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FAIRFIELD-SUISUN SEWER DISTRICT

BEFORE THE

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

In the Matter of the Fairfield-Suisun Sewer District's Petition for Review of Action and Failure to Act by the California Regional Water Quality Control Board, San Francisco Bay Region, in Adopting Order No. R2-2009-0039, Waste Discharge Requirements for the Fairfield-Suisun Sewer District Wastewater Treatment Plant, and Cease and Desist Order No. R2-2009-0040.	SWRCB/OCC File _____ PETITION FOR REVIEW; PRELIMINARY POINTS AND AUTHORITIES IN SUPPORT OF PETITION (Wat. Code, § 13320)

Fairfield-Suisun Sewer District (FSSD) hereby petitions the State Water Resources Control Board (State Water Board) under Water Code section 13320 for review of Order No. R2-2009-0039/NPDES No. CA0038024 (Permit) and Cease and Desist Order No. R2-2009-0040 (CDO). The San Francisco Bay Regional Water Quality Control Board (Regional Water Board) adopted the Permit and CDO on April 8, 2009. Petitioner FSSD reserves the right to file a more detailed statement of Points and Authorities in support of the Petition when the full administrative record is available and any other material submitted.[1]

FSSD owns and operates the Fairfield-Suisun Wastewater Treatment Plant (WWTP) and its collection system in Solano County. The WWTP provides advanced secondary treatment of wastewater from domestic, commercial and industrial sources for the Cities of Fairfield and Suisun and unincorporated areas of Solano County. The WWTP has an average dry weather

[1] This Petition also serves as a preliminary statement of points and authorities as required by state regulation. (Cal. Code Regs, tit. 23, § 2050(a)(7).) FSSD cannot prepare a complete statement in the absence of an available administrative record.

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treatment capacity of 17.5 million gallons per day (mgd). FSSD plans to increase the WWTP's average dry weather treatment capacity to 23.7 mgd during the Permit's term. Based on flow data from 2006 to 2008, the average discharge rate is 16.7 mgd. The highest maximum daily effluent rate from 2006 to 2008 was 37.32 mgd.

FSSD has a long history of working cooperatively with the Regional Water Board to protect water quality. FSSD appreciates the Regional Water Board's attempt to address the complex technical issues raised by comments on the Permit as originally proposed. However, FSSD has major concerns with Permit provisions related to dioxin-TEQ, biochemical oxygen demand (BOD), total suspended solids (TSS), and cyanide. Also of concern to FSSD is the mixing zone study requirement for cyanide. As described herein, the Permit and CDO conditions that concern FSSD are unlawful and otherwise inappropriate or improper. The costs to FSSD to comply with the Permit (assuming compliance is possible) are potentially staggering and unreasonable. The outcome would produce little to no water quality benefit. While FSSD prefers to resolve such issues regionally and cooperatively, FSSD petitions for review of the Permit and CDO to protect the interests of residents and ratepayers.

1. NAME, ADDRESS, TELEPHONE NUMBER, AND E-MAIL ADDRESS OF PETITIONER

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In addition, please provide all materials related to this Petition to FSSD's counsel:

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2. SPECIFIC ACTION OR INACTION OF THE REGIONAL WATER BOARD WHICH FSSD REQUESTS THE STATE WATER BOARD TO REVIEW

FSSD seeks review of Order Nos. R2-2009-0039 and R2-2009-0040, the Permit and CDO, respectively, issued to FSSD on April 8, 2009, by the Regional Water Board. Attached as Exhibit A to this Petition is a true and correct copy of the Permit. Exhibit B is a true and correct copy of the CDO. The specific requirements of the Permit and CDO that FSSD requests the State Water Board to review are:

- The final effluent limits for dioxin-TEQ;
- The use of a currently non-existent mass offset program to meet the dioxin-TEQ effluent limits;
- The maximum daily effluent limits for BOD and TSS; and
- The mixing zone study and report required for cyanide dilution credits to apply at FSSD outfalls E-002, E-003 and E-005.

3. DATE ON WHICH THE REGIONAL WATER BOARD ACTED OR REFUSED TO ACT

The Regional Water Board adopted the Permit and CDO on April 8, 2009.

4. STATEMENT OF REASONS THE ACTION OR FAILURE TO ACT WAS INAPPROPRIATE OR IMPROPER

A. The Permit's Numeric Effluent Limits for Dioxin-TEQ Are Inappropriate

The Permit imposes final water-quality based effluent limits (WQBELs) for dioxin-TEQ. (Permit at p. 14.) The WQBELs contravene the Clean Water Act (CWA) and State law. Further, compliance with dioxin-TEQ numeric limits is infeasible and would require FSSD to construct expensive new treatment facilities or otherwise spend scarce public resources on new technologies. Such costly improvements would not reasonably assure that FSSD could meet the limits for dioxin-TEQ.

(1) The Basin Plan's Narrative Objective for Bioaccumulation Does Not Justify the Final Dioxin-TEQ Limits

a. Since the Dioxin-TEQ In FSSD's Discharge Is Uncontrollable, There Is No Reasonable Potential to Exceed the Bioaccumulation Objective

The Regional Water Board purportedly based the numeric effluent limits for dioxin-TEQ on the narrative bioaccumulation water quality objective (WQO) in the *San Francisco Bay Basin (Regional 2) Water Quality Control Plan* (Basin Plan). (Permit at p. F-30.) The Regional Water Board claims the narrative WQO requires numeric limits to protect against dioxin levels in the fatty tissue of fish and other organisms. (See *id.* at pp. F-30-F-31.) However, the Basin Plan does not specify acceptable numeric levels of dioxin-TEQ in fish tissue or sediment. The California Toxics Rule (CTR) establishes numeric criteria for only a single dioxin congener—2,3,7,8-TCDD. There are no adopted numeric water quality criteria for other congeners of dioxin or dioxin-TEQ. In this case, the Regional Water Board used the narrative bioaccumulation WQO to create numeric water quality criteria for dioxin-TEQ.

The bioaccumulation WQO reads:

> Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. ***Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life.*** Effects on aquatic organisms, wildlife, and human health will be considered. (Basin Plan at p. 3-3, emphasis added.)

"Controllable water quality factors" are "those actions, conditions, or circumstances resulting from human activities that may influence the quality of the waters of the state and that *may be reasonably controlled*." (Basin Plan at p. 3-2, emphasis added.) The State Water Board considers "the 'controllable' requirement as distinguishing between unidentifiable background sources and identifiable point and non-point sources associated with human activities that can be controlled, albeit perhaps at a significant expense." (*In the Matter of the Petitions of East Bay Municipal Utility District and Bay Area Clean Water Agencies*, State Water Board Order WQO 2002-0012 (EBMUD) at p. 5.)[2] Because the bioaccumulation WQO applies expressly to

[2] FSSD's argument is consistent with EBMUD where the petitioners argued that the narrative bioaccumulation WQO did not apply to uncontrollable discharges. FSSD argues that the Regional Water Board may consider only the controllable portion of dioxin-TEQ to determine reasonable potential—not that the WQO does not apply.

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"controllable water quality factors," which include only human activities that may be reasonably identified and controlled, the Regional Water Board must consider only controllable factors to determine reasonable potential. The CWA then requires effluent limits if the discharge "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." (40 C.F.R. § 122.44(d)(1)(i).)

Put differently, the Regional Water Board first had to determine if the discharged dioxin-TEQ *that may be reasonably controlled* causes the bioaccumulation of toxic substances. If so, only then could the Regional Water Board determine whether FSSD's discharge has the reasonable potential to cause an excursion above the bioaccumulation WQO. Instead, the Regional Water Board found reasonable potential based solely on water quality data without regard to whether dioxin-TEQ in FSSD's discharge is controllable. (See Permit at pp. F-30-F-31.) Thus, the Regional Water Board ignored the actual text of the WQO and the dioxin-TEQ limits are inappropriate and improper. If the Regional Water Board considered controllability, it probably would not have found reasonable potential. For example, the Regional Water Board has acknowledged that dioxin is likely the result of unidentified background sources and beyond a publicly owned treatment work's (POTW) control. (See Order No. R2-2007-0008 at p. F-31, Exhibit C.)

