



## California Sportfishing Protection Alliance

*"An Advocate for Fisheries, Habitat and Water Quality"*

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6 April 2007

Mr. Karl Longley, Chairman  
Ms. Pamela Creedon, Executive Officer  
Mr. Kenneth Landau, Assistant Executive Officer  
Mr. Dave Carlson, Env. Program Manager, NPDES  
Mr. Jim Marshall, Sr. WRCE  
Mr. Anand Mamidi, WRC Engr.  
Regional Water Quality Control Board  
Central Valley Region  
11020 Sun Center Drive, Suite 200  
Rancho Cordova, CA 95670-6144

VIA: Electronic Submission  
Hardcopy If Requested

RE: CSPA Comments, Waste Discharge Requirements for City of Angels Wastewater Treatment Plant, Calaveras County

Dear Messrs. Longley, Landau, Carlson, Marshall, Mamidi and Ms. Creedon;

The California Sportfishing Protection Alliance, Watershed Enforcers and San Joaquin Audubon (CSPA) has reviewed the Central Valley Regional Water Quality Control Board's (Regional Board) tentative Waste Discharge Requirements (Order or Permit) for City of Angels Wastewater Treatment Plant, Calaveras County (Discharger) and has the following comments.

CSPA incorporates by reference the comments submitted by the Environmental Law Foundation on 6 April 2007. CSPA also requests status as a designated party for this proceeding. CSPA is a 501(c)(3) public benefit conservation and research organization established in 1983 for the purpose of conserving, restoring, and enhancing the state's water quality and fishery resources and their aquatic ecosystems and associated riparian habitats. CSPA has actively promoted the protection of water quality and fisheries 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 California's degraded surface and ground waters and associated fisheries. CSPA members reside, boat, fish and recreate in and along waterways throughout the Central Valley, including Calaveras County.

- 1. Proposed Permit Finding No. N and the Fact Sheet at III.C.2 incorrectly conclude that: "...the permitted discharge is consistent with the antidegradation provision of Section 131.12 and State Water Board Resolution No. 68-16" and in accordance with CWC Section 13377 and**

**Federal Regulation, 40 CFR 122.4 (a), (d) and (g) the proposed Permit cannot be adopted until the Discharger provides and the proposed Permit requires BPTC.**

The proposed Permit allows for a “new” discharge of wastewater to surface waters. The “new” wastewater discharge will result in an increased mass of pollutants to surface waters. The discharge is currently proposed to be limited to wet weather periods, when “dilution is available”. The Regional Board’s discussion is incorrectly limited to hydraulic “dilution”; there is no analysis of the wet weather constituent concentrations in the receiving water. Flow is not the only parameter to consider with regard to “dilution”. Storm water discharges are recognized as containing significant levels of pollution; mine drainage and urban runoff can significantly degrade surface waters during wet weather periods. There is no assessment of the available constituent specific “dilution” during wet weather. The Basin Plan and Federal Regulations consistently state an analysis is necessary to determine whether a discharge causes or contributes to an exceedance of water quality standards. An increased mass of bioaccumulative pollutants is not discussed and will be a direct impact of the “new” discharge. Without a discussion of the mass of pollutants and any available constituent assimilative capacity the test of whether the discharge contributes to an exceedance of water quality standards is unknown. The antidegradation analysis in the proposed Permit is not simply deficient, it is virtually nonexistent. There may be no assimilative capacity for individual pollutants during wet weather. The two samples used to characterize the wastewater are not discussed with regard to antidegradation, the mass discharged, and are not adequate to determine the impacts to surface waters or if any assimilative capacity is available. The land disposal alternative is not discussed with regard to antidegradation. The proposed Permit states that there is significant unused land available at the current land disposal treatment plant site, but does not justify its exclusion as a disposal area. The true costs of land disposal are not discussed as an alternative, contrary to the Basin Plan that requires land disposal and reclamation be considered as alternatives to initiation of surface water discharges. The brief discussion of antidegradation requirements, in the Findings and Fact Sheet, consist only of skeletal, unsupported, undocumented conclusory statements totally lacking in factual analysis. The proposed Permit fails to undertake a rigorous antidegradation analysis for a “new” discharger. Regional Board staff are either unaware of state and federal policies regarding antidegradation analyses or they have been directed to ignore them.

The Fact Sheet to the proposed Permit states, at IV.C.3.n.ii (pp. F-21 – F-23), that “EC concentrations in the effluent samples collected from 7 December through 18 December 2006, averaged 378 umhos/cm, with a minimum effluent level of 336 umhos/cm, and a maximum effluent level of 407 umhos/cm, based on the results of twelve samples. The background receiving water EC averaged 65 umhos/cm from 2 sampling events collected by the Discharger from May 2003 through December 2003.”

