



## California Sportfishing Protection Alliance

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

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10 February 2008

Mr. Kenneth Landau, Assistant Executive Officer  
Mr. Loren J. Harlow, Assistant Executive Officer  
Mr. W. Dale Harvey, Sr. WRC Engineer  
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: Tentative Waste Discharge Requirements (NPDES No. 0079219) for City of Merced Wastewater Treatment Plant, Merced County.

Dear Messrs. Landau, Harlow and Harvey:

The California Sportfishing Protection Alliance and Watershed Enforcers (CSPA) has reviewed the Central Valley Regional Water Quality Control Board's (Regional Board) tentative NPDES permit (Order or Permit) for City of Merced Wastewater Treatment Plant (Discharger) and submits the following comments.

CSPA 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 Merced County.

- 1. The proposed 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 and the State and Regional Board's Resolution 68-16.**

The antidegradation analysis in the proposed Permit is simply deficient and virtually nonexistent. The brief discussion of antidegradation requirements, in the Findings and Fact Sheet, consist only of skeletal, unsupported, undocumented conclusory statements totally lacking in factual analysis. The proposed permit fails to undertake a serious antidegradation analysis for a greatly expanded "major" discharge of pollutants.

The proposed Permit's Antidegradation Policy discussion is presented on pages 32 and 33 of the Fact Sheet. The proposed Permit allows for an increase in flow from 10 million gallons per day (mgd) to 20 mgd. The Antidegradation Policy discussion is incorrect, unsupported or incomplete in stating that:

- “The effluent contains 43 priority and non-priority pollutants at detectable concentrations.” The Antidegradation Policy discussion does not discuss the capabilities of the treatment system in removing or reducing the quantities of these pollutants and the associated increase in the mass emissions of these pollutants and the corresponding impact to water quality and beneficial uses of the receiving stream. To the contrary, the proposed Permit allows compliance schedules for cyanide, dibromochloromethane, dichlorobromomethane, aluminum and iron and has no discussion of the means of compliance for cyanide, aluminum and iron. Best practicable treatment and control (BPTC) of the discharge is not discussed with respect to these constituents. There is no discussion, and no technical justification, to assume that these constituents will not multiply in magnitude with the allowed increase in the volume of wastewater to be discharged. There is no evidence that tertiary treatment will reduce these pollutants.
- “Generally, mass loads will improve or remain the same after the implementation of filtration.” The proposed Permit allows the doubling of the discharge flow rate. The wastewater discharge contains metals. Filtration will not effectively remove dissolved metals. Doubling the flow rate could also double the mass of dissolved metals being discharged. Specific metals are bioaccumulative. There is no information supportive of the cursory conclusion that the mass of pollutants will remain the same or be reduced with the expanded flow.
- “The receiving water conditions, as measured by the dissolved oxygen concentration, pH, temperature, turbidity and toxicity will improve or remain the same.” The proposed Permit, Special Provisions No. e and Special Studies No. c, allows the Order to be reopened based on the results of a site-specific temperature ceiling criteria investigation. The Antidegradation Policy discussion does not discuss the allowance for modification of the temperature limitations. The temperature discussion also does not discuss residential and/or industrial expansion in the community which could raise the ambient wastewater temperature. The Antidegradation Policy discussion does not discuss the increased discharge of oxygen demanding substances (BOD, nutrients) and contain an analysis of the impact on the dissolved oxygen concentrations in the receiving stream.
- The Antidegradation Policy discussion does not discuss the allowance to conduct a use attainability analysis (UAA) to support removal of the existing municipal (MUN) and cold spawning beneficial uses of the receiving stream.

Removal of these existing designated beneficial uses would result in an allowance to discharge lesser quality wastewater.

- “The wastewater discharged to Hartley Slough is recycled downstream by farmers for AGR, provides for WARM and WILD and is designated as REC-1. These uses would not be possible year-round without the discharge.” The Antidegradation Policy discussion does not discuss the fact the current secondary level of treatment is not fit for food crop irrigation or contact recreational activities according to recommendations by the Department of Health Services. The Antidegradation Policy discussion does not discuss the negative impacts of changing ephemeral streams to perennial conditions which modifies the riparian habitat and the use of the waters by native fish species. Changing ephemeral streams to perennial conditions encourages nonnative fish and amphibian species to the detriment of native species.
- The Antidegradation Policy discussion does not discuss the economic impacts of requiring full compliance opposed to all of the proposed Permit allowances to conduct studies to allow the discharge of a lower quality wastewater.
- The Antidegradation Policy discussion does not discuss the removal of Effluent Limitations for ammonia and oil and grease. The proposed Permit would allow for the wastewater treatment plant to forgo nitrification and discharge ammonia at toxic concentrations. Existing Effluent Limitations for oil and grease have also been removed and are no longer limited.