The level of dioxin-TEQ in FSSD's discharge is not controllable and does not have the reasonable potential to cause or contribute to an exceedance of the bioaccumulation WQO. In the absence of reasonable potential, the CWA does not require the Permit to impose numeric effluent limits for dioxin-TEQ. The Regional Water Board improperly applied the bioaccumulation WQO to FSSD's discharge, which resulted in the inappropriate dioxin-TEQ limits. FSSD respectfully urges the State Water Board to remove the effluent limits from the Permit or direct the Regional Water Board to do the same.

b. Even If Reasonable Potential Exists, the Final Effluent Limits for Dioxin-TEQ Cannot Be More Stringent than the Reasonably Controllable Amount

Even if the Regional Water Board could properly find reasonable potential, the bioaccumulation WQO prohibits numeric effluent limits that the permittee cannot attain through reasonable controls. As previously stated, the WQO reads: "*Controllable water quality factors* shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life." (Basin Plan at p. 3-3, emphasis added.) To the extent reasonable potential exists, the Regional Water Board must establish effluent limits based on the dioxin-TEQ level achievable through "controllable water quality factors." (*Ibid.*)

The Permit includes effluent limits for dioxin-TEQ of 0.014 pg/L and 0.028 pg/L as an average monthly and daily maximum, respectively. (Permit at p. 14.) These limits far exceed the level of pollution control a POTW may achieve with pretreatment control source programs and current technology. That POTWs may reduce dioxin discharges in part cannot bring WQBELs of unlimited stringency within the ambit of a WQO explicitly restricted to "controllable water quality factors." (Basin Plan at p. 3-3.) The Regional Water Board cannot require FSSD to do the impossible—remove the *uncontrollable* 2,3,7,8-TCDD TEQ from the effluent.

The Regional Water Board acknowledged at several recent permit hearings that the main source of dioxin in influent is "beyond the [POTW's] control" and compliance with 2,3,7,8-TCDD TEQ effluent limits could be overly burdensome and not cost effective for the benefits received.[3] Thus, the issue is not whether the POTW can attain the limits. Rather, the issue is whether the bioaccumulation WQO allows overly burdensome regulation without regard to feasibility or cost. The plain language of the WQO does not support such a strained reading.

(2) The Regional Water Board Failed to Conduct the Case-By-Case Analysis Required to Regulate Uncontrollable Water Quality Factors

The Basin Plan states: "When *uncontrollable water quality factors* result in the degradation of water quality beyond the levels or limits established herein as water quality

[3] See Order No. R2-2007-0008 at p. F-31, Exhibit C, and transcript of hearing on Order No. R2-2007-0008, held on January 23, 2007.

objectives, the Regional Board will conduct *a case-by-case analysis of the benefits and costs of preventing further degradation*." (Basin Plan at p. 3-2, emphasis added.) Because uncontrollable water quality factors cause dioxin-TEQ to exceed the bioaccumulation WQO, the Regional Water Board must conduct a case-by-case analysis of the benefits and costs of preventing further degradation. The Regional Water Board failed to conduct any such analysis. That is, the Regional Water Board failed to determine if the benefits of meeting the effluent limits in the Permit outweigh the significant costs to FSSD. Until the Regional Water Board conducts the requisite analysis, the Permit's limits for dioxin-TEQ violate the Basin Plan.

The Regional Water Board contends that the placement of San Francisco Bay on the CWA 303(d) list for dioxin demonstrates that the effluent limits in FSSD's Permit regulate controllable water quality factors. (See Response to Comments of Regional Water Board for Jan. 23, 2007 hearing on permit of Central Contra Costa Sanitary District (Order No. R2-2007-0008) at pp. 5-6, Exhibit D.) However, a listing of impairment is a preliminary determination that a water body does not meet water quality standards. The listing does not address whether a particular discharge is controllable. The State Water Board acknowledged this in its Total Maximum Daily Load Policy, which notes that natural factors may cause impairments and are not controllable. (State Water Board *Water Quality Policy for Addressing Impaired Waters: Regulatory Structure and Options* (2005) at pp. 3-4.)

A CWA 303(d) listing means only that technology-based effluent limits are "not stringent enough to implement any water quality standard applicable to such waters." (33 U.S.C. § 1313(d)(1)(A).) Thus, the listing of the San Francisco Bay as impaired for dioxins means only that the existing technology-based effluent limits are not stringent enough to meet the bioaccumulation WQO. The 303(d) listing does not establish whether controllable and/or uncontrollable water quality factors impair the San Francisco Bay. Nor does the listing establish the need for more stringent effluent limits for dioxins in permits for POTWs. The State Water Board found that a 303(d) listing alone is not even sufficient to warrant an effluent limit. (*In the Matter of the Review on its Own Motion of Waste Discharge Requirements for the Avon Refinery*, Order WQ 2001-06 (Tosco Order) at p. 17.) The listing does not absolve the Regional Water

Board from its duty to conduct a case-by-case analysis in accordance with the Basin Plan.

In addition, the Regional Water Board identified air emissions from combustion sources as the primary source of dioxins and furans in the San Francisco Bay. (See *Dioxins in San Francisco Bay: Conceptual Model/Impairment Assessment, January 20, 2005*, prepared by the San Francisco Bay Estuary Institute for the Clean Estuary Partnership (CEP).)[4] The United States Environment Protection Agency (USEPA) reports that only about two percent of the dioxin in San Francisco Bay comes from POTWs.[5] This negligible amount of dioxin in POTW discharges and considerable questions that surround the ability of POTWs to control dioxins in effluent underscore the need for the case-by-case analysis to evaluate the benefits versus costs of compliance with the dioxin-TEQ effluent limits. Until the Regional Water Board conducts such an analysis as required by the Basin Plan, the effluent limits are unlawful to the extent the dioxin-TEQ levels are uncontrollable.

(3) The Use of 2,3,7,8-TCDD Equivalents (or Dioxin-TEQs) to Determine Reasonable Potential and Adopt WQBELs Is Inconsistent with State Policy

The CTR establishes numeric water quality criteria for one type of dioxin—2,3,7,8-TCDD. (40 C.F.R. § 131.8(b)(1).) In addition to this compound, other compounds (i.e., congeners) exhibit toxic effects similar to those of 2,3,7,8-TCDD. As previously noted, neither the CTR nor Basin Plan includes numeric water quality criteria for other dioxin congeners. In the preamble to the CTR, USEPA encourages the use of other dioxins and dioxin-like compounds when there is reasonable potential to violate a narrative WQO. (51 Fed.Reg. 31682 (May 18, 2000).) However, the CTR neither requires California to use dioxin-like compounds or the TEQ scheme to determine reasonable potential nor to establish effluent limits for narrative objectives.

To implement the CTR, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (2005) (SIP). The SIP addresses dioxin-TEQs and requires POTWs to monitor for certain dioxin-like compounds. (*Id.* at pp. 28-29.) The SIP states: "The purpose of the monitoring is to assess the presence and amounts of congeners being discharged to inland surface waters, enclosed bays, and

[4] The Regional Water Board was a member of the CEP when this document was completed.
[5] http://www.epa.gov/docs/region09/water/dioxin/sfbay.html [as of April 27, 2009].

estuaries for the development of a strategy to control these chemicals *in a future multi-media approach*." (*Ibid,* emphasis added.)

Moreover, the SIP does *not* direct the Regional Water Boards to use the dioxin-like compounds to determine reasonable potential for narrative objectives. (See *Id.* at pp. 28-29.) The State Water Board purposefully declined to implement the CTR criteria for 2,3,7,8-TCDD for dioxin-TEQ. "In the Implementation Policy, the Board considered implementing the CTR criteria for 2,3,7,8-TCDD as TCDD equivalents. Instead the Board decided to implement the 2,3,7,8-TCDD criteria and to require only monitoring for the remaining 16 dioxin and furan congeners." (Tosco Order at p. 47.) The State Water Board requires only monitoring for the congeners because they are ubiquitous and the sources and control measures are uncertain. (*Ibid.*) In adopting the SIP, the State Water Board considered and rejected the regulatory scheme encouraged—but not required—by USEPA.

Because the SIP establishes procedures to implement the CTR and requires POTWs only to monitor 2,3,7,8-TCDD equivalents, the regulation of FSSD's discharge through dioxin-TEQ is inconsistent with State policy. FSSD respectfully requests that the State Water Board remove the effluent limits for dioxin-TEQ from the Permit or remand it to the Regional Water Board to do the same.

