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For Petitioner California Sportfishing Protection Alliance

BEFORE THE STATE WATER RESOURCES CONTROL BOARD

**In the Matter of Waste Discharge Requirements for)
the Yuba City Wastewater Treatment Plant;)
California Regional Water Quality Control Board)
- Central Valley Region Order No. R5-2007-0134-01)
- as Amended by R5-2010-0007, NPDES NO.)
CA0079260)**

PETITION FOR REVIEW

Pursuant to Section 13320 of California Water Code and Section 2050 of Title 23 of the California Code of Regulations (CCR), California Sportfishing Protection Alliance (“CSPA” or “petitioner”) petitions the State Water Resources Control Board (State Board) to review and vacate the final decision of the California Regional Water Quality Control Board for the Central



Valley Region (“Regional Board”) in adopting Waste Discharge Requirements (NPDES NO. CA0079260) for Yuba City Wastewater Treatment Plant, on 29 January 2010. See Order No. Order No. R5-2007-0134-01 as amended by R5-2010-0007. The issues raised in this petition were raised in timely written comments.

1. NAME AND ADDRESS OF THE PETITIONERS:

California Sportfishing Protection Alliance
3536 Rainier Avenue
Stockton, California 95204
Attention: Bill Jennings, Executive Director

2. THE SPECIFIC ACTION OR INACTION OF THE REGIONAL BOARD WHICH THE STATE BOARD IS REQUESTED TO REVIEW AND A COPY OF ANY ORDER OR RESOLUTION OF THE REGIONAL BOARD WHICH IS REFERRED TO IN THE PETITION:

Petitioner seeks review of Order No. R5-2007-0134-01 as amended by R5-2010-0007, Waste Discharge Requirements (NPDES NO. CA0079260) for the Yuba City Wastewater Treatment Plant. A copy of the adopted Order is attached as Attachment No. 1.

3. THE DATE ON WHICH THE REGIONAL BOARD ACTED OR REFUSED TO ACT OR ON WHICH THE REGIONAL BOARD WAS REQUESTED TO ACT:

29 January 2010

4. A FULL AND COMPLETE STATEMENT OF THE REASONS THE ACTION OR FAILURE TO ACT WAS INAPPROPRIATE OR IMPROPER:

CSPA submitted a detailed comment letter on 14 December 2009. The letter and the following comments set forth in detail the reasons and points and authorities why CSPA believes the Order fails to comport with statutory and regulatory requirements. The specific reasons the adopted Orders are improper are:

A. The Permit utilizes a Water Effects Ratio (WER) for aluminum without establishing a required Water Quality Standard in accordance with Federal Regulations 40 CFR 131.5 (a)(2) and 131.11(b).

In 1994 US EPA issued Interim Guidance on Determination and Use of Water-Effect Ratios for Metals (EPA-823-8-94-00). EPA’s Interim Guidance states on page 4 that in accordance with the Clean Water Act:

“Derivation of a water-effect ratio by a State is a site specific criterion adjustment subject to EPA review and approval/disapproval under Section 303(c). There are two options by which this review can be accomplished.

Option 1: A State may derive and submit each individual water-effect ratio determination to EPA for review and approval. This would be accomplished through the normal review and revision process used by a State.

Option 2: A State can amend its water quality standards to provide a formal procedure which includes derivation of water-effect ratios, appropriate definition of sites, and enforceable monitoring provisions to assure that designated uses are protected. Both this procedure and the resulting criteria would be subject to full public participation requirements. Public review of a site-specific criterion could be accomplished in conjunction with the public review required for permit issuance. EPA would review and Approve/disapprove this protocol as a revised standard once. For public information, we recommend that once a year the State publish a list of site-specific criteria.”

An exception to this policy applies to the waters of the jurisdictions included in the California Toxics Rule ((CTR) 40 CFR 131). The EPA review is not required for WERs conducted under the CTR.

Aluminum is not a priority pollutant covered under the CTR. A WER for aluminum can only be adopted and considered as a formal water quality standard. States may adopt site specific criteria (water quality standards) in accordance with 40 CFR 131.11 (b). However, in accordance with 40 CFR 131.5 (a)(2), US EPA reviews standards to determine “whether a State has adopted criteria to protect the designated water use.”

Page F-104 of the Permit states, in part that: “c. Water Effects Ratio (WER) and Metal Translators. As described in Section IV.C.3.g of this Fact Sheet, the Discharger submitted an Aluminum Water-Effect Ratio (WER) Work Plan, the protocols for which have been approved by the Regional Water Board. New information as described in the Fact Sheet Section IV.C.3.g were used to calculate the effluent limits” confirming use of an unapproved and un-adopted WER to develop the permit.

B. The Permit contains Effluent Limitations for aluminum that are less stringent than the existing permit and based on an illegal and unapproved water quality standard contrary to the Antidegradation requirements of the Clean Water Act and Federal Regulations, 40 CFR 122.44 (I)(1).

Effluent limitations for aluminum of 75 ug/l as a monthly average and 130 ug/l as a daily maximum have been deleted and replaced with a single daily maximum limitation of 353 ug/l.

The Regional Board has not adopted and submitted to US EPA a site-specific water quality objective for aluminum in accordance with federal regulations 40 CFR 131.5 (a)(2) and 131.11(b). The Regional Board's use of a water effects ratio (WER) for aluminum in the Permit establishes an illegal water quality standard.

Pages F-36 and F-37 of the Permit state that: *"The results of the Phase I WER study were available at the time Order No. R5-2007-0134 was adopted. At that time, the Regional Water Board found that the results of the Phase I WER study alone was not sufficient to discount the NAWQC chronic criterion. Since the adoption of Order No. R5-2007-0134, however, other major dischargers in the Central Valley Region have conducted Phase I and II WER studies for aluminum. Additionally, the National Recommended Water Quality Criteria: 2002 (EPA-822-R-02-047) does not support the use of the 87 ug/L criteria when receiving water pH is greater than 7.0 and hardness is greater than 10 mg/L. These additional studies had similar results to the Discharger's Phase I WER study. Therefore, based on this new information provided in these reports, the results of Yuba City's Phase I WER Study estimating aluminum toxicity above 8,000 µg/L has been deemed sufficient to discount the use of the NAWQC chronic criterion of 87 µg/L."*

Clearly the Regional Board relied on the information in the Discharger's un-adopted, unapproved WER in developing the site specific limitation for aluminum in the Permit.

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." The Basin Plan contains a narrative water quality objective for toxicity that states in part that "[a]ll waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life" (narrative toxicity objective). 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. U.S. EPA developed National Recommended Ambient Water Quality Criteria for protection of freshwater aquatic life for aluminum to prevent toxicity to freshwater aquatic life. The recommended ambient criteria four-day average (chronic) and one-hour average (acute) criteria for aluminum are 87 ug/l and 750 ug/l, respectively.

US EPA's 87 ug/l chronic criterion was developed using low pH and hardness testing. California Central Valley waters, the Sacramento River, at the Valley floor, have been sampled to have hardnesses as low as 39 mg/l CaCO₃ by the USGS in February 1996 for the National Water Quality Assessment Program. Contributory streams, especially foothill streams, have also been sampled and shown to contain even lower hardness levels. US EPA recognized in their ambient criteria development document, (*Ambient Water Quality Criteria for Aluminum*, EPA 440/5-86-008) that the pH was in the range 6.5 to 6.6 and that the hardness was below 20 mg/l. Typical values for pH and hardness in the Central Valley alone warrant use of the chronic ambient criteria for aluminum. Despite the hardness and pH values used in the development of the criteria; U.S. EPA's conclusions in their Ambient Criteria for the Protection of Freshwater Aquatic Life recommends that application of the ambient criteria as necessary to be protective of the aquatic beneficial uses of receiving waters in lieu of site-specific criteria.

The Regional Board and their Permit cites US EPA's Ambient Criteria for the Protection of Freshwater Aquatic Life for Aluminum (criteria) as not being representative or necessary because the chronic criteria were based on a low hardness and low pH. The Regional Board cites one section of the criteria development document but ignores the final recommendation to use the recommended criteria absent a site-specific objective for aluminum. The Regional Board's citation of the criteria development document is incomplete its review, for example the criteria development document (EPA 440/5-86-008) also cites that:

169 ug/l of aluminum caused a 24% reduction in the growth of young brook trout.

174 ug/l of aluminum killed 58% of the exposed striped bass.

Bioaccumulation factors ranged from 50 to 231 for young brook trout exposed to aluminum for 15 days.

Aluminum at 169 ug/l caused a 24% reduction in the weight of young brook trout.

US EPA recommends that understanding the *Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses* is necessary in order to understand the text, tables and calculations of a criteria document. The Regional Board's assessment of the use of low hardness and low pH clearly shows they did not heed EPA's advice in reviewing the criteria development procedures for water quality criteria or the final recommendations.

The Regional Board clearly cites in the Permit Fact Sheet (pages F-36 and 37) that instead they relied on an unapproved and incomplete WER developed by the Discharger rather than utilize US EPA's properly developed and approved water quality criteria for aluminum. A prime example of a state utilizing good water quality standards development techniques for developing a site specific standard for aluminum is the state of Indiana where a final chronic criterion of 174 ug/l was established in 1997. In 2003, Canada adopted pH dependant freshwater aquatic life criteria for aluminum that ranges from 84 ug/l to 252 ug/l. Ignoring the final recommendation of

the criteria misses the protective intermediate measures to protect against mortality and reductions to growth and reproduction.

Based on information included in analytical laboratory reports submitted by the Discharger, the Fact Sheet clearly shows that aluminum in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a level necessary to protect aquatic life, and, therefore to violate the Basin Plan's narrative toxicity objective.

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." 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 valid, reliable, and representative effluent data or instream background data are available they MUST be used in applicable reasonable potential and limits derivation calculations. Data may not be arbitrarily discarded or ignored." 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. A water quality standard for Failure to include an effluent limitation for aluminum in the Permit violates 40 CFR 122.44 and CWC 13377.

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.

C. Effluent Limitations for aluminum are 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 Permit establishes an Effluent Limitation for aluminum as an annual average contrary to the cited Federal Regulation. Establishing the Effluent Limitations for aluminum 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; see the existing permit. Proof of impracticability is properly a steep slope and the Regional Board has not presented any evidence that properly and legally limiting aluminum is impracticable.

D. The Permit contains an allowance for a mixing zone that does not comply with the requirements of Federal Regulation 40 CFR Section 131.12 (a)(1) and the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) or the Basin Plan.

“A mixing zone is an area where an effluent discharge undergoes initial dilution and is extended to cover the secondary mixing in the ambient waterbody. A mixing zone is an allocated impact zone where water quality criteria can be exceeded as long as acutely toxic conditions are prevented” according to EPA’s *Technical Support Document for Water Quality-based Toxics Control* (TSD) (USEPA, 1991), (Water quality criteria must be met at the edge of a mixing zone.) Mixing zones are regions within public waters adjacent to point source discharges where pollutants are diluted and dispersed at concentrations that routinely exceed human health and aquatic life water quality standards (the maximum levels of pollutants that can be tolerated without endangering people, aquatic life, and wildlife.) Mixing zone policies allow a discharger’s point of compliance with state and federal water quality standards to be moved from the “end of the pipe” to the outer boundaries of a dilution zone. The CWA was adopted to minimize and eventually eliminate the release of pollutants into public waters because fish were dying and people were getting sick. The CWA requires water quality standards (WQS) be met in all waters to prohibit concentrations of pollutants at levels assumed to cause harm. Since WQS criteria are routinely exceeded in mixing zones it is likely that in some locations harm is

occurring. The general public is rarely aware that local waters are being degraded within these mixing zones, the location of mixing zones within a waterbody, the nature and quantities of pollutants being diluted, the effects the pollutants might be having on human health or aquatic life, or the uses that may be harmed or eliminated by the discharge. Standing waist deep at a favorite fishing hole, a fisherman has no idea that he is in the middle of a mixing zone for pathogens for a sewage discharger that has not been required to adequately treat their waste.

In 1972, backed by overwhelming public support, Congress overrode President Nixon's veto and passed the Clean Water Act. Under the CWA, states are required to classify surface waters by uses – the beneficial purposes provided by the waterbody. For example, a waterbody may be designated as a drinking water source, or for supporting the growth and propagation of aquatic life, or for allowing contact recreation, or as a water source for industrial activities, or all of the above. States must then adopt criteria – numeric and narrative limits on pollution, sufficient to protect the uses assigned to the waterbody. *Uses + Criteria = Water Quality Standards (WQS)*. WQS are regulations adopted by each state to protect the waters under their jurisdiction. If a waterbody is classified for more than one use, the applicable WQS are the criteria that would protect the most sensitive use.

All wastewater dischargers to surface waters must apply for and receive a permit to discharge pollutants under the National Pollutant Discharge Elimination System (NPDES.) Every NPDES permit is required to list every pollutant the discharger anticipates will be released, and establish effluent limits for these pollutants to ensure the discharger will achieve WQS. NPDES permits also delineate relevant control measures, waste management procedures, and monitoring and reporting schedules.

It is during the process of assigning effluent limits in NPDES permits that variances such as mixing zones alter the permit limits for pollutants by multiplying the scientifically derived water quality criteria by dilution factors. The question of whether mixing zones are legal has never been argued in federal court.

Mixing zones are never mentioned or sanctioned in the CWA. To the contrary, the CWA appears to speak against such a notion:

“whenever...the discharges of pollutants from a point source...would interfere with the attainment or maintenance of that water quality...which shall assure protection of public health, public water supplies, agricultural and industrial uses, and the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities in and on the water, effluent limitations...shall be established which can reasonably be expected to contribute to the attainment or maintenance of such water quality.”

A plain reading of the above paragraph calls for the application of effluent limitations whenever necessary to assure that *WQS will be met in all waters*. Despite the language of the Clean Water Act; US EPA adopted 40 CFR 131.13, General policies, that allows States to, at their discretion, include in their State standards, policies generally affecting their application and implementation, such as mixing zones, low flows and variances. According to EPA; (EPA, Policy and Guidance on Mixing Zones, 63 Fed Reg. 36,788 (July 7, 1998)) as long as mixing zones do not eliminate beneficial uses in the whole waterbody, they do not violate federal regulation or law. California has mixing zone policies included in individual *Water Quality Control Plans (Basin Plans) and the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (2005)* permitting pollutants to be diluted before being measured for compliance with the state's WQS.

Federal Antidegradation regulations at 40 CFR 131.12 require that states protect waters at their present level of quality and that all beneficial uses remain protected. The corresponding State Antidegradation Policy, Resolution 68-16, requires that any degradation of water quality not unreasonably affect present and anticipated beneficial uses. Resolution 68-16 further requires that: "Any activity which produces or may produce or increase volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with the maximum benefit to the people of the State will be maintained."

1. Pollution is defined in the California Water Code as an alteration of water quality to a degree which unreasonably affects beneficial uses. In California, Water Quality Control Plans (Basin Plans) contain water quality standards and objectives which are necessary to protect beneficial uses. The Basin Plan for California's Central Valley Regional Water Board states that: "According to Section 13050 of the California Water Code, Basin Plans consist of a designation or establishment for the waters within a specified area of beneficial uses to be protected, water quality objectives to protect those uses, and a program of implementation needed for achieving the objectives. State law also requires that Basin Plans conform to the policies set forth in the Water Code beginning with Section 13000 and any state policy for water quality control. Since beneficial uses, together with their corresponding water quality objectives, can be defined per federal regulations as water quality standards, the Basin Plans are regulatory references for meeting the state and federal requirements for water quality control (40 CFR 131.20)."
2. Nuisance is defined in the California Water Code as anything which is injurious to health, indecent, offensive or an obstruction of the free use of property which affects an entire community and occurs as a result of the treatment or disposal of waste.

The Antidegradation Policy (Resolution 68-16) allows water quality to be lowered as long as beneficial uses are protected (pollution or nuisance will not occur), best practicable treatment and control (BPTC) of the discharge is provided, and the degradation is in the best interest of the people of California. Water quality objectives were developed as the maximum concentration of a pollutant necessary to protect beneficial uses and levels above this concentration would be considered pollution. The Antidegradation Policy does not allow water quality standards and objectives to be exceeded. Mixing zone are regions within public waters adjacent to point source discharges where pollutants are diluted and dispersed at concentrations that routinely exceed water quality standards.

The Antidegradation Policy (Resolution 68-16) requires that best practicable treatment or control (BPTC) of the discharge be provided. Mixing zones have been allowed in lieu of treatment to meet water quality standards at the end-of-the-pipe prior to discharge. To comply with the Antidegradation Policy, the trade of receiving water beneficial uses for lower utility rates must be in the best interest of the people of the state and must also pass the test that the Discharger is providing BPTC. By routinely permitting excessive levels of pollutants to be legally discharged, mixing zones act as an economic disincentive to Dischargers who might otherwise have to design and implement better treatment mechanisms. Although the use of mixing zones may lead to individual, short-term cost savings for the discharger, significant long-term health and economic costs may be placed on the rest of society. An assessment of BPTC, and therefore compliance with the Antidegradation Policy, must assess whether treatment of the wastestream can be accomplished, is feasible, and not simply the additional costs of compliance with water quality standards. A BPTC case can be made for the benefits of prohibiting mixing zones and requiring technologies that provide superior waste treatment and reuse of the wastestream. EPA's Water Quality Standards Handbook states that: "It is not always necessary to meet all water quality criteria within the discharge pipe to protect the integrity of the waterbody as a whole." The primary mixing area is commonly referred to as the zone of initial dilution, or ZID. Within the ZID acute aquatic life criteria are exceeded. To satisfy the CWA prohibition against the discharge of toxic pollutants in toxic amounts, regulators assume that if the ZID is small, significant numbers of aquatic organisms will not be present in the ZID long enough to encounter acutely toxic conditions. EPA recommends that a ZID not be located in an area populated by non-motile or sessile organisms, which presumably would be unable to leave the primary mixing area in time to avoid serious contamination.

Determining the impacts and risks to an ecosystem from mixing pollutants with receiving waters at levels that exceed WQS is extremely complex. The range of effects pollutants have on different organisms and the influence those organisms have on each other further compromises the ability of regulators to assess or ensure "acceptable" short and long-term impacts from the use of mixing zones. Few if any mixing zones are examined prior to the onset of discharging for the potential effects on impacted biota (as opposed to the physical and chemical fate of pollutants

in the water column). Biological modeling is especially challenging – while severely toxic discharges may produce immediately observable effects, long-term impacts to the ecosystem can be far more difficult to ascertain. The effects of a mixing zone can be insidious; impacts to species diversity and abundance may be impossible to detect until it is too late for reversal or mitigation.

The CALIFORNIA CONSTITUTION, ARTICLE 10, WATER, SEC. 2 states that: “It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare. The right to water or to the use or flow of water in or from any natural stream or water course in this State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water. Riparian rights in a stream or water course attach to, but to no more than so much of the flow thereof as may be required or used consistently with this section, for the purposes for which such lands are, or may be made adaptable, in view of such reasonable and beneficial uses; provided, however, that nothing herein contained shall be construed as depriving any riparian owner of the reasonable use of water of the stream to which the owner's land is riparian under reasonable methods of diversion and use, or as depriving any appropriator of water to which the appropriator is lawfully entitled. This section shall be self-executing, and the Legislature may also enact laws in the furtherance of the policy in this section contained.” The granting of a mixing zone is an unreasonable use of water when proper treatment of the wastestream can be accomplished to meet end-of-pipe limitations. Also contrary to the California Constitution, a mixing zone does not serve the beneficial use; to the contrary, beneficial uses are degraded within the mixing zone.

The State’s Policy for Implementation of *Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California* (SIP), Section 1.4.2.2, contains requirements for a mixing zone study which must be analyzed before a mixing zone is allowed for a wastewater discharge. Properly adopted state Policy requirements are not optional. The proposed Effluent Limitations in the Permit are not supported by the scientific investigation that is required by the SIP and the Basin Plan.

SIP Section 1.4.2.2 requires that a mixing zone shall not:

1. Compromise the integrity of the entire waterbody.
2. Cause acutely toxic conditions to aquatic life.
3. Restrict the passage of aquatic life.
4. Adversely impact biologically sensitive habitats.
5. Produce undesirable aquatic life.

6. Result in floating debris.
7. Produce objectionable color, odor, taste or turbidity.
8. Cause objectionable bottom deposits.
9. Cause Nuisance.
10. Dominate the receiving water body or overlap a different mixing zone.
11. Be allowed at or near any drinking water intake.

With regard to SIP requirement No. 1 that a mixing zone shall not compromise the integrity of the entire waterbody, the Permit, page F-29 and Figure F-1, states that: “*At the 1Q10 flowrates of 1,000 cfs, the zone of initial dilution is within 8.0 feet of the diffuser based on the initial mixing of the effluent with the receiving water created by the discharge momentum. In Figure F-1, the mixing zone for acute criteria is within the thickness of the line denoting the location of the diffuser. The mixing zone for chronic criteria extends from the diffuser to the lip of Shanghai Falls, denoted on Figure F-1 as a lightly shaded area. After the initial mixing created in most part by the discharge momentum, the mixing is much slower, thus requiring approximately 152 feet to be further diluted from 11:1 to 12:1. The mixing zone for human health criteria extends 1,200 feet which is two river widths downstream where the effluent has been demonstrated to be completely mixed.*” Figure F-1 shows that all Feather River flow travels through a constriction at Shanghai Falls. Shanghai Falls is a part of the designated mixing zone. Review of Figure F-1 shows that for the chronic and human health mixing zones the mixing zone comprises the width of the river.

SIP requirement No. 2 states that a mixing zone shall not cause acutely toxic conditions to aquatic life. U.S. EPA’s *Ambient Criteria for the Protection of Freshwater Aquatic Life* is the basis for water quality standards in the California Toxics Rule (40 CFR 131.38). The Ambient Criteria and the California Toxics Rule aquatic life based water quality standards are presented as one-hour and 4-day concentrations. The footnotes to 40 CFR 131.38 (b)(1) clearly state that for aquatic life the criteria maximum concentrations equals the maximum concentration of a pollutant to which aquatic life can be exposed for a short period of time without deleterious effects. It therefore follows that in designing and allowing a mixing zone aquatic life must move through waters containing elevated concentrations of pollutants in less than one hour to avoid acutely toxic conditions and in less than four days to avoid chronically toxic conditions. This mixing zone theory of travel times and toxicity is specified in US EPA’s *Technical Support Document for Water Quality Based Toxics Control* (TSD). The Basin Plan requires that in determining the size of a mixing zone, the Regional Board will consider the applicable procedures in EPA’s *Water Quality Standards Handbook* (WQSH) and the TSD.

The TSD, page 71 section 4.3.3, presents four methods for determining whether an allowance of an acute mixing zone would cause toxicity to passing aquatic organisms. The 4- alternative methods prescribed by the TSD for determining the toxicity to passing organisms are as follows:

1. Establish end of pipe limits at the criterion maximum concentration (CMC). This method does not allow for dilution.

2. Design the discharge for initial high velocity, greater than 3 m/s, with a mixing zone length no larger than 50-times the discharge length. (The discharge length equals the square root of a discharge port). The City's wastewater diffuser does not qualify as high velocity and according to the City's report the high velocity would cause erosion of the riverbed.

3. Show that the most restrictive of the following is met for each outfall:

- The CMC is met within 10% of the distance from the edge of the outfall structure to the edge of the regulatory mixing zone in any spatial direction.

The City's report assumes this distance to be 10% of 2.5 river widths downstream (10% of 1,176 feet = 117 feet). As cited above, the most restrictive and realistic river width is approximately 80 feet. This results in $2.5(80)(0.10) = 20$ feet.

- The CMC is met within a distance of 50-times the discharge length scale in any spatial direction.

The diffuser consists of 3-inch circular ports. The length scale is calculated by the City to be 0.222 feet. Fifty times the length scale is 11.1 feet.

- The CMC is met within a distance of 5-times the local water depth in any horizontal direction from any discharge outlet.

The critical water depth, of 0.82 feet, was calculated by the City using CORMIX, for which a 1Q10 flow rate of 1,060 cfs was used. Five times the local water depth is 4.1 feet, the critical distance.

4. Show that a drifting organism would not be exposed to 1-hour average concentrations exceeding the CMC. Critical flow conditions should be replicated. The TSD cites the Water Quality Criteria for the following equation to determine the time of exposure for aquatic organisms:

$\sum [T(n)/ET(x) \text{ at } C(n)] \leq 1$, where $T(n)$ is the exposure time an organism is in isopleth n , and $ET(x)$ is the effect time.

The TSD recommends, on page 72, that the 4th alternative be evaluated using field tracer studies, or detailed analytical studies such as modeling estimations of

concentration or dilution isopleths. The City's report on page 8/18 shows calculations for velocity of the effluent and receiving stream.

The City utilized the surface water velocity of the Feather River and states that this is the time it will take for an aquatic organism to drift through the mixing zone. The City's dilution report incorrectly assumes that the river velocity is the "drift" time for an aquatic organism to travel through the mixing zone. Even if aquatic life always traveled at the same speed as the river, that would only account for downstream migration. To the contrary, it is well documented in the record that aquatic life may spend very long periods of time in the pools above and below the instream waterfall which establishes the area of the mixing zone. The Fact Sheet to Order No. R5-2006-0096, the NPDES permit for the Linda County Water District (LCWD) Wastewater Treatment Plant (WWTP) which lies directly across the river from Yuba City, included the following:

"The Discharger discharges treated wastewater to the Feather River at Shanghai Bend just upstream of Shanghai Falls. The *Endangered and Threatened Species; Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California; Final Rule*, (50 CFR Part 226.211), issued on 2 September 2005 and effective on 2 January 2006, designates the lower Feather River below Oroville Dam as critical habitat for Central Valley spring-run Chinook and Central Valley steelhead.

Regional Water Board staff consulted with the California Department of Fish and Game (DFG) regarding the fishery at Shanghai Bend and Shanghai Falls in the Feather River. A 17 November 2005 letter from DFG stated:

The Feather River in this area supports fall-, late fall-, and spring-run Chinook salmon, steelhead trout, striped bass, American shad and a variety of other game and non-game species. Spring-run Chinook salmon are federal and state listed threatened species and steelhead trout is a federal listed threatened species.

Because of the river configuration at Shanghai Bend, adult anadromous fish including fall-, late fall- and spring-run Chinook salmon, steelhead trout, striped bass, and American shad often congregate immediately below Shanghai Bend for extended durations during their upstream migration. During lower flow periods the problem is exasperated, and in fact some species (American shad and striped bass) appear to be essentially blocked (DFG unpublished data) immediately below Shanghai Bend.

Additionally, juveniles (including listed federal and state species) use the area for rearing and migration. The entire instream production of salmonids (fall-, late fall- and spring-run Chinook salmon, and steelhead trout) in the Feather River and

Yuba River must pass Shanghai Bend. The Yuba River is basically the last large river in the Central Valley that is maintained solely by natural in-stream production of salmon and steelhead trout, and is essentially the only wild steelhead fishery remaining in the Central Valley.

Because of the extended periods that juvenile and adult fish spend in the Feather River at Shanghai Bend, they would be subject to extended exposure to any discharges. It is likely that such exposure will ultimately result in decrease population viability and survival of salmonids and other species, including federal and state listed species. We would recommend that because of the anadromous species (in particular listed species present) and the potential for extended exposure to the proposed discharge, that the allowance of a mixing zone is not appropriate.”

On 29 March 2005, DFG staff responded via email, in summary that: fish, specifically American Chad, Striped Bass, Chinook Salmon and Green Sturgeon are impacted by Shanghai Falls and tend to “hold a bit below the falls” and may remain below the falls for longer periods, particularly during low water years, thereby increasing exposure times, and that DFG would never support a project that discharges acutely toxic materials to a waterway that will likely soon be designated as critical habitat.

In June of 2003, the California Department of Water Resources (DWR) prepared a draft report *Juvenile Fishes of the Lower Feather River: Distribution, Emigration Patterns, and Association with Environmental Variables* which states in the introduction that “The Feather River is significant because it is the largest tributary to the Sacramento River system, is home to two federally listed endangered species (Central Valley spring-run Chinook salmon and Central Valley steelhead *Orcorhynchus mykiss*)...”

In email communications dated 27 December 2004, when asked about the Shanghai area of the Feather River, DWR staff stated:

Adult salmon could certainly be present as early as Mid-April through the fall, although the majority will be present June-September. There is no evidence or reason for adult salmon to spend any length of time in this area. We have done some radio tracking studies in the Feather [River] recently but very few fish were monitored this low in the river. I would be potentially concerned about sturgeon adults (white and green) however. We have observed them at Shanghai in June. During low flows they may spend a large amount of time there.

Large number of juveniles will be moving through the area from January through March...

A letter dated 25 April 1973 from the Wildlife Conservation Board discusses the Shanghai Bend area of the Feather River, in part, as follows:

The affected portion of the Feather River is a well-known shad and striped bass fishing area and, in spite of the lack of public access, is heavily fished. At least ten percent of all the Feather River shad fishing occurs in the vicinity of the 108-acre Steele property. This use amounts to about 4,000 angler days per year... Other angler attractions include runs of 50 to 60 thousand adult king salmon, which pass through the Shanghai Bend area each year and fair to excellent populations of smallmouth bass and channel catfish, which attract fishermen on a year-round basis.”

Based on the available information it is reasonable to assume that fish will stay in the acute mixing zone beyond the one hour time period prescribed by US EPA’s Ambient Criteria for the Protection of Freshwater Aquatic Life. It is also reasonable to assume, based on the information provided by DFG that fish will stay in the chronic mixing zone beyond the 4-day time period prescribed in the ambient criteria. It is therefore reasonable that the allowance of a mixing zone at this site will allow acute toxicity violating the SIP mixing zone requirements. It is also reasonable that the allowance of a mixing zone at this site will cause chronic toxicity and violation of the Basin Plan water quality objective for Toxicity that *all waters be maintained free of toxic substances in concentrations that produce detrimental physiological responses in aquatic life*. The potential of acute and chronic toxicity restricts the passage of aquatic life and will adversely impact what could be described as a biologically sensitive habitat. The allowance for a mixing zone as prescribed under the Permit violates the first four requirements of the SIP.

Federal regulation 40 CFR Section 131.12 (a)(1) the Antidegradation Policy requires that: “Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.” The Permit grants mixing zones above the drinking water maximum contaminant level (MCL) for human health criteria despite that municipal and domestic supply is a designated beneficial use of the receiving stream. The designated beneficial uses of drinking water and warm and cold water aquatic life are not protected within the specified reach of the stream contrary to 40 CFR 131.12.

E. The Permit Fails to Determine Reasonable Potential for Additive Toxicity within a mixing zone as required by the Basin Plan.

The Basin Plan, at (IV-17.00), states the following:

“Where multiple toxic pollutants exist together in water, the potential for toxicological interactions exists. On a case by case basis, the Regional Water Board will evaluate available receiving water and effluent data to determine whether there is reasonable

potential for interactive toxicity. Pollutants which are carcinogens or which manifest their toxic effects on the same organ systems or through similar mechanisms will generally be considered to have potentially additive toxicity. The following formula will be used to assist the Regional Water Board in making determinations:

$$\sum_{i=1}^n \frac{[\text{Concentration of Toxic Substance}]}{[\text{Toxicologic Limit for Substance in Water}]} < 1.0$$

The concentration of each toxic substance is divided by its toxicologic limit. The resulting ratios are added for substances having similar toxicologic effects and, separately, for carcinogens. If such a sum of ratios is less than one, an additive toxicity problem is assumed not to exist. If the summation is equal to or greater than one, the combination of chemicals is assumed to present an unacceptable level of toxicological risk. For example, monitoring shows that ground water beneath a site has been degraded by three volatile organic chemicals, A, B, and C, in concentrations of 0.3, 0.4, and 0.04 ug/l, respectively. Toxicologic limits for these chemicals are 0.7, 3, and 0.06 ug/l, respectively. Individually, no chemical exceeds its toxicologic limit. However, an additive toxicity calculation shows:

$$\frac{0.3}{0.7} + \frac{0.4}{3} + \frac{0.04}{0.06} = 1.2$$

The sum of the ratios is greater than unity (>1.0); therefore the additive toxicity criterion has been violated. The concentrations of chemicals A, B, and C together present a potentially unacceptable level of toxicity.”

Additive Toxicity—Aquatic Toxicity from Heavy Metals

The Order contains the following final effluent limitations for heavy metals:

Constituent	Units	AMEL ¹	MDEL ²	CCC ^{3,4}	CMC ^{4,5}	CCC ^{3,6}	CMC ^{3,6}	MEC ⁷
Copper ⁸	µg/l	50	85	3.5	4.8	2.7	3.5	16 ⁹ /67 ¹⁰
Lead ⁸	µg/l		3.3	0.75	19	0.49	13	3.3 ⁹ /1.9 ¹⁰
Zinc ⁸	µg/l	661	984	46	46	34	34	110 ⁹ /120 ¹⁰

¹ Average monthly effluent limitation

² Maximum daily effluent limitation

³ Criterion continuous concentration (4-day average); numeric standard that must not be exceeded beyond the edge of the constituent-specific chronic toxicity mixing zone

⁴ Based on hardness of 32 mg/l (as CaCO₃) used in Order

⁵ Criterion maximum concentration (1-hour average); numeric standard that must not be exceeded beyond the edge of the constituent-specific acute toxicity mixing zone

⁶ Based on hardness of 23 mg/l (as CaCO₃) from 3 January 2006 (see Attachment G to tentative permit)

⁷ Maximum effluent concentration

⁸ Total recoverable

⁹ From Order

¹⁰ From R5-2003-0089

Copper, lead, and zinc all act on aquatic organisms in the same fashion. Therefore, additive toxicity for these constituents must be considered.

Acute aquatic toxicity:

$$\left[\frac{Conc_{Cu}}{CMC_{Cu}} \right] + \left[\frac{Conc_{Pb}}{CMC_{Pb}} \right] + \left[\frac{Conc_{Zn}}{CMC_{Zn}} \right] = \left[\frac{4.8}{4.8} \right]_{Cu} + \left[\frac{19}{19} \right]_{Pb} + \left[\frac{46}{46} \right]_{Zn} = 3$$

Chronic aquatic toxicity:

$$\left[\frac{Conc_{Cu}}{CMC_{Cu}} \right] + \left[\frac{Conc_{Pb}}{CMC_{Pb}} \right] + \left[\frac{Conc_{Zn}}{CMC_{Zn}} \right] = \left[\frac{3.5}{3.5} \right]_{Cu} + \left[\frac{0.75}{0.75} \right]_{Pb} + \left[\frac{46}{46} \right]_{Zn} = 3$$

Order No. R5-2003-0089 found reasonable potential for cadmium, with an observed maximum effluent concentration of 6.4 ug/l for a sample collected 7 February 2002. In fact, Order No. R5-2003-0089 reported an average effluent cadmium concentration of 2.57 ug/l, based on the results of 29 sampling events. The criterion continuous concentration (CCC) for cadmium at a hardness of 32 mg/l is 1.0 ug/l, while the CCC for cadmium at a hardness of 23 mg/l is 0.78 ug/l. Cadmium concentrations in the Yuba City discharge will also contribute to additive toxicity.

Order No. R5-2003-0089 reported an observed maximum effluent total chromium concentration of 16 ug/l and an observed maximum upstream total chromium concentration of 7.2 ug/l. Chromium III is the most common valent state for chromium. Chromium III concentrations in the Yuba City discharge will also contribute to additive toxicity.

The Order reports an observed maximum effluent nickel concentration of 15 ug/l and an observed maximum upstream nickel concentration of 10 ug/l. The CCC for nickel at a hardness of 32 mg/l is 19 ug/l, while the CCC for nickel at a hardness of 23 mg/l is 15 ug/l. Nickel concentrations in the Yuba City discharge will also contribute to additive toxicity.

Order No. R5-2003-0089 reported an observed maximum effluent silver concentration of 0.35 ug/l. The maximum observed concentration was detected above the MDL of 0.12 ug/l, but below the quantification level. Silver concentrations in the Yuba City discharge will also contribute to additive toxicity.

The sum of the toxicity ratios for water in the Feather River, following complete mixing and beyond the boundary of any mixing zone, is greater than unity and, therefore, denotes an unacceptable risk of acute (lethal) aquatic toxicity within the Feather River. This alone is appalling, but the fact that Regional Board staff are proposing this for a stream designated as critical habitat and 303(d)-listed for unknown toxicity is both outrageous and unconscionable.

Failure to correct the Order will likely result in a take of threatened or endangered species as a direct outcome of the additive toxicity allowed under the Order.

The Order must be revised to reduce the effluent limitations for heavy metals (i.e., cadmium, chromium III, copper, lead, nickel, silver, and zinc) to levels that, when additive toxicity for these aquatic life toxicants is considered, will not result in acute or chronic toxicity.

F. The Permit contains an inadequate antidegradation analysis that 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 Permit relaxes discharge limitations and allows mixing zones for pollutants. Despite this relaxation there is no discussion of compliance with the Federal Antidegradation regulations or 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.

The antidegradation analysis in the 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.

NPDES permits must include any more stringent effluent limitation necessary to implement the Regional Board Basin Plan (Water Code 13377). The Tentative Permit fails to properly implement the Basin Plan's Antidegradation Policy. The discharge must be capable of achieving 100% compliance with Effluent and Receiving Water Limitations prior to allowing the new discharge.

G. Monitoring requirements are inadequate in accordance with Federal regulations, 40 CFR §§ 122.44(i) and 122.48, which require that NPDES permits to include requirements to monitor sufficient to assure compliance with permit limitations and requirements, the mass or other measurement specified in the permit for each pollutant limited in the permit, and the volume of effluent discharged from each outfall.

NPDES permits are required to include monitoring specifying the type, the interval, and the frequency sufficient to yield data which are representative of the monitored activity including, when appropriate, continuous monitoring. The frequency of monitoring is insufficient to assure compliance with Permit limitations.

The Permit includes numeric receiving water limitations for fecal coliform organisms, dissolved oxygen, pH, temperature, turbidity, and electrical conductivity and requires the discharge not to cause violations thereof. 40 CFR 122.41(i)(2) requires that NPDES permits include monitoring requirements to assure compliance with permit limitations for each pollutant listed in the permit. Table F-4 (p. F-12 of the Fact Sheet) of the Permit shows receiving water limitations for fecal coliform organisms, dissolved oxygen, pH, temperature, turbidity, and electrical conductivity and summarizes receiving water monitoring data for fecal coliform organisms, dissolved oxygen, pH, temperature, and electrical conductivity. Footnote 1 to Table F-4 states: "*Data is [sic] representative of monitoring at Monitoring Locations R-1 and R-2, however it cannot be conclusively determined that the discharge is the cause of any changes in receiving water conditions.*" The Permit includes receiving water monitoring requirements for fecal coliform organisms, dissolved oxygen, pH, temperature, turbidity, and electrical conductivity. The Permit includes effluent monitoring requirements for total coliform organisms, dissolved oxygen, pH, temperature, and electrical conductivity, but not for turbidity. To comply with federal regulations and assure that sufficient data are available to assess compliance with permit limitations for turbidity, the Permit must be revised to include effluent turbidity monitoring.

5. THE MANNER IN WHICH THE PETITIONERS ARE AGGRIEVED.

CSPA is a non-profit, environmental organization that has a direct interest in reducing pollution to the waters of the Central Valley. CSPA's members benefit directly from the waters in the form of recreational hiking, photography, fishing, swimming, hunting, bird watching, boating, consumption of drinking water and scientific investigation. Additionally, these waters are an important resource for recreational and commercial fisheries. Central Valley waterways also provide significant wildlife values important to the mission and purpose of the Petitioners. This wildlife value includes critical nesting and feeding grounds for resident water birds, essential habitat for endangered species and other plants and animals, nursery areas for fish and shellfish and their aquatic food organisms, and numerous city and county parks and open space areas. CSPA's members reside in communities whose economic prosperity depends, in part, upon the quality of water. CSPA has actively promoted the protection of fisheries and water quality throughout California before state and federal agencies, the State Legislature and Congress and regularly participates in administrative and judicial proceedings on behalf of its members to protect, enhance, and restore declining aquatic resources. CSPA member's health, interests and pocketbooks are directly harmed by the failure of the Regional Board to develop an effective and legally defensible program addressing discharges to waters of the state and nation.

6. THE SPECIFIC ACTION BY THE STATE OR REGIONAL BOARD WHICH PETITIONER REQUESTS.

Petitioners seek an Order by the State Board to:

- A. Vacate Order No. R5-2007-0134-01 as amended by R5-2010-0007 (NPDES NO. CA0079260) and remand to the Regional Board with instructions prepare and circulate a new tentative order that comports with regulatory requirements.
- B. Alternatively, prepare, circulate and issue a new order that is protective of identified beneficial uses and comports with regulatory requirements.

7. A STATEMENT OF POINTS AND AUTHORITIES IN SUPPORT OF LEGAL ISSUES RAISED IN THE PETITION.

CSPA's arguments and points of authority are adequately detailed in the above comments and our 14 December 2009 comment letter. Should the State Board have additional questions regarding the issues raised in this petition, CSPA will provide additional briefing on any such questions. The petitioners believe that an evidentiary hearing before the State Board will not be necessary to resolve the issues raised in this petition. However, CSPA welcomes the opportunity to present oral argument and respond to any questions the State Board may have regarding this

petition.

8. A STATEMENT THAT THE PETITION HAS BEEN SENT TO THE APPROPRIATE REGIONAL BOARD AND TO THE DISCHARGERS, IF NOT THE PETITIONER.

A true and correct copy of this petition, without attachment, was sent electronically and by First Class Mail to Ms. Pamela Creedon, Executive Officer, Regional Water Quality Control Board, Central Valley Region, 11020 Sun Center Drive #200, Rancho Cordova, CA 95670-6114. A true and correct copy of this petition, without attachment, was sent to the Discharger in care of: William P. Lewis, Director of Utilities, 302 Burns Drive, Yuba City, CA 95991.

9. A STATEMENT THAT THE ISSUES RAISED IN THE PETITION WERE PRESENTED TO THE REGIONAL BOARD BEFORE THE REGIONAL BOARD ACTED, OR AN EXPLANATION OF WHY THE PETITIONER COULD NOT RAISE THOSE OBJECTIONS BEFORE THE REGIONAL BOARD.

CSPA presented the issues addressed in this petition to the Regional Board in our 14 December 2009 comment letter that was accepted into the record.

If you have any questions regarding this petition, please contact Bill Jennings at (209) 464-5067 or Michael Jackson at (530) 283-1007.

Dated: 26 February 2010

Respectfully submitted,



Bill Jennings, Executive Director
California Sportfishing Protection Alliance

Attachment No. 1: Order No. R5-2007-0134-01 as amended by R5-2010-0007.

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION**

11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114
Phone (916) 464-3291 • FAX (916) 464-4645
<http://www.waterboards.ca.gov/centralvalley>

**ORDER NO. R5-2007-0134-01
(as amended by R5-2010-0007)
NPDES NO. CA0079260**



**WASTE DISCHARGE REQUIREMENTS FOR THE
CITY OF YUBA CITY
WASTEWATER TREATMENT FACILITY
SUTTER COUNTY**

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 1. Discharger Information

Discharger	City of Yuba City
Name of Facility	Wastewater Treatment Facility
Facility Address	302 Burns Drive, Yuba City, CA 95991, Sutter County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

The discharge by the Owner and Operator from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Treated Wastewater to the Feather River	39° 05' 48" N	121° 35' 45" W	Feather River
002	Treated Wastewater to Disposal Ponds	39° 05' 00" N	121° 35' 53" W	Feather River

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	25 October 2007
This Order shall become effective on:	50 days after the adoption date of this Order
This Order shall expire on:	1 October 2012
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	180 days prior to the Order expiration date

IT IS HEREBY ORDERED, that Order No. R5-2003-0085 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 25 October 2007, and amended by Order No. R5-2010-0007 on 28 January 2010.

Original Signed by Kenneth D. Landau for

PAMELA C. CREEDON, Executive Officer

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I. FACILITY INFORMATION

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 4. Facility Information

Discharger	City of Yuba City
Name of Facility	Wastewater Treatment Facility
Facility Address	302 Burns Drive
	Yuba City, CA 95991
	Sutter County
Facility Contact, Title, and Phone	William P. Lewis, Director of Utilities, (530) 822- 4319
Mailing Address	SAME
Type of Facility	Publicly Owned Treatment Works
Facility Design Flow	10.5 million gallons per day (mgd) (average dry weather flow)

II. FINDINGS

The California Regional Water Quality Control Board, Central Valley Region (hereinafter Regional Water Board), finds:

A. Background. The City of Yuba City (hereinafter Discharger) is currently discharging pursuant to Order No. R5-2003-0085 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0079260. The Discharger petitioned the State Water Board to review the decision of the Regional Water Board regarding final adoption of Order No. R5-2003-0085 and the associated Cease and Desist Order (CDO) (Order No. R5-2003-0086). To address the petition, the State Water Board adopted Order WQO 2004-0013 on 22 July 2004, remanding the Order and the CDO to the Regional Water Board for modifications.

Order No. R5-2003-0085 expires on 1 June 2008, however the Regional Water Board is revoking and reissuing Order No. R5-2003-0085 due to the significant number of issues and changes to be made to the Order based on the remand, as well as the request by the Discharger to expand operations at the Wastewater Treatment Facility (hereinafter Facility). In accordance with 40 CFR §124.5(c)(1), a new Report of Waste Discharge (application) is required when a permit is revoked and reissued. The Discharger submitted a new Report of Waste Discharge, dated 18 July 2006.

The new Report of Waste Discharge provided a capacity evaluation for expansion of their existing Facility (with a dry weather design flow of 7.0 mgd) to provide wastewater treatment for an average dry weather flow of 10.5 mgd. The new application was deemed complete on 20 February 2007. Additionally, the Discharger was required to perform an antidegradation analysis for the proposed increase in regulated flow. The Discharger submitted a final antidegradation analysis on 15 August 2007.

The Regional Water Board adopted Order No. R5-2007-0134 (this Order) on 25 October 2007. The permit was subsequently petitioned by the California Sportfishing Protection Alliance, and on 18 November 2008, the State Water Board adopted Order WQ 2008-0010 remanding the permit back to the Regional Water Board. The State Water Board remand required the Regional Water Board address items related to the mixing zone and diffuser, modify the monitoring and reporting requirements for Discharge Point 002, and remove the effluent limits based on the Lower Yuba River Accord. On 28 January 2010, the Regional Water Board adopted Order No. R5-2010-0007 amending this Order in accordance with State Water Board Order WQ 2008-0010.

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. Facility Description. The Discharger owns and operates a Publicly Owned Treatment Works (POTW). The treatment system consists of consists of bar screens, aerated grit removal, primary sedimentation, pure oxygen aeration, secondary sedimentation, chlorine disinfection, dechlorination, and pH adjustment. Wastewater from the Facility is then directed to one of two discharge points. Normally, treated wastewater from the Facility is discharged from Discharge Point No. 001 (see table on cover page) through a multi-port diffuser to the Feather River, a water of the United States, within the Sacramento River Watershed. Alternatively, effluent from the Facility can be directed to Discharge Point 002, which discharges to one or more of six disposal (percolation) ponds located between the two main east and west levee banks within the Feather River flood plain (above the physical ordinary high water elevation). According to the Discharger, the disposal ponds are used “...during planned maintenance of process units such as the chlorine contact basin. In addition, the effluent ponds are used to protect the Feather River water quality in the event permit requirements can not be achieved. Finally the ponds provide permit compliance reliability.” Effluent discharged at Discharge Point No. 001 and Discharge Point No. 002 is sampled at Monitoring Location EFF-001. EFF-001 is located after all treatment processes but prior to the valves directing effluent to Discharge Point 001 or 002. There is no method of bypassing this monitoring location when discharging to 001 or 002. Effluent directed to the disposal ponds at Discharge Point No. 002 either percolates into the groundwater under the ponds, evaporates, or discharges to the Feather River when inundated during high Feather River flows. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

C. Legal Authorities. This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

D. Background and Rationale for Requirements. The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E and G through H are also incorporated into this Order.

E. California Environmental Quality Act (CEQA). Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.

F. Technology-based Effluent Limitations. Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations (CFR)¹ require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at Part 133. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

G. Water Quality-based Effluent Limitations. Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed State criterion or policy interpreting the State's narrative criterion, supplemented with other relevant information, as provided in 40 CFR §122.44(d)(1)(vi).

H. Water Quality Control Plans. The Regional Water Board adopted a *Water Quality Control Plan, Fourth Edition (Revised August 2006), for the Sacramento and San Joaquin River Basins* (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the

¹ All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to Feather River are as follows: municipal and domestic supply; agricultural supply; water contact recreation; including canoeing and rafting; non-contact water recreation; including aesthetic enjoyment; warm freshwater habitat; cold freshwater habitat; warm migration of aquatic organisms; cold migration of aquatic organisms; warm spawning, reproduction, and/or early development; cold spawning, reproduction, and /or early development; and wildlife habitat.

In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Thus, as discussed in detail in the Fact Sheet, beneficial uses applicable to the Feather River are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001 and 002 ¹	Feather River	<p><u>Existing:</u> Municipal and domestic supply (MUN); agricultural supply (AGR); water contact recreation (REC-1); non-contact water recreation (REC-2); warm freshwater aquatic habitat (WARM); cold freshwater aquatic habitat (COLD); warm migration, cold migration (MIGR); warm and cold spawning habitat (SPWN); wildlife habitat (WILD).</p> <p><u>Intermittent:</u> Groundwater recharge (GWR); freshwater replenishment (FRESH).</p>
002	Disposal Ponds (Groundwater)	Municipal and domestic supply (MUN); agricultural supply (AGR); industrial service supply (IND); and industrial process supply (PRO).

¹ Effluent discharged at Discharge Point 002 is held in disposal ponds within the Feather River flood plain. Effluent only enters the Feather River at Discharge Point 002 when the ponds become inundated by the Feather River during flooding events.

The Basin Plan includes a list of Water Quality Limited Segments (WQLSs), which are defined as "...those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources (40 CFR 130, et seq.)." The Basin Plan also states, "Additional treatment beyond minimum federal standards will be imposed on dischargers to WQLSs. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment." The listing for the Feather River identifies it as a WQLS for diazinon in the 303(d) list of impaired water bodies. Effluent Limitations for these constituents are included in this Order.

Requirements of this Order implement the Basin Plan.

- I. National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on 22 December 1992, and later amended it on 4 May 1995 and 9 November 1999. About forty criteria in the NTR applied in California. On 18 May 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on 13 February 2001. These rules contain water quality criteria for priority pollutants.
- J. State Implementation Policy.** On 2 March 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 28 April 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 18 May 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 24 February 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 this Order implement the SIP.
- K. Compliance Schedules and Interim Requirements.** In general, an NPDES permit must include final effluent limitations that are consistent with Clean Water Act section 301 and with 40 CFR §122.44(d). There are exceptions to this general rule. The State Water Board has concluded that where the Regional Water Board's Basin Plan allows for schedules of compliance and the Regional Water Board is newly interpreting a narrative standard, it may include schedules of compliance in the permit to meet effluent limits that implement a narrative standard. See *In the Matter of Waste Discharge Requirements for Avon Refinery* (State Water Board Order WQ 2001-06 at pp. 53-55). See also *Communities for a Better Environment et al. v. State Water Resources Control Board*, 34 Cal.Rptr.3d 396, 410 (2005). The Basin Plan for the Sacramento and San Joaquin Rivers includes a provision that authorizes the use of compliance schedules in NPDES permits for water quality objectives that are adopted after the date of adoption of the Basin Plan, which was 25 September 1995 (See Basin Plan at page IV-16). Consistent with the State Water Board's Order in the CBE matter, the Regional Water Board has the discretion to include compliance schedules in NPDES permits when it is including an effluent limitation that is a "new interpretation" of a narrative water quality objective. This conclusion is also consistent with the United States Environmental Protection Agency policies and administrative decisions. See, e.g., *Whole Effluent Toxicity (WET) Control Policy*. The Regional Water Board, however, is not required to include a schedule of compliance, but may issue a Time Schedule Order pursuant to Water Code section 13300 or a Cease and Desist Order pursuant to Water Code section 13301 where it finds that the discharger is violating or threatening to violate the permit. The Regional Water Board will consider the merits of each case in determining whether it is appropriate to include a compliance schedule in a permit, and, consistent

with the Basin Plan, should consider feasibility of achieving compliance, and must impose a schedule that is as short as practicable to achieve compliance with the objectives, criteria, or effluent limit based on the objective or criteria.

For CTR constituents, Section 2.1 of the SIP provides that, based on a Discharger's request and demonstration that it is infeasible for an existing Discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or 18 May 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds 1 year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective. This Order includes compliance schedules and interim effluent limitations and/or discharge specifications. A detailed discussion of the basis for the compliance schedule(s) and interim effluent limitation(s) and/or discharge specifications is included in the Fact Sheet.

- L. Alaska Rule.** On 30 March 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 CFR §131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after 30 May 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by 30 May 2000 may be used for CWA purposes, whether or not approved by USEPA.
- M. Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD₅, TSS, and pH. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR §131.38. The scientific procedures for calculating the individual water quality-based effluent limitations are based on the CTR-SIP, which was approved by USEPA on 1 May 2001. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to 30 May 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to 30 May 2000, but not approved by USEPA before that date, are nonetheless "*applicable water quality standards for purposes of the*

[Clean Water] Act pursuant to 40 CFR §131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the CWA and the applicable water quality standards for purposes of the CWA.

- N. Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 is consistent with the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. The Discharger submitted an Antidegradation Analysis Report in accordance with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16 stating that in order to maintain beneficial uses of the receiving water and to limit degradation of the receiving water, the Discharger operates a wastewater treatment process that meets or exceeds the highest statutory and regulatory requirements which meets or exceeds Best Practical Treatment or Control (BPTC). As discussed in detail in the Fact Sheet the permitted discharge is consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.
- O. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 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. Some effluent limitations in this Order are less stringent than those in the previous Order. As discussed in detail in the Fact Sheet this relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.
- P. Monitoring and Reporting.** Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.
- Q. Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.

R. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections IV.C, V.B, VI.C.1.c, VI.C.2.b, and VI.C.2.c of this Order are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

S. Notification of Interested Parties. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.

T. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet of this Order.

III. DISCHARGE PROHIBITIONS

- A. Discharge of wastewater at a location or in a manner different from that described in the Findings is prohibited.
- B. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Federal Standard Provisions I.G. and I.H. (Attachment D).
- C. Neither the discharge nor its treatment shall create a nuisance as defined in Section 13050 of the California Water Code.
- D. The Discharger shall not allow pollutant-free wastewater to be discharged into the collection, treatment, and disposal system in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means rainfall, groundwater, cooling waters, and condensates that are essentially free of pollutants.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Points No. 001 and No. 002

1. Final Effluent Limitations

- a. During the period beginning with the Permit Effective Date the Discharger shall maintain compliance with the following limitations at Discharge Points No. 001 and No. 002, with compliance measured at Monitoring Location EFF-001 as described in the attached MRP (Attachment E):

Table 6. Effluent Limitations – Discharge Points No. 001 and No. 002

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
<i>Conventional Pollutants</i>						
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)	mg/L	30	45	60	--	--
	lbs/day ¹	2,627	3,941	5,254	--	--
pH	standard units	--	--	--	6.5	8.5
Total Suspended Solids	mg/L	30	45	60	--	--
	lbs/day ¹	2,627	3,941	5,254	--	--
<i>Priority Pollutants</i>						
Chlorodibromomethane	µg/L	76	--	166	--	--
Copper, Total Recoverable	µg/L	50	--	85	--	--
Cyanide, Total (as CN)	µg/L	24	--	48	--	--
Dichlorobromomethane	µg/L	111	--	280	--	--
Diethyl Phthalate	µg/L	10	--	21	--	--
Lead, Total Recoverable	µg/L	--	--	3.3	--	--
Persistent Chlorinated Hydrocarbon Pesticides	µg/L	--	--	--	--	ND ²
Tetrachloroethylene	µg/L	164	--	514	--	--
Thallium, Total Recoverable	µg/L	1.7	--	3.4	--	--
Zinc, Total Recoverable	µg/L	661	--	984	--	--
<i>Non-Conventional Pollutants</i>						
Aluminum, Total Recoverable	µg/L	--	--	353	--	--
Ammonia Nitrogen, Total (as N)	mg/L	31	--	60	--	--
Diazinon	µg/L	0.08	--	0.16	--	--
Electrical Conductivity	µmhos/cm	1,000	--	--	--	--
Molybdenum, Total Recoverable	µg/L	32	--	--	--	--
Nitrite, Total (as N)	mg/L	221	--	--	--	--
Settleable Solids	mL/L/hr	0.1	--	0.2	--	--

¹ Based on a design of 10.5 mgd average dry weather flow. Compliance with the mass effluent limitations will be determined during average dry weather periods only when groundwater is at or near normal and runoff is not occurring.

² The non-detectable (ND) limitation applies to each individual pesticide. No individual pesticide may be present in the discharge at detectable concentrations. The Discharger shall use USEPA standard analytical techniques with a maximum acceptable detection level of 0.05 µg/L. Persistent chlorinated hydrocarbon pesticides include aldrin, dieldrin, chlordane, endrin, endrin aldehyde, heptachlor, heptachlor epoxide, hexachlorocyclohexane (alpha-BHC, beta-BHC, delta-BHC, and gamma-BHC or lindane), endosulfan (alpha and beta), endosulfan sulfate, toxaphene, 4,4'DDD, 4,4'DDE, and 4,4'DDT.

b. **Percent Removal.** The average monthly percent removal of BOD 5-day 20°C and total suspended solids shall not be less than 85 percent.

- c. **Total Recoverable Iron.** For a calendar year, the annual average total recoverable iron concentration in the effluent shall not exceed 300 µg/L.
- d. **Total Recoverable Manganese.** For a calendar year, the annual average total recoverable manganese concentration in the effluent shall not exceed 200 µg/L.
- e. **Methylene Blue Active Substances (MBAS).** For a calendar year, the annual average methylene blue active substances concentration in the effluent shall not exceed 100 mg/L.
- f. **Total Recoverable Aluminum.** For a calendar year the annual average total recoverable aluminum concentration in the effluent shall not exceed 200 µg/L.
- g. **Acute Whole Effluent Toxicity.** Survival of aquatic organisms in 96-hour pH buffered bioassays of undiluted waste shall be no less than:
 - i. 70%, minimum for any one bioassay; and
 - ii. 90%, median for any three consecutive bioassays.
- h. **Total Residual Chlorine.** Effluent total residual chlorine shall not exceed:
 - i. 0.01 mg/L, as a 4-day average;
 - ii. 0.02 mg/L, as a 1-hour average;

Total residual chlorine effluent limit only applicable to effluent discharged at Discharge Point No. 001.
- i. **Total Coliform Organisms.** Effluent total coliform organisms shall not exceed:
 - i. 23 most probable number (MPN) per 100 mL, as a 7-day median; and
 - ii. 240 MPN/100 mL, more than once in any 30-day period.
- j. **Average Dry Weather Discharge Flow.** The Average Dry Weather Discharge Flow shall not exceed 10.5 mgd.
- k. **Mass Limitation for Mercury.** For a calendar year, the annual average total recoverable mercury loading in the effluent shall not exceed 0.056 lbs/month.

3. Interim Effluent Limitations

- a. During the period beginning from the Permit Effective Date and ending on 17 May 2010, the Discharger shall maintain compliance with the following limitations at Discharge Points No. 001 and No. 002 with compliance measured at Monitoring Location EFF-001 as described in the attached MRP. These interim effluent limitations shall apply in lieu of the corresponding final effluent limitations specified for the same parameters during the time period indicated in this provision.

Table 7. Interim Effluent Limitations – Discharge Points No. 001 and No. 002

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
gamma-BHC	µg/L	--	--	0.05	--	--

- b. During the period beginning from the Permit Effective Date and ending on 29 June 2008, the Discharger shall maintain compliance with the following limitations at Discharge Points No. 001 and No. 002 with compliance measured at Monitoring Location EFF-001 as described in the attached MRP. These interim effluent limitations shall apply in lieu of the corresponding final effluent limitations specified for the same parameters during the time period indicated in this provision.

Table 8. Interim Effluent Limitations – Discharge Points No. 001 and 002 (Diazinon Only)

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Diazinon	µg/L	--	--	0.43	--	--

B. Land Discharge Specifications

1. The average dry weather discharge flow shall not exceed 10.5 mgd.
2. The discharge of waste classified as "hazardous" as defined in section 2521(a) of Title 23, California Code of Regulations (CCR), or "designated", as defined in section 13173 of the CWC, to the disposal ponds is prohibited.
3. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the wastewater treatment and disposal areas.
4. As a means of discerning compliance with Land Discharge Specification 3, the dissolved oxygen content in the upper zone (1 foot) of wastewater in ponds shall not be less than 1.0 mg/L.

5. Public contact with wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.
6. Ponds shall be managed to prevent breeding of mosquitoes. In particular,
 - (a) An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface.
 - (b) Weeds shall be minimized.
 - (c) Dead algae, vegetation, and debris shall not accumulate on the water surface.
7. During non-flood conditions, pond freeboard shall never be less than 2 feet (measured vertically to the lowest, non-spillway point of overflow from the perimeter berm) of pond system.

C. Reclamation Specifications

[Not Applicable]

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. The discharge shall not cause the following in the Feather River:

1. **Bacteria.** The fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, to exceed a geometric mean of 200 MPN/100 mL, nor more than ten percent of the total number of fecal coliform samples taken during any 30-day period to exceed 400 MPN/100 mL
2. **Biostimulatory Substances.** Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
3. **Chemical Constituents.** Chemical constituents to be present in concentrations that adversely affect beneficial uses.
4. **Color.** Discoloration that causes nuisance or adversely affects beneficial uses.
5. **Dissolved Oxygen:**
 - a. The monthly median of the mean daily dissolved oxygen concentration to fall below 85 percent of saturation in the main water mass;

- b. The 95 percentile dissolved oxygen concentration to fall below 75 percent of saturation; nor
 - c. The dissolved oxygen concentration to be reduced below 7.0 mg/L at any time.
6. **Floating Material.** Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.
7. **Oil and Grease.** Oils, greases, waxes, or other materials to be present in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.
8. **pH.** The pH to be depressed below 6.5, raised above 8.5, nor changed by more than 0.5. A 1-month averaging period may be applied when calculating the pH change of 0.5 units.
9. **Pesticides:**
 - a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;
 - b. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;
 - c. Total identifiable persistent chlorinated hydrocarbon pesticides to be present in the water column at concentrations detectable within the accuracy of analytical methods approved by USEPA or the Executive Officer/prescribed in *Standard Methods for the Examination of Water and Wastewater, 18th Edition*, or other equivalent methods approved by the Executive Officer;
 - d. Pesticide concentrations to exceed those allowable by applicable antidegradation policies (see State Water Board Resolution No. 68-16 and 40 CFR §131.12);
 - e. Pesticide concentrations to exceed the lowest levels technically and economically achievable;
 - f. Pesticides to be present in concentration in excess of the maximum contaminant levels set forth in California Code of Regulations, Title 22, Division 4, Chapter 15/specified in Table 64444-A (Organic Chemicals) of Section 64444 of Title 22 of the California Code of Regulations; nor
 - g. Thiobencarb to be present in excess of 1.0 µg/L.
10. **Radioactivity:**
 - a. Radionuclides to be present in concentrations that are harmful to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life; nor
 - b. Radionuclides to be present in excess of the maximum contaminant levels specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations.

11. **Suspended Sediments.** The suspended sediment load and suspended sediment discharge rate of surface waters to be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
12. **Settleable Substances.** Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.
13. **Suspended Material.** Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.
14. **Taste and Odors.** Taste- or odor-producing substances to be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses/or to domestic or municipal water supplies.
15. **Temperature.** The natural temperature to be increased by more than 5°F.
16. **Toxicity.** Toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
17. **Turbidity.** The turbidity to increase as follows:
 - a. More than 1 Nephelometric Turbidity Unit (NTU) where natural turbidity is between 0 and 5 NTUs.
 - b. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
 - c. More than 10 NTU where natural turbidity is between 50 and 100 NTUs.
 - d. More than 10 percent where natural turbidity is greater than 100 NTUs.
18. **Electrical Conductivity.** The discharge to cause or contribute the electrical conductivity in the Feather River, downstream of the discharge, to exceed 150 µmhos/cm as a 90th percentile over a 10-year running average.

B. Groundwater Limitations

1. Release of waste constituents from any storage, treatment, or disposal component associated with the Facility, 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 (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.
2. The discharge shall not cause the groundwater to exceed water quality objectives, unreasonably affect beneficial uses, or cause a condition of pollution or nuisance. Release of waste constituents from any storage, treatment, or disposal component

associated with the Facility shall not, in combination with other sources of the waste constituents, cause groundwater within influence of the WWTP to contain waste constituents in concentrations in excess of natural background quality or

- a. Total coliform organisms median of 2.2 MPN/100 mL over any 7-day period.
- b. Chemical constituents in concentrations that adversely affect beneficial uses.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.
2. The Discharger shall comply with the following provisions:
 - a. If the Discharger's wastewater treatment plant is publicly owned or subject to regulation by California Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to Title 23, CCR, Division 3, Chapter 26.
 - b. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:
 - i. violation of any term or condition contained in this Order;
 - ii. obtaining this Order by misrepresentation or by failing to disclose fully all relevant facts;
 - iii. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and
 - iv. a material change in the character, location, or volume of discharge.

The causes for modification include:

- *New regulations.* New regulations have been promulgated under Section 405(d) of the Clean Water Act, or the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.
- *Land application plans.* When required by a permit condition to incorporate a land application plan for beneficial reuse of biosolids, to revise an existing land application plan, or to add a land application plan.
- *Change in biosolids use or disposal practice.* Under 40 Code of Federal Regulations (CFR) 122.62(a)(1), a change in the Discharger's biosolids use

or disposal practice is a cause for modification of the permit. It is cause for revocation and reissuance if the Discharger requests or agrees.

The Regional Water Board may review and revise this Order at any time upon application of any affected person or the Regional Water Board's own motion.

- c. If a toxic effluent standard or prohibition (including any scheduled compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the CWA, or amendments thereto, for a toxic pollutant that is present in the discharge authorized herein, and such standard or prohibition is more stringent than any limitation upon such pollutant in this Order, the Regional Water Board will revise or modify this Order in accordance with such toxic effluent standard or prohibition.

The Discharger shall comply with effluent standards and prohibitions within the time provided in the regulations that establish those standards or prohibitions, even if this Order has not yet been modified.

- d. This Order shall be modified, or alternately revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the CWA, if the effluent standard or limitation so issued or approved:
- i. contains different conditions or is otherwise more stringent than any effluent limitation in the Order; or
 - ii. controls any pollutant limited in the Order.

The Order, as modified or reissued under this paragraph, shall also contain any other requirements of the CWA then applicable.

- e. The provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.
- f. The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or biosolids or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or biosolids use or disposal.
- g. The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by USEPA under Section 307 of the CWA, or amendment thereto, for any discharge to the municipal system.
- h. The discharge of any radiological, chemical or biological warfare agent or high-level, radiological waste is prohibited.

- i. A copy of this Order shall be maintained at the discharge facility and be available at all times to operating personnel. Key operating personnel shall be familiar with its content.
- j. Safeguard to electric power failure:
 - i. The Discharger shall provide safeguards to assure that, should there be reduction, loss, or failure of electric power, the discharge shall comply with the terms and conditions of this Order.
 - ii. Upon written request by the Regional Water Board the Discharger shall submit a written description of safeguards. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means. A description of the safeguards provided shall include an analysis of the frequency, duration, and impact of power failures experienced over the past five years on effluent quality and on the capability of the Discharger to comply with the terms and conditions of the Order. The adequacy of the safeguards is subject to the approval of the Regional Water Board.
 - iii. Should the treatment works not include safeguards against reduction, loss, or failure of electric power, or should the Regional Water Board not approve the existing safeguards, the Discharger shall, within ninety days of having been advised in writing by the Regional Water Board that the existing safeguards are inadequate, provide to the Regional Water Board and USEPA a schedule of compliance for providing safeguards such that in the event of reduction, loss, or failure of electric power, the Discharger shall comply with the terms and conditions of this Order. The schedule of compliance shall, upon approval of the Regional Water Board, become a condition of this Order.
- k. The Discharger, upon written request of the Regional Water Board, shall file with the Board a technical report on its preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. This report may be combined with that required under Regional Water Board Standard Provision VI.A.2.m.

The technical report shall:

- i. Identify the possible sources of spills, leaks, untreated waste by-pass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.
- ii. Evaluate the effectiveness of present facilities and procedures and state when they became operational.

- iii. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

The Regional Water Board, after review of the technical report, may establish conditions which it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions shall be incorporated as part of this Order, upon notice to the Discharger.

- I. A publicly owned treatment works (POTW) whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment and disposal facilities. The projections shall be made in January, based on the last 3 years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in 4 years, the Discharger shall notify the Regional Water Board by 31 January. A copy of the notification shall be sent to appropriate local elected officials, local permitting agencies and the press. Within 120 days of the notification, the Discharger shall submit a technical report showing how it will prevent flow volumes from exceeding capacity or how it will increase capacity to handle the larger flows. The Regional Water Board may extend the time for submitting the report.
- m. The Discharger shall submit technical reports as directed by the Executive Officer. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
- n. Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Regional Water Board and USEPA.
- o. The Discharger shall conduct analysis on any sample provided by USEPA as part of the Discharge Monitoring Quality Assurance (DMQA) program. The results of any such analysis shall be submitted to USEPA's DMQA manager.
- p. Effluent samples shall be taken downstream of the last addition of wastes to the treatment or discharge works where a representative sample may be obtained prior to mixing with the receiving waters. Samples shall be collected at such a point and in such a manner to ensure a representative sample of the discharge.

- q. All monitoring and analysis instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary, at least yearly, to ensure their continued accuracy.
- r. The Discharger shall file with the Regional Water Board technical reports on self-monitoring performed according to the detailed specifications contained in the Monitoring and Reporting Program attached to this Order.
- s. The results of all monitoring required by this Order shall be reported to the Regional Water Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order. Unless otherwise specified, discharge flows shall be reported in terms of the monthly average and the daily maximum discharge flows.
- t. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the CWC, including, but not limited to, sections 13385, 13386, and 13387.
- u. For POTWs, prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. (CWC section 1211).
- v. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, maximum daily effluent limitation, 1-hour average effluent limitation, or receiving water limitation contained in this Order, the Discharger shall notify the Regional Water Board by telephone (916) 464-3291 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall include the information required by Attachment D, Section V.E.1 [40 CFR §122.41(l)(6)(i)].

B. Monitoring and Reporting Program (MRP) Requirements

- 1. The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order.

C. Special Provisions

1. Reopener Provisions

- a. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional

requirements may be included in this Order as a result of the special condition monitoring data.

- b. Conditions that necessitate a major modification of a permit are described in 40 CFR §122.62, including:
 - i. If new or amended applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA, or amendments thereto, this permit may be reopened and modified in accordance with the new or amended standards.
 - ii. When new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance including, without limitation, new industrial dischargers or significant changes to water quality.
- c. **Pollution Prevention.** This Order requires the Discharger prepare pollution prevention plans following CWC section 13263.3(d)(3) for diazinon, gamma-BHC, and salinity. Based on a review of the pollution prevention plans and dynamic modeling based on additional ambient water quality analysis, or other relevant information, this Order may be reopened for addition and/or modification of effluent limitations and requirements for these constituents.
- d. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if the State Water Board revises the SIP's toxicity control provisions that would require the establishment of numeric chronic toxicity effluent limitations, this Order may be reopened to include a numeric chronic toxicity effluent limitation based on the new provisions.
- e. **Water Effects Ratios (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating CTR criteria for applicable priority pollutant inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for copper, lead and zinc. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

The Discharger has submitted an Aluminum Water-Effect Ratio (WER) Work Plan to the Regional Water Board. It is anticipated that the WER will be completed during the term of this Order. This Order may be reopened to revise effluent limitations based on completion, review, and approval of the WER or an approved Work Plan for aluminum.

- f. **Dynamic Modeling.** If the Discharger performs a study to reevaluate effluent limits for specific constituents (e.g., diethyl phthalate or cyanide) based on their

dynamic model, this Order may be reopened to modify the effluent limitation for the applicable constituents.

- g. **Diazinon.** The Regional Water Board adopted a revised Basin Plan amendment on 3 May 2007 that included revised water quality objectives for diazinon. The proposed Basin Plan amendment would increase the water quality objective for diazinon to 0.16 µg/L and 0.10 µg/L as a 1-hour average and a 4-day average, respectively. Upon approval of the amendment by USEPA, this Order may be reopened to modify the effluent limitations for diazinon.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

- a. **Chronic Whole Effluent Toxicity.** For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct chronic whole effluent toxicity testing, as specified in the Monitoring and Reporting Program (Attachment E, Section V.). Furthermore, this Provision requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity. If the discharge exceeds the toxicity numeric monitoring trigger established in this Provision, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE), in accordance with an approved TRE Work Plan, and take actions to mitigate the impact of the discharge and prevent reoccurrence of toxicity. A TRE is a site-specific study conducted in a stepwise process to identify the source(s) of toxicity and the effective control measures for effluent toxicity. TREs are designed to identify the causative agents and sources of whole effluent toxicity, evaluate the effectiveness of the toxicity control options, and confirm the reduction in effluent toxicity. This Provision includes requirements for the Discharger to develop and submit a TRE Work Plan and includes procedures for accelerated chronic toxicity monitoring and TRE initiation.
 - i. **Initial Investigative Toxicity Reduction Evaluation (TRE) Work Plan.** **Within 90 days of the effective date of this Order,** the Discharger shall submit to the Regional Water Board an Initial Investigative TRE Work Plan for approval by the Executive Officer. This should be a one to two page document including, at minimum:
 - a) A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of effluent toxicity, effluent variability, and treatment system efficiency;
 - b) A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in operation of the facility; and
 - c) A discussion of who will conduct the Toxicity Identification Evaluation, if necessary (i.e. an in-house expert or outside contractor).

- ii. **Accelerated Monitoring and TRE Initiation.** When the numeric toxicity monitoring trigger is exceeded during regular chronic toxicity monitoring, and the testing meets all test acceptability criteria, the Discharger shall initiate accelerated monitoring as required in the Accelerated Monitoring Specifications. WET testing results exceeding the monitoring trigger during accelerated monitoring demonstrate a pattern of toxicity and requires the Discharger to initiate a TRE to address the effluent toxicity.
- iii. **Numeric Monitoring Trigger.** Until State Water Board adoption of the Lower Yuba River Accord, the numeric toxicity monitoring trigger is $> 12 \text{ TUc}$ (where $\text{TUc} = 100/\text{NOEC}$). The monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to begin accelerated monitoring and initiate a TRE.
- iv. **Accelerated Monitoring Specifications.** If the monitoring trigger is exceeded during regular chronic toxicity testing, within 14-days of notification by the laboratory of the test results, the Discharger shall initiate accelerated monitoring. Accelerated monitoring shall consist of four (4) chronic toxicity tests in a 6 week period (i.e., one test every 2 weeks) using the species that exhibited toxicity. The following protocol shall be used for accelerated monitoring and TRE initiation:
 - a) If the results of four (4) consecutive accelerated monitoring tests do not exceed the monitoring trigger, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring. However, notwithstanding the accelerated monitoring results, if there is adequate evidence of a pattern of effluent toxicity, the Executive Officer may require that the Discharger initiate a TRE.
 - b) If the source(s) of the toxicity is easily identified (i.e. temporary plant upset), the Discharger shall make necessary corrections to the facility and shall continue accelerated monitoring until four (4) consecutive accelerated tests do not exceed the monitoring trigger. Upon confirmation that the effluent toxicity has been removed, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring.
 - c) If the result of any accelerated toxicity test exceeds the monitoring trigger, the Discharger shall cease accelerated monitoring and initiate a TRE to investigate the cause(s) of, and identify corrective actions to reduce or eliminate effluent toxicity. Within thirty (30) days of notification by the laboratory of the test results exceeding the monitoring trigger during accelerated monitoring, the Discharger shall submit a TRE Action Plan to the Regional Water Board including, at minimum:
 - 1) Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including TRE WET monitoring schedule;
 - 2) Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and

3) A schedule for these actions.

Within sixty (60) days of notification by the laboratory of the test results, the Discharger shall submit to the Regional Water Board a TRE Work Plan for approval by the Executive Officer. The TRE Work Plan shall outline the procedures for identifying the source(s) of, and reducing or eliminating effluent toxicity. The TRE Work Plan must be developed in accordance with USEPA guidance².

- b. **Disposal Pond Discharge Study.** The Discharger shall complete a study and technical report regarding the disposal ponds located within the Feather River levees. The study shall be sufficient to determine if the discharge from the disposal ponds causes exceedance of any narrative or numerical water quality objective contained in the Basin Plan including bacteria, biostimulatory substances, chemical constituents, color, dissolved oxygen, floating material, pH, pesticides, salinity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, and turbidity and any Effluent or Receiving Water Limitation contained in this Order. The technical report shall contain the results of the study and include a plan to conduct compliance sampling of the discharge from the ponds. If exceedance of any Basin Plan objective, Effluent or Receiving Water Limitation is determined by the study, the technical report shall include a means for achieving compliance with the discharge limitations or water quality objectives including, if necessary, a pond closure plan. The study and technical report shall be completed in accordance with the following schedule:

<u>Task</u>	<u>Compliance Date</u>	<u>Report Due Date</u>
Submit Revised Work Plan to Address New/Revised Effluent Limitations		Within 60 days of permit adoption
Submit Study Results		1 year after permit adoption
Submit Technical Report		Within 15 months after permit adoption
Achieve Full Compliance	1 July 2009	

The Discharger shall submit to the Regional Water Board on or before each compliance and report due date, the specified document or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, the reasons for such noncompliance shall be stated; the report shall also include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when it returns to compliance with the time schedule.

² See Attachment F (Fact Sheet) Section VII.B.2.a. for a list of USEPA guidance documents that must be considered in development of the TRE Workplan.