin Plan, II-1.

<sup>3</sup> Gov. Code § 11340 et seq.; 1989 OAL Determination No. 8 [Docket No. 88-010].

an ongoing dispute over whether basin plans, state policies for water quality control, and guidelines were subject to the Administrative Procedure Act's (APA) rulemaking provisions. After an adverse ruling in litigation, the State Board decided to pursue a legislative remedy. The matter was ultimately resolved by legislation enacted in 1992 amending the APA.<sup>4</sup> The amendments establish an abbreviated OAL review process for plans, policies, and guidelines that are adopted or that a court determines are subject to the APA after June 1, 1992. The legislation explicitly exempts plan, policies and guidelines adopted or revised prior to that date from the APA's rulemaking provisions.<sup>5</sup>

In the Vacaville matter, Vacaville and others contended that the Central Valley Regional Board can apply Resolution No. 88-63's exceptions provisions without amending the current Basin Plan. To support this contention, Vacaville cited documents addressing prior draft versions of Resolution No. 88-63. The State Board pointed out that Resolution No. 88-63, as adopted by the State Board, differed significantly from the prior draft versions; consequently, documents relating to the prior drafts are not persuasive. In fact, the State Board anticipated that the Regional Boards would apply the exception criteria through a basin plan amendment designating uses for a specific waterbody that did not include MUN.<sup>6</sup>

As noted in the Vacaville Order, Resolution No. 88-63 did not itself designate uses for any waterbody. Rather, the Resolution established a state policy that the Regional Boards were required to implement in their basin plans. The Central Valley Regional Board chose to implement Resolution No. 88-63 through a blanket MUN designation for all unidentified waterbodies in the region. Having made the designation, the Central Valley Regional Board is now required to go through another rulemaking process to change the designation. In the Vacaville Order, the State Board concluded that the Central Valley Regional Board correctly concluded that a basin plan amendment is required to change the MUN designation for, in that case, Old Alamo Creek.

Although in the Vacaville matter, the State Board determined that Old Alamo Creek did not fit within an exception to the Sources of Drinking Water Policy, an amendment to the Policy was still required to change the designation, since the Regional Board has designated all waters of the state within the Region as MUN in the way it implemented Resolution 88-63 in the Basin Plan.

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<sup>4</sup> Stats. 1992, ch. 1112, codified in Gov. Code §§ 11352-11354.

<sup>5</sup> Gov. Code § 11353(a) & (b).

<sup>6</sup> State Board Resolution No. 89-75.



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**CALIFORNIA RICE COMMISSION (CRC) AND SACRAMENTO VALLEY WATER QUALITY  
COALITION (SVWQC)**

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**CRC AND SVWQC – Comment #1: *Beneficial Use Designation***

**Response:** See response to CVCWA – Comment #12