(4) Effluent Limits for Dioxin-TEQ More Stringent than Required to Implement the Bioaccumulation WQO Are Subject to Water Code Sections 13241 and 13242

The Permit's effluent limits for dioxin-TEQ exceed what is necessary to implement the bioaccumulation WQO. As previously discussed, the bioaccumulation WQO requires limits on controllable water quality factors. The dioxin-TEQs in FSSD's discharge are not controllable. Therefore, the Regional Water Board imposed effluent limits that establish new, permit-specific WQOs. When the Regional Water Board adopts WQOs, it must consider the factors in Water Code section 13241[6] and prepare an implementation program in accordance with Water Code

[6] Water Code 13241 reads:

> Each regional board shall establish such water quality objectives in water quality control plans as in its judgment will ensure the reasonable protection of beneficial uses and the prevention of nuisance; however, it is recognized that it may be possible for the quality of water to be changed to

section 13242.[7] The provisions of Water Code section 13241 apply without regard to whether the Regional Water Board adopts the WQO as part of a Basin Plan amendment or effluent limits in a permit.

> A RWQCB may choose, on a case-by-case basis, however, to establish water quality-based effluent limitations which are more stringent than limitations based upon the applicable water quality objectives where necessary to protect beneficial uses or prevent nuisance. If a RWQCB takes this approach, *the rationale for the more stringent limitations must be explained in the permit findings*, which must be supported by evidence in the record. In addition, *the RWQCB must consider the factors specified in Water Code Section 13241, which apply to the adoption of water quality objectives on a permit-specific basis*. (*In the Matter of the Petition of City and County of San Francisco, et al.*, State Water Board Order WQ 95-4 at pp. 12-13, emphasis added, citations and footnotes omitted; see also *In the Matter of the Petition of the Cities of Palo Alto, et al.*, State Water Board Order WQ 94-8 at pp. 9-10; *Southern Cal. Edison Co. v. State Water Resources Control Bd.* (1981) 116 Cal.App.3d 751, 759-761.)

The Regional Water Board acted improperly, inappropriately and illegally when it failed to consider the factors in Water Code section 13241 or prepare an implementation program for dioxin-TEQ. Because the effluent limits require the City to remove dioxin-TEQ that is not from controllable water quality factors, the limits are more stringent than the bioaccumulation WQO requires. The Permit does not explain why more stringent effluent limits are necessary. The Regional Water Board thus failed to bridge the analytic gap between the raw evidence and Permit

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some degree without unreasonably affecting beneficial uses. Factors to be considered by a regional board in establishing water quality objectives shall include, but not necessarily be limited to, all of the following:

(a) Past, present, and probable future beneficial uses of water.
(b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.
(c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area.
(d) Economic considerations.
(e) The need for developing housing within the region.
(f) The need to develop and use recycled water.

[7] Water Code section 13242 reads:

> The program of implementation for achieving water quality objectives shall include, but not be limited to:
>
> (a) A description of the nature of actions which are necessary to achieve the objectives, including recommendations for appropriate action by any entity, public or private.
> (b) A time schedule for the actions to be taken.
> (c) A description of surveillance to be undertaken to determine compliance with objectives.

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limits. (See *Topanga Association for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515.)

Since the dioxin-TEQ limits exceed the WQO, they are also more stringent than federal law requires. When imposing effluent limits more stringent than federal law requires, the Regional Water Board must consider the factors in Water Code section 13241. (*City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 625-627.) If the effluent limits' economic impact would be severe, the effluent limits are too stringent. (*Id.* at p. 626, n.7 ("State law, as we have said, allows a regional board to consider a permit holder's compliance cost to *relax* pollutant concentrations, as measured by numeric standards, for pollutants in a wastewater discharge permit." Emphasis added.).)

For these reasons, the final effluent limits for dioxin-TEQ in the Permit are inappropriate and invalid. FSSD asks that the State Water Board delete the dioxin-TEQ concentration limits. At a minimum, the State Water Board should remand the Permit and direct the Regional Water Board either to eliminate the effluent limits or analyze whether reasonable potential exists based on controllable water quality factors as stated in the bioaccumulation WQO. The State Water Board should also direct that if the Regional Water Board finds reasonable potential, the Basin Plan requires a cost-benefit analysis. Based on that analysis, the Regional Water Board should calculate effluent limits that reflect the actual language of the bioaccumulation WQO. If the Regional Water Board adopts effluent limits more stringent than the Basin Plan or federal law requires, the Water Code section 13241 analysis and an implementation program are necessary.

B. Use of a Non-Existent Mass Offset Program to Meet 303(d)-Listed Pollutant Limits Such as Dioxin-TEQ is Improper

The Permit authorizes FSSD to seek approval of a mass offset plan to reduce 303(d)-listed pollutants, which includes dioxin-TEQ. (Permit at p. 21.) FSSD must demonstrate that it cannot achieve net reductions of the total mass loadings of such constituents through economically feasible measures. (*Ibid.*) Such measures include aggressive source control, wastewater reuse and treatment plant optimization. (*Ibid.*)

Presenting an offset program as an alternative to complying with final end-of-pipe limits is illusory. No program for such offsets exists, and the offset provision obscures the inappropriateness of the final effluent limits for dioxin-TEQ. All parties recognize that FSSD cannot meet the final dioxin-TEQ limits, which means that FSSD may be subject to citizen suits and incur mandatory minimum penalties. As the State Water Board discovered through efforts to develop an offset program for mercury in the San Francisco Bay and Delta, there are tremendous challenges to develop a program that survives regulatory and legal reviews. Reference to a non-existent offset program as though it is a viable alternative that FSSD can readily implement is misleading. The State Water Board should not consider the illusory alternative as adequate to mitigate the harsh effect of the Permit's final limits for dioxin-TEQ.

C. The Maximum Daily Effluent Limits for BOD and TSS Are Unnecessary and Inappropriate

The Permit includes final average monthly, average weekly and maximum daily concentration limits for BOD and TSS. (Permit at p. 13.) The maximum daily concentration limits for BOD and TSS are inconsistent with federal law, which provides:

> (d) For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall *unless impracticable* be stated as:
>
> (1) Maximum daily and average monthly discharge limitations for all dischargers other than publicly owned treatment works; and
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> (2) *Average weekly and average monthly discharge limitations for POTWs.* (40 C.F.R. § 122.45, emphasis added.)

The federal regulation requires the Regional Water Board to express effluent limits in POTWs' permits as average weekly and average monthly limits *unless to do so is impracticable*. In this case, the Regional Water Board failed to conduct the impracticability analysis to justify the maximum daily effluent limits for BOD and TSS. (See Permit at p. F-18.) "By including daily maximum limits, the [Regional Water Board] proceeded in a manner contrary to law, particularly when the record contains no findings or evidence that the use of average weekly or average monthly limits was impracticable." (*City of Burbank v. State Water Resources Control Board*, Statement of Decision, Los Angeles County Superior Court, Case No. BS 060 960 (April 4, 2001)

(*Burbank)* at p. 12; see 40 C.F.R. §§ 124.7, 124.8, 124.56.) That the Regional Water Board actually imposed average monthly and average weekly limits for BOD and TSS disproves that such limits are impracticable. (*Burbank*, Case No. BS 060 960 at p. 12.) Further, the secondary treatment regulations for BOD and TSS require only weekly and monthly limits. (40 C.F.R. § 133.102.) Accordingly, the maximum daily effluent limits for BOD and TSS are unlawful.

Other Regional Water Boards have removed daily effluent limits for conventional pollutants from permits for POTWs. FSSD respectfully requests the same outcome here. The monthly and weekly limits and 85% removal requirement are adequate to regulate BOD and TSS. (See Permit at p. 13.)

D. The Permit Provisions Related to Cyanide are Unlawful

1. The Cyanide Requirements are Contrary to the Basin Plan, Which Specifies the Applicable Dilution Credit

The final effluent limits for cyanide at outfall E-001 are appropriately based on a dilution ratio of 4.0:1 as specified in the Basin Plan; FSSD does not challenge these limitations. (Permit at pp. 14, F-27; Resolution R2-2006-0086 at Exhibit A p. 5.) However, contrary to the Basin Plan, the final effluents limits for cyanide at outfalls E-002, E-003 and E-005 do not include the dilution credit. (*Ibid.*) To receive any dilution credit, the CDO requires FSSD to perform a mixing zone study for these outfalls "in accordance with the State Implementation Plan (SIP)." (CDO at p. 6.) FSSD also must submit a report to propose and justify the mixing zone and dilution credit. (*Ibid.*)

The requirement for a separate dilution study violates the Basin Plan. When the Regional Water Board adopted site-specific objectives for cyanide, the Basin Plan amendment included discharger-specific dilution credits. (Resolution R2-2006-0086 at p. 2, Exhibit A p. 5.) The State Water Board, Office of Administrative Law and USEPA approved these dilution credits as part of the approval of the water quality objectives.[8] By its own terms, the Basin Plan requires the Regional Water Board to use these discharger-specific dilution credits to calculate WQBELs for

[8] http://www.waterboards.ca.gov/sanfranciscobay/basin_planning.shtml.

cyanide in POTW permits. (Resolution R2-2006-0086 at p. 2, Exhibit A p. 5.) For FSSD, the dilution credit specified is 4.0:1 expressed as the ratio of total parts mixed (effluent and receiving waters) to one part effluent. (*Id.* at Exhibit A p. 5.) Therefore, the Basin Plan requires the final effluent limits for cyanide in FSSD's Permit to include the dilution credit of 4.0:1 for each outfall—not just E-001.

