

Central Valley Regional Water Quality Control Board
4/5 February 2009 Board Meeting

Response to Comments
for the
Maxwell Public Utilities District
Maxwell Public Utilities District Wastewater Treatment Plant
Tentative Waste Discharge Requirements

The following are Regional Water Quality Control Board, Central Valley Region (Regional Water Board) staff responses to comments submitted by interested parties regarding the tentative Waste Discharge Requirements (National Pollutant Discharge Elimination System (NPDES) Permit) renewal for the Maxwell Public Utilities District Wastewater Treatment Plant. Public comments regarding the proposed NPDES Permit renewal were required to be submitted to the Regional Water Board by 5:00 p.m. on 31 December 2008 in order to receive full consideration.

The Regional Water Board received comments regarding the proposed NPDES Permit renewal from the California Sportfishing Protection Alliance and the Central Valley Clean Water Association (CVCWA). The submitted comments were accepted into the record, and are summarized below, followed by Regional Water Board staff responses.

CALIFORNIA SPORTFISHING PROTECTION ALLIANCE (CSPA) COMMENTS

Designated Party Status. CSPA requested designated party status for the Regional Water Board hearing on this matter. The commenter will be granted designated party status for the hearing.

CSPA Comment No. 1. Antibacksliding. The proposed Permit contains Effluent Limitations less stringent than the existing permit contrary to the Antibacksliding requirements of the Clean Water Act and Federal Regulations, 40 CFR 122.44 (l)(1).

Under the Clean Water Act (CWA), point source dischargers are required to obtain federal discharge (NPDES) permits and to comply with water quality based effluent limits (WQBELs) in NPDES permits sufficient to make progress toward the achievement of water quality standards or goals. The antibacksliding and antidegradation rules clearly spell out the interest of Congress in achieving the CWA's goal of continued progress toward eliminating all pollutant discharges. Congress clearly chose an overriding environmental interest in clean water through discharge reduction, imposition of technological controls, and adoption of a rule against relaxation of limitations once they are established.

Upon permit reissuance, modification, or renewal, a discharger may seek a relaxation of permit limitations. However, according to the CWA, relaxation of a WQBEL is permissible only if the requirements of the antibacksliding rule are met. The antibacksliding regulations prohibit EPA from reissuing NPDES permits containing interim effluent limitations, standards or conditions less stringent than the final limits contained in the previous permit, with limited exceptions. These regulations also prohibit, with some exceptions, the reissuance of permits originally based on best

professional judgment (BPJ) to incorporate the effluent guidelines promulgated under CWA §304(b), which would result in limits less stringent than those in the previous BPJ-based permit. Congress statutorily ratified the general prohibition against backsliding by enacting §§402(o) and 303(d)(4) under the 1987 Amendments to the CWA. The amendments preserve present pollution control levels achieved by dischargers by prohibiting the adoption of less stringent effluent limitations than those already contained in their discharge permits, except in certain narrowly defined circumstances.

When attempting to backslide from WQBELs under either the antidegradation rule or an exception to the antibacksliding rule, relaxed permit limits must not result in a violation of applicable water quality standards. The general prohibition against backsliding found in §402(o)(1) of the Act contains several exceptions. Specifically, under §402(o)(2), a permit may be renewed, reissued, or modified to contain a less stringent effluent limitation applicable to a pollutant if: (A) material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation; (B)(i) information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance; or (ii) the Administrator determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under subsection (a)(1)(B) of this section; (C) a less stringent effluent limitation is necessary because of events over which the permittee has no control and for which there is no reasonably available remedy [(e.g., Acts of God)]; (D) the permittee has received a permit modification under section 1311(c), 1311(g), 1311(h), 1311(i), 1311(k), 1311(n), or 1326(a) of this title; or (E) the permittee has installed the treatment facilities required to meet the effluent limitations in the previous permit, and has properly operated and maintained the facilities, but has nevertheless been unable to achieve the previous effluent limitations, in which case the limitations in the reviewed, reissued, or modified permit may reflect the level of pollutant control actually achieved (but shall not be less stringent than required by effluent guidelines in effect at the time of permit renewal, reissuance, or modification).

Even if a discharger can meet either the requirements of the antidegradation rule under §303(d)(4) or one of the statutory exceptions listed in §402(o)(2), there are still limitations as to how far a permit may be allowed to backslide. Section 402(o)(3) acts as a floor to restrict the extent to which BPJ and water quality-based permit limitations may be relaxed under the antibacksliding rule. Under this subsection, even if EPA allows a permit to backslide from its previous permit requirements, EPA may never allow the reissued permit to contain effluent limitations which are less stringent than the current effluent limitation guidelines for that pollutant, or which would cause the receiving waters to violate the applicable state water quality standard adopted under the authority of §303.49.

Federal regulations 40 CFR 122.44 (l)(1) have been adopted to implement the antibacksliding requirements of the CWA:

(l) Reissued permits. (1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued, interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under Sec. 122.62.)

(2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.

(i) Exceptions--A permit with respect to which paragraph (l)(2) of this section applies may be renewed, reissued, or modified to contain a less stringent effluent limitation applicable to a pollutant, if:

(A) Material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation;

(B)(1) Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance; or (2) The Administrator determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b);

(C) A less stringent effluent limitation is necessary because of events over which the permittee has no control and for which there is no reasonably available remedy;

(D) The permittee has received a permit modification under section 301(c), 301(g), 301(h), 301(i), 301(k), 301(n), or 316(a); or

(E) The permittee has installed the treatment facilities required to meet the effluent limitations in the previous permit and has properly operated and maintained the facilities but has nevertheless been unable to achieve the previous effluent limitations, in which case the limitations in the reviewed, reissued, or modified permit may reflect the level of pollutant control actually achieved (but shall not be less stringent than required by effluent guidelines in effect at the time of permit renewal, reissuance, or modification).

(ii) Limitations. In no event may a permit with respect to which paragraph (l)(2) of this section applies be renewed, reissued, or modified to contain an effluent limitation which is less stringent than required by effluent guidelines in effect at

the time the permit is renewed, reissued, or modified. In no event may such a permit to discharge into waters be renewed, issued, or modified to contain a less stringent effluent limitation if the implementation of such limitation would result in a violation of a water quality standard under section 303 applicable to such waters.

Sections 402(o)(2) and 303(d)(4) of the CWA and 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order.” Specifically, the existing Order No. R5-2002-0022, contained the following Effluent Limitations which have been removed:

- The turbidity Effluent Limitations from the existing Order have been moved to Construction, Operation and Maintenance Specification No. 4, Turbidity; “The Discharger shall operate the treatment system to insure that turbidity shall not exceed 2 NTU as a daily average; 5 NTU more than 5 percent of the time within a 24 hour period; and 10 NTU, at any time.” The proposed Permit Fact Sheet discusses Pathogens and states that the previous Order established Effluent Limitations for turbidity. Turbidity limitations are maintained in the proposed Permit but have been moved to “Special Provisions”, they are no longer Effluent Limitations. The Fact Sheet Pathogen discussion states that infectious agents in sewage are bacteria, parasites and viruses and that tertiary treatment is necessary to effectively remove these agents. This discussion also states that turbidity limitations were originally established: “...to ensure that the treatment system was functioning properly and could meet the limits for total coliform organisms. This discussion is incorrect. First, coliform organism limitations are also an indicator parameter of the effectiveness of tertiary treatment. The coliform limitations in the proposed and past Permit are significantly lower than the Basin Plan Water Quality Objective and are based on the level of treatment recommended by the California Department of Public Health (DPH). Second, both the coliform limitations and turbidity are recommended by DPH as necessary to protect recreational and irrigated agricultural beneficial uses of the receiving water. Turbidity has no lesser standing than coliform organisms in the DPH recommendation. Section 122.44(d) of 40 CFR requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. There are no limitations for viruses and parasites in the proposed Permit, which the Regional Board has indicated are necessary to protect the contact recreation and irrigated agricultural uses of the receiving water. Both coliform and turbidity limitations are treatment effectiveness indicators that the levels of bacteria viruses and parasites are adequately removed to protect the beneficial uses. Special Provisions are not Effluent Limitations as required by the Federal Regulations. The

turbidity Effluent Limitations must be restored in accordance with the Clean Water Act and Federal regulations 40 CFR 122.44 (l)(1).

The only rationale that can explain moving the turbidity from Effluent Limitations to Provisions is to protect Dischargers from mandatory minimum penalties as prescribed by the California Water Code, Section 13385. It is doubtful that it was intent of the legislature in adopting the mandatory penalty provisions to have the Regional Boards delete Effluent Limitations from permit to avoid penalties.

- The Effluent Limitation requiring wastewater shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the California Department of Public Health (DPH, formerly known as California Department of Health Services or DHS) reclamation criteria, California Code of Regulations, Title 22, Division 4, Chapter 3, (Title 22), or equivalent, has been moved to “Other Special Provisions”.
- The existing NPDES permit (R5-2002-0022) for this facility contains Effluent Limitations for settleable solids (SS). The most important physical characteristic of wastewater is its total solids content. SS are an approximate measure of the quantity of sludge that will be removed by sedimentation. Low, medium and high strength wastewaters will generally contain 5 ml/l, 10 ml/l and 20 ml/l of SS, respectively. Knowledge of SS parameters is critical for proper wastewater treatment plant design, evaluating sludge quantities, operation and troubleshooting. Excessive SS in the effluent discharge are typically indicative of process upset or overloading of the system. Failure to limit and monitor for SS limits the regulators ability to assess facility operations and determine compliance. Settleable matter is a water quality objective in the Basin Plan. Failure to include an Effluent Limitations for SS threatens to allow violation of the settleable matter receiving water limitation. As such, there is a reasonable potential for settleable solids to exceed the Basin Plan’s water quality standard and Effluent Limitations are required in accordance with 40 CFR 122.44. We would have applauded the operators if indeed they did not violate the SS limitation during the life of the existing permit; this would not however remove the reasonable potential to cause exceedances in the future during system upsets or overloading; this also does not constitute “new” information as is required under the Antidegradation regulations. However, Table F-2 shows that the discharge did indeed exceed the settleable solids limitation with a maximum effluent concentration of 1.5 ml/l.