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.

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.

Any antidegradation analysis must comport with implementation requirements in State Board Water Quality Order 86-17, State Antidegradation Guidance, APU 90-004 and Region IX Guidance. The conclusory, unsupported, undocumented statements in the Permit are no substitute for a defensible antidegradation analysis.

The antidegradation review process is especially important in the context of waters protected by Tier 2. See EPA, Office of Water Quality Regulations and Standards, Water Quality Standards Handbook, 2nd ed. Chapter 4 (2nd ed. Aug. 1994). Whenever a person proposes an activity that may degrade a water protected by Tier 2, the antidegradation regulation requires a state to: (1) determine whether the degradation is “necessary to accommodate important economic or social development in the area in which the waters are located”; (2) consider less-degrading alternatives; (3) ensure that the best available pollution control measures are used to limit degradation; and (4) guarantee that, if water quality is lowered, existing uses will be fully protected. 40 CFR § 131.12(a)(2); EPA, Office of Water Quality Regulations and Standards, Water Quality Standards Handbook, 2nd ed. 4-1, 4-7 (2nd ed. Aug. 1994). These activity-specific determinations necessarily require that each activity be considered individually.

For example, the APU 90-004 states:

“Factors that should be considered when determining whether the discharge is necessary to accommodate social or economic development and is consistent with maximum public benefit include: a) past, present, and probably beneficial uses of the water, b) economic and social costs, tangible and intangible, of the proposed discharge compared to benefits. The economic impacts to be considered are those incurred in order to maintain existing water quality. The financial impact analysis should focus on the ability of the facility to pay for the necessary treatment. The ability to pay depends on the facility’s source of funds. In addition to demonstrating a financial impact on the publicly – or privately – owned facility, the analysis must show a significant adverse impact on the community. The long-term and short-term socioeconomic impacts of maintaining existing water quality must be considered. Examples of social and economic parameters that could be affected are employment, housing, community services, income, tax revenues and land value. To accurately assess the impact of the proposed project, the projected baseline socioeconomic profile of the affected community without the project should be compared to the projected profile with the project...EPA’s

Water Quality Standards Handbook (Chapter 5) provides additional guidance in assessing financial and socioeconomic impacts”

There is nothing resembling an economic or socioeconomic analysis in the proposed Permit. There are viable alternatives that have never been analyzed. The evaluation contains no comparative costs. As a rule-of-thumb, USEPA recommends that the cost of compliance should not be considered excessive until it consumes more than 2% of disposable household income in the region. This threshold is meant to suggest more of a floor than a ceiling when evaluating economic impact. In the Water Quality Standards Handbook, USEPA interprets the phrase “necessary to accommodate important economic or social development” with the phrase “substantial and widespread economic and social impact.”

There is nothing in the Permit resembling an alternatives analysis evaluating less damaging and degrading alternatives. Unfortunately, the Permit fails to evaluate and discuss why there is no alternative other than discharging to surface waters. Other communities have successfully disposed of wastes without discharging additional pollutants to degraded rivers. A proper alternatives analysis would cost out various alternatives and compare each of the alternatives’ impacts on beneficial uses.

There is nothing resembling an analysis buttressing the unsupported claim that BPTC is required. An increasing number of wastewater treatment plants around the country and state are employing reverse-osmosis (RO), or even RO-plus. Clearly, micro-filtration can be considered BPTC for wastewater discharges of impairing pollutants. If this is not the case, the antidegradation analysis must explicitly detail how and why run-of-the-mill tertiary system that facilitate increased mass loadings of impairing constituents can be considered BPTC.

There is nothing in the Permit resembling an analysis that ensures that existing beneficial uses are protected. Nor does the Permit analyze the incremental and cumulative impact of increased loading of non-impairing pollutants on beneficial uses. In fact, there is almost no information or discussion on the composition and health of the identified beneficial uses. Any reasonably adequate antidegradation analysis must discuss the affected beneficial uses (i.e., numbers and health of the aquatic ecosystem; extent, composition and viability of agricultural production; people depending upon these waters for water supply; extent of recreational activity; etc.) and the probable effect the discharge will have on these uses.