The Regional Water Board developed and adopted the discharger-specific dilution credits in accordance with the SIP. (*Id.* at p. 2.) The scientific bases for the regulatory provisions underwent independent, external peer review. (*Ibid.*) Prior to adoption, the dilution credits also underwent a period of public review and comment. (*Id.* at p. 3.) The dilution credits are incorporated into the Basin Plan and are part of the regulation. In accordance with the regulation, the Regional Water Board has previously applied the dilution credits to other dischargers with multiple outfalls. Thus, the Regional Water Board's decision to re-interpret the Basin Plan revisions without notice and comment in the context of FSSD's individual permit is arbitrary and capricious and constitutes an unlawful underground regulation.

2. The Scope of any Dilution Study Required Must be Equivalent to the Scope of the Studies that Supported the Basin Plan Amendment

As noted above, the requirement to conduct a new mixing zone study is inconsistent with the Basin Plan. If, however, the State Water Board upholds the study requirement, fairness and equity require that the State Water Board limit the scope of the study. Specifically, any required mixing zone study for outfalls E-002, E-003 and E-005, must be comparable in scope and cost to the studies performed by other shallow water dischargers in support of the site-specific objectives and dilution credits for cyanide in the Basin Plan. That is, FSSD's modeling analysis or sampling plan should be similar to (and not more rigorous than) the other dischargers' modeling analyses and sampling plans in terms of frequency, spatial coverage and duration. These studies were deemed adequate to support the site-specific objectives and dilution credits for cyanide as approved by the Regional Water Board, State Water Board and USEPA. Therefore, the sampling plans are sufficient to establish Permit limits for cyanide.

5. MANNER IN WHICH THE PETITIONER IS AGGRIEVED

FSSD is aggrieved as the Permit holder subject to conditions and limits that are unreasonable, unnecessary and more stringent or onerous than required by law. The Permit and CDO would require FSSD to spend limited public assets in a downturned economy and thus ultimately subject ratepayers to increased rates. The expenditures of such resources would provide little to no water quality benefit.

For example, FSSD would have to use significant resources to comply with inappropriate and unlawful Permit limits for dioxin-TEQ and, perhaps, consider a non-existent dioxin-TEQ offset program. FSSD would have to comply with unlawful maximum daily effluent limits for BOD and TSS. Failure to comply with these limits would subject FSSD to citizen suits and mandatory minimum penalties. Finally, FSSD would also have to a conduct mixing zone study and prepare a report approved by the Regional Water Board for any cyanide dilution credit to apply at outfalls E-002, E-003 and E-005. This is unnecessary and contrary to the Basin Plan, which expressly provides a dilution credit at FSSD's outfalls.

6. SPECIFIC ACTION BY THE STATE OR REGIONAL WATER BOARD REQUESTED BY PETITIONER

FSSD seeks an order from the State Water Board that revises the Permit and CDO or remands the same to the Regional Water Board to revise as follows:

- Delete the effluent limits for dioxin-TEQ or modify them to reflect Water Code sections 13241 and 13424 and that the bioaccumulation WQO applies to *controllable* water quality factors;
- Delete the reference to the mass offset program;
- Delete the maximum daily effluent limits for BOD and TSS; and
- Delete the requirement to conduct a mixing study and prepare a corresponding report for cyanide dilution to apply at FSSD outfalls E-002, E-003 and E-005 and instead direct the Regional Water Board to apply the dilution credit specified for FSSD in the Basin Plan. In the alternative, the State Water Board should direct the Regional Water Board to allow FSSD to conduct the study using the same scope as that used by other

shallow water dischargers to support the site-specific objectives and dilution credits for cyanide in the Basin Plan.

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

FSSD's preliminary statement of points and authorities is set forth in Section 4 above. FSSD reserves the right to supplement this statement upon receipt and review of the complete administrative record.

8. STATEMENT THAT THE PETITION WAS SENT TO THE APPROPRIATE REGIONAL WATER BOARD AND DISCHARGER (IF NOT THE PETITIONER)

A true and correct copy of the Petition was mailed by First Class mail on May 7, 2009, to the Regional Water Board at the following address:

Bruce Wolfe, Executive Director
California Regional Water Quality Control Board,
San Francisco Region
1515 Clay Street, Suite 1400
Oakland, California 94612

Petitioner is the discharger. Therefore, FSSD did not mail a separate copy of the Petition to the discharger.

9. STATEMENT THAT THE SUBSTANTIVE ISSUES OR OBJECTIONS RAISED IN THE PETITION WERE RAISED BEFORE THE REGIONAL WATER BOARD

The substantive issues and objections raised in this Petition were raised before the Regional Water Board in written comments dated March 2, 2009, and at the April 8, 2009 hearing.

Dated: May 7, 2009

Respectfully submitted,

SOMACH SIMMONS & DUNN

By Cassie N. Aw-yang
Cassie N. Aw-yang
Special Counsel for Petitioner
FAIRFIELD-SUISUN SEWER DISTRICT

PROOF OF SERVICE

I am employed in the County of Sacramento; my business address is 813 Sixth Street, Third Floor, Sacramento, California; I am over the age of 18 years and not a party to the foregoing action.

On May 7, 2009 I served the following document(s):

PETITION FOR REVIEW; PRELIMINARY POINTS AND AUTHORITIES IN SUPPORT OF PETITION (Wat. Code, § 13320)

X (by mail) on all parties in said action listed below, by placing a true copy thereof enclosed in a sealed envelope in a designated area for outgoing mail, addressed as set forth below. At Somach, Simmons & Dunn, mail placed in that designated area is given the correct amount of postage and is deposited that same day, in the ordinary course of business, in a United States mailbox in the City of Sacramento, California.

Bruce Wolfe, Executive Officer
California Regional Water Quality Control Board,
San Francisco Region
1515 Clay Street, Suite 1400
Oakland, California 94612

I declare under penalty of perjury that the foregoing is true and correct. Executed on May 7, 2009, at Sacramento, California.

Michelle Bracha

EXHIBIT A

Linda S. Adams
Secretary for
Environmental Protection

California Regional Water Quality Control Board

San Francisco Bay Region

1515 Clay Street, Suite 1400, Oakland CA 94612
(510) 622-2300 • Fax (510) 622-2460
http://www.waterboards.ca.gov/sanfranciscobay

Arnold Schwarzenegger
Governor

ORDER NO. R2-2009-0039
NPDES NO. CA0038024

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

Table 1. Discharger Information

Discharger	Fairfield-Suisun Sewer District
Name of Facility	Fairfield-Suisun Wastewater Treatment Plant and its associated collection system
Facility Address	1010 Chadbourne Road
	Fairfield, CA 94534
	Solano County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a **major** discharge.	

Discharges by the Fairfield-Suisun Wastewater Treatment Plant from the discharge points identified below are subject to waste discharge requirements as set forth in this Order.