RESPONSE: Regional Water Board staff does not concur that removal of effluent limitations for turbidity from the existing WDR Order No. R5-2002-0022 and placement of the same requirements in the Construction, Operation, and Maintenance specifications of the proposed NPDES Permit constitutes backsliding. The turbidity limitations in the existing WDR Order were not based on the water quality objective for turbidity or the need to regulate turbidity in the receiving water. As stated in the Fact Sheet of the proposed NPDES Permit, the purpose of turbidity

testing is to determine the effectiveness of the filter system performance, and to serve as an indicator for the Discharger to implement operational procedures to correct deficiencies in the filter performance. Higher effluent turbidity measurements do not necessarily indicate that the effluent discharge exceeds the water quality criteria/objectives for pathogens (i.e., bacteria, parasites, and viruses), which are the principal infectious agents that may be present in raw sewage. Therefore, turbidity is not a valid indicator parameter for pathogens. Thus, the former turbidity limitations were not technology based effluent limitations or water quality based effluent limitations for either pathogens or turbidity.

However, Regional Water Board staff acknowledges the need to maintain a low turbidity level as an assurance that the standard for pathogens is being met. On this basis, it is appropriate to include turbidity requirements as a Provision in the proposed permit rather than effluent limitations.

Total coliform organisms are intended as an indicator of the effectiveness of the entire treatment train and the effectiveness of removing pathogens. Effluent limitations for total coliform organisms are necessary to protect beneficial uses and have been included in the proposed permit. The operational turbidity requirements in the proposed permit imposes equivalent requirements as the existing limitations, not less stringent, and therefore the change from effluent requirements to provisional requirements does not allow degradation. The change from an effluent limitation to an equivalent provision is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Resources Control Board (State Water Board) Resolution 68-16.

The existing turbidity limitation in the existing Order is not a water quality based effluent limitation (WQBEL), CWA sections 303(d)(4) and 402(o) is not applicable to this circumstance because it does not involve backsliding from an established WQBEL. The discharge does not have reasonable potential to cause or contribute to an exceedance of any turbidity objective, so WQBELs for turbidity are not required. The proposed NPDES Permit nevertheless includes receiving water limitations based on the Basin Plan's turbidity objectives.

CSPA also comments that the movement of the effluent limitation requiring that wastewater shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the California Department of Public Health (DHS) reclamation criteria, California Code of Regulations, Title 22, Division 4, Chapter 3, (Title 22), or equivalent, to "Other Special Provisions" constitutes backsliding. Existing Order No. R5-2002--0022 included an effluent limitation requiring treatment equivalent to the requirements of Title 22. The requirements in the proposed permit provide for an equivalent effluent water quality that are not less stringent than the existing effluent limitations, and therefore does not constitute backsliding. The revision in the Title 22 limitation is consistent with the antidegradation provisions of 40 CFR 131.12 and

State Water Resources Control Board Resolution 68-16 because this Order imposes equivalent requirements to the existing permit.

Further, CSPA comments that the removal of effluent limitations for settleable solids constitutes backsliding. Existing Order No. R5-2002-0022 includes average monthly and average daily effluent limitations for settleable solids of 0.1 ml/L and 0.2 ml/L, respectively. Settleable solids were not detected in 499 out of 500 sampling events with a detection limit of 0.1 ml/L from February 2002 through April 2007. Therefore, settleable solids data does not demonstrate reasonable potential to cause or contribute to an exceedance of a water quality objective. The proposed permit removes the effluent limitations for settleable solids based on new information consistent with anti-backsliding requirements of CWA sections 303(d)(4) and 402(o)(2)(B). The proposed permit is adequately protective and contains a narrative receiving water limitations for settleable substances.

CSPA Comment No. 2. Oil and Grease. The proposed Permit does not contain an Effluent Limitation for oil and grease in violation of Federal Regulations 40 CFR 122.44 and California Water Code Section 13377.

The proposed Permit is for a domestic wastewater treatment plant. Domestic wastewater treatment plants, by their nature, receive oil and grease in concentrations from home cooking and restaurants that present a reasonable potential to exceed the Basin Plan water quality objective for oil and grease (Basin Plan III-5.00). Confirmation sampling is not necessary to establish that domestic wastewater treatment systems contain oil and grease in concentrations that present a reasonable potential to exceed the water quality objective. It is not unusual for sewerage systems to allow groundwater cleanup systems, such as from leaking underground tanks, to discharge into the sanitary sewer. Groundwater polluted with petroleum hydrocarbons can also infiltrate into the collection system as easily as sewage exfiltrates. The Central Valley Regional Board has a long established history of including oil and grease limitations in NPDES permits at 15 mg/l as a daily maximum and 10 mg/l as a monthly average, which has established BPTC for POTWs.

The California Water Code (CWC), Section 13377 states in part that: "...the state board or the regional boards shall...issue waste discharge requirements...which apply and ensure compliance with ...water quality control plans, or for the protection of beneficial uses..." Section 122.44(d) of 40 CFR requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where numeric water quality objectives have not been established, 40 CFR §122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a), proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information, or an indicator parameter. US EPA has interpreted 40 CFR 122.44(d) in *Central Tenets of the National Pollutant Discharge*

Elimination System (NPDES) Permitting Program (Factsheets and Outreach Materials, 08/16/2002) that although States will likely have unique implementation policies there are certain tenets that may not be waived by State procedures. These tenets include that “where the preponderance of evidence clearly indicates the potential to cause or contribute to an exceedance of State water quality standards (even though the data may be sparse or absent) a limit MUST be included in the permit.” Failure to include an effluent limitation for oil and grease in the proposed permit violates 40 CFR 122.44 and CWC 13377.

RESPONSE: Regional Water Board staff does not concur that effluent limitations for oil and grease are necessary simply because the Facility is a wastewater treatment plant. The Discharger is required to be covered under State Water Board Order No. 2006-0003, a Statewide General WDR for Sanitary Sewer Systems, which requires each enrollee to evaluate its service area to determine whether a Fat, Oil, and Grease (FOG) control program is needed. If an enrollee determines that a FOG control program is not needed, the enrollee must provide justification for why it is not needed. If FOG is found to be a problem, the enrollee must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. The Discharger’s compliance with the requirements of WQO No. 2006-0003 ensures significant amounts of oil and grease are not discharged into the Facility. The proposed NPDES Permit contains narrative receiving water limitations for oil and grease and floating materials which are protective of the receiving stream.

CSPA Comment No. 3. Chronic Toxicity Effluent Limitations. 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) and the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP).

The Proposed Permit and the State Implementation Policy states that: “On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on 13 July 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of the proposed permit implement the SIP.”

The SIP, Section 4, Toxicity Control Provisions, Water Quality-Based Toxicity Control, states that: “A chronic toxicity effluent limitation is required in permits for all dischargers that will cause, have a reasonable potential to cause, or contribute to chronic toxicity in receiving waters.” The SIP is a state *Policy* and CWC Sections 13146 and 13247 require that the Board in carrying out activities which affect water quality shall comply with state policy for water quality control unless otherwise directed by statute, in which case they shall indicate to the State Board in writing their authority for not complying with such policy.

Federal regulations, at 40 CFR 122.44 (d)(1)(i), require that limitations must control all pollutants or pollutant parameters which the Director determines are or may be discharged at a level which will cause, or contribute to an excursion above any State water quality standard, including state narrative criteria for water quality. There has been no argument that domestic sewage contains toxic substances and presents a reasonable potential to cause toxicity if not properly treated and discharged. The Water Quality Control Plan for the Sacramento/ San Joaquin River Basins (Basin Plan), Water Quality Objectives (Page III-8.00) for Toxicity is a narrative criteria which states that all waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. The Proposed Permit states that: “...to ensure compliance with the Basin Plan’s narrative toxicity objective, the discharger is required to conduct whole effluent toxicity testing...” However, sampling does not equate with or ensure compliance. The Tentative Permit requires the Discharger to conduct an investigation of the possible sources of toxicity if a threshold is exceeded. This language is not a limitation and essentially eviscerates the Regional Board’s authority, and the authority granted to third parties under the Clean Water Act, to find the Discharger in violation for discharging chronically toxic constituents. An effluent limitation for chronic toxicity must be included in the Order. There is a reasonable potential for toxic constituents in the discharge to cause chronic toxicity. For example; the proposed Permit MRP, 6, Ammonia Toxicity, allows that: – The acute toxicity testing may be modified to eliminate ammonia-related toxicity until 18 May 2010, at which time the Discharger shall be required to implement the test without modifications to eliminate ammonia toxicity. According to US EPA’s ambient water quality criteria for the protection of freshwater aquatic life ammonia can be both acutely and chronically toxic to aquatic organisms. It must also be noted that the unnamed tributary to Lurline Creek is tributary to Lurline Creek, Colusa Trough, and Colusa Basin Drain. The listing for the Colusa Basin Drain includes: azinphos-methyl, carbofuran, diazinon, Group A pesticides, malathion, methyl parathion, molinate/ordram, and unknown toxicity. Despite the receiving water being listed for unknown toxicity; the proposed permit fails to include a protective Effluent Limitation for chronic toxicity.