The proposed Permit would regulate the surface water discharge from the City of Angels wastewater treatment plant for the first time. The measured concentrations of electrical conductivity in the discharge clearly exceed background concentrations. The

Fact Sheet goes on to state that “[a]llowing the Discharger to increase its current salt loading [zero loading] may be contrary to the Region wide effort to address salinity in the Central Valley and Resolution 68-16, which requires that existing high quality waters be maintained until it has been demonstrated that any change will be consistent with the maximum benefit to the people of the State. Therefore, in accordance with Resolution 68-16, this Order includes a performance-based effluent limitation of 510 umhos/cm for EC as a monthly average to limit the discharge to current levels.” To paraphrase: Allowing the discharger to increase its current zero salt loading to surface waters may be contrary to the effort to address elevated salinity in the Central Valley’s waterways and will cause degradation of the receiving stream; therefore, we’re going to go ahead and authorize that degradation.

The proposed Permit provides no demonstration that authorizing increased salinity in Angels Creek, and subsequently, the Sacramento-San Joaquin Delta, results in any benefit to the people of the State of California, let alone a benefit that outweighs any associated costs. The proposed Permit apparently fails to recognize that the “current levels” for salt discharge to surface waters are zero. In addition, no information is provided to determine how the effluent limitation of 510 umhos/cm was established, since no such water quality standard or objective can be found. The proposed Permit must be revised to ensure the maintenance of the existing high quality of Angels Creek.

Footnote 1 to Table 6 of the proposed Permit states that the lbs/day limits for BOD, TSS, and ammonia are “[b]ased on a design flow of 1.9 million gallons per day”. No information is provided in the proposed Permit to indicate that 1.9 mgd is a design flow for the facility, it is not however the average dry weather flow utilized in the typical Regional Board permits. This allowance for an excessive mass of pollutants is not discussed in the antidegradation analysis.

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

Section 101(a) of the Clean Water Act, 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 Act 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 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. (40 CFR § 131.12(a).)

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 William Attwater, SWRCB to Regional Board Executive Officers, "federal Antidegradation Policy," pp. 2, 18 (Oct. 7, 1987) ("State Antidegradation Guidance").) As part of the state policy for water quality control, 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 federal antidegradation regulations delineate three tiers of protection for waterbodies. Tier 1, described in 40 CFR § 131.12(a)(1), is the floor for protection of all waters of the United States. (48 Fed. Reg. 51400, 51403 (8 Nov. 1983); Region IX Guidance, pp. 1-2; APU 90-004, pp. 11-12.) It states that "[e]xisting instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." Uses are "existing" if they were actually attained in the water body on or after November 28, 1975, or if the water quality is suitable to allow the use to occur, regardless of whether the use was actually designated. (40 CFR § 131.3(e).) Tier 1 protections apply even to those waters already impacted by pollution and identified as impaired. In other words, already impaired waters cannot be further impaired.

Tier 2 waters are provided additional protections against unnecessary degradation in places where the levels of water quality are better than necessary to support existing

uses. Tier 2 protections strictly prohibit degradation unless the state finds that a degrading activity is: 1) necessary to accommodate important economic or social development in the area, 2) water quality is adequate to protect and maintain existing beneficial uses, and 3) the highest statutory and regulatory requirements and best management practices for pollution control are achieved. (40 CFR § 131.12(a)(2).) Cost savings to a discharger alone, absent a demonstration by the project proponent as to how these savings are “necessary to accommodate important economic or social development in the area,” are not adequate justification for allowing reductions in water quality. (Water Quality Order 86-17, p. 22; State Antidegradation Guidance, p. 13.) If the waterbody passes this test and the degradation is allowed, degradation must not impair existing uses of the waterbody. (48 Fed. Reg. at 51403). Virtually all waterbodies in California may be Tier 2 waters since the state, like most states, applies the antidegradation policy on a parameter-by-parameter basis, rather than on a waterbody basis. (APU 90-004, p. 4). Consequently, a request to discharge a particular chemical to a river, whose level of that chemical was better than the state standards, would trigger a Tier 2 antidegradation review even if the river was already impaired by other chemicals.

Tier 3 of the federal antidegradation policy states “[w]here high quality waters constitute an outstanding national resource, such as waters of national and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water shall be maintained and protected. (40 CFR § 131.12(a)(3).) These Outstanding National Resource Waters (ONRW) are designated either because of their high quality or because they are important for another reason. (48 Fed. Reg. At 51403; State Antidegradation Guidance, p. 15). No degradation of water quality is allowed in these waters other than short-term, temporary changes. (Id.) Accordingly, no new or increased discharges are allowed in either ONRW or tributaries to ONRW that would result in lower water quality in the ONRW. (EPA Handbook, p. 4-10; State Antidegradation Guidance, p. 15.) Existing antidegradation policy already dictates that if a waterbody “should be” an ONRW, or “if it can be argued that the waterbody in question deserves the same treatment {as a formally designated ONRW},” then it must be treated as such, regardless of formal designation. (State Antidegradation Guidance, pp. 15-16; APU 90-004, p. 4.) Thus the Regional Board is required in each antidegradation analysis to consider whether the waterbody at issue should be treated as an ONRW. It should be reiterated that waters cannot be excluded from consideration as an ONRW simply because they are already “impaired” by some constituents. By definition, waters may be “outstanding” not only because of pristine quality, but also because of recreational significance, ecological significance or other reasons. (40 CFR §131.12(a)(3).) Waters need not be “high quality” for every parameter to be an ONRW. (APU 90-004, p. 4) For example, Lake Tahoe is on the 303(d) list due to sediments/siltation and nutrients, and Mono Lake is listed for salinity/TDC/chlorides but both are listed as ONRW.