Alternatively, Tier 1 requires that existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected. By definition, any increase in the discharge of impairing pollutants to impaired waterways unreasonably degrades beneficial uses and exceeds applicable water quality standards. Prohibition of additional mass loading of impairing pollutants is a necessary stabilization precursor to any successful effort in bringing an impaired waterbody into compliance.

The State Board has clearly articulated its position on increased mass loading of impairing pollutants. In Order WQ 90-05, the Board directed the San Francisco Regional Board on the appropriate method for establishing mass-based limits that comply with state and federal antidegradation policies. That 1990 order stated “[I]n order to comply with the federal antidegradation policy, the mass loading limits should also be revised, based on mean loading, concurrently with the adoption of revised effluent limits. The [mass] limits should be calculated by multiplying the [previous year’s] annual mean effluent concentration by the [four previous year’s] annual average flow (Order WQ 90-05, p. 78). USEPA points out, in its 12 November 1999 objection letter to the San Francisco Regional Board concerning Tosco’s Avon refinery, that ‘[a]ny increase in loading of a pollutant to a water body that is impaired because of that pollutant would presumably degrade water quality in violation of the applicable antidegradation policy.’”

**2. The proposed Permit does not contain an Effluent Limitation for ammonia in violation of Federal Regulations 40 CFR 122.44, California Water Code, Section 13377 and contrary to the Antibacksliding Federal Regulations 40 CFR 122.44 (I).**

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. This presence of ammonia in the influent wastewater alone presents a reasonable potential for ammonia to be discharged in quantities that exceed water quality standards and objectives and the Basin Plan narrative toxicity water quality objective. Federal Regulations, 40 CFR 122.44(d), requires that limits must be included in permits where pollutants will cause, have reasonable potential to cause, or contribute to an exceedance of the State’s water quality standards. US EPA has interpreted 40 CFR 122.44(d) in *Central Tenets of the National Pollutant Discharge Elimination System (NPDES) Permitting Program* (Factsheets and Outreach Materials, 08/16/2002) that although States will likely have unique implementation policies there are certain tenets that may not be waived by State procedures. These tenets include that “where the preponderance of evidence clearly indicates the potential to cause or contribute to an exceedance of State water quality standards (even though the data may be sparse or absent) a limit MUST be included in the permit.” If a wastewater treatment plant is not operated in a nitrification mode; ammonia will be discharged in toxic concentrations. The proposed Permit does not require the treatment plant be operated in a nitrification mode and the existing ammonia limitation from the existing Permit has been removed. This removal of the ammonia limitation is backsliding in accordance with 40 CFR 122.44(I) and is not allowed by Federal Regulation.

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. Failure to operate a wastewater treatment plant in a nitrification mode allows ammonia concentrations to pass through the system. The nitrification process can be a fairly unstable treatment process; even POTWs that employ nitrification should be limited for ammonia to ensure the system is properly



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

**3. The proposed Permit does not contain an Effluent Limitation for oil and grease in violation of Federal Regulations 40 CFR 122.44, California Water Code, Section 13377 and contrary to the Antibracksliding Federal Regulations 40 CFR 122.44 (l).**

The proposed Permit does not contain an Effluent Limitation for oil and grease which was present in the existing Permit. This removal of the oil and grease limitation is backsliding in accordance with 40 CFR 122.44(l) and is not allowed by Federal Regulation.

The proposed Permit is for a domestic wastewater treatment plant. Domestic wastewater treatment plants, by their nature, receive oil and grease in concentrations from home cooking and restaurants that present a reasonable potential to exceed the Basin Plan water quality objective for oil and grease (Basin Plan III-5.00). Confirmation sampling is not necessary to establish that domestic wastewater treatment systems contain oil and grease in concentrations that present a reasonable potential to exceed the water quality objective. The Central Valley Regional Board has a long established history of including oil and grease limitations in NPDES permits at 15 mg/l as a daily maximum and 10 mg/l as a monthly average, which has established BPTC for POTWs. The California Water Code (CWC), Section 13377 states in part that: "...the state board or the regional boards shall...issue waste discharge requirements...which apply and ensure compliance with ...water quality control plans, or for the protection of beneficial uses..." Section 122.44(d) of 40 CFR requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where numeric water quality objectives have not been established, 40 CFR §122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a), proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information, or an indicator parameter. US EPA has interpreted 40 CFR 122.44(d) in *Central Tenets of the National Pollutant Discharge Elimination System (NPDES) Permitting Program* (Factsheets and Outreach Materials, 08/16/2002) that although States will likely have unique implementation policies there are certain tenets that may not be waived by State procedures. These tenets include that "where the

preponderance of evidence clearly indicates the potential to cause or contribute to an exceedance of State water quality standards (even though the data may be sparse or absent) a limit MUST be included in the permit.” Failure to include an effluent limitation for oil and grease in the proposed permit violates 40 CFR 122.44 and CWC 13377.

**4. The proposed Permit fails to contain a chronic Effluent Limitation for aluminum in accordance with Federal Regulations 40 CFR 122.44, US EPA’s interpretation of the regulation and California Water Code, Section 13377.**

Aluminum exceeds water quality standards in the effluent at 960  $\mu\text{g/l}$ , above U.S. EPA’s Ambient Water Quality Criteria of 87  $\mu\text{g/l}$ . EPA’s ambient criteria are appropriate to evaluate compliance with the Toxicity water quality objective in accordance with the Basin Plan (III-8.00). 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. The proposed Permit contains an Effluent Limitation for aluminum base on acute conditions but fails to protect the freshwater aquatic habitat for chronic conditions as recommended by US EPA’s ambient criteria. A water quality standard for Failure to include an effluent limitation for aluminum in the proposed permit violates 40 CFR 122.44 and CWC 13377.

**5. The proposed Permit fails to contain mass-based effluent limits for all Effluent limited constituents except BOD and TSS as required by Federal Regulations 40 CFR 122.45(b).**

Federal Regulation, 40 CFR 122.45 (b) requires that in the case of POTWs, permit Effluent Limitations, standards, or prohibitions shall be based on design flow. Concentration is not a basis for design flow. Mass limitations are concentration multiplied by the design flow and therefore meet the regulatory requirement.

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.”

Federal Regulations, 40 CFR 122.45 (B)(1), states the following: “In the case of POTWs, permit effluent limitations, standards, or prohibitions shall be calculated based on design flow.”

Traditional wastewater treatment plant design utilizes average dry weather flow rates for organic, individual constituent, loading rates and peak wet weather flow rates for hydraulic design of pipes, weir overflow rates, and pumps.

Increased wet weather flow rates are typically caused by inflow and infiltration (I/I) into the sewer collection system that dilutes constituent loading rates and does not add to the mass of wastewater constituents.

For POTWs priority pollutants, such as metals, have traditionally been reduced by the reduction of solids from the wastestream, incidental to treatment for organic material. Following adoption of the CTR, compliance with priority pollutants is of critical importance and systems will need to begin utilizing loading rates of individual constituents in the WWTP design process. It is highly likely that the principal design parameters for individual priority pollutant removal will be based on mass, making mass based Effluent Limitations critically important to compliance. The inclusion of mass limitations will be of increasing importance to achieving compliance with requirements for individual pollutants.

As systems begin to design to comply with priority pollutants, the design systems for POTWs will be more sensitive to similar restrictions as industrial dischargers currently face where production rates (mass loadings) are critical components of treatment system design and compliance. Currently, Industrial Pretreatment Program local limits are frequently based on mass. Failure to include mass limitations would allow industries to discharge mass loads of individual pollutants during periods of wet weather when a dilute concentration was otherwise observed, upsetting treatment processes, causing effluent limitation processes, sludge disposal issues, or problems in the collection system.

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.

**6. 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 (Basin Plan), Water Quality Objectives 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.

The Regional Board has looked hard and long to find some citation as to the source of the limitation that would allow or recommend 10% and 30% mortality, such a find however does not eliminate the more restrictive applicable Basin Plan objective that simply prohibits the discharge from causing mortality in the receiving stream.

For an ephemeral or low flow stream, such as the case here, allowing 30% mortality in acute toxicity tests allows that same level of mortality in the receiving stream, 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 prohibit acute toxicity in accordance with Federal regulations, at 40 CFR 122.44 (d)(1)(i).

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

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

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. The Proposed Permit states that: “...to ensure compliance with the Basin Plan’s narrative toxicity objective, the discharger is required to conduct whole effluent toxicity testing...”. However, sampling does not equate with or ensure compliance. The Tentative Permit requires the Discharger to conduct an investigation of the possible sources of toxicity if a threshold is exceeded. This language is not a limitation and essentially eviscerates the Regional Board’s authority, and the authority granted to third parties under the Clean Water Act, to find the Discharger in violation for discharging chronically toxic constituents. An effluent limitation for chronic toxicity must be included in the Order. 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.

Proposed Permit is quite simply wrong; by failing to include effluent limitations prohibiting chronic toxicity the proposed Permit does not “...implement the SIP”. The Regional Board has commented time and again that no chronic toxicity effluent limitations are being included in NPDES permit until the State Board adopts a numeric limitation. The Regional Board explanation does not excuse the proposed Permit’s failure to comply with Federal Regulations, the SIP, the Basin Plan and the CWC. The Regional Board’s Basin Plan, as cited above, already states that: “...waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses...” Accordingly, the proposed Permit must be revised to prohibit chronic toxicity (mortality and adverse sublethal impacts to aquatic life, (sublethal toxic impacts are clearly defined in EPA’s toxicity guidance manuals)) in accordance with Federal regulations, at 40 CFR 122.44 (d)(1)(i) and the Basin Plan and the SIP.

#### **8. Regional Board Authority to Issue Compliance Schedules as presented in the proposed Permit under the CTR Has Now Lapsed.**

The compliance schedules in the proposed Permit are not a short as is practicable. To the contrary, the proposed Permit requires compliance with CTR based limitations by May 2010 yet grants until 2013 (5-years) to comply with limitations for aluminum, iron, nitrate, BOD and TSS. The treatment system cannot sensibly be improved/expanded to comply with CTR based effluent limitations without considering complete compliance.

40 C.F.R. section 131.38(e)(3) formerly authorized compliance schedules delaying the effective date of WQBELs being set based on the NTR and CTR. Pursuant to 40 C.F.R. section 131.38(e)(8), however, this compliance schedule authorization *expressly expired* on May 18, 2005, depriving the State and Regional Boards with any authority to issue compliance schedules delaying the effective date of such WQBELs. Indeed, the EPA Federal Register Preamble accompanying the CTR stated as much, noting, “EPA has chosen to promulgate the rule with a sunset provision which states that the authorizing compliance schedule provision will cease or sunset on May 18, 2005.”

The Regional Board may contend that the EPA Federal Register Preamble has effectively extended this compliance schedule authority when the Preamble observed, “[I]f the State Board adopts, and EPA approves, a statewide authorizing compliance schedule provision significantly prior to May 18, 2005, EPA will act to stay the authorizing compliance schedule provision in today’s rule.” It is true that the State Board subsequently adopted its Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, enacted by State Board Resolution No. 2000-015 (March 2, 2000) (“State Implementation Plan” or “SIP”) and that the SIP provides for compliance schedules without imposing a May 18, 2005 cutoff. EPA, however, *has not* acted to stay 40 C.F.R. section 131.38(e)(8) by the only means it can lawfully do so: notice and comment rulemaking that amends 40 C.F.R. section 131.38(e)(8). Without such a rulemaking, 40 C.F.R. section 131.38(e)(8) remains the law and it unequivocally ends authorization to issue compliance schedules after May 18, 2000. *See Friends of the Earth, Inc. v. Environmental Protection Agency*, 446 F.3d 140 (D.C. Cir. 2006).

Even if 40 C.F.R. section 131.38(e)(8) did not preclude issuing compliance schedules which delay the effective date of WQBELs set under the NTR and CTR, the CWA itself precludes such compliance schedules—and any compliance schedule which delays the effective date of WQBELs past 1977.

Numerous courts have held that neither the EPA nor the States have the authority to extend the deadlines for compliance established by Congress in CWA section 301(b)(1). 33 U.S.C. §1311(b)(1); *See State Water Control Board v. Train*, 559 F.2d 921, 924-25 (4th Cir. 1977) (“Section 301(b)(1)’s effluent limitations are, on their face, unconditional”); *Bethlehem Steel Corp. v. Train*, 544 F.2d 657, 661 (3d Cir. 1976), *cert. denied sub nom. Bethlehem Steel Corp. v. Quarles*, 430 U.S. 975 (1977) (“Although we are sympathetic to the plight of Bethlehem and similarly situated dischargers, examination of the terms of the statute, the legislative history of [the Clean Water Act] and the case law has convinced us that July 1, 1977 was intended by Congress to be a rigid guidepost”).

This deadline applies equally to technology-based effluent limitations and WQBELs. *See Dioxin/Organochlorine Ctr. v. Rasmussen*, 1993 WL 484888 at \*3 (W.D. Wash. 1993), *aff’d sub nom. Dioxin/Organochlorine Ctr. v. Clarke*, 57 F.3d 1517 (9th Cir. 1995) (“The Act required the adoption by the EPA of ‘any more stringent limitation, including those necessary to meet water quality standards,’ by July 1, 1977”) (citation omitted); *Longview Fibre Co. v. Rasmussen*, 980 F.2d 1307, 1312 (9th Cir. 1992) (“[Section

1311(b)(1)(C)] requires achievement of the described limitations ‘not later than July 1, 1977.’ ” (citation omitted). Any discharger not in compliance with a WQBEL after July 1, 1977, violates this clear congressional mandate. *See Save Our Bays and Beaches v. City & County of Honolulu*, 904 F. Supp. 1098, 1122-23 (D. Haw. 1994).

Congress provided no blanket authority in the Clean Water Act for extensions of the July 1, 1977, deadline, but it did provide authority for the States to foreshorten the deadline. CWA section 303(f) (33 U.S.C. § 1313(f)) provides that: “[n]othing in this section [1313] shall be construed to affect any effluent limitations or schedule of compliance required by any State to be implemented prior to the dates set forth in section 1311(b)(1) and 1311(b)(2) of this title nor to preclude any State from requiring compliance with any effluent limitation or schedule of compliance at dates earlier than such dates.”

Because the statute contains explicit authority to expedite the compliance deadline but not to extend it, the Regional Board may not authorize extensions beyond this deadline in discharge permits.

The July 1, 1977, deadline for achieving WQBELs applies equally even if the applicable WQS are established after the compliance deadline. 33 U.S.C. section 1311(b)(1)(C) requires the achievement of “more stringent limitations necessary to meet water quality standards . . . established pursuant to any State law . . . or required to implement any applicable water quality standard established pursuant to this chapter.” Congress understood that new WQS would be established after the July 1, 1977, statutory deadline; indeed, Congress mandated this by requiring states to review and revise their WQS every three years. *See* 33 U.S.C. § 1313(c). Yet, Congress did not draw a distinction between achievement of WQS established before the deadline and those established after the deadline.

Prior to July 1, 1977, therefore, a discharger could be allowed some time to comply with an otherwise applicable water quality-based effluent limitation. Beginning on July 1, 1977, however, dischargers were required to comply as of the date of permit issuance with WQBELs, including those necessary to meet standards established subsequent to the compliance deadline.

In the Clean Water Act Amendments of 1977, Congress provided limited extensions of the July 1, 1977, deadline for achieving WQBELs. In CWA section 301(i), Congress provided that “publicly-owned treatment works” (“POTWs”) that must undertake new construction in order to achieve the effluent limitations, and need Federal funding to complete the construction, may be eligible for a compliance schedule that may be “in no event later than July 1, 1988.” 33 U.S.C. § 1311(i)(1) (emphasis added). Congress provided for the same limited extension for industrial dischargers that discharge into a POTW that received an extension under section 1311(i)(1). *See* 33 U.S.C. § 1311(i)(2). In addition, dischargers that are not eligible for the time extensions provided by section 1311(i) but that do discharge into a POTW, may be eligible for a compliance schedule of no later than July 1, 1983. *See* 33 U.S.C. § 1319(a)(6).



The fact that Congress explicitly authorized certain extensions indicates that it did not intend to allow others, which it did not explicitly authorize. In *Homestake Mining*, the Eighth Circuit held that an enforcement extension authorized by section 1319(a)(2)(B) for technology-based effluent limitations did not also extend the deadline for achievement of WQBELs. 595 F.2d at 427-28. The court pointed to Congress' decision to extend only specified deadlines: “[h]aving specifically referred to water quality-based limitations in the contemporaneously enacted and similar subsection [1319](a)(6), the inference is inescapable that Congress intended to exclude extensions for water quality-based permits under subsection [1319](a)(5) by referring therein only to Section [1311](b)(1)(A). *Id.* at 428 (citation omitted). By the same reasoning, where Congress extended the deadline for achieving effluent limitations for specific categories of discharges and otherwise left the July 1, 1977, deadline intact, there is no statutory basis for otherwise extending the deadline.

The Clean Water Act defines the term effluent limitation as: “any restriction established . . . on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters, the waters of the contiguous zone, or the ocean, including schedules of compliance.” 33 U.S.C. § 1362(11).

The term schedule of compliance is defined, in turn, as “a schedule of remedial measures including an enforceable sequence of actions or operations leading to compliance with an effluent limitation, other limitation, prohibition, or standard.” 33 U.S.C. § 1362(17). The purpose of a compliance schedule is to facilitate compliance with an effluent limitation by the applicable deadline by inserting interim goals along the way: “[a] definition of effluent limitations has been included so that control requirements are not met by narrative statements of obligation, but rather are specific requirements of specificity as to the quantities, rates, and concentration of physical, chemical, biological and other constituents discharged from point sources. It is also made clear that the term effluent limitation includes schedules and time tables of compliance. The Committee has added a definition of schedules and time-tables of compliance so that it is clear that enforcement of effluent limitations is not withheld until the final date required for achievement.” S. Rep. No. 92-414, at 77, *reprinted in* 1972 U.S.C.C.A.N. 3668 (Oct. 28, 1971) (emphasis added). Thus, Congress authorized compliance schedules, not to extend its deadlines for achievement of effluent limitations, but to facilitate achievement by the prescribed deadlines.

In *United States Steel Corp.*, the industry plaintiff argued that 33 U.S.C. § 1311(b)(1)(C) allows the July 1, 1977, deadline to be met simply by beginning action on a schedule of compliance that eventually would result in achieving the technology- and water quality-based limitations. 556 F.2d at 855. The Court of Appeals disagreed: “[w]e reject this contorted reading of the statute. We recognize that the definition of ‘effluent limitation’ includes ‘schedules of compliance,’ section [1362(11)], which are themselves defined as ‘schedules . . . of actions or operations leading to compliance’ with limitations imposed under the Act. Section [1362(17)]. It is clear to us, however, that section [1311(b)(1)] requires point sources to achieve the effluent limitations based on BPT or state law, not

merely to be in the process of achieving them, by July 1, 1977.” *Id.* Thus, compliance schedule may not be used as a means of evading, rather than meeting, the deadline for achieving WQBELs.

Finally, a compliance schedule that extends beyond the statutory deadline would amount to a less stringent effluent limit than required by the CWA. States are explicitly prohibited from establishing or enforcing effluent limitations less stringent than are required by the CWA. *See* 33 U.S.C. § 1370; Water Code §§ 13372, 13377. The clear language of the statute, bolstered by the legislative history and case law, establishes unambiguously that compliance schedules extending beyond the July 1, 1977, deadline may not be issued in discharge permits. The Permit, however, purports to do just that. By authorizing the issuance of permits that delay achievement of effluent limitations for over thirty years beyond Congress’ deadline, the Permit makes a mockery of the CWA section 301(b)(1)(C) deadline and exceeds the scope of the Regional Board’s authority under the Clean Water Act and the Porter-Cologne Act. 33 U.S.C. § 1311(b)(1)(C).

**9. The proposed Permit does not comply with the requirements of California Code of Regulations (CCR) Title 27 for the disposal of sludge.**

While domestic wastewater may be exempted from Title 27, under certain circumstances, sludge is not exempt. The proposed Permit does not discuss how the on-site disposal of sludge will comply with the requirements of Title 27. CCR Title 27, Table 2.1, requires undewatered sewage sludge to be disposed at a Class II surface impoundment and dewatered sludge to be disposed at a Class III landfill. Obviously, where groundwater has been degraded by past practices (Fact Sheet page 37), the requirements of Title 27 are not being met. The Board’s Antidegradation Policy, Resolution 68-16, requires the application of best practicable treatment and control (BPTC) of the discharge. The wastewater industry standard is to mechanically dewater sludge with immediate removal to a proper disposal area, typically a landfill. Dewatering sludge with removal to a landfill is BPTC. The proposed Permit does not require compliance with CCR Title 27 and the Antidegradation Policy for the disposal of sludge and must be amended accordingly.

**10. The proposed Permit establishes Effluent Limitations for metals based on the hardness of the effluent as opposed to the ambient upstream receiving water hardness as required by Federal Regulations, the California Toxics Rule (CTR, 40 CFR 131.38(c)(4)).**

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

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 fluid and cursive, with the first name "Bill" written in a larger, more prominent script than the last name "Jennings".

Bill Jennings, Executive Director  
California Sportfishing Protection Alliance