Proposed Permit is quite simply wrong; by failing to include effluent limitations prohibiting chronic toxicity the proposed Permit does not “...implement the SIP”. The Regional Board has commented time and again that no chronic toxicity effluent limitations are being included in NPDES permit until the State Board adopts a numeric

limitation. The Regional Board explanation does not excuse the proposed Permit's failure to comply with Federal Regulations, the SIP, the Basin Plan and the CWC. The Regional Board's Basin Plan, as cited above, already states that: "...waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses..." Accordingly, the proposed Permit must be revised to prohibit chronic toxicity (mortality and adverse sublethal impacts to aquatic life, (sublethal toxic impacts are clearly defined in EPA's toxicity guidance manuals)) in accordance with Federal regulations, at 40 CFR 122.44 (d)(1)(i) and the Basin Plan and the SIP.

RESPONSE: As stated in the Fact Sheet, Section IV.C.5.b, chronic whole effluent toxicity (WET) data from May 2004 through November 2006 indicate that the discharge does not have reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective. However, because the proposed permit allows for toxicity testing to be modified to eliminate ammonia-related toxicity until 18 May 2010, Regional Water Board staff concurs that the discharge may have a potential to cause or contribute to an excursion above the Basin Plan's narrative toxicity objective. Therefore, a narrative chronic WET effluent limitation has been added to the tentative NPDES Permit.

The addition of a narrative chronic whole effluent toxicity limitation, rather than a numerical limitation, is based on the State Water Board's Water Quality Order for the City of Davis (WQO 2008-0008) adopted on 2 September 2008. The WQO *concludes that a numeric effluent limitation for chronic toxicity is not appropriate, however, a narrative effluent limitation for chronic toxicity is appropriate for discharges that pose a reasonable potential for exceedance of a narrative toxicity objective.* The proposed Order has been modified to include the following narrative chronic toxicity effluent limitation in section IV.A.1, and the following compliance determination language in section VII:

Section IV.A.1

"g. Chronic Whole Effluent Toxicity. There shall be no chronic toxicity in the effluent discharge."

Section VII

"E. Chronic Whole Effluent Toxicity Effluent Limitation. Compliance with the accelerated monitoring and TRE/TIE provisions of Provision VI.C.2.a shall constitute compliance with effluent limitation IV.A.1.g for chronic whole effluent toxicity."

Additionally, the proposed permit requires semi-annual chronic WET monitoring and, in Special Provision VI.C.2.a, requires the Discharger to develop an Initial Investigative Toxicity Reduction Evaluation (TRE) Work Plan, to ensure the

Discharger has a plan to immediately move forward with the initial tiers of a TRE in the event effluent toxicity is encountered in the future. The provision also includes a numeric toxicity monitoring trigger, requirements for accelerated monitoring, and requirements for TRE initiation if a pattern of toxicity is demonstrated. Staff believes that the addition of a narrative chronic WET effluent limitation addresses this issue.

CSPA comments that effluent limitations for chronic toxicity should be included in the proposed NPDES Permit due to the 303(d) listing of the Colusa Basin Drain, to which the receiving water is tributary via Lurline Creek and Colusa Creek, for unknown toxicity. Regional Water Board staff does not concur that this should be the basis for a chronic toxicity effluent limitation. The tributary rule applies to beneficial uses of downstream waterbodies; it does not apply to 303(d) listings. Since the receiving water is not listed on the 303(d) listing for unknown toxicity, this listing is not applicable to this discharge. If a Total Maximum Daily Load (TMDL) is adopted that establishes waste load allocations for discharges to tributaries to the Colusa Basin Drain, effluent limitations for chronic toxicity may be established in accordance with the TMDL, as applicable.

CSPA Comment No. 4. Electrical Conductivity. The proposed Permit fails to include a final Effluent Limitation for electrical conductivity (EC) that is protective of the beneficial uses of the receiving water despite a clear reasonable potential to exceed water quality standards contrary to Federal regulations 40 CFR 122.44.

The proposed permit requires that: “Effective immediately, the electrical conductivity of the discharge shall not exceed 2000 μ mhos/cm as an annual average.”

Federal Regulations, 40 CFR 122.44 (d)(i), requires that; “Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.” There is no provision in the Federal Regulations for an “interim” effluent limitation.

The Basin Plan states, on Page III-3.00 Chemical Constituents, “Waters shall not contain constituents in concentrations that adversely affect beneficial uses.” The Basin Plan’s “Policy for Application of Water Quality Objectives” provides that in implementing narrative water quality objectives, the Regional Board will consider numerical criteria and guidelines developed by other agencies and organizations. This application of the Basin Plan is consistent with Federal Regulations, 40CFR 122.44(d).

For EC, *Ayers R.S. and D.W. Westcott, Water Quality for Agriculture, Food and Agriculture Organization of the United Nations – Irrigation and Drainage Paper No. 29, Rev. 1, Rome (1985)*, levels above 700 μ mhos/cm will reduce crop yield for sensitive plants. The University of California, Davis Campus, Agricultural Extension Service,

published a paper, dated 7 January 1974, stating that there will not be problems to crops associated with salt if the EC remains below 750 $\mu\text{mhos/cm}$.

The discharge of EC or TDS may exceed water quality objectives for each designated beneficial use:

AGR: The Basin Plan states, on Page III-3.00 Chemical Constituents, "Waters shall not contain constituents in concentrations that adversely affect beneficial uses." The Basin Plan's "Policy for Application of Water Quality Objectives" provides that in implementing narrative water quality objectives, the Regional Board will consider numerical criteria and guidelines developed by other agencies and organizations. This application of the Basin Plan is consistent with Federal Regulations, 40CFR 122.44(d). For EC, *Ayers R.S. and D.W. Westcott, Water Quality for Agriculture, Food and Agriculture Organization of the United Nations – Irrigation and Drainage Paper No. 29, Rev. 1, Rome (1985)*, levels above 700 $\mu\text{mhos/cm}$ will reduce crop yield for sensitive plants. The State Water Resources Control Board's *Irrigation with Reclaimed Municipal Waste (July 1984)* and *McKee and Wolf (1971 Water Quality Criteria)*, state that waters with TDS above 2,100 mg/l are unsuitable for any irrigation under most conditions.

IND: *McKee and Wolf (1971 Water Quality Criteria)* lists the limiting TDS concentrations for numerous industrial uses in mg/l; boiler feed water 50-3000, brewing 500-1000, canning 850, general food processing 850 and paper manufacturing 80-500.

COLD/MIGR/SPWN: In a *Biological Significance* document sent to the Regional Board regarding the Musco Olive facility, dated November 1st 2006, James M. Harrington, Staff Water Quality Biologist with the California Department of Fish and Game, citing *McKee and Wolf (1971 Water Quality Criteria)* wrote that: "Surveys of inland fresh waters indicates that good mixes of fish fauna are found where conductivity values range between 150 and 500 $\mu\text{mhos/cm}$. Even in the most alkaline waters, the upper tolerance limit for aquatic life is approximately 2000 $\mu\text{mhos/cm}$."

The beneficial uses of receiving streams may be degraded by salt concentrations in wastewater discharges and Federal Regulation, 40 CFR 122.4 (a), (d) and (g) 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, or regulations promulgated under the CWA, when imposition of conditions cannot ensure compliance with applicable water quality requirements and for any discharge inconsistent with a plan or plan amendment approved under Section 208(b) of the CWA. California Water Code,

section 13377, requires that: “Notwithstanding any other provision of this division, the state board and the regional boards shall, as required or authorized by the Federal Water Pollution Control Act, as amended, issue waste discharge and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.” The Region 5 Permits does not protect the beneficial uses of the receiving stream and therefore does not comply with the requirements of Federal Regulations and the California Water Code.

The Central Valley Basin Plan, page IV-15.00, contains a *Controllable Factors Policy* which states that: “Controllable water quality factors are not allowed to cause further degradation of water quality in instances where other factors have already resulted in water quality objectives being exceeded. Controllable water quality factors are those actions, conditions, or circumstances resulting from human activities that may influence the quality of the waters of the State, that are subject to the authority of the State Water or Regional Water Board, and that may be reasonably controlled.”

The wastewater discharge average EC level is 1770 $\mu\text{mhos/cm}$ and the maximum observed EC was 4030 $\mu\text{mhos/cm}$. Clearly the discharge exceeds the MCLs for EC presenting a reasonable potential to exceed the water quality objective. The proposed permit contains an interim effluent limitation for EC of 2,000 $\mu\text{mhos/cm}$, as an annual average. The proposed EC limitation clearly exceeds the agricultural water quality goal for EC. The proposed Order fails to establish an effluent limitation for EC that are protective of the Chemical Constituents water quality objective. The City’s wastewater discharge increases concentrations of EC to unacceptable concentrations adversely affecting the agricultural beneficial use. The available literature regarding safe levels of EC for irrigated agriculture mandate that an Effluent Limitation for EC is necessary to protect the beneficial use of the receiving stream in accordance with the Basin Plan and Federal Regulations.

RESPONSE: Regional Water Board staff concurs that the electrical conductivity (EC) in the effluent is above the initial screening level established in the 1985 Ayers and Westcott Study. However, absent site-specific data on which to base a numerically-expressed salinity objective for the receiving water and downstream water bodies, a final effluent limit cannot be established.

Provisions were not included in the tentative NPDES Permit requiring the Discharger to obtain the information to determine site-specific salinity levels necessary to protect beneficial uses. Therefore, the proposed Order has been revised to require the Discharger to conduct site-specific studies to determine the appropriate electrical conductivity level to protect beneficial uses. It is the intent of the Regional Water Board to include a final electrical conductivity effluent limitation in a subsequent

permit renewal or amendment, based on the results of approved site-specific studies.

