



California Sportfishing Protection Alliance

"An Advocate for Fisheries, Habitat and Water Quality"

3536 Rainier Avenue, Stockton, CA 95204

T: 209-464-5067, F: 209-464-1028, E: deltakeep@aol.com, W: www.calsport.org

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Ms. Elizabeth Miller Jennings, Senior Staff Counsel IV
Ms. Sheila K. Vassey, Senior Staff Counsel IV
Office of Chief Counsel
State Water Resources Control Board
1001 "I" Street, 22th Floor (95814)
P.O. Box 100
Sacramento, CA 95812-0100

VIA: Electronic Submission
Hardcopy if Requested

RE: Petition of City of Tracy (Waste Discharge Requirements Order NO. R5-2007-0036 (NPDES NO. CA0079154) and Time Schedule Order NO. R5-2007-0037 for City of Tracy, Central Valley Water Board: **SWRCB/OCC FILE A-1846**

Dear Mesdames Jennings and Vassey:

The California Sportfishing Protection Alliance has reviewed the recently reactivated petition by the City of Tracy in the above referenced matter and respectfully submits the following comments.

A. The City of Tracy claims that the Regional Board Improperly Imposed Daily Maximum Effluent Limitations without the Federally Mandated Impracticability Analysis.

Issue: The City's principal argument regards the application of daily maximum Effluent Limitations citing 40 CFR 122.45(d) as the case for "impracticability" has not been made: "In this case, the Regional Water Board did not demonstrate that the imposition of average weekly and average monthly effluent limitations, particularly for these technology-based effluent limitations, were "impracticable" per the requirements of section 122.45(d). *See* 40 C.F.R. §122.45(d)(2). In fact, many of these requirements appear to be *per se* practicable since EPA secondary treatment regulations only require monthly average and weekly average limits for these constituents. *See* 40 C.F.R. §133.102(a)(1) and (2)(BOD) and §133.102(b)(1) and (2)(TSS)." While the City's discussion is extensively made for BOD and TSS; limitations for aluminum, pH, copper, iron, dichlorobromomethane, chlorodibromomethane, total residual chlorine, turbidity, coliform, dissolved oxygen and ammonia are also cited.

Discussion:

Federal Regulation 40 CFR 122.45 (d)(2) requires that permit for POTWs establish Effluent Limitations as average weekly and average monthly unless impracticable. The City's NPDES permit (R5-2007-0036, NPDES No. CA0079154) however does contain weekly and monthly

average limitations for BOD and TSS as prescribed by the cited regulation; obviously the limitations were “practicable”.

The City fails to cite Federal Regulation, 40 CFR 122.45 (b) that requires that in the case of POTWs, permit Effluent Limitations, standards, or prohibitions shall 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. According to *Ten States Standards* the design average BOD is the average of the organic load received for a continuous 12-month period for the design year expressed as weight per day. However, the design average BOD for facilities having critical seasonal high loading periods shall be based on the daily average BOD during the seasonal period. Clarifier peak solids loading rate shall be computed based on the design maximum day flow rate plus the design maximum return sludge rate requirement and the design MLSS under aeration. Other Civil Engineering texts, such as *Wastewater Engineering/ Metcalf and Eddy* will yield similar daily flow design criteria for wastewater treatment plants. The daily Effluent Limitations directly correspond to the daily organic design flow assuring that the wastewater treatment system will not be overloaded. In California and the western states the average dry weather flow BOD (lbs/day) is generally used rather than the annual average to account for the lack of dilution during this period. The average dry weather flow based BOD is a higher organic strength wastestream. The BOD and TSS loading rates are based on a daily flow rate and the daily maximum limitations in the City’s permit are correct and necessary to comply with 40 CFR 122.45 (b).

The City’s NPDES permit requires that the treatment plant nitrify and denitrify to remove toxic ammonia, nitrite and nitrites. The treatment system design for ammonia, nitrite and nitrate are based on the loading rate (lbs). 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. The mass limitation in the permit is based on the design flow; the concentration limitation is to assure water quality standards/criteria are not exceeded.

Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations (CFR) require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. Inclusion of daily maximum

limitations is not necessarily more stringent than the corresponding weekly and monthly average limitations for BOD and TSS; but reflects the capabilities of the wastewater treatment system. The daily maximum Effluent Limitations are necessary to assure that the wastewater treatment plant is not organically overloaded. BOD and TSS are indicator parameters of the effectiveness of the treatment process. BOD and TSS are not pollutants in themselves but an indicator of the presence of pollutants and their relative strength. Overloading the treatment process could result in a discharge of a variety of pollutants present in domestic sewage, which could degrade the beneficial uses of the receiving waters.

Aluminum, pH, copper, total residual chlorine, coliform, dissolved oxygen and ammonia concentration in wastewater effluent can cause immediate toxicity to freshwater aquatic life. Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations (CFR) require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. It is reasonable to include short-term effluent Limitations for constituents that can cause acute toxicity within a 1-hour period. Monthly and weekly average limitations would not protect aquatic life beneficial uses of the receiving stream against the short-term peak concentrations of pollutants.

US EPA's Ambient Water Quality Criteria for the protection of Freshwater Aquatic Life is recommended as 1-hour and 4-day averages. The US EPA *Technical Support Document for Water Quality Based Toxics Control* (TSD) contains a methodology for converting the 1-hour and 4-day recommended criteria into daily and monthly limitations. The TSD does not contain a method for converting these criteria into weekly averages. It is not "practicable" for regional Board staff to have the capability to develop the statistical methodologies for the conversion to weekly averages. The daily average, or corresponding instantaneous maximum, and monthly average limitations are protective of both the long term (chronic) and short-term (acute) discharges or toxic materials. Because of the inability of Regional Board staff to develop the statistical procedures for conversion of criteria or CTR standards into weekly limitations; iron, dichlorobromomethane and chlorodibromomethane are also regulated under daily maximum and monthly average limitations.

As is specified in the permit, "This Order contains Effluent Limitations requiring a tertiary level of treatment, or equivalent, which is necessary to protect the beneficial uses of the receiving water. The Regional Water Board has considered the factors listed in CWC section 13241 in establishing these requirements, as discussed in more detail in the Fact Sheet, Attachment F, Section IV.C.3.v." Turbidity is a necessary technology based indicator parameter to determine a tertiary treatment systems capability to effectively remove pathogens and achieve the appropriate removal efficiency of pollutants. Filtration is the principal "tertiary" process. Turbidity measures the effectiveness of the filtration process at removing pollutants. The filtration process can fail instantly. It is necessary to continuously monitor turbidity to determine that the filtration process is working effectively.

B. The Regional Water Board Abused Its Discretion by Imposing Mass Limits in addition to Concentration Limits without Adequate Justification.

Issue: Effluent limitations can be expressed numerically in terms of concentration (*i.e.* milligrams per liter) or mass (*i.e.*, pounds per day). Federal regulations provide guidance on when to 'impose which type of effluent limit by stating, in part, that "[a]ll pollutants in permits shall have limitations, standards or prohibitions expressed in terms of mass, except ... (ii) when applicable standards and limitations are expressed in terms of other units of measurement" 40 C.F.R. §, 122.45(f)(1)(ii). Thus, if effluent limitations are prescribed based upon concentration-based standards (as is the case here), mass limits are *not* required. *Id.* Furthermore, requiring dual effluent limits (mass and concentration) for the same constituent amounts to, a "double ding" in any potential enforcement action, as in many instances two MMPs may be posted for a single event involving the same constituent. Thus the imposition of mass limits, in addition to concentration limits, will likely result in the imposition of excessive fines or MMPs. The Regional Board imposed mass limits for BOD, TSS, ammonia, nitrate, nitrite, and copper.

Discussion:

As stated above, the City fails to cite Federal Regulation, 40 CFR 122.45 (b) which requires that in the case of POTWs, permit Effluent Limitations, standards, or prohibitions shall 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. According to *Ten States Standards* the design average BOD is the average of the organic load received for a continuous 12 month period for the design year expressed as weight per day (pounds/day; *i.e.* mass). The design flow of a wastewater treatment plant for organic loading, specifically BOD, cannot be expressed as concentration; it is a mass loading and must be expressed as such.

Clarifier peak solids loading rate shall be computed based on the design maximum day flow rate plus the design maximum return sludge rate requirement and the design MLSS under aeration. The design flow of a wastewater treatment plant for solids loading, specifically TSS, cannot be expressed as concentration, it is a mass loading and must be expressed as such.

The removal of ammonia, or more specifically the conversion to nitrate, is typically based on the pounds of aeration that must be provided to convert a given number of pounds of ammonia. Again, the design parameter is pounds (mass). The same treatment design flow parameters must be utilized to remove nitrate, which is first converted to nitrite, which is based on mass.

The only way to comply with Federal Regulation, 40 CFR 122.45 (b) in assessing the design organic, solids and nitrifying capability of a wastewater treatment plant is in terms of mass. The design of domestic wastewater treatment systems, such as clarifiers and aeration basins is based on the design average BOD (organic loading rate) for the biological process and the peak hour flow rate (hydraulic flow rate) for sizing pipes, pumps, weirs, overflow systems and tank sizing. In California and the western states the average dry weather flow BOD (lbs/day) is generally used rather than the annual average to account for the lack of dilution during this period. The average dry weather flow based BOD is a higher organic strength wastestream. The specific design of a treatment system can change based on the character of the community, the industrial component and character of the water supply. The actual organic design parameters for the individual treatment system should be specified in the NPDES permit and should be the basis for establishing mass limitations.

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.”

Mass limits based on the average dry weather flow organic design flow are developed to assure that the system is not organically overloaded as growth occurs in the community. These mass

based limits should not be a significant issue for compliance since wet weather flows will dilute the organic loading to the plant but will be within treatability ranges.

The proposal to only assess compliance with mass limitations during “dry weather” may be protective but would only apply to BOD and TSS, which are the source of organic loading to the wastewater treatment plant. Pollutant removal for constituents other than BOD and TSS, such as metals or VOCs, has in the past been coincidental with the overall solids removal at a domestic wastewater treatment plant unless specific design modifications are made. Another means of achieving compliance for other constituents such as metals; is an effective Industrial Pretreatment Program. An appropriate mass limitation is essential to an effective Industrial Pretreatment Program: the allowable loading or discharge rate from each industry is based on an allocation, or “local limit”, of the remaining capacity at the wastewater treatment plant.

Discharge limitations based on CTR compliance will potentially be changing wastewater treatment plant design criteria; for priority pollutants such as metals. As CRT compliance becomes reality; the design basis and mass limitations for individual constituents may become necessary in NPDES permits. Treatment systems designed to treat individual constituents, such as a metal, may have significantly different design constraints than domestic wastewater and the mass limitation will need to be calculated based on that specific design.

Mass limitations for pollutants are critical for the control of bioaccumulative pollutants.

Mass limitations are a significant basis for a proper Antidegradation Policy assessment.

Mass effluent limitations are required by regulation and must legally and technically be based on the individual design of the wastewater treatment plant. Technically, from a civil engineering prospective, mass limitations based on the design flow protect the treatment system from being organically overloaded. Mass limits are critical for control of bioaccumulative pollutants. Mass limits are essential to the Board’s Antidegradation Policy. Mass limitations are critical for allocating discharge loads either internally to industrial dischargers or in the receiving stream based on a TMDL. The “overapplication” of mandatory minimum penalties (MMPs) can easily be avoided by maintaining compliance with permit limitations. The City of Tracy’s new tertiary wastewater treatment plant should be fully capable of maintaining compliance. It would not seem logical that the intent of the California Legislature, in adopting the requirements for MMPs, had in mind reducing the number of regulated constituents, as is advocated by the City’s comments.

C. Limits for Constituents without Reasonable Potential Should Have Been Removed.

Issue: The City's Permit contains limits for several constituents that lack a demonstrated reasonable potential to cause or contribute to an instream excursion above applicable narrative water quality standards. On Pages F-28, F-29, F-30, F-33, F-36, F-37, F-41, at paragraphs V.C.3.b., e., f, j, r, s and x the Fact Sheet states that the discharge has the reasonable potential to violate the Basin Plan's narrative Toxicity or narrative Chemical Constituents objectives for several constituents. In addition, the Permit prescribes an acute toxicity limit without a reasonable potential analysis being performed.

Discussion: Pages F-28, F-29, F-30, F-33, F-36, F-37, F-41, and paragraphs V.C.3.b., e., f, j, r, s and x specifically discuss aluminum, ammonia, residual chlorine, mercury, electrical conductivity (EC)(salinity) and nitrate/nitrite.

The NPDES permit, Order No. R5-2007-0036, Fact Sheet page 28 states the following:

“3. Determining the Need for WQBELs

- a. CWA section 301 (b)(1) requires NPDES permits to include effluent limitations that achieve technology-based standards and any more stringent limitations necessary to meet water quality standards. Water quality standards include Regional Water Board Basin Plan beneficial uses and narrative and numeric water quality objectives, State Water Board-adopted standards, and federal standards, including the CTR and NTR. The Basin Plan includes numeric site-specific water quality objectives and narrative objectives for toxicity, chemical constituents, and tastes and odors. The narrative toxicity objective states: *“All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.”* (Basin Plan at III-8.00.) With regards to the narrative chemical constituents objective, the Basin Plan states that waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. At minimum, *“...water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs)”* in Title 22 of CCR. The narrative tastes and odors objective states: *“Water shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.”*
- b. Federal regulations require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard. Based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs, the Regional Water Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for aluminum, ammonia, chloride, copper, chlorodibromomethane, dichlorobromomethane, dissolved oxygen, electrical conductivity (EC), iron, mercury, nitrate, nitrite, oil and grease, pH, residual chlorine, temperature, and total dissolved solids (TDS). Water quality-based effluent limitations (WQBELs) limitations for these constituents, with the exception of chloride, EC, and TDS, are included in this Order. A summary of the reasonable potential analysis (RPA) is provided in Table F-5, and a detailed discussion of the RPA for each constituent is provided below.

- c. The Regional Water Board conducted the RPA in accordance with Section 1.3 of the SIP. Although the SIP applies directly to the control of CTR priority pollutants, the State Water Board has held that the Regional Water Board may use the SIP as guidance for water quality-based toxics control. The SIP states in the introduction “The goal of this Policy is to establish a standardized approach for permitting discharges of toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency.” Therefore, in this Order the RPA procedures from the SIP were used to evaluate reasonable potential for both CTR and non-CTR constituents.
- d. WQBELs were calculated in accordance with section 1.4 of the SIP, as described in Attachment F, Section IV.C.4.”

The federal Clean Water Act (CWA) mandates the implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state or federal law. (33 U.S.C., § 1311(b)(1)(C); 40 C.F.R., § 122.44(d)(1)) NPDES permits must incorporate discharge limits necessary to ensure that water quality standards are met. This requirement applies to narrative criteria as well as to criteria specifying maximum amounts of particular pollutants. Pursuant to Federal Regulations, 40 C.F.R. section 122.44(d)(1)(i), NPDES permits must contain limits that control all pollutants that “*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.*” Federal Regulations, 40 CFR, Section 122.44(d)(1)(vi), further provide that “[w]here a state has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits.”

For aluminum the permit shows there is no available instream dilution available. The receiving water exceeds the levels recommended by US EPA for both acute and chronic toxicity to aquatic life. Reasonable potential for aluminum is discussed in the Fact Sheet:

“Based on information included in analytical laboratory reports submitted by the Discharger, aluminum in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a level necessary to protect aquatic life, and, therefore violates the Basin Plan’s narrative toxicity objective. U.S. EPA developed National Recommended Ambient Water Quality Criteria (NRWQC) for protection of freshwater aquatic life for aluminum. The recommended four-day average (chronic) and one-hour average (acute) criteria for aluminum are 87 μ g/L and 750 μ g/L, respectively. The NRWQC for aluminum, Criteria Continuous Concentration, contains a footnote that states, USEPA believes that use of Water-Effects Ratios might be appropriate because: (1) aluminum is less toxic at higher pH and hardness but relationship not well quantified; (2) aluminum associated with clay particles may be less toxic than that associated with aluminum hydroxide particles; (3) many high quality waters in U.S. exceed 87 μ g/L as total or dissolved. The MEC for aluminum was 104 μ g/L, based on 16 samples collected between January 2002 and September 2005, while the maximum observed upstream

receiving water aluminum concentration was 1000 $\mu\text{g/L}$, based on 12 samples collected between January 2002 and December 2002. Since the receiving water exceeds the acute and chronic toxicity criteria, no assimilative capacity for aluminum is available and a dilution credit cannot be allowed. Applying 40 CFR section 122.44(d)(1)(vi)(B), effluent limitations for aluminum are included in this Order and are based on U.S. EPA's National Ambient Water Quality Criteria for the protection of the beneficial use of freshwater aquatic habitat. This Order contains final Average Monthly Effluent Limitations (AMEL) and Maximum Daily Effluent Limitations (MDEL) for aluminum of 77 $\mu\text{g/L}$ and 125 $\mu\text{g/L}$, respectively (See Attachment F, Table F-6 for WQBEL calculations)."

For each of the listed constituents the permit details the reasonable potential analysis that was used to determine that an effluent Limitation was necessary. Ammonia is present in domestic sewage. Ammonia is converted to nitrite and nitrate. Very little to no dilution is available in the receiving stream. Limitations are required to protect the beneficial uses of the receiving stream. Chlorine is used to disinfect the wastewater effluent. Chlorine is very toxic to aquatic organisms. Wastewater treatment plant utilizing chlorine at times bypass toxic levels of chlorine. A mixing zone for chlorine is not reasonable and the City can take reasonable steps to dechlorinate its wastestream. Salinity (EC/TDS) levels in the City's wastewater discharge exceed water quality standards (agricultural goals, drinking water MCLs). The City discharges to a waterbody that routinely exceeds water quality standards for salinity, as measured by EC; there is no dilution available for salinity. The permit contains an appropriate reasonable potential analysis for aluminum, ammonia, residual chlorine, mercury, electrical conductivity (EC)(salinity) and nitrate/nitrite.

D. Compliance Schedules Should be in the Permit, Not a TSO.

Issue: The Permit should have included interim limits within the Permit instead of in the TSO. Recent binding California case law held that where a regional board newly interprets a narrative objective in the Basin Plan, the regional board may then include an effluent limit and a compliance schedule as authorized under that Plan in the permit. In this case, the Regional Board's Basin Plan allows a compliance schedule of up to 10 years. The Basin Plan's independent authority for compliance schedules is included in the Basin Plan at pg; III-2.00 ("Where the Regional Water Board determines it is infeasible for a discharger to immediately comply with such objectives or criteria, compliance shall be achieved in the shortest practicable period of time (determined by the Regional Water Board), not to exceed ten years after the adoption of applicable objectives or criteria.

Discussion:

The issue discussed by the petitioner only discusses nitrate and nitrite. Basin Plan at pg; III-2.00 ("Where the Regional Water Board determines it is infeasible for a discharger to immediately comply with such objectives or criteria, compliance shall be achieved in the shortest practicable period of time. In this case the Discharger is allowed to expand the wastewater treatment plant twice during the life of the permit. The key phrase quoted from the Basin Plan is "in the shortest practicable period of time". The Discharger has the capability, upon expansion of the wastewater treatment plant, to schedule denitrification as a priority. A practicable period of time is during the first expansion and upgrade to the wastewater treatment plant. The Discharger

should not be allowed to increase any flow rates until denitrification has been completed; this would constitute “in the shortest practicable period of time”.

E. Limits Based on Improperly Incorporated by Reference MCLs.

Issue: The limits for nitrate and nitrite are based on the Chemical Constituents objective, which incorporates by reference MCLs from the Department of Health Services' regulations. Such incorporation by reference of another agency' criteria is legally invalid. By modifying the Basin Plan's Chemical Constituents objective upon the OAL's request to contain language prospectively incorporating by reference MCLs from the Department of Health Services' drinking water standards to apply as water quality objectives for waters designated MUN without further hearings the Regional Board abdicated its responsibility to consider the factors contained in Water Code section 13241 and to develop an implementation plan for these incorporated objectives as required under Water Code section 13242.

Discussion:

The Basin Plan Chemical Constituents objective incorporates the Title 22 drinking water maximum contaminant levels (MCLs) as water quality standards. The issue raised by the petitioner is the legality of the Basin Plan, not the NPDES permit. The 30-day period to petition the Basin Plan and inclusion of the MCLs as water quality standards has passed.

F. Improper Aluminum Limits.

Issue: The aluminum limit on Page 7, Provision IV.A.1.a., Table 4, set as a monthly average (77 ug/L) is 10 ug/L less than the lowest aluminum chronic criterion guidance number and the daily maximum limit (125 ug/L) is six times more stringent than the acute criterion guidance number. Therefore, the limits are more stringent than required under Federal law and must include an analysis under Water Code sections 13263 and 13241. *See City of Burbank. State Water Resources Control Board*, 35 Cal. 4th 613 (2005). In addition, these limits fail to reflect local conditions and the fact that the U.S. EPA, chronic 304(a) guidance criteria for aluminum of 750 ug/L (CMC) and 87 ug/L (CCC) must be considered in light of site specific factors and issues related to indicator organisms, species "diversity, population density, growth anomalies, or biotoxicity test results before a determination can be made as to whether or not an applicable water quality standard has been violated. As U.S. EPA pointed out in its criteria guidance ...aluminum is substantially less toxic at higher pH and Hardness. Although no direct hardness-toxicity relationship has been established for aluminum, it is relevant that the toxicity of other metals decreases significantly as the hardness levels go up.

Discussion:

As is stated in Discussion A above: “US EPA’s Ambient Water Quality Criteria for the protection of Freshwater Aquatic Life is recommended as 1-hour and 4-day averages. The US EPA *Technical Support Document for Water Quality Based Toxics Control (TSD)* contains a methodology for converting the 1-hour and 4-day recommended criteria into daily and monthly limitations. The TSD does not contain a method for converting these criteria into weekly averages.” Conversion of US EPA’s ambient criteria for the protection of freshwater aquatic life for aluminum (chronic) of 87 as a 4-day average into a monthly average utilizes statistics that

result in the cited 77 ug/l limitation. A similar conversion leads to the 125 ug/l limitation. We can only assume this was a misunderstanding by the petitioner.

Hardness has not been shown to affect the toxicity of aluminum.

G. Inappropriate Copper Limits.

Issue: The Regional Water Board inappropriately utilized the copper objective from Sacramento-San Joaquin Basin Plan, Table III-I, in the derivation of proposed effluent limitations instead of the Criterion Maximum Concentration ("CMC") included in the California Toxics Rule. The Permit used the dissolved copper objective of 0.01 mg/L (10 ug/L) in addition to the use of CTR dissolved copper standards in the derivation of proposed effluent limitations. The Table III-I copper objectives should not have been used in the effluent limit derivation for the following reasons: (1) the Table III-I objective is based on scientific data developed prior to 1968, is aimed at the protection of freshwater aquatic life, and is therefore obsolete in comparison to the GTR's CMC for dissolved copper for protection of freshwater aquatic life, and (2) the Table III-I is not a site-specific objective and is not based on studies unique to the Sacramento- San-Joaquin Valley; therefore, the Table III-I copper objective is not authorized for use under the CTR.

Discussion:

The Basin Plan contains a water quality objective for copper applicable at the point of wastewater discharge from the City of Tracy. The *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP), the states implementing policy for the CTR, Section 1.1, identifies that State Priority Pollutants are contained in the Basin Plans. Footnote No. 4, of SIP Section 1.1, states that if a water quality objective and a CTR criterion are in effect for the same priority pollutant, the more stringent of the two applies. That is the case here.

H. Potentially Problematic EC Requirements

Issue: The Fact Sheet is unclear as to what exact water quality objective was being implemented when the final electrical conductivity ("EC") limits were imposed. The possibilities appear to be the site-specific limits for EC for the South Delta of 700 and 1000 umhos/cm depending on the season, the incorporated by reference secondary MCLs of 900-1600 umhos/cm (with 2200 as a short term acceptable level), and a 20 year old, non-regulatory United Nations guidance document number of 700 umhos/cm used to implement a narrative objective, which is not identified ostensibly to protect agricultural uses. *See* Permit at pg. F-4; *see also* United Nations Report on Water Quality for Agriculture (1985).

Discussion: This matter has been remanded back to the Central Valley Regional Board for reconsideration by Order No. WQ 2009-0003.

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" being more prominent than the last name "Jennings".

Bill Jennings, Executive Director
California Sportfishing Protection Alliance