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.

The antidegradation Policy requires that Dischargers provide best practicable treatment and control (BPTC) of the discharge. For a surface water discharge, BPTC includes nitrification and denitrification. Proposed Permit Finding No. N concludes that: "...the permitted discharge is consistent with the antidegradation provision of Section 131.12 and State Water Board Resolution No. 68-16." The Fact Sheet to the proposed Permit, at IV.D.4 (pp. F-31 – F-33), states that the discharger's feasibility study indicated that it is not economically feasible to continue year-round land disposal. No information is provided to support this position; there is no economic analysis of the land disposal alternative, the monthly costs to sewer users, or of the costs to the environment to allow degradation to surface waters. The unsupported, undocumented, conclusory statements in Finding No. N are incorrect.

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 proposed Permit must require that the discharge meet BPTC standards prior to permit renewal in order to protect the receiving water beneficial uses.

California Water Code, section 13377, requires that: "Notwithstanding any other provision of this division, the state board and the regional boards shall, as required or authorized by the Federal Water Pollution Control Act, as amended, issue waste discharge and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance." Federal Regulation, 40 CFR 122.4 (a), (d) and (g) require that no permit may be issued when the conditions of the permit do not provide for compliance with the applicable requirements of the CWA, or regulations promulgated under the CWA, when imposition of conditions cannot ensure compliance with applicable water quality requirements and for any discharge inconsistent with a plan or plan amendment approved under Section 208(b) of the CWA. In accordance with CWC Section 13377 and Federal Regulation, 40 CFR 122.4 (a), (d) and (g) the proposed Permit cannot be adopted until the Discharger provides BPTC.

The proposed Permit must be revised to include the details of the anti-degradation analysis, including the date and location of the water quality impact analyses, and an assessment of both costs and benefits associated with degradation of Angels Creek.

**2. The proposed Permit is either based on an incomplete RWD contrary to Federal Regulations and the CWC or the Fact Sheet is incomplete in accordance with federal regulations.**

The proposed Permit and Fact Sheet contain no information regarding whether the discharge and receiving stream have been characterized for conventional and priority pollutants. A permit, protective of water quality and the beneficial uses of the receiving stream cannot be written without a full characterization of the proposed discharge quality and knowledge of whether any assimilative capacity is available in the receiving stream. Federal Regulation, 40 CFR 122.21(e) states in part that: “The Director shall not issue a permit before receiving a complete application for a permit except for NPDES general permits. In accordance with 40 CFR 122.21 (e) and (h) and 124.3 (a)(2) the Regional Board shall not adopt the proposed Permit without first a complete application.” State Report of Waste Discharge Form 200 is required as a part of a complete Report of Waste Discharge. Form 200, part VI, states that: “To be approved, your application must include a complete characterization of the discharge.” The Federal Report of Waste Discharge forms also require a significant characterization of a wastewater discharge. The California Toxics Rule (CTR)(40 CFR 131, Water Quality Standards) contains water quality standards applicable to this wastewater discharge. The final due date for compliance with CTR water quality standards for all wastewater dischargers in California is May 2010. The State’s *Policy for Implementation of Toxics standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP), Section 1.2, requires wastewater dischargers to provide all data and other information requested by the Regional Board before the issuance, reissuance, or modification of a permit to the extent feasible. Federal Regulation, 40 CFR 122.21(e) states in part that: “The Director shall not issue a permit before receiving a complete application for a permit except for NPDES general permits.” California Water Code, section 13377, requires that: “Notwithstanding any other provision of this division, the state board and the regional boards shall, as required or authorized by the Federal Water Pollution Control Act, as amended, issue waste discharge and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.” The application for permit renewal is incomplete and in accordance with 40 CFR 122.21(e) the Regional Board should not issue a permit. Federal Regulations, 40 CFR 124.8, requires that Fact Sheets contain the basis for the permit conditions. The proposed Permit also fails to comply with the State Board’s precedential Order for Yuba City, which required the Fact Sheet contain the complete data set which was the basis for effluent limitations, in that case for EC. The Fact Sheet contains no information that supports any conclusion that a complete RWD has been submitted and that the wastewater discharge has been adequately characterized for priority and

conventional pollutants. Either the Discharger has failed to submit a complete RWD contrary to the cited laws and regulations or the Fact Sheet is incomplete. The proposed Permit cannot be adopted if the RWD was incomplete or must be amended to include a summary of the data characterizing the discharge.

3. **The proposed Permit, Finding No. K, states that based on “a new interpretation of the Basin Plan” the proposed Permit may contain compliance schedules. The Regional Board fails to provide any explanation or definition of the “new interpretation” of the Basin Plan.**

In a memorandum, dated 19 July 2002, to NPDES Staff from Kenneth Landau; Mr. Landau states in part that; “The critical factor in use of this “new interpretation” is that the previous Permit contains something that clearly indicates that a reasoned decision was made by the Board to grant mixing zones or not protect certain beneficial uses. This can include standards which are not measured for a considerable distance downstream, effluent limits obviously too large to be protective, or statements that “the ditch contains no fish”. Just because an existing permit is silent on an issue (for instance nothing was mentioned about drinking water protection), does not mean a “new interpretation” can be considered to occur.” The simple unsupported claim that there is a “new interpretation” of the Basin Plan is insufficient to claim coverage under State Board Order WQ 2001-06 at pp 53-55. The Regional Board must, at a minimum, define the old interpretation of the Basin Plan with respect to an issue and how has it changed. The permit must be modified to include the details of any “new interpretation” or the Finding language removed.

4. **The proposed Permit fails to include mass based effluent limitations for total residual chlorine, bis(2-chloroethyl)ether, dichlorobromomethane, copper, lead, and zinc in violation of Federal Regulations 40 CFR 122.45 (f) and U.S. EPA technical advise and fails to base mass limits for biochemical oxygen demand (BOD), total suspended solids (TSS), and ammonia on appropriate design flow.**

Section 5.7.1 of U.S. EPA’s *Technical Support Document for Water Quality Based Toxics Control* (TSD, EPA/505/2-90-001) states with regard to mass-based Effluent Limits:

“Mass-based effluent limits are required by NPDES regulations at 40 CFR 122.45(f). The regulation requires that all pollutants limited in NPDES permits have limits, standards, or prohibitions expressed in terms of mass with three exceptions, including one for pollutants that cannot be expressed appropriately by mass. Examples of such pollutants are pH, temperature, radiation, and whole effluent toxicity. Mass limitations in terms of pounds per day or kilograms per day can be calculated for all chemical-specific toxics such as chlorine or chromium. Mass-based limits should be calculated using concentration limits at critical flows. For example, a permit limit of 10 mg/l of cadmium discharged at an average rate of 1 million gallons per day also would contain a limit of 38 kilograms/day of cadmium.

Mass based limits are particularly important for control of bioconcentratable pollutants. Concentration based limits will not adequately control discharges of these pollutants if the effluent concentrations are below detection levels. For these pollutants, controlling mass loadings to the receiving water is critical for preventing adverse environmental impacts.

However, mass-based effluent limits alone may not assure attainment of water quality standards in waters with low dilution. In these waters, the quantity of effluent discharged has a strong effect on the instream dilution and therefore upon the RWC. At the extreme case of a stream that is 100 percent effluent, it is the effluent concentration rather than the mass discharge that dictates the instream concentration. Therefore, EPA recommends that permit limits on both mass and concentration be specified for effluents discharging into waters with less than 100 fold dilution to ensure attainment of water quality standards.”

Federal Regulations, 40 CFR 122.45 (f), states the following with regard to mass limitations:

- “(1) all pollutants limited in permits shall have limitations, standards, or prohibitions expressed in terms of mass except:
  - (i) For pH, temperature, radiation or other pollutants which cannot be expressed by mass;
  - (ii) When applicable standards and limitations are expressed in terms of other units of measurement; or
  - (iii) If in establishing permit limitations on a case-by-case basis under 125.3, limitations expressed in terms of mass are infeasible because the mass of the pollutant discharged cannot be related to a measure of operation (for example, discharges of TSS from certain mining operations), and permit conditions ensure that dilution will not be used as a substitute for treatment.
  
- (2) Pollutants limited in terms of mass additionally may be limited in terms of other units of measurement, and the permit shall require the permittee to comply with both limitations.”

Oxygen-demanding substances, persistent, bioaccumulative toxics, and constituents with an associated total maximum daily load require mass limitations to protect the beneficial uses of the receiving water. The 9 November 1998 Federal Register Notice of Availability of Draft RCRA Waste Minimization PBT [persistent, bioaccumulative toxics) Chemical List includes copper, lead, and zinc.

In addition to the above citations, on June 26<sup>th</sup> 2006 U.S. EPA, Mr. Douglas Eberhardt, Chief of the CWA Standards and Permits Office, sent a letter to Dave Carlson at the Central Valley Regional Water Quality Control Board strongly recommending that

NPDES permit effluent limitations be expressed in terms of mass as well as concentration. The proposed Permit must be amended to include mass limits for total residual chlorine, bis(2-chloroethyl)ether, dichlorobromomethane, copper, lead, and zinc.

Footnote 1 to Table 6 of the proposed Permit states that the lbs/day limits for BOD, TSS, and ammonia are “[b]ased on a design flow of 1.9 million gallons per day”. No information is provided in the proposed Permit to indicate that 1.9 mgd is a design flow for facility. It is not, however, the average dry weather flow utilized in the typical Regional Board permits. The Federal Regulations, at 40 CFR 122.45 (b), require that POTW effluent limitations, standards, or prohibitions be based on design flow. Virtually every engineering textbook includes *Ten States Standards* as standard engineering design and a recognized civil engineering basis for wastewater treatment plant (WWTP) design parameters. Pursuant to these standards;

- a. Average Dry Weather Flow (ADWF) represents the daily average flow when groundwater is at or near normal and runoff is not occurring.
- b. Maximum Wet Weather Flow (MWWF) represents the total maximum flow received during any 24-hour period when the groundwater is high and runoff is occurring.
- c. Peak Hourly Wet Weather Flow (PHWWF) represents the total maximum flow received during one-hour when groundwater is high, runoff is occurring, and domestic and commercial flows are at their peak.

The PHWWF must be used to evaluate the effect of hydraulic peaks on the design of pumps, piping, clarifiers, and any other flow sensitive aspects. Unfortunately, the technical basis for the mass limitations is not discussed in the permit. Consequently, the mass limitations contained in the permit are not based on acceptable WWTP design parameters and therefore fail to comply with the cited federal regulations.

##### **5. The proposed Permit incorrectly limits the flow from the facility.**

The Federal Regulations, at 40 CFR 122.45 (b), require that POTW effluent limitations, standards, or prohibitions be based on design flow. As discussed above, virtually every engineering textbook includes *Ten States Standards* as standard engineering design and a recognized civil engineering basis for wastewater treatment plant (WWTP) design parameters. To reiterate, the PHWWF must be used to evaluate the effect of hydraulic peaks on the design of pumps, piping, clarifiers, and any other flow sensitive aspects.

The proposed Permit at IV.A.1.f (page 8), sets an Average Daily Discharge Flow limitation of 1.9 mgd. The Fact Sheet to the proposed Permit, at II.A (page F-5), states that after the proposed plant expansion, the average dry weather flow capacity will be 0.6 mgd with a peak flow of 1.9 mgd and that the expected peak wet weather flow is 3.1 mgd. No definition or rate is provided for the average daily discharge flow. Unfortunately, the technical basis for the flow limitation is not discussed in the permit. Consequently, the flow limitation contained in the permit is not based on acceptable

WWTP design parameters and therefore fail to comply with federal regulations. The proposed Permit must be revised to include an Average Dry Weather Flow limitation of 0.6 mgd, based on the design average dry weather flow.

**6. The proposed Permit incorrectly imposes Receiving Water Limitation for un-ionized ammonia based on the Tulare Lake Basin Plan.**

The proposed Permit includes a Surface Water Limitation for un-ionized ammonia of 0.025 mg/l (as N). This limitation is based on the Tulare Lake Basin Plan. The applicable Basin Plan for the proposed discharge is the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*. The proposed Permit must be modified to remove the Surface Water Limitation for un-ionized ammonia (V.A.1 at page 9).

**7. The proposed Permit does not contain protective Effluent Limitations for ammonia in violation of Federal Regulations 40 CFR 122.44 and California Water Code, Section 13377**

The proposed Permit is for a domestic wastewater treatment plant. Domestic wastewater treatment plants, by their nature, receive ammonia in concentrations ranging from 30 mg/l to 60 mg/l and present a reasonable potential to exceed the Basin Plan narrative toxicity water quality objective. Ammonia is toxic to aquatic life in fairly low concentrations. The Central Valley Regional Board has a long established history of including ammonia limitations in NPDES permits based on U.S. EPA's ambient criteria for the protection of freshwater aquatic life, which has established BPTC for POTWs. Section 122.44(d) of 40 CFR requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where numeric water quality objectives have not been established, 40 CFR §122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a), proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information, or an indicator parameter. Failure to include adequate effluent limitations for ammonia in the proposed Permit to ensure that a wastewater treatment plant is operated in a nitrification mode violates 40 CFR 122.44 and CWC 13377.

As stated in the Fact Sheet to the proposed Permit, at IV.C.3.e (page F-15), USEPA's *Ambient Water Quality Criteria for the Protection of Freshwater Aquatic Life*, for total ammonia, recommends acute (1-hour average; criteria maximum concentration) standards based on pH and chronic (30-day average, criteria continuous concentration) standards based on pH and temperature. It also recommends a maximum four-day average concentration of 2.5 times the criteria continuous concentration. The Fact Sheet fails, however, to explain why the permit writer chose to ignore the recommended four-day average criterion.

The proposed Permit includes average monthly and maximum (average) daily effluent limitations for ammonia. Nitrification can be a fairly unstable treatment process,

resulting in inconsistent ammonia concentrations. Because ammonia is a toxic constituent subject to considerable fluctuation in concentration, use of the recommended average one-hour, four-day, and 30-day limitations is more protective and appropriate than relying exclusively on the average monthly and maximum (average) daily limitations. The proposed Permit must be revised to include average one-hour and four-day limitations for ammonia, based on U.S. EPA's recommended criteria.

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

Untreated domestic wastewater contains ammonia. Nitrification, which must take place for the proposed discharge to comply with the proposed effluent ammonia limitations, is a biological process that converts ammonia to nitrite and nitrite to nitrate. Denitrification is a process that converts nitrate to nitrite or nitric oxide and then to nitrous oxide or nitrogen gas, which is then released to the atmosphere. Nitrate and nitrite are known to cause adverse health effects in humans. The Basin Plan's Chemical Constituents water quality objective prohibits chemical constituents in concentrations that exceed drinking water Maximum Contaminant Levels (MCLs) published in Title 22 of the California Code of Regulations or that adversely affect beneficial uses. Municipal and domestic water supply is a beneficial use of the Sacramento River. The California Department of Health Services (DHS) has adopted Primary Maximum Contaminant Levels (MCLs) for the protection of human health for nitrite and nitrate that are equal to 1 mg/l and 10 mg/l (measured as nitrogen), respectively. Title 22 CCR, Table 64431-A, also includes a primary MCL of 10,000 ug/l for the sum of nitrate and nitrite, measured as nitrogen. The discharge from this wastewater treatment plant has a reasonable potential to cause or contribute to an in-stream excursion above water quality standards for nitrite, and nitrate. Effluent limits for nitrite and nitrate are properly based on the MCLs. Effluent Limitations for nitrite and nitrate must be included in the proposed Permit to assure the treatment process adequately nitrifies and denitrifies the waste stream to protect the beneficial uses of municipal and domestic supply. 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. Drinking water MCLs are included in the Basin Plan Chemical Constituents water quality objective by reference. Nitrification of the waste stream to comply with the proposed effluent ammonia limitations will result in nitrate concentrations in excess of the primary MCL. It is irresponsible and misleading to the discharger for the Regional Board to adopt a permit for a sewage treatment facility and fail to include the applicable effluent limitation.

Failure to include an effluent limitation for nitrate in the proposed Permit violates 40 CFR 122.44 and CWC 13377.

**9. The Order fails to include limits and monitoring for methylmercury**

The Tentative Permit includes an interim effluent mass limitation, or cap, for total mercury. Inexplicably, it ignores methylmercury; the bioaccumulative and biodamaging form of mercury. Regional Board TMDL staff has consistently maintained that the pending Delta Mercury TMDL will require substantial reductions in the mass loading of methylmercury from wastewater treatment plants. The Tentative Permit must include an interim cap on methylmercury loading.

The Tentative Permit states that, if the Regional Board determines that a mercury offset program is feasible, the Order may be reopened to reevaluate the interim mercury mass loading limitation(s) and the need for mercury offset program. An explicit permit re-opener to include final load reductions established in the Delta Mercury TMDL must be incorporated in the Order.

The Monitoring and Reporting Program does not contain monitoring for methylmercury. Sampling for methylmercury is critical to support the mercury TMDL and the allocation of loads.

**10. The proposed Permit fails to appropriately limit chlorine and fails to require adequate monitoring of total residual chlorine in the discharge.**

U.S. EPA recommends, in its Ambient Water Quality Criteria for the protection of fresh water aquatic life, maximum 1-hour average and 4-day average chlorine concentrations of 0.019 mg/L and 0.011 mg/L, respectively. The proposed Permit includes average monthly and maximum (average) daily effluent limitations of 0.01 mg/l and 0.02 mg/l, respectively.

Because chlorine is a toxic constituent subject to rapid changes in concentration that can be and should be monitored continuously, an average one-hour limitation is more protective and appropriate than an average daily limitation. The proposed Permit must be revised to include average one-hour and four-day limitations for chlorine, based on U.S. EPA's recommended criteria.

The proposed Permit requires daily grab samples of the effluent for total residual chlorine. Many wastewater treatment facilities utilize chlorine for purposes other than disinfection, including for odor suppressant, control of poorly-settling bacteria, and as part of the filter backwash process. The Fact Sheet to the proposed Permit fails to discuss other uses of chlorine at the facility. Filter backwash may occur several times throughout the day. The Fact Sheet also fails to discuss the anticipated frequency of filter backwash.

The proposed Permit must be revised to require continuous monitoring of total chlorine residual in the discharge.

**11. The proposed Permit fails to require reporting of mass loading of total residual chlorine, bis(2-chloroethyl)ether, chloroform, dichlorobromomethane, copper, lead, mercury, and zinc.**

As stated above, mass-loading effluent limitations for total residual chlorine, bis(2 chloroethyl)ether, chloroform, dichlorobromomethane, copper, lead, mercury, and zinc are required. Federal Regulations require compliance monitoring for constituents limited in a permit. The proposed Permit must be revised to require reporting of mass loading for total residual chlorine, bis(2 chloroethyl)ether, chloroform, dichlorobromomethane, copper, lead, mercury, and zinc.

12. **The proposed Permit fails to require the use of the ultra-clean technique for sampling and analysis of mercury.**
13. **The proposed Permit contains a flawed Reasonable Potential Analysis for chloroform and fails to contain an Effluent Limitation in accordance with Federal Regulations 40 CFR 122.44 and California Water Code, Section 13377.**

As stated in the Fact Sheet to the proposed Permit, at IV.C.3.h (page F-16):

“The Basin Plan contains the *Policy for Application of Water Quality Objectives*, which provides that narrative objectives may be translated using numerical limits published by other agencies and organizations. The California Environmental Protection Agency (Cal/EPA) Office of Environmental Health Hazard Assessment (OEHHA) has published the Toxicity Criteria Database, which contains cancer potency factors for chemicals, including chloroform, that have been used as a basis for regulatory actions by the boards, departments and offices within Cal/EPA. The OEHHA cancer potency value for oral exposure to chloroform is 0.031 milligrams per kilogram body weight per day (mg/kg-day). By applying standard toxicological assumptions used by OEHHA and USEPA in evaluating health risks via drinking water exposure of 70 kg body weight and two liters per day water consumption, this cancer potency factor is equivalent to a concentration in drinking water of 1.1 mg/L (ppb) at the one-in-a-million cancer risk level. This risk level is consistent with that used by the Department of Health Services (DHS) to set *de minimis* risks from involuntary exposure to carcinogens in drinking water in developing MCLs and Action Levels and by OEHHA to set negligible cancer risk in developing Public Health Goals for drinking water. The one-in-a-million cancer risk level is also mandated by USEPA in applying human health protective criteria contained in the NTR and CTR to priority toxic pollutants in California surface waters.”

Also as stated in the Fact Sheet, the maximum detected effluent concentration of chloroform in the discharge was 46 mg/l, based on a sample collected in either December 2003 or July 2004.

The proposed Permit goes on to state, however, that because there are no known drinking water intakes in the receiving stream for some distance, the MCL for total trihalomethanes of 80 mg/l is acceptable "...as long as the receiving water does not exceed the OEHHA cancer potency factor's equivalent receiving water concentration at a reasonable distance from the outfall" and, contrary to federal and state regulations, fails to include any effluent limitation for the constituent for which is just demonstrated reasonable potential.

The proposed Permit does not include any information regarding riparian users or whether a survey of beneficial uses of the receiving stream has been conducted. We are unaware of a Basin Plan amendment to de-designate the beneficial use of municipal and domestic supply for Angels Creek downstream of the discharge—the only legal means of failing to protect that use. In addition, the proposed Permit fails to discuss any of the numerous factors required to be considered and met in authorizing a mixing zone.

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. Failure to include an effluent limitation for chloroform in the proposed Permit violates 40 CFR 122.44 and CWC 13377.

**14. The proposed Permit contains an inadequate reasonable potential analysis by using incorrect statistical multipliers.**

The permit fails to identify all measured hardness values of the receiving water or the effluent. The SIP and CTR require the ambient receiving water hardness be used to determine reasonable potential.

Federal regulations, 40 CFR § 122.44(d)(1)(ii), state "when determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, the permitting authority shall use procedures which account for existing controls on point and nonpoint sources of pollution, **the variability of the pollutant or pollutant parameter in the effluent**, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water." Emphasis added.

The reasonable potential analyses for all constituents fail to consider the statistical variability of data and laboratory analyses as explicitly required by the federal regulations. For example, a multiplier of 1 was used for all constituents instead of the required multiplier factors necessary to properly evaluate reasonable potential. The procedures for computing variability are detailed in Chapter 3, pages 52-55, of USEPA's *Technical Support Document For Water Quality-based Toxics Control*.

The reasonable potential analyses are flawed and must be recalculated. The fact that the SIP illegally ignores this fundamental requirement does not exempt the Regional Board from its obligation to consider statistical variability in compliance with federal regulations.

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

Federal regulations, at 40 CFR 122.44 (d)(1)(i), require that limitations must control all pollutants or pollutant parameters which the Director determines are or may be discharged at a level which will cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality. The Water Quality Control Plan for the Sacramento/ San Joaquin River Basins (Basin Plan), Water Quality Objectives (Page III-8.00) for Toxicity is a narrative criteria which states that all waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This section of the Basin Plan further states, in part that, compliance with this objective will be determined by analysis of indicator organisms.

The Tentative Permit requires that the Discharger conduct acute toxicity tests and states that compliance with the toxicity objective will be determined by analysis of indicator organisms. However, the Tentative Permit contains a discharge limitation that allows 30% mortality (70% survival) of fish species in any given toxicity test.

Allowing 30% mortality in acute toxicity tests allows that same level of mortality in the receiving stream, at a minimum during mixing, in violation of federal regulations and contributes to exceedance of the Basin Plan's narrative water quality objective for toxicity. Accordingly, the proposed Permit must be revised to strictly prohibit any acute toxicity in accordance with Federal regulations, at 40 CFR 122.44 (d)(1)(i).

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

Federal regulations, at 40 CFR 122.44 (d)(1)(i), require that limitations must control all pollutants or pollutant parameters which the Director determines are or may be discharged at a level which will cause, or contribute to an excursion above any State water quality standard, including state narrative criteria for water quality. The SIP, Section 4, Toxicity Control Provisions, Water Quality-Based Toxicity Control, states that: "A chronic toxicity effluent limitation is required in permits for all dischargers that will cause, have a reasonable potential to cause, or contribute to chronic toxicity in receiving waters." The Water Quality Control Plan for the Sacramento/ San Joaquin River Basins (Basin Plan), Water Quality Objectives (Page III-8.00) for Toxicity is a narrative criteria which states that all waters shall be maintained free of toxic substances

in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. The Tentative Permit states that: "...to ensure compliance with the Basin Plan's narrative toxicity objective, the discharger is required to conduct whole effluent toxicity testing...". However, sampling does not equate with or ensure compliance. The Tentative Permit requires the Discharger to conduct an investigation of the possible sources of toxicity if a threshold is exceeded. This language is not a limitation and essentially eviscerates the Regional Board's authority, and the authority granted to third parties under the Clean Water Act, to find the Discharger in violation for discharging chronically toxic constituents. An effluent limitation for chronic toxicity must be included in the Order. In addition, the Chronic Toxicity Testing Dilution Series should bracket the actual dilution at the time of discharge, not use default values that are not relevant to the discharge. Accordingly, the proposed Permit must be revised to prohibit chronic toxicity in accordance with Federal regulations, at 40 CFR 122.44 (d)(1)(i).

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

The Basin Plan, Implementation, Page IV-24-00, Regional Water Board prohibitions, states that: "Water bodies for which the Regional Water Board has held that the direct discharge of waste is inappropriate as a permanent disposal method include sloughs and streams with intermittent flow or limited dilution capacity." The proposed Permit characterizes the receiving stream as low flow, and prohibits discharge when less than 20:1 (receiving water:effluent) dilution is available. The proposed Permit does not discuss any efforts to eliminate the discharge to surface water and compliance with the Basin Plan Prohibition. Federal Regulation 40 CFR 122.4 states that no permit shall be issued for any discharge when the conditions of the permit do not provide for compliance with the applicable requirements of the CWA and are inconsistent with a plan or plan amendment.

The Fact Sheet to the proposed Permit, at II.A (page F-5), states that "[c]urrently, the disposal of secondary effluent is accomplished solely by irrigation of only 61 acres (suitable for pasture irrigation) out of 235 acres available onsite." The Fact Sheet fails to explain why the remaining 174 acres are not used.

The permit must be amended to require that the Discharger develop a workplan to eliminate the wastewater discharge to surface water in accordance with the Basin Plan.

**18. The proposed Permit is either based on an incomplete RWD contrary to Federal Regulations and the CWC or the Fact Sheet is incomplete in accordance with federal regulations.**

The proposed Permit fails to include adequate information on the data set used in determining reasonable potential and establishing effluent limitations. The Fact Sheet to

the proposed Permit states, at IV.C.2 (page F-13), that “[f]or purposes of establishing water quality-based effluent limitations, a reported hardness value of 28 mg/L as CaCO<sub>3</sub> was used.” The Fact Sheet fails to describe the data set or whether the 28 mg/L is the lowest hardness measured in the receiving stream.

Federal Regulation, 40 CFR 122.21(e) states in part that: “The Director shall not issue a permit before receiving a complete application for a permit except for NPDES general permits. In accordance with 40 CFR 122.21 (e) and (h) and 124.3 (a)(2) the Regional Board shall not adopt the proposed Permit without first a complete application.” State Report of Waste Discharge Form 200 is required as a part of a complete Report of Waste Discharge. Form 200, part VI states that: “To be approved, your application must include a complete characterization of the discharge.” The Federal Report of Waste Discharge forms also require a significant characterization of a wastewater discharge. The California Toxics Rule (CTR)(40 CFR 131, Water Quality Standards) contains water quality standards applicable to this wastewater discharge. The final due date for compliance with CTR water quality standards for all wastewater dischargers in California is May 2010. The State’s *Policy for Implementation of Toxics standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP), Section 1.2, requires wastewater dischargers to provide all data and other information requested by the Regional Board before the issuance, reissuance, or modification of a permit to the extent feasible. Federal Regulation, 40 CFR 122.21(e) states in part that: “The Director shall not issue a permit before receiving a complete application for a permit except for NPDES general permits.” California Water Code, section 13377, requires that: “Notwithstanding any other provision of this division, the state board and the regional boards shall, as required or authorized by the Federal Water Pollution Control Act, as amended, issue waste discharge and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.” The application for permit renewal is incomplete and in accordance with 40 CFR 122.21(e) the Regional Board should not issue a permit. Federal Regulations, 40 CFR 124.8, requires that Fact Sheets contain the basis for the permit conditions. The proposed Permit also fails to comply with the State Board’s precedential Order for Yuba City that required the Fact Sheet contain the complete data set, which was the basis for effluent limitations, in that case for electrical conductivity. The Fact Sheet contains inadequate information to determine that a complete RWD has been submitted and that the wastewater discharge has been adequately characterized for priority and conventional pollutants. Either the Discharger has failed to submit a complete RWD contrary to the cited laws and regulations or the Fact Sheet is incomplete. The proposed Permit cannot be adopted if the RWD was incomplete or must be amended to include a summary of the data characterizing the discharge.

Thank you for considering these comments. If you have questions or require clarification, please don’t hesitate to contact us.

Sincerely,

A handwritten signature in black ink, appearing to read "Bill Jennings". The signature is written in a cursive, flowing style with some loops and flourishes.

Bill Jennings, Executive Director  
California Sportfishing Protection Alliance