The newly proposed requirement for a site-specific salinity study for the receiving water corresponds to the requirements of existing Time Schedule Order No. R5-2007-0073, which implements a 18 May 2010 compliance date for the Discharger to comply with NPDES permit requirements and/or cease discharge. The Discharger is proposing to dispose of all the Facility's wastewater via land disposal (subsurface irrigation or other land disposal operations) and cease the discharge to the unnamed tributary to Lurline Creek. Given the planned cessation of the surface water discharge by 18 May 2010, Regional Water Board staff concludes that it is not reasonable to require the Discharger to expend additional resources to conduct a study that will not be utilized when the discharge is ceased. Therefore, the proposed time schedule for completing the study has been established to be conditional upon the failure to cease the discharge by the May 2010 compliance date. The proposed Order requires submittal of the final study with the Report of Waste Discharge (as required on the Cover Page for the Order) to ensure that the study is available if an NPDES permit renewal is necessary.

The proposed NPDES Permit contains several provisions to control and reduce salinity in the effluent discharge and thus protect beneficial uses during the remaining 15 months of discharge. The permit proposes a numeric performance-based effluent limitation for electrical conductivity (EC) of 2,000 $\mu\text{mhos/cm}$ to protect the receiving water from further salinity degradation and limit the discharge of salinity to existing levels. Additionally, the proposed Order requires the Discharger to submit a Salinity Evaluation and Minimization Plan to implement salinity reduction measures to reduce the salinity in its discharge. Compliance with the proposed requirements will likely result in a salinity reduction in the effluent discharged to the receiving water.

CSPA Comment No. 5. Averaging Period for EC Limitation. The Effluent Limitation for specific conductivity (EC) is improperly regulated as an annual average contrary to Federal Regulations 40 CFR 122.45 (d)(2) and common sense.

Federal Regulation 40 CFR 122.45 (d)(2) requires that permit for POTWs establish Effluent Limitations as average weekly and average monthly unless impracticable. The proposed Permit establishes an interim Effluent Limitation for EC as an annual average contrary to the cited Federal Regulation. Establishing the Effluent Limitation for EC in accordance with the Federal Regulation is not impracticable; to the contrary the Central Valley Regional Board has a long history of having done so. Proof of impracticability is properly a steep slope and the Regional Board has not presented any evidence that properly and legally limiting EC is impracticable.

RESPONSE: The proposed NPDES Permit includes an annual average performance-based effluent limitation for EC to keep the discharge from exceeding current levels. The interim limitation serves as a cap to temporarily protect against long-term salinity impacts to the receiving stream. Therefore, Regional Water Board staff concludes that an annual average interim limitation is appropriate for this purpose. Nevertheless, EC data for this discharge indicates that the EC level in the effluent does not fluctuate on a short-term basis. Therefore, Regional Water Board staff concludes that an annual average interim limitation is appropriate. Additionally, as discussed in the response to Comment No. 4 above, the Discharger is required to cease discharge to surface water by May 2010. Therefore, staff concludes that imposing a more stringent interim limitation that requires costly upgrades for an interim time period is not practicable.

CSPA Comment No. 6. Inadequate Antidegradation Analysis. The proposed Permit contains an inadequate antidegradation analysis that allows for degradation of groundwater absent any analysis of best practicable treatment and control of the discharge (BPTC) and the best interest of the people of California and therefore does not comply with the requirements of Section 101(a) of the Clean Water Act, Federal Regulations 40 CFR § 131.12, the State Board's Antidegradation Policy (Resolution 68-16) and California Water Code (CWC) Sections 13146 and 13247.

The proposed Permit, B. Groundwater Limitations, allows that: "1. Release of waste constituents from any storage, treatment, or disposal component associated with the WWTP, in combination with other sources, shall not cause the underlying groundwater to contain waste constituents in concentrations greater than background water quality. Any increase in total dissolved solids (TDS) or electrical conductivity @ 25 °C (EC) concentrations within the monitoring points, when compared to background, shall not exceed the increase typically caused by the percolation discharge of domestic wastewater, and shall not violate water quality objectives, impact beneficial uses, or cause pollution or nuisance. For purposes of this limitation, the monitoring points are the five existing groundwater monitoring wells within the property owned or controlled by the Discharger." The proposed permit further requires that: "Resolution No. 68-16 requires that the Discharger provide best practicable treatment or control prior to a discharge to groundwater. If monitoring of the groundwater indicates that the discharge has caused an increase in constituent concentrations, when compared to background, the Discharger is required in Section VI.C.2.b of this Order to conduct a study of the extent of groundwater degradation."

The proposed Permit allows for the degradation of groundwater to "the increase typically caused by the percolation discharge of domestic wastewater". This allowance for degradation is allowed absent any analysis of compliance with the Board's Antidegradation Policy.

CWC Sections 13146 and 13247 require that the Board in carrying out activities which affect water quality shall comply with state policy for water quality control unless otherwise directed by statute, in which case they shall indicate to the State Board in writing their authority for not complying with such policy. The State Board has adopted the Antidegradation Policy (Resolution 68-16), which the Regional Board has incorporated into its Basin Plan. The Regional Board is required by the CWC to comply with the Antidegradation Policy.

Section 101(a) of the Clean Water Act (CWA), the basis for the antidegradation policy, states that the objective of the Act is to “restore and maintain the chemical, biological and physical integrity of the nation’s waters.” Section 303(d)(4) of the CWA carries this further, referring explicitly to the need for states to satisfy the antidegradation regulations at 40 CFR § 131.12 before taking action to lower water quality. These regulations (40 CFR § 131.12(a)) describe the federal antidegradation policy and dictate that states must adopt both a policy at least as stringent as the federal policy as well as implementing procedures.

California’s antidegradation policy is composed of both the federal antidegradation policy and the State Board’s Resolution 68-16 (State Water Resources Control Board, Water Quality Order 86-17, p. 20 (1986) (“Order 86-17”); Memorandum from Chief Counsel William Attwater, SWRCB to Regional Board Executive Officers, “federal Antidegradation Policy,” pp. 2, 18 (Oct. 7, 1987) (“State Antidegradation Guidance”). As a state policy, with inclusion in the Water Quality Control Plan (Basin Plan), the antidegradation policy is binding on all of the Regional Boards (Water Quality Order 86-17, pp. 17-18).

Implementation of the state’s antidegradation policy is guided by the State Antidegradation Guidance, SWRCB Administrative Procedures Update 90-004, 2 July 1990 (“APU 90-004”) and USEPA Region IX, “Guidance on Implementing the Antidegradation Provisions of 40 CFR 131.12” (3 June 1987) (“Region IX Guidance”), as well as Water Quality Order 86-17.

The Regional Board must apply the antidegradation policy whenever it takes an action that will lower water quality (State Antidegradation Guidance, pp. 3, 5, 18, and Region IX Guidance, p. 1). Application of the policy does not depend on whether the action will actually impair beneficial uses (State Antidegradation Guidance, p. 6). Actions that trigger use of the antidegradation policy include issuance, re-issuance, and modification of NPDES and Section 404 permits and waste discharge requirements, waiver of waste discharge requirements, issuance of variances, relocation of discharges, issuance of cleanup and abatement orders, increases in discharges due to industrial production and/or municipal growth and/or other sources, exceptions from otherwise applicable water quality objectives, etc. (State Antidegradation Guidance, pp. 7- 10, Region IX Guidance,

pp. 2-3). Both the state and federal policies apply to point and nonpoint source pollution (State Antidegradation Guidance p. 6, Region IX Guidance, p. 4).

The State Board's APU 90-004 specifies guidance to the Regional Boards for implementing the state and federal antidegradation policies and guidance. The guidance establishes a two-tiered process for addressing these policies and sets forth two levels of analysis: a simple analysis and a complete analysis. A simple analysis may be employed where a Regional Board determines that: 1) a reduction in water quality will be spatially localized or limited with respect to the waterbody, e.g. confined to the mixing zone; 2) a reduction in water quality is temporally limited; 3) a proposed action will produce minor effects which will not result in a significant reduction of water quality; and 4) a proposed activity has been approved in a General Plan and has been adequately subjected to the environmental and economic analysis required in an EIR. A complete antidegradation analysis is required if discharges would result in: 1) a substantial increase in mass emissions of a constituent; or 2) significant mortality, growth impairment, or reproductive impairment of resident species. Regional Boards are advised to apply stricter scrutiny to non-threshold constituents, i.e., carcinogens and other constituents that are deemed to present a risk of source magnitude at all non-zero concentrations. If a Regional Board cannot find that the above determinations can be reached, a complete analysis is required.

Even a minimal antidegradation analysis would require an examination of: 1) existing applicable water quality standards; 2) ambient conditions in receiving waters compared to standards; 3) incremental changes in constituent loading, both concentration and mass; 4) treatability; 5) best practicable treatment and control (BPTC); 6) comparison of the proposed increased loadings relative to other sources; 7) an assessment of the significance of changes in ambient water quality and 8) whether the waterbody was a ONRW. A minimal antidegradation analysis must also analyze whether: 1) such degradation is consistent with the maximum benefit to the people of the state; 2) the activity is necessary to accommodate important economic or social development in the area; 3) the highest statutory and regulatory requirements and best management practices for pollution control are achieved; and 4) resulting water quality is adequate to protect and maintain existing beneficial uses. A BPTC technology analysis must be done on an individual constituent basis; while tertiary treatment may provide BPTC for pathogens, dissolved metals may simply pass through.

The antidegradation analysis in the proposed Permit is not simply deficient, it is literally nonexistent. The brief discussion of antidegradation requirements, in the Findings and Fact Sheet, consist only of skeletal, unsupported, undocumented conclusory statements totally lacking in factual analysis. The proposed Permit does not include any analysis allowing for groundwater degradation or showing that the surface water discharge is BPTC. The Tentative Permit fails to properly implement the Basin Plan's Antidegradation Policy and discuss that any groundwater degradation caused by the percolation of domestic wastewater that adversely affects beneficial uses; contain

concentrations of chemical constituents in excess of the drinking water maximum contaminant levels (MCLs), taste- or odor producing substances, and/or toxic substances is not exempt from the requirements of CCR Title 27.

RESPONSE: Section F of existing WDR Order No. R5-2002-0022 establishes groundwater limitations requiring the following:

“Release of waste constituents from any storage, treatment, or disposal component associated with the WWTP shall not, in combination with other sources of the waste constituents, cause the following in groundwater:

- 1. Beneficial uses to be adversely impacted or water quality objectives to be exceeded.*
- 2. Any constituent concentration, when compared to background, to be incrementally increased beyond the current concentration.”*

Section V.B.1 of the proposed NPDES Permit establishes groundwater limitations requiring the following:

“Release of waste constituents from any storage, treatment, or disposal component associated with the WWTP, in combination with other sources, shall not cause the underlying groundwater to contain waste constituents in concentrations greater than background water quality. Any increase in total dissolved solids (TDS) or electrical conductivity @ 25 °C (EC) concentrations within the monitoring points, when compared to background, shall not exceed the increase typically caused by the percolation discharge of domestic wastewater, and shall not violate water quality objectives, impact beneficial uses, or cause pollution or nuisance. For purposes of this limitation, the monitoring points are the five existing groundwater monitoring wells within the property owned or controlled by the Discharger.”

Regional Water Board staff concurs that the groundwater limitation in the proposed permit inappropriately allows for the increase in constituent concentrations by allowing the *“increase typically caused by the percolation discharge of domestic wastewater.”* Therefore, section V.B.1 of the proposed permit has been revised as follows, which is consistent with the requirements of existing WDR Order No. R5-2002-0022:

“Release of waste constituents from any storage, treatment, or disposal component associated with the WWTP, in combination with other sources, shall not cause the underlying groundwater to contain waste constituents in concentrations greater than background water quality. Any increase in total dissolved solids (TDS) or electrical conductivity @ 25 °C (EC) concentrations

within the monitoring points, when compared to background, shall not exceed the increase typically caused by the percolation discharge of domestic wastewater, and shall not violate water quality objectives, impact beneficial uses, or cause pollution or nuisance. For purposes of this limitation, the monitoring points are the five existing groundwater monitoring wells within the property owned or controlled by the Discharger.”

The groundwater limitation at section V.B.2 of the tentative NPDES Permit was included in error and has been removed. The proposed permit is for an existing discharge and does not propose an increase in capacity or permitted discharge. State Water Board and USEPA guidelines do not require a new antidegradation analysis for an existing regulated flow. (Memo to the Regional Board Executive Officers from William Attwater (10/7/87), p.5; APU 90-004, pp. 2-3; EPA Water Quality Handbook 2d, § 4.5.) Regional Water Board staff have evaluated, pollutant by pollutant, the impact to waters of the state and found that groundwater data collected from December 2002 through March 2007 does not show a pattern of increasing concentrations of constituents in the down gradient groundwater. Since data shows that the discharge has not previously degraded groundwater, and since the proposed NPDES Permit does not allow an increase in capacity or permitted discharge, staff concludes that the discharge will not unreasonably degrade the groundwater.

With the conclusion that the effluent is not worsening the groundwater quality, that degradation is not occurring, and that the existing treatment and controls meet the requirement for “best practicable treatment or control, an antidegradation analysis is not required. (Attwater memo p. 3.)

CSPA Comment No. 7. California Code of Regulations, Title 27. The proposed permit fails to discuss California Code of Regulations (CCR) Title 27 and whether any exemption applies for a wastewater discharge that has degraded groundwater quality.

CCR Title 27, §20090. SWRCB – Exemptions: (C15: §2511): The following activities shall be exempt from the SWRCB-promulgated provisions of this subdivision, so long as the activity meets, and continues to meet, all preconditions listed: (a) **Sewage**—Discharges of domestic sewage or treated effluent which are regulated by WDRs issued pursuant to Chapter 9, Division 3, Title 23 of this code, or for which WDRs have been waived, and which are consistent with applicable water quality objectives, and treatment or storage facilities associated with municipal wastewater treatment plants, provided that residual sludges or solid waste from wastewater treatment facilities shall be discharged only in accordance with the applicable SWRCB-promulgated provisions of this division. (b) **Wastewater**—Discharges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leachfields if the following conditions are met: (1) the applicable RWQCB has issued WDRs, reclamation requirements, or waived such issuance; (2) the discharge is in compliance with the

applicable water quality control plan; and (3) the wastewater does not need to be managed according to Chapter 11, Division 4.5, Title 22 of this code as a hazardous waste.

Region 5's Basin Plan

WATER QUALITY OBJECTIVES FOR GROUND WATERS

The following objectives apply to all ground waters of the Sacramento and San Joaquin River Basins, as the objectives are relevant to the protection of designated beneficial uses. These objectives do not require improvement over naturally occurring background concentrations. The ground water objectives contained in this plan are not required by the federal Clean Water Act.

Bacteria

In ground waters used for domestic or municipal supply (MUN) the most probable number of coliform organisms over any seven-day period shall be less than 2.2/100 ml.

Chemical Constituents

Ground waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. At a minimum, ground waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations, which are incorporated by reference into this plan: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, Table 64444-A (Organic Chemicals) of Section 64444, and Tables 64449-A (Secondary Maximum Contaminant Levels- Consumer Acceptance Limits) and 64449-B (Secondary Maximum Contaminant Levels- Ranges) of Section 64449. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect. At a minimum, water designated for use as domestic or municipal supply (MUN) shall not contain lead in excess of 0.015 mg/l. To protect all beneficial uses, the Regional Water Board may apply limits more stringent than MCLs.

Tastes and Odors

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

Toxicity

Ground waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial use(s). This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.

Any groundwater degradation caused by the percolation of domestic wastewater that adversely affects beneficial uses; contain concentrations of chemical constituents in excess of the drinking water maximum contaminant levels (MCLs), taste- or odor producing substances, and/or toxic substances is not exempt from the requirements of CCR Title 27.

RESPONSE: Regional Water Board staff does not concur. First, section III.E.1 of the Fact Sheet has been revised as follows:

“The discharge authorized herein and the treatment and storage facilities associated with the discharge of treated municipal wastewater, except for discharges of residual sludge and solid waste, are exempt from the requirements of Title 27, California Code of Regulations (CCR), section 20005 et seq. (hereafter Title 27). The exemption, pursuant to Title 27 CCR section 20090(a), is based on the following:

- a. *The waste consists primarily of domestic sewage and treated effluent;*
- b. *For the reasons stated in Section IV.D.4.b, below, the waste discharge is consistent with water quality objectives. This Order includes groundwater limitations which require that the Discharger not cause the underlying groundwater to contain waste constituents in concentrations greater than background water quality or violate water quality objectives, impact beneficial uses, or cause pollution or nuisance. The Discharger is required to monitor groundwater to ensure the discharge does not degrade groundwater or cause an exceedence of water quality objectives; and*
- c. *The treatment and storage facilities described herein are associated with a municipal wastewater treatment plant.”*

The aeration and oxidation ponds are part of the wastewater treatment facility and are explicitly exempt from Title 27 under section 20090(a).

Second, the Basin Plan on page II-9-00 states “*These objectives [Bacteria, Chemical Constituents, Radioactivity, Tastes and Odors, and Toxicity] do not require improvement over naturally occurring background concentrations.*” As discussed in section IV.D.4.b of the Fact Sheet, groundwater data collected from December 2002 to March 2007 do not show a pattern of increasing concentrations of constituents in

the downgradient groundwater. Furthermore, as discussed in response to CSPA Comment No. 6, the proposed NPDES Permit contains several mechanisms to determine whether the treated wastewater is threatening to cause or has caused pollutant levels in the groundwater to exceed background water quality. These mechanisms include groundwater monitoring and groundwater limitations which require that the Discharger not cause the underlying groundwater to contain waste constituents in concentrations greater than background water quality or violate water quality objectives, impact beneficial uses, or cause pollution or nuisance.

CSPA Comment No. 8. Hardness. The proposed Permit establishes Effluent Limitations for metals based on the hardness of the effluent as opposed to the ambient upstream receiving water hardness as required by Federal Regulations, the California Toxics Rule (CTR, 40 CFR 131.38(c)(4)).

Federal Regulation 40 CFR 131.38(c)(4) states that: “For purposes of calculating freshwater aquatic life criteria for metals from the equations in paragraph (b)(2) of this section, for waters with a hardness of 400 mg/l or less as calcium carbonate, the actual ambient hardness of the surface water shall be used in those equations.” (Emphasis added). The proposed Permit states that the effluent hardness was used to calculate Effluent Limitations for metals.

The Federal Register, Volume 65, No. 97/Thursday, May 18th 2000 (31692), adopting the California Toxics Rule in confirming that the ambient hardness is the upstream hardness, absent the wastewater discharge, states that: “A hardness equation is most accurate when the relationship between hardness and the other important inorganic constituents, notably alkalinity and pH, are nearly identical in all of the dilution waters used in the toxicity tests and in the surface waters to which the equation is to be applied. If an effluent raises hardness but not alkalinity and/or pH, using the lower hardness of the downstream hardness might provide a lower level of protection than intended by the 1985 guidelines. If it appears that an effluent causes hardness to be inconsistent with alkalinity and/or pH the intended level of protection will usually be maintained or exceeded if either (1) data are available to demonstrate that alkalinity and/or pH do not affect the toxicity of the metal, or (2) the hardness used in the hardness equation is the hardness of upstream water that does not include the effluent. The level of protection intended by the 1985 guidelines can also be provided by using the WER procedure.”

The proposed Permit states that: “No receiving water hardness data was available for the Facility. Hardness of the effluent ranged from 157 mg/L to 429 mg/L with an average of 282 mg/L based on 27 samples collected between June 2002 and December 2006. Since the unnamed tributary to Lurline Creek is an intermittent stream, the reasonable lowest effluent hardness of 157 mg/L as CaCO₃ (recorded on June 2005) was used for purposes of establishing WQBELs.” Clearly the effluent hardness does not comply with the SIP and CTR requirements to use the instream ambient hardness.

RESPONSE: The proposed NPDES Permit has established the criteria for hardness-dependent metals based on the reasonable worst-case estimated ambient hardness as required by the SIP, the CTR and Order No. WQO 2008-0008 (City of Davis). Effluent limitations for the discharge must be set to protect the beneficial uses of the receiving water for all discharge conditions. In the absence of the option of including condition-dependent, “floating” effluent limitations that are reflective of actual conditions at the time of discharge, effluent limitations must be set using a reasonable worst-case hardness to protect beneficial uses for all discharge conditions. The SIP does not address how to determine hardness for application to the equations for the protection of aquatic life when using hardness-dependent metals criteria.

The SIP states, in Section 1.2, that the criteria shall be properly adjusted for hardness using the hardness of the receiving water. The CTR requires that, for waters with a hardness of 400 mg/L (as CaCO₃), or less, the actual ambient hardness of the surface water must be used. It further requires that the hardness values used must be consistent with the design discharge conditions for design flows and mixing zones. The CTR does not define whether the term “ambient,” as applied in the regulations, necessarily requires the consideration of upstream as opposed to downstream hardness conditions. The Regional Water Board thus has discretion in determining ambient hardness. (Order WQ 2008-0008 (City of Davis), p.10. The City of Davis order allows the use of “downstream receiving water mixed hardness data” where reliable, representative data are available. (Id., p. 11.))

The stretch of the receiving water affected by the discharge is downstream of the discharge. As the effluent mixes with the receiving water, the hardness of the receiving water may change. Regional Water Board staff concludes that it is appropriate to use the ambient hardness downstream of the discharge that is a mixture of the effluent and receiving water for the determination of the CTR hardness-dependent metals criteria.

As described in section IV.C.2.b of the Fact Sheet (Attachment F), receiving water hardness data is not available that would allow for the calculation of criteria representing the reasonable worst-case conditions of the downstream receiving water. Also, because the receiving water is an effluent dominated stream, and in the absence of receiving water hardness data, it is appropriate to use the lowest effluent hardness as a representation of the reasonable worst-case downstream hardness value under critical low flow stream conditions. Therefore, [estimated] downstream receiving water hardness is used to establish the proposed effluent limitations for hardness-dependent metals to adequately protect the beneficial uses of the receiving water.

CSPA Comment No. 9. Non-Compliance with Federal Regulations 40 CFR 122.44.

The proposed Permit does not contain Effluent Limitations in compliance with federal regulations 40 CFR 122.44 despite clear reasonable potential to exceed water quality standards.

The proposed Permit Fact Sheet, page F-15, states that: “Federal regulations require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard. Based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs, the Regional Water Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for ammonia, chlorodibromomethane, cyanide, dichlorobromomethane, pH, salinity (chloride, electrical conductivity @ 20 °C, and total dissolved solids), and tributyltin. A summary of the reasonable potential analysis (RPA) is provided in Attachment G, and a detailed discussion of the RPA for each constituent is provided below.” Review of the assessed data in Attachment G leads to the same conclusion reached by the permit writer regarding reasonable potential to exceed water quality standards; however Effluent Limitations for chloride, EC, TDS and tributyltin are absent in the proposed Permit. Electrical conductivity and associated salts are discussed above. Any data regarding tributyltin has been removed from Attachment G.

Bis(2-ethylhexyl)phthalate.

The State MCL for bis(2-ethylhexyl)phthalate is 4 µg/L and the USEPA MCL is 6 µg/L. The NTR criterion for human health protection for consumption of water and aquatic organisms is 1.8 µg/L and for consumption of aquatic organisms only is 5.9 µg/L. The Maximum Effluent Concentration for bis(2-ethylhexyl) phthalate was 7 µg/L, based on seven samples collected between March 2002 and October 2006 (three samples were non-detects, two DNQ samples were 0.8 µg/L and 1 µg/L, and one sample with bis(2-ethylhexyl)phthalate found in method blank was 4 µg/L.

The Central Valley Regional Board has begun using the following language in this and each NPDES permit recently issued and has failed to find reasonable potential for bis(2-ethylhexyl)phthalate to exceed water quality standards regardless of the dataset or the laboratory quality assurance/quality control (QA/QC) provided by the laboratory. The CTR was adopted in May of 2000 and priority pollutants were previously regulated for a short time by the ISWP. Sampling for bis(2-ethylhexyl)phthalate has been conducted for over a decade and the Regional Board staff, despite clean QA/QC results, find the following:

“Since bis(2-ethylhexyl)phthalate is a common contaminant of sample containers, sampling apparatus, and analytical equipment, and sources of the detected bis(2-ethylhexyl)phthalate may be from plastics used for sampling or analytical equipment,

the Regional Water Board has determined there is uncertainty in the available data. Consequently, there is insufficient information to complete a reasonable potential analysis at this time. In accordance with Section 1.2 of the SIP Regional Water Board staff shall have discretion to consider if any data are inappropriate or insufficient for use in implementing the policy. Where Regional Water Board staff have found the data are insufficient to determine reasonable potential. Section 1.3 of the SIP allows the Board to implement monitoring for the parameter of concern. Therefore, additional monitoring has been established for bis(2-ethylhexyl)phthalate. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, then this Order may be reopened and modified by adding an appropriate effluent limitation.”

It has become the Central Valley Regional Board’s policy to not regulate bis(2-ethylhexyl)phthalate despite clear requirements in the SIP and the CTR. The Regional Board total disregards scientific methods, specifically sampling and laboratory QA/QC methodologies, in throwing out data points that would lead to a reasonable potential for a pollutant to exceed water quality standards when the burden should properly be placed on wastewater Dischargers to conduct proper sampling and analysis. Despite the claims, the Regional Board’s permits do not contain any additional language requiring any special assessment or clean sampling and analysis techniques be implemented for bis(2-ethylhexyl)phthalate. Surely it would violate CWC 13267 requirements to justify the need for technical reports and sampling if the Regional Board has no intent on using the data or believes it to be unreliable even before review. Federal Regulations, 40 CFR 122.44(d), requires that limits must be included in permits where pollutants will cause, have reasonable potential to cause, or contribute to an exceedance of the State’s water quality standards. US EPA has interpreted 40 CFR 122.44(d) in *Central Tenets of the National Pollutant Discharge Elimination System (NPDES) Permitting Program* (Factsheets and Outreach Materials, 08/16/2002) that although States will likely have unique implementation policies there are certain tenets that may not be waived by State procedures. These tenets include that “where the preponderance of evidence clearly indicates the potential to cause or contribute to an exceedance of State water quality standards (even though the data may be sparse or absent) a limit MUST be included in the permit.” The proposed Permit fails to comply with 40 CFR 122.44 by failing to contain an Effluent Limitation for bis(2-ethylhexyl)phthalate.

Fluoride.

Water Quality for Agriculture, Food and Agriculture Organization of the United Nations— Irrigation and Drainage Paper No. 29, Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985), recommends that the fluoride concentration in waters used for agricultural irrigation not exceed 1000 µg/L. The Maximum Effluent Concentration for fluoride was 1600 µg/l exceeding the water quality goal. Federal Regulations, 40 CFR 122.44(d), requires that limits must be included in permits where pollutants will cause, have

reasonable potential to cause, or contribute to an exceedance of the State's water quality standards. US EPA has interpreted 40 CFR 122.44(d) in *Central Tenets of the National Pollutant Discharge Elimination System (NPDES) Permitting Program* (Factsheets and Outreach Materials, 08/16/2002) that although States will likely have unique implementation policies there are certain tenets that may not be waived by State procedures. These tenets include that "where the preponderance of evidence clearly indicates the potential to cause or contribute to an exceedance of State water quality standards (even though the data may be sparse or absent) a limit MUST be included in the permit." The proposed Permit fails to comply with 40 CFR 122.44 by failing to contain an Effluent Limitation for fluoride.

Persistent Chlorinated Hydrocarbon Pesticides.

4,4'-DDE was detected in one sample out of a total of seven samples at a concentration of 0.024 µg/L. The Basin Plan requires that no individual pesticides shall be present in concentrations that adversely affect beneficial uses; discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses; total chlorinated hydrocarbon pesticides shall not be present in the water column at detectable concentrations; and pesticide concentrations shall not exceed those allowable by applicable antidegradation policies. The community of Maxwell lies within a heavily agricultural area. Federal Regulations, 40 CFR 122.44(d), requires that limits must be included in permits where pollutants will cause, have reasonable potential to cause, or contribute to an exceedance of the State's water quality standards. US EPA has interpreted 40 CFR 122.44(d) in *Central Tenets of the National Pollutant Discharge Elimination System (NPDES) Permitting Program* (Factsheets and Outreach Materials, 08/16/2002) that although States will likely have unique implementation policies there are certain tenets that may not be waived by State procedures. These tenets include that "where the preponderance of evidence clearly indicates the potential to cause or contribute to an exceedance of State water quality standards (even though the data may be sparse or absent) a limit MUST be included in the permit." The proposed Permit fails to comply with 40 CFR 122.44 by failing to contain an Effluent Limitation for Persistent Chlorinated Hydrocarbon Pesticides.

RESPONSE: Regional Water Board staff does not concur that effluent limitations for tributyltin are to be included in the proposed NPDES Permit. The USEPA National Ambient Water Quality Criteria for protection of freshwater aquatic life established 1-hour average and 4-day average criteria of 0.46 µg/L and 0.072 µg/L. Tributyltin was detected on 20 August 2002 at a concentration of 0.294 µg/L, with a reporting level and method detection limit (MDL) of 0.002 µg/L. The remaining three samples were non-detect. There are no known industrial dischargers to the Facility that might be expected to be a source of the constituent. (This constituent is typically associated with agents used in cooling processes, refrigeration water systems, and metal plating industries.) Section 1.2 of the SIP states that when implementing the provisions of the policy, "the Regional Water Board shall use all

available, valid, relevant, representative data and information, as determined by the Regional Water Board. The Regional Water Board shall have discretion to consider if any data are inappropriate or insufficient for use in implementing the policy. Instances where such consideration is warranted include, but are not limited to, the following: evidence that a sample has been erroneously reported or is not representative of the effluent or ambient receiving water quality; questionable quality control/quality assurance practices; and varying seasonal conditions.”

Because there is no expected source of tributyltin in the service area for this small Facility, the representation of the detected sample for this discharge is questionable. Therefore, staff concludes that there is insufficient information to complete a reasonable potential analysis at this time. Where it is found the data are insufficient to determine reasonable potential, Section 1.3 of the SIP allows the Regional Water Board to implement monitoring for the parameter of concern. Therefore, the proposed permit requires the Discharger to conduct quarterly monitoring for two years for tributyltin. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, then the NPDES Permit may be reopened and modified by adding an appropriate effluent limitation.

To address this comment, the Fact Sheet (Attachment F) of the proposed permit has been revised to include additional discussion that there are no known industrial dischargers to the Facility that might be expected to be a source of the constituent and to provide additional rationale for the Regional Water Board’s determination that the detected sample may not be representative of the discharge.

CSPA also comments that effluent limitations for chloride, electrical conductivity, and total dissolved solids are absent in the proposed NPDES Permit despite reasonable potential to exceed water quality objectives. As discussed in the response to CSPA Comment No. 4, final effluent limitations for electrical conductivity cannot be established until the appropriate salinity level to be maintained in the receiving waters for protection of agricultural water supply is determined. An interim EC limitation based on current treatment plant performance is included in the permit to protect the receiving water from further salinity degradation and to limit the discharge of salinity to existing levels. The interim EC limitation is applicable until a site-specific salinity study is conducted on the receiving stream and an appropriate in-stream EC level is determined that will be protective of the local agricultural water supply uses. Once determined, the Regional Board will establish a final effluent limitation, if necessary, to maintain the EC level in the receiving water at the appropriate level determined to protect surrounding agriculture. The Discharger is proposing to cease discharge to surface water during the term of the proposed permit. To avoid unnecessary costs for a study that may not be used, the proposed permit requires the site specific study to be conducted after the previously

established “cease discharge” compliance date of May 2010. Therefore, if the Discharger does not cease discharge, the study requirement goes into effect.

EC is an indicator parameter for salinity, as is chloride and TDS. Establishing an effluent limitation for EC is expected to effectively control the constituents that contribute to salinity, including TDS and chloride. Monitoring for these constituents is required to verify that there is a direct relationship between these salinity constituents and that regulating EC effectively controls the other salinity parameters.

CSPA comments that effluent limitations for bis (2-ethylhexyl) phthalate should be established in the proposed NPDES Permit. However, as stated in the Fact Sheet (Attachment F) to the proposed Order, bis (2-ethylhexyl) phthalate is a common contaminant of sample containers, sampling apparatus, and analytical equipment, and sources of the detected bis (2-ethylhexyl) phthalate may be from plastics used for sampling or analytical equipment. Regional Water Board staff has determined there is insufficient information to complete a reasonable potential analysis at this time in accordance with section 1.2 of the SIP. Additional monitoring is proposed for bis (2-ethylhexyl) phthalate using ultra-clean monitoring and analysis techniques. If the ultra-clean monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, then the NPDES Permit may be reopened and modified by adding an appropriate effluent limitation. Footnote 12 to Table E-3 of the Monitoring and Reporting Program (Attachment E) requires that *“In order to verify if bis (2-ethylhexyl) phthalate is truly present in the effluent discharge, the Discharger shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant.”*

CSPA comments that effluent limitations for fluoride should be established in the Order based on a reasonable potential to exceed the agricultural water quality goal of 1,000 µg/L for fluoride. The agricultural water quality goal for fluoride was established in Ayers and Westcot *“because of concern for long-term build-up of trace elements in the soil and for protection of the agricultural soil resource from irreversible damage.”* The Regional Water Board uses the agricultural water goal as a screening level to evaluate reasonable potential to exceed the Basin Plan’s narrative toxicity objective. Since the goal was developed to be protective of long-term effects on agricultural soil resources, Regional Water Board staff concludes that it is appropriate to evaluate reasonable potential to cause or contribute to the exceedance of the agricultural water quality goal using the observed annual average effluent concentration. The maximum annual average fluoride concentration was 780 µg/L, which was observed in 2002, as shown in the table below.

Date	Fluoride Concentration (µg/L)	Annual Average Fluoride Concentration (µg/L)
March 2002	1,600	780

May 2002	800	
August 2002	290	
November 2002	420	
October 2003	750 (DNQ)	750
October 2004	520	520
October 2005	ND	ND
October 2006	ND	ND

DNQ – detected but not quantified

ND – not detected

Additionally, as shown in the table above, effluent fluoride concentrations have generally decreased since 2002 to levels below detection limits. Therefore, Regional Water Board staff concludes that the effluent does not exhibit reasonable potential to cause or contribute to an exceedance of the Basin Plan’s narrative toxicity objective for fluoride and effluent limitations are not included in the proposed Order. Section IV.C.3.l of the Fact Sheet (Attachment F) has been revised to reflect that there is no reasonable potential to exceed water quality objectives for fluoride. Subsequently, the Monitoring and Reporting Program (Attachment E) has been revised to remove monitoring requirements for fluoride.

CSPA comments that effluent limitations for persistent chlorinated hydrocarbon pesticides should be established in the permit based on the detection of 4,4-DDE in the effluent and reasonable potential to exceed the Basin Plan’s narrative pesticide objective which requires that no individual pesticides shall be present in detectable concentrations. As discussed in section IV.C.3.m of the Fact Sheet (Attachment F), 4,4-DDE is not expected to be present in the discharge from a municipal wastewater treatment plant and the Regional Water Board has determined there is insufficient information to complete a reasonable potential analysis at this time in accordance with section 1.2 of the SIP. Additional monitoring has been established for 4,4-DDE. Should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, then this Order may be reopened and modified by adding an appropriate effluent limitation.

CSPA Comment No. 10. The proposed Permit replaces Effluent Limitations for turbidity which were present in the existing permit; contrary to the Antibacksliding requirements of the Clean Water Act and Federal Regulations, 40 CFR 122.44 (I)(1).

Under the Clean Water Act (CWA), point source dischargers are required to obtain federal discharge (NPDES) permits and to comply with water quality based effluent limits (WQBELs) in NPDES permits sufficient to make progress toward the achievement of water quality standards or goals. The antibacksliding and antidegradation rules clearly spell out the interest of Congress in achieving the CWA’s goal of continued progress toward eliminating all pollutant discharges. Congress clearly chose an overriding environmental interest in clean water through discharge reduction, imposition

of technological controls, and adoption of a rule against relaxation of limitations once they are established.

Upon permit reissuance, modification, or renewal, a discharger may seek a relaxation of permit limitations. However, according to the CWA, relaxation of a WQBEL is permissible only if the requirements of the antibacksliding rule are met. The antibacksliding regulations prohibit EPA from reissuing NPDES permits containing interim effluent limitations, standards or conditions less stringent than the final limits contained in the previous permit, with limited exceptions. These regulations also prohibit, with some exceptions, the reissuance of permits originally based on best professional judgment (BPJ) to incorporate the effluent guidelines promulgated under CWA §304(b), which would result in limits less stringent than those in the previous BPJ-based permit. Congress statutorily ratified the general prohibition against backsliding by enacting §§402(o) and 303(d)(4) under the 1987 Amendments to the CWA. The amendments preserve present pollution control levels achieved by dischargers by prohibiting the adoption of less stringent effluent limitations than those already contained in their discharge permits, except in certain narrowly defined circumstances.

When attempting to backslide from WQBELs under either the antidegradation rule or an exception to the antibacksliding rule, relaxed permit limits must not result in a violation of applicable water quality standards. The general prohibition against backsliding found in §402(o)(1) of the Act contains several exceptions. Specifically, under §402(o)(2), a permit may be renewed, reissued, or modified to contain a less stringent effluent limitation applicable to a pollutant if: (A) material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation; (B)(i) information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance; or (ii) the Administrator determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under subsection (a)(1)(B) of this section; (C) a less stringent effluent limitation is necessary because of events over which the permittee has no control and for which there is no reasonably available remedy [(e.g., Acts of God)]; (D) the permittee has received a permit modification under section 1311(c), 1311(g), 1311(h), 1311(i), 1311(k), 1311(n), or 1326(a) of this title; or (E) the permittee has installed the treatment facilities required to meet the effluent limitations in the previous permit, and has properly operated and maintained the facilities, but has nevertheless been unable to achieve the previous effluent limitations, in which case the limitations in the reviewed, reissued, or modified permit may reflect the level of pollutant control actually achieved (but shall not be less stringent than required by effluent guidelines in effect at the time of permit renewal, reissuance, or modification).

Even if a discharger can meet either the requirements of the antidegradation rule under §303(d)(4) or one of the statutory exceptions listed in §402(o)(2), there are still

limitations as to how far a permit may be allowed to backslide. Section 402(o)(3) acts as a floor to restrict the extent to which BPJ and water quality-based permit limitations may be relaxed under the antibacksliding rule. Under this subsection, even if EPA allows a permit to backslide from its previous permit requirements, EPA may never allow the reissued permit to contain effluent limitations which are less stringent than the current effluent limitation guidelines for that pollutant, or which would cause the receiving waters to violate the applicable state water quality standard adopted under the authority of §303.49.

Federal regulations 40 CFR 122.44 (l)(1) have been adopted to implement the antibacksliding requirements of the CWA:

(l) Reissued permits. (1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued, interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under Sec. 122.62.)

(2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.

(i) Exceptions--A permit with respect to which paragraph (l)(2) of this section applies may be renewed, reissued, or modified to contain a less stringent effluent limitation applicable to a pollutant, if:

(A) Material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation;

(B)(1) Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance; or (2) The Administrator determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b);

(C) A less stringent effluent limitation is necessary because of events over which the permittee has no control and for which there is no reasonably available remedy;

(D) The permittee has received a permit modification under section 301(c), 301(g), 301(h), 301(i), 301(k), 301(n), or 316(a); or

(E) The permittee has installed the treatment facilities required to meet the effluent limitations in the previous permit and has properly operated and maintained the facilities but has nevertheless been unable to achieve the previous effluent limitations, in which case the limitations in the reviewed, reissued, or modified permit may reflect the level of pollutant control actually achieved (but shall not be less stringent than required by effluent guidelines in effect at the time of permit renewal, reissuance, or modification).

(ii) Limitations. In no event may a permit with respect to which paragraph (1)(2) of this section applies be renewed, reissued, or modified to contain an effluent limitation which is less stringent than required by effluent guidelines in effect at the time the permit is renewed, reissued, or modified. In no event may such a permit to discharge into waters be renewed, issued, or modified to contain a less stringent effluent limitation if the implementation of such limitation would result in a violation of a water quality standard under section 303 applicable to such waters.

The proposed Permit Fact Sheet discusses Pathogens and states that the previous Order established Effluent Limitations for turbidity. Turbidity limitations are maintained in the proposed Permit but have been moved to “Special Provisions”, they are no longer Effluent Limitations. The Fact Sheet Pathogen discussion states that infectious agents in sewage are bacteria, parasites and viruses and that tertiary treatment is necessary to effectively remove these agents. This discussion also states that turbidity limitations were originally established: “...to ensure that the treatment system was functioning properly and could meet the limits for total coliform organisms. This discussion is incorrect. First; coliform organism limitations are also an indicator parameter of the effectiveness of tertiary treatment. The coliform limitations in the proposed and past Permit are significantly lower than the Basin Plan Water Quality Objective and are based on the level of treatment recommended by the California Department of Public Health (DPH). Second; both the coliform limitations and turbidity are recommended by DPH as necessary to protect recreational and irrigated agricultural beneficial uses of the receiving water. Turbidity has no lesser standing than coliform organisms in the DPH recommendation. Section 122.44(d) of 40 CFR requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. There are no limitations for viruses and parasites in the proposed Permit, which the Regional Board has indicated are necessary to protect the contact recreation and irrigated agricultural uses of the receiving water. Both coliform and turbidity limitations are treatment effectiveness indicators that the levels of bacteria viruses and parasites are adequately removed to protect the beneficial uses. Special Provisions are not Effluent Limitations as required by the Federal Regulations. The turbidity Effluent

Limitations must be restored in accordance with the Clean Water Act and Federal regulations 40 CFR 122.44 (l)(1).

The only rationale that can explain moving the turbidity from Effluent Limitations to Provisions is to protect Dischargers from mandatory minimum penalties as prescribed by the California Water Code, Section 13385. It is doubtful that it was intent of the legislature in adopting the mandatory penalty provisions to have the Regional Boards delete Effluent Limitations from permit to avoid penalties.

RESPONSE: See response to CSPA Comment No. 1.

CENTRAL VALLEY CLEAN WATER ASSOCIATION (CVCWA) COMMENTS

CVCWA No. 1. Inappropriate Groundwater Limitations. The Tentative Order Includes an Inappropriate Groundwater Limitation Based on Resolution No. 68-16.

The Tentative Permit includes the following groundwater limitation:

Resolution No. 68-16 requires that the Discharger provide best practicable treatment or control [BPTC] prior to a discharge to groundwater. If monitoring of the groundwater indicates that the discharge has caused an increase in constituent concentrations, when compared to background, the Discharger is required in Section VI. C.2.b of this Order to conduct a study of the extent of groundwater degradation. (Tentative Order at p. 14.)

Resolution No. 68-16 is the Statement of Policy with Respect to Maintaining High Quality of Waters in California adopted by the State Water Resources Control Board (State Water Board). Resolution No. 68-16 applies only where the receiving water is of higher or better quality than the applicable objective in the water quality control plan. (See In the Matter of the Petition of the City of Lompoc (Lompoc Order), Order No. WQ 81-5 at p. 7 (when receiving water is better than water quality objectives, limits established must be consistent with Resolution No. 68-16).)

The State Water Board has confirmed this basic principle in other precedential water quality orders as well, including In the Matter of the Petition of San Luis Obispo Golf and Country Club (San Luis Obispo Order) WQ 2000-07. In the San Luis Obispo Order, the State Water Board applied Resolution No. 68-16 to limits for TDS and chloride. (San Luis Obispo Order at pp. 8-14.) This was because the ambient background for the two constituents was of better quality than the applicable water quality objective. (Ibid.) The State Water Board declined to apply Resolution No. 68-16 to the limits for sodium, as the levels of sodium in the groundwater exceeded the applicable water quality objective. (Id. at pp. 12-13.)

Resolution No. 68-16's requirement to use BPTC applies only when the ambient groundwater quality is better than the applicable water quality objective. "State Water Board Resolution 68-16 allows some degradation of high quality water if the discharge is required to meet waste discharge requirements which will result in the 'best practicable treatment or control' of the discharge and will not result in water quality less than that prescribed in the policies." (San Luis Obispo at p. 10.)

The Tentative Order contains neither findings nor data confirming that the ambient groundwater quality at issue exceeds any applicable water quality objectives. Rather, the Tentative Order requires the Maxwell WWTP to use BPTC (and potentially conduct a follow-up study) regardless of the ambient groundwater quality. This ignores the limited application of Resolution No. 68-16 as clarified in State Water Board precedent. Therefore, the Regional Water Board should remove the groundwater limitation based on Resolution No. 68-16 (i.e., Groundwater Limitation no. 2) from the Tentative Order.

RESPONSE: The groundwater limitation at section V.B.2 of the tentative Order was included in the proposed permit in error and has been removed. The basis for not including the referenced groundwater limitation is that the discharge has not previously degraded groundwater and the proposed NPDES Permit does not allow an increase in capacity or permitted discharge. Regional Water Board staff have evaluated, pollutant by pollutant, the impact to waters of the state and concluded that the discharge is not degrading the groundwater. Groundwater data collected from December 2002 through March 2007 does not show a pattern of increasing concentrations of constituents down gradient of the Facility. Therefore, data supports the conclusion that the existing treatment and controls meet the requirement for "best practicable treatment or control."

The State Antidegradation policy is not directly applicable to discharges that meet water quality objectives where the groundwater is not an "existing high quality water" under Resolution 68-16. Groundwater is not high quality for a constituent if the groundwater exceeded applicable water quality objectives. Data is not available to determine whether the groundwater is of high quality.

See response to CSPA Comment No. 6 for additional discussion and modifications made to the tentative NPDES Permit for groundwater limitations in Section V.B.1 of the tentative NPDES Permit.

CVCWA No. 2. Missing Text Regarding Pathogens. The Fact Sheet of the Tentative Order Is Missing Findings Related to Water Quality Based Effluent Limitations (WQBELs) for Pathogens.

The fact sheet for the Tentative Order appears to be missing text related to WQBELs for pathogens. The findings for such limits begin at page F-23 of the Tentative Order and continue to page F-25. However, nearly two-thirds of the discussion on page F-24 of the

Tentative Order seems to be absent. CVCWA is thus unable to determine whether it should comment on the findings for the WQBELs for pathogens.

RESPONSE: Text related to WQBELs for pathogen is erroneously missing from the tentative NPDES Permit and has been added to the tentative document presented with this agenda item. The missing text that is added to the Fact Sheet discussion for pathogens in the tentative NPDES Permit reads as follows:

“7-day median limitation.

Title 22 also requires that recycled water used as a source of water supply for non-restricted recreational impoundments be disinfected tertiary recycled water that has been subjected to conventional treatment. A non-restricted recreational impoundment is defined as “...an impoundment of recycled water, in which no limitations are imposed on body-contact water recreational activities.” Title 22 is not directly applicable to surface waters; however, the Regional Water Board finds that it is appropriate to apply an equivalent level of treatment to that required by DPH’s reclamation criteria because the receiving water is used for irrigation of agricultural land and for contact recreation purposes. The stringent disinfection criteria of Title 22 are appropriate since the undiluted effluent may be used for the irrigation of food crops and/or for body-contact water recreation. Coliform organisms are intended as an indicator of the effectiveness of the entire treatment train and the effectiveness of removing other pathogens. The method of treatment is not prescribed by this Order; however, wastewater must be treated to a level equivalent to that recommended by DPH.

In addition to coliform testing, an operational specification for turbidity has been included as a second indicator of the effectiveness of the treatment process and to assure compliance with the required level of treatment. The tertiary treatment process, or equivalent, is capable of reliably meeting a turbidity limitation of 2 nephelometric turbidity units (NTU) as a daily average. Failure of the filtration system such that virus removal is impaired would normally result in increased particles in the effluent, which result in higher effluent turbidity. Turbidity has a major advantage for monitoring filter performance, allowing immediate detection of filter failure and rapid corrective action. Coliform testing, by comparison, is not conducted continuously and requires several hours, to days, to identify high coliform concentrations.”