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Advanced Secondary Treated Municipal Wastewater	38° 12' 33" N	122° 03' 24" W	Boynton Slough
002	Advanced Secondary Treated Municipal Wastewater	38° 12' 52" N	122° 03' 56" W	Duck Pond 1
003	Advanced Secondary Treated Municipal Wastewater	38° 12' 35" N	122° 03' 29" W	Duck Pond 2
005	Advanced Secondary Treated Municipal Wastewater	38° 14' 00" N	122° 03' 32" W	Ledgewood Creek

Table 3. Administrative Information

This Order was adopted by the Regional Water Board on:	**April 8, 2009**
This Order shall become effective on:	**June 1, 2009**
This Order shall expire on:	**May 31, 2014**
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	**180 days prior to the Order expiration date**

I, Bruce H. Wolfe, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on **April 8, 2009.**

Digitally signed
by Bruce Wolfe
Date:
2009.04.10
15:05:37 -07'00'

Bruce H. Wolfe, Executive Officer

Table of Contents

Tables

Attachments

I. FACILITY INFORMATION

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

Table 4. Facility Information

Discharger	Fairfield-Suisun Sewer District
Name of Facility	Fairfield-Suisun Wastewater Treatment Plant and its collection system
Facility Address	1010 Chadbourne Road Fairfield, CA 94534 Solano County
Facility Contact, Title, and Phone	Kathy Hopkins, General Manager, (707) 429-8930
Mailing Address	Same as Facility Address
Type of Facility	Publicly Owned Treatment Works (POTW)
Facility Design Flow	17.5 million gallons per day (MGD) (average dry weather design treatment capacity) 34.8 MGD (peak wet weather treatment capacity)
Service Areas	Cities of Fairfield and Suisun, and unincorporated areas in Solano County
Service Population	132,500 (2008 estimate)

II. FINDINGS

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter the Regional Water Board), finds:

A. Background. The Fairfield-Suisun Sewer District (hereinafter the Discharger) is currently discharging under Order No. R2-2003-0072, as amended by Order No. R2-2006-0045 (National Pollutant Discharge Elimination System (NPDES) Permit No. CA0038024). The Discharger submitted a Report of Waste Discharge, dated March 31, 2008, and applied to renew its NPDES permit to discharge up to 17.5 MGD (average dry weather flow) of advanced secondary treated wastewater from the Fairfield-Suisun Wastewater Treatment Plant (Plant) and its collection system.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and State laws, regulations, plans, or policies are held to be equivalent to references to the Discharger herein.

B. Facility Description. The Discharger owns and operates the Plant, which provides advanced secondary treatment of wastewater from domestic, commercial, and industrial sources from the service areas listed in Table 4, above. The current service population is approximately 132,500 (2008 estimate). The Discharger has a current average dry weather design treatment capacity of 17.5 MGD and plans to increase its average dry weather treatment capacity to 23.7 MGD during the term of this permit. The average discharge rate is 16.7 MGD based on flow data from 2006 to 2008, and the highest maximum daily effluent flow rate from 2006 to 2008 was 37.32 MGD.

Flow enters the Plant headworks from four pump stations. Each pump station force main has a magnetic flow meter measuring flow. The pump stations' combined flow is measured through a Parshall flume downstream of influent screening. Plant recycle (utility water) is included in the inlet pump station flow. As a result, influent flow always contains Plant recycle. The Plant

recycle stream is separately sampled and metered prior to mixing with the influent flow. Then the combined flow (recycle and influent) is sampled and metered. To determine influent flow, Plant influent analyses are mathematically adjusted to arrive at influent loading exclusive of Plant recycle.

Wastewater treatment processes at the Plant include screening and grit removal, primary clarification, optional fixed film roughing filters and intermediate clarification, biological activated sludge, secondary clarification, temporary storage of activated sludge effluent in flow balancing reservoirs (total volume of 12.7 million gallon (MG)), advanced secondary dual-media filtration, disinfection (chlorination), and dechlorination (sulfur dioxide). Biosolids are concentrated using dissolved air flotation thickeners, anaerobically digested, and either mechanically dewatered or dewatered by open-air solar drying beds or lagoons. Biosolids are placed in the Potrero Hills Landfill as alternative daily cover or beneficially reused through agricultural land application.

Wet weather facilities are available that include equalization storage (111 MG) with communition and prechlorination. Flows from the wet weather facilities are returned to the Plant headworks once influent flows subside. The Plant provides containment and advanced secondary treatment of wastewater flows up to the 20-year storm event.

Chlorinated Plant effluent flow is conveyed from the chlorine contact basin to either Discharge Point 001, or to earthen final storage reservoirs (total volume of 20.4 MG), where it is dechlorinated prior to discharge to Boynton Slough. During periods of low flow and/or low irrigation demand, stored water from the final effluent reservoirs is discharged at Discharge Point 001 and is, therefore, a blend of treated wastewater from the chlorine contact chamber effluent and treated wastewater from the storage reservoirs. The outfall pipeline before Discharge Point 001 can also be opened to allow the discharge of dechlorinated effluent to Discharge Points 002 and 003, also known as Duck Ponds 1 and 2.

Approximately 10 percent of the Plant's treated effluent is discharged via a utility pump station that pumps chlorinated effluent from the final storage reservoirs into irrigation conveyance and distribution facilities owned and operated by the Solano Irrigation District. Effluent may also be diverted from the effluent pipe to Discharge Point 001 to the irrigation system. Regional Water Board Order No. 91-147 regulates reclamation for this discharge (agricultural and landscape irrigation, and industrial cooling).

Upon Executive Officer approval pursuant to section VI.C.2.h. of this Order, wet weather treated dechlorinated effluent flows that exceed the capacity of the outfall at Discharge Point 001 (approximately 35 MGD) may be pumped from the utility pump station to Ledgewood Creek (Discharge Point 005). Discharge Point 005 will also provide an alternate discharge point for periods of shutdown at Discharge Point 001 and seismic redundancy for the Plant.

The Plant expansion is expected to be complete and operational by September 2009. However, additional Plant capacity is not authorized by this Order until the Discharger submits the appropriate documentation, as required by section VI.C.2.h. of this Order, and upon Executive Officer approval.

The Discharger's collection system is a separate sanitary sewer and includes 70 miles of sewer line (12 inches in diameter or greater) and 12 pump stations. Sewer lines less than 12 inches in diameter are owned and maintained by jurisdictions separate from the Discharger, including the City of Fairfield, Suisun City, and Travis Air Force Base.

Attachment B provides a map of the area around the Plant. Attachment C provides a flow schematic of the Plant.

C. **Legal Authorities.** This Order is issued pursuant to Clean Water Act (CWA) section 402 and implements regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapters 5.5, Division 7 of the California Water Code (CWC) (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from the Plant to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4, Division 7 of the CWC (commencing with section 13260).

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

E. **California Environmental Quality Act (CEQA).** Under CWC section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA.

F. **Technology-Based Effluent Limitations.** CWA Section 301(b) and NPDES regulations at 40 CFR 122.44 require that permits include conditions meeting applicable technology-based requirements at minimum and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 CFR 133. A detailed discussion of technology-based effluent limitation development is included in the Fact Sheet.

G. **Water Quality-Based Effluent Limitations.** CWA section 301(b) and NPDES regulations at 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

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

H. **Water Quality Control Plans.** *The Water Quality Control Plan for the San Francisco Bay Basin* (hereinafter the Basin Plan) is the Regional Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan was duly adopted by the Regional Water Board and

approved by the State Water Resources Control Board (State Water Board), the Office of Administrative Law (OAL), and USEPA. Requirements of this Order implement the Basin Plan.

The Basin Plan states that the beneficial uses of any specifically identified water body generally apply to its tributaries. The Basin Plan does not specifically identify beneficial uses for Boynton Slough, but does identify present and potential uses for Suisun Slough, to which Boynton Slough is tributary. The Basin Plan specifically identifies the beneficial uses of Ledgewood Creek. The Basin Plan specifically identifies the beneficial uses of Suisun Slough, to which Boynton Slough is tributary. The Basin Plan also specifically identifies the beneficial uses of Suisun March, to which the duck ponds are tributary.

The Basin Plan implements State Water Board Resolution No. 88-63, which establishes State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply (MUN). The Discharger has performed plant community studies in Boynton Slough and Ledgewood Creek that show brackish marsh plants are present throughout the study area, indicating a tidal influence on each of these receiving waters. Because of the tidal influence on these receiving waters, total dissolved solids levels are expected to exceed 3,000 milligrams per liter (mg/L) and thereby meet an exception to State Water Board Resolution No. 88-63. The MUN designation is therefore not applicable to the receiving waters of this discharge. Beneficial uses applicable to Boynton Slough, Ledgewood Creek, and the duck ponds are summarized in Table 5.

Table 5. Beneficial Uses of Boynton Slough, Ledgewood Creek, and Duck Ponds

Discharge Point	Receiving Water Name	Beneficial Uses
001	Boynton Slough (Tributary to Suisun Slough)	Fish Spawning (SPWN) Warm Freshwater Habitat (WARM) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2) Navigation (NAV)
002 and 003	Duck Ponds 1 and 2 (Both tributary to Suisun Marsh)	Estuarine Habitat (EST) Fish Migration (MIGR) Preservation of Rare and Endangered Species (RARE) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2) Fish Spawning (SPWN) Wildlife Habitat (WILD)
005	Ledgewood Creek	Freshwater Replenishment (FRSH) Cold Freshwater Habitat (COLD) Fish Migration (MIGR) Fish Spawning (SPWN) Warm Freshwater Habitat (WARM) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-contact Water Recreation (REC2)

Neither Boynton Slough nor Ledgewood Creek is listed as an impaired waterbody on the State's current (2006) list of impaired waters pursuant to CWA section 303(d), but Suisun Marsh, which

includes Boynton Slough, Ledgewood Creek, and the duck ponds, is 303(d) listed for metals, nutrients, low dissolved oxygen, and salinity.

The State Water Board adopted a Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. Requirements of this Order implement the Thermal Plan.

I. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995, and November 9, 1999. About forty criteria in the NTR apply in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the State. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

J. **State Implementation Policy.** 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 USEPA promulgated for California through the NTR and to the priority pollutant objectives Regional Water Board established in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria USEPA promulgated 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.

K. **Compliance Schedules and Interim Requirements.** SIP Section 2.1 provides that, based on an existing discharger's request and demonstration that it is infeasible to achieve immediate compliance with an effluent limitation derived from a CTR criterion, a compliance schedule may be allowed in an NPDES permit. Unless an exception has been granted under SIP section 5.3, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or May 18, 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds 1 year, the Order must include interim numeric limitations for that constituent or parameter.

The State Water Board adopted Resolution No. 2008-0025 on April 15, 2008, titled *Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits*, which includes compliance schedule policies for pollutants that are not addressed by the SIP. This policy has been approved by OAL and USEPA, and became effective on August 27, 2008.

L. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards become effective for CWA purposes [65 Fed. Reg. 24641 (April 27, 2000) (codified at 40 CFR 131.21)]. Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

M. Stringency of Requirements for Individual Pollutants. This Order contains both technology-based and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on oil and grease, pH, total suspended solids (TSS), and biochemical oxygen demand (BOD). Derivation of these technology-based limitations is discussed in the Fact Sheet (Attachment F). This Order's technology-based pollutant restrictions implement the minimum applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than these minimum federal technology-based requirements as necessary to meet water quality standards.

WQBELs have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR 131.38. The procedures for calculating the individual WQBELs for priority pollutants are based on the SIP. All beneficial uses and water quality objectives contained in the Basin Plan were approved under State law and submitted to USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for the purposes of the CWA" pursuant to 40 CFR 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

N. Antidegradation Policy. NPDES regulations at 40 CFR 131.12 require that the State water quality standards include an antidegradation policy consistent with federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law and requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. As discussed in the Fact Sheet, the permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

O. Anti-Backsliding Requirements. CWA Sections 402(o)(2) and 303(d)(4) and NPDES regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Some effluent limitations in this Order are less stringent than those in Order No. R2-2003-0072. As discussed in detail in the Fact Sheet, this relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

P. Monitoring and Reporting. NPDES regulations at 40 CFR 122.48 require that all NPDES permits specify requirements for recording and reporting monitoring results. CWC sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.

Q. Standard and Special Provisions. Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The Discharger must

comply with all standard provisions and with those additional conditions that apply under 40 CFR 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the Fact Sheet.

R. Provisions and Requirements Implementing State Law. There are no provisions or requirements in this Order that are included to implement State law only. Such provisions or requirements are not required or authorized under the federal CWA, and consequently, violations of these provisions or requirements are not subject to the enforcement remedies that are available for NPDES violations.

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

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

IT IS HEREBY ORDERED that this Order supersedes Order Nos. R2-2003-0072, and R2-2006-0045, except for enforcement purposes, and, in order to meet the provisions contained in Division 7 of the California Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

A. Discharge of treated wastewater at a location or in a manner different from that described in this Order is prohibited.

B. The bypass of untreated or partially treated wastewater to waters of the United States is prohibited, except as provided for in Section I.G.2 and I.G.4 of Attachment D of this Order.

C. The average dry weather flow, measured at Monitoring Locations E-001, as described in the attached Monitoring and Reporting Plan (MRP) (Attachment E), shall not exceed 17.5 MGD. Upon Executive Officer approval of the submittals required section VI.C.2.e of this Order, the (total) permitted average dry weather discharge will increase to 23.7 MGD, measured at E-001 and E-005; and discharges to Ledgewood Creek at Discharge Point 005 shall be authorized in accordance with the limitations and conditions established by this Order.

The average dry weather flow shall be determined for compliance with this prohibition over three consecutive dry weather months each year.

D. Any sanitary sewer overflow that results in a discharge of untreated or partially treated wastewater to waters of the United States is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS – DISCHARGE POINTS 001, 002, 003 AND 005

1. Effluent Limitations for Conventional and Non-Conventional Pollutants

a. The Discharger shall maintain compliance with the following effluent limitations for Discharge Points 001, 002, 003, and 005, with compliance measured at Monitoring Location E-001-D, except where noted that compliance shall be determined at E-001, as described in the attached MRP (Attachment E). Effluent limitations shall become effective at Discharge Point 005 immediately upon Executive Officer approval of discharge at this outfall.

Table 6. Effluent Limitations for Conventional and Non-Conventional Pollutants

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand (BOD)	mg/L	10	15	20	---	---
Total Suspended Solids (TSS)	mg/L	10	15	20	---	---
Oil and Grease	mg/L	---	---	10	---	---
pH [1],[2]	s.u.	---	---	---	6.5	8.5
Turbidity	NTU	---	---	10	---	---
Total Residual Chlorine [2]	mg/L	---	---	---	---	0.0 [3]

Footnotes to Table 6:

(1) If the Discharger monitors pH continuously, pursuant to 40 CFR 401.17, the Discharger shall be in compliance with the pH limitation specified herein, provided that both of the following conditions are satisfied: (i) the total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (ii) no individual excursion from the range of pH values shall exceed 60 minutes.

(2) Compliance shall be determined at Monitoring Location E-001. The chlorine residual effluent limit applies during all times when chlorination is used for disinfection of the effluent.

(3) This requirement is defined as below the limit of detection in standard test methods as defined in the latest edition of *Standard Methods for the Examination of Water and Wastewater*. The Discharger may elect to use a continuous on-line monitoring system(s) for measuring flows, chlorine, and sulfur dioxide dosage (including a safety factor) and concentration to prove that chlorine residual exceedances are false positives. If convincing evidence is provided, Regional Water Board staff will conclude that these chlorine residual exceedances are false positives and are not violations of the Order's Total Residual Chlorine limit.

b. **BOD and TSS 85 Percent Removal:** The concentration-based average monthly percent removal of BOD and TSS shall not be less than 85 percent.

c. **Enterococcus Bacteria:** The 30-day geometric mean value for all samples analyzed for enterococcus bacteria shall not exceed 33 colonies per 100 mLs.

2. Effluent Limitations for Toxic Pollutants

The Discharger shall maintain compliance with the following effluent limitations at Discharge Points 001, 002, 003, and 005, with compliance measured for at Monitoring Location E-001-D (except as specified), as described in the attached MRP (Attachment E). Effluent limitations shall become effective at Discharge Point 005 immediately upon Executive Officer approval of discharge at this outfall.

Table 7. Effluent Limitations for Toxic Pollutants

Parameter	Units	Final Effluent Limitations [1], [2]	
		Average Monthly	Maximum Daily
Copper	µg/L	7.9	15
Cyanide (E-001)	µg/L	7.4	18
Cyanide (E-002, E-003, E-005)	µg/L	2.1	5.3
Dioxin-TEQ	µg/L	1.4×10^{-8}	2.8×10^{-8}
Chlorodibromomethane [3]	µg/L	34	68
Dichlorobromomethane	µg/L	46	92
Total Ammonia	mg/L N	2.0	4.0

Footnotes to Table 7:

(1) a. Limitations for toxic pollutants apply to the average concentration of all samples collected during the averaging period (daily = 24-hour period; monthly = calendar month).
b. All metals limitations are expressed as total recoverable metal.

(2) A daily maximum or average monthly value for a given constituent shall be considered noncompliant with the effluent limitations only if it exceeds the effluent limitation and the Reporting Level for that constituent. As outlined in SIP Section 2.4.5, Table 8, below, indicates the Minimum Level (ML) for compliance determination purposes. An ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

(3) Final effluent limitations shall become effective on May 18, 2010.

Table 8. Minimum Levels for Pollutants with Effluent Limitations

Parameter	Minimum Level	Units
Copper	0.5	µg/L
Cyanide	5	µg/L
Chlorodibromomethane	0.5	µg/L
Dichlorobromomethane	0.5	
Ammonia	0.2	mg/L
Dioxin-TEQ	As specified below	
2,3,7,8-TCDD	5	pg/L
1,2,3,7,8-PeCDD	25	pg/L
1,2,3,4,7,8-HxCDD	25	pg/L
1,2,3,6,7,8-HxCDD	25	pg/L
1,2,3,7,8,9-HxCDD	25	pg/L
1,2,3,4,6,7,8-HpCDD	25	pg/L
OCDD	50	pg/L
2,3,7,8-TCDF	5	pg/L
1,2,3,7,8-PeCDF	25	pg/L
2,3,4,7,8-PeCDF	25	pg/L
1,2,3,4,7,8-HxCDF	25	pg/L
1,2,3,6,7,8-HxCDF	25	pg/L
1,2,3,7,8,9-HxCDF	25	pg/L
2,3,4,6,7,8-HxCDF	25	pg/L
1,2,3,4,6,7,8-HpCDF	25	pg/L
1,2,3,4,7,8,9-HpCDF	25	pg/L
OCDF	50	pg/L

3. Interim Effluent Limitations

The Discharger shall maintain compliance with the following effluent limitation at Discharge Point 001, 002, 003, and 005, with compliance measured at Monitoring Location E-001-D, as described in the attached MRP (Attachment E). The interim limit for dioxin-TEQ shall remain in effect until 10 years from the effective date of this Order. At that time, the final limits in Table 7 shall become effective.

Table 9. Interim Effluent Limitations for Dioxin-TEQ

Parameter	Units	AMEL
Dioxin-TEQ	µg/L	6.3×10^{-5} µg/L

4. Acute Toxicity

a. Representative samples of the effluent at Discharge Points 001, 002, 003, and 005, with compliance measured at Monitoring Location E-001 or E-005, as described in the attached MRP, shall meet the following limits for acute toxicity. Bioassays shall be conducted in compliance with Section V.A of the MRP (Attachment E).

The survival of organisms in undiluted combined effluent shall be:

- an eleven (11) sample median value of not less than 90 percent survival, and
- an eleven (11) sample 90 percentile value of not less than 70 percent survival.

b. These acute toxicity limitations are further defined as follows:

11 sample median: A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit if five or more of the past ten or less bioassay tests show less than 90 percent survival.

90th percentile: A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit if one or more of the past ten or less bioassay tests show less than 70 percent survival.

c. Bioassays shall be performed using the most up-to-date USEPA protocol and the most sensitive species based on the most recent screening test results. Bioassays shall be conducted in compliance with *Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms,* currently 5th Edition (EPA-821-R-02-012).

d. If the Discharger can demonstrate to the satisfaction of the Executive Officer that toxicity exceeding the levels cited above is caused by ammonia and that the ammonia in the discharge is in compliance with effluent limits, then such toxicity does not constitute a violation of this effluent limitation.

5. Chronic Toxicity

a. Compliance with the Basin Plan narrative chronic toxicity objective shall be demonstrated according to the following tiered requirements based on results from representative samples of the treated final effluent at Monitoring Location EFF-001 or EFF-005, as described in the attached MRP, which meet test acceptability criteria, and follow requirements of Section V.B of the MRP (Attachment E). Failure to conduct the required toxicity tests or a toxicity reduction evaluation (TRE) within the period designated in the MRP may result in the establishment of effluent limitations for chronic toxicity.

(1) Conduct routine quarterly monitoring.

(2) Accelerate monitoring after exceeding a three sample median of 1 chronic toxicity units (TUc) or single-sample maximum of 2 TUc, consistent with Table 4-5 of the Basin Plan for shallow-water dischargers. Accelerated monitoring shall consist of monthly monitoring.

(3) Return to routine monitoring if accelerated monitoring does not exceed the "trigger" in (2), above.

(4) If accelerated monitoring confirms consistent toxicity above the "trigger" in (2), above, initiate toxicity identification evaluation/toxicity reduction evaluation (TIE/TRE) in accordance with a workplan submitted in accordance with Section V.B.3 of the MRP (Attachment E) that incorporates any and all comments from the Executive Officer.

(5) Return to routine monitoring after appropriate elements of the TRE workplan are implemented and either the toxicity drops below the "trigger" level in (2), above, or, based on the results of the TRE, the Executive Officer authorizes a return to routine monitoring.

b. Test Species and Methods

The Discharger shall conduct routine monitoring with the test species and protocols specified in Section V.B of the MRP (Attachment E). The Discharger shall also perform Chronic Toxicity Screening Phase monitoring as described in the Appendix E-1 of the MRP (Attachment E). Chronic Toxicity Monitoring Screening Phase Requirements, Critical Life Stage Toxicity Tests, and definitions of terms used in the chronic toxicity monitoring are identified in Appendices E-1 and E-2 of the MRP (Attachment E).

V. RECEIVING WATER LIMITATIONS

1. Receiving surface water limitations are based on Basin Plan water quality objectives and are a required part of this Order. The discharges shall not cause the following in Boynton Slough, Ledgewood Creek, Suisun Marsh, or the duck ponds:

a. Floating, suspended, or deposited macroscopic particulate matter or foams;

b. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;

c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

d. Visible, floating, suspended, or deposited oil and other products of petroleum origin; or

e. Toxic or other deleterious substances to be present in concentrations or quantities that will cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or that render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State within one foot of the water surface:

a.	Dissolved Oxygen	5.0 mg/L, minimum, from June 1 through November 15 7.0 mg/L, minimum, at all other times of the year

The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.

b.	Dissolved Sulfide	Natural background levels
c.	pH	Within a range from 6.5 to 8.5
d.	Nutrients:	Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

3. The discharge shall not cause a violation of any particular water quality standard for receiving waters adopted by the Regional or State Water Boards as required by the CWA and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to CWA Section 303, or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with federal Standard Provisions included in Attachment D of this Order.

2. The Discharger shall comply with all applicable items of the Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits, August 1993

(Standard Provisions, Attachment G). Where provisions or reporting requirements specified in this Order and Attachment G are different from equivalent or related provisions or reporting requirements given in the Standard Provisions in Attachment D, the specifications of this Order and Attachment G shall apply in areas where those provisions are more stringent. Duplicative requirements in the federal Standard Provisions in VI.A.1 (Attachment D) and the regional Standard Provisions (Attachment G) are not separate requirements. A violation of a duplicative requirement does not constitute two separate violations.

B. Monitoring and Reporting Program Requirements

The Discharger shall comply with the MRP (Attachment E) and future revisions thereto. The Discharger shall also comply with the requirements contained in *Self Monitoring Programs, Part A*, August 1993 (Attachment G).

C. Special Provisions

1. Reopener Provisions

The Regional Water Board may modify or reopen this Order prior to its expiration date in any of the following circumstances as allowed by law:

a. If present or future investigations demonstrate that the discharges governed by this Order will have, or will cease to have, a reasonable potential to cause or contribute to adverse impacts on water quality or beneficial uses of the receiving waters.

b. If new or revised WQOs or Total Maximum Daily Loads (TMDLs) come into effect for the San Francisco Bay estuary and contiguous water bodies (whether statewide, regional, or site-specific). In such cases, effluent limitations in this Order will be modified as necessary to reflect updated WQOs and wasteload allocations in TMDLs. Adoption of effluent limitations contained in this Order is not intended to restrict in any way future modifications based on legally adopted WQOs or TMDLs, or as otherwise permitted under federal regulations governing NPDES permit modifications.

c. If translator or other water quality studies provide a basis for determining that a permit condition should be modified.

d. If an administrative or judicial decision on a separate NPDES permit or WDR addresses requirements similar to this discharge.

e. Or as otherwise authorized by law.

The Discharger may request permit modification based on the above. The Discharger shall include in any such request an antidegradation and antibacksliding analysis.

2. Special Studies, Technical Reports, and Additional Monitoring Requirements

a. Effluent Characterization for Selected Constituents

The Discharger shall continue to monitor and evaluate the discharge from the Plant (measured at Monitoring Location EFF-001-D) for the constituents listed in Enclosure A of the Regional Water Board's August 6, 2001, Letter entitled, *Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy* (Attachment G) according to the sampling frequency specified in the attached MRP (Attachment E). Compliance with this requirement shall be achieved in accordance with the specifications stated in the Regional Water Board's August 6, 2001, Letter under Effluent Monitoring for Major Dischargers.

The Discharger shall evaluate on an annual basis if concentrations of any constituent increase over past performance. The Discharger shall investigate the cause of the increase. The investigation may include, but need not be limited to, an increase in the effluent monitoring frequency, monitoring of internal process streams, and monitoring of influent sources. This requirement may be satisfied through identification of these constituents as "pollutants of concern" in the Discharger's Pollutant Minimization Program described in Provision VI.C.3, below. A summary of the annual evaluation of data and source investigation activities shall also be reported in the annual self-monitoring report.

A final report that presents all the data shall be submitted to the Regional Water Board no later than 180 days prior to the Order expiration date. This final report shall be submitted with the application for permit reissuance.

b. Ambient Background Receiving Water Study

The Discharger shall collect or participate in collecting background ambient receiving water monitoring data for priority pollutants for which the Regional Water Board is required to perform reasonable potential analyses and calculate effluent limitations. The data for the conventional water quality parameters (pH, salinity, and hardness) shall be sufficient to characterize these parameters in the receiving water at a point after the discharge has mixed with the receiving waters. This provision may be met, in part, through monitoring through the Collaborative Bay Area Clean Water Agencies (BACWA) Study or a similar ambient monitoring program for San Francisco Bay. This Order may be reopened, as appropriate, to incorporate effluent limits or other requirements based on Regional Water Board review of these data.

The Discharger shall submit a final report that presents all these data to the Regional Water Board 180 days prior to Order expiration, or cause one to be submitted on its behalf. This final report shall be submitted prior to or with the application for permit reissuance.

c. Diurnal Ammonia Study

The Discharger shall collect receiving water monitoring data for water quality parameters (pH, salinity, hardness, temperature, dissolved oxygen, and ammonia) that shall be sufficient to characterize diurnal variability of these parameters throughout the day.

The Discharger shall submit a study plan acceptable to the Executive Officer by September 1, 2009, that includes the following elements: sampling locations (at the minimum, one upgradient and one downgradient of E-001 and E-005), sampling and analysis protocols (including means to evaluate diurnal conditions, such as some continuous monitoring), sampling parameters (at a minimum, pH, salinity, hardness, temperature, dissolved oxygen, and total ammonia), and a proposed implementation schedule.

The Discharger shall implement the plan within 90 days. A final report that presents all the data shall be submitted to the Regional Water Board no later than 180 days prior to the Order expiration date. This final report shall be submitted with the application for permit reissuance.

d. Updated Technical Report on Recycled Water Use and Discharge Impacts on Beneficial Uses

The Discharger shall update its September 1987 technical report, *Technical Report on Water Quality, Fairfield-Suisun Sewer District Subregional Wastewater Treatment Plant,* using updated water quality data and including an analysis of any changed conditions (such as the addition of the Ledgewood Creek outfall and the planned flow increase) to determine any impacts on Boynton Slough and Ledgewood Creek, and the degree of environmental benefit, if any.

The Discharger shall submit a study plan acceptable to the Executive Officer by September 1, 2009, that includes a description of the proposed analysis, including any data collection needed, and a proposed implementation schedule.

The Discharger shall implement the plan within 90 days of submitting it to the Executive Officer. The Discharger shall submit a final report that presents and evaluates the data collected to the Regional Water Board no later than 180 days prior to this Order's expiration date with the application for permit reissuance.

e. Ledgewood Creek Temperature Study

The Discharger shall collect effluent and receiving water monitoring data for temperature to evaluate temperature impacts from discharge at the Ledgewood Creek outfall (E-005).

The Discharger shall submit a study plan acceptable to the Executive Officer by September 1, 2009, that includes the following elements: sampling locations (at a minimum, at E-005 and at receiving water monitoring stations RSW-006, RSW-007, RSW-009 and RSW-010), sampling and analysis protocols, and a proposed implementation schedule.

f. Optional Mass Offset

If the Discharger can demonstrate that further net reductions of the total mass loadings of 303(d)-listed pollutants (e.g., dioxin-TEQ) cannot be achieved through economically feasible measures such as aggressive source control, wastewater reuse, and treatment plant optimization, but only through a mass offset program, the Discharger may submit to the Regional Water Board for approval a mass offset plan to reduce 303(d)-listed pollutants to the same watershed or drainage basin. The Regional Water Board may modify this Order to allow an approved mass offset program.

g. Optional Site-Specific Translator Study

The Discharger has the option to continue collecting receiving water data to augment the current data set used to develop the site-specific translators used in this Order. A final report summarizing the data and the data analysis may be submitted 180 days prior to the expiration of this Order.

h. Dry Weather Flow Capacity Analysis

The Discharger shall provide the following documentation to the Regional Water Board, and that documentation shall be approved in writing by the Executive Officer, before an increased permitted dry weather treatment capacity is allowed by this Order.

(1) An engineering analysis addressing the following major components of the Plant and outfalls supporting the proposed increased treatment capacity:

a. Evaluation of the reliability, capability, and performance of the Plant facilities to maintain compliance with waste discharge requirements at the proposed higher flow rate. Hydraulic and organic loading capacities of the Plant facilities shall be evaluated by appropriate combinations of desk-top analyses and treatment process stress testing to simulate design peak loading conditions. Evaluation shall include treatment process operations under both dry weather and wet weather design flow conditions, and effluent disposal capacity including storage and discharge to land through reclamation.

b. Evaluation of the reliability and capacity of the wastewater collection facilities to maintain compliance with waste discharge requirements, specifically the prohibition against sanitary sewage overflows, at the proposed higher wastewater flow rate under both dry weather and wet weather conditions.

c. Adequate financial provisions to ensure adequate operation and maintenance of the wastewater treatment and collection facilities.

(2) Certification that the treatment facilities and outfalls have been constructed as designed and are available for use; and

(3) Updated Operation and Maintenance Manual and Contingency Plan reflecting new treatment and outfall facilities.

3. Best Management Practices and Pollution Minimization

a. Pollution Minimization Program (PMP)

The Discharger shall continue to improve, in a manner acceptable to the Executive Officer, its PMP to promote minimization of pollutant loadings to the treatment plant and therefore to the receiving waters.

b. Annual Pollution Prevention (P2) Report

The Discharger shall submit an annual report, acceptable to the Executive Officer, no later than February 28th of each calendar year. The annual report shall cover January through December of the preceding year. Should the Discharger choose to submit earlier in the year, the report shall cover the preceding 12 months two months prior to the submittal date. As an example, a report submitted on June 30, shall cover the preceding 12 month ending in April. Each annual report shall include at least the following information:

(1) *A brief description of the treatment plant, treatment plant processes and service area.*

(2) *Discussion of current pollutants of concern.* Periodically, the Discharger shall determine which pollutants are currently a problem and/or which pollutants may be potential future problems. This discussion shall address why the pollutants were identified as pollutants of concern.

(3) *Identification of sources of pollutants of concern.* This discussion shall address how the Discharger identifies pollutant sources. The Discharger should also identify sources or potential sources not directly within its ability or authority to control, such as pollutants in the potable water supply and air deposition.

(4) *Identification and implementation of measures to reduce the sources of the pollutants of concern.* This discussion shall identify and prioritize tasks to address the Discharger's pollutants of concern. The Discharger may implement the tasks themselves or participate in a regional, State, or national group to address its pollutants of concern whenever it is efficient and appropriate to do so. A time line shall be included for the implementation of each task.

(5) *Outreach to employees.* The Discharger shall inform its employees regarding pollutants of concern, potential sources, and how they might be able to help reduce the discharge of these pollutants. The Discharger may provide a forum for employees to provide input to the program.

(6) *Continuation of Public Outreach Program.* The Discharger shall prepare a public outreach program to communicate pollution minimization measures to its service area. Outreach may include participation in existing community events such as county fairs, initiating new community events such as displays and contests during Pollution Prevention Week, conducting school outreach programs, conducting plant tours, and providing public information in various media. Information shall be specific to target audiences. The Discharger shall coordinate with other agencies as appropriate.

(7) *Discussion of criteria used to measure the PMP's and tasks' effectiveness.* The Discharger shall establish criteria to evaluate the effectiveness of its PMP. This discussion shall address specific criteria used to measure the effectiveness of each task identified in Provision VI.C.3.b.(3–6), above.

(8) *Documentation of efforts and progress.* This discussion shall detail all of the Discharger's activities in the PMP during the reporting year.

(9) *Evaluation of the PMP's and tasks' effectiveness.* The Discharger shall use the criteria established in b.(7), above, to evaluate the PMP's and tasks' effectiveness.

(10) *Identification of specific tasks and time schedules for future efforts.* Based on the evaluation of effectiveness, the Discharger shall describe how it will continue or change its PMP tasks to more effectively reduce the loading of pollutants to the treatment plant and therefore in its effluent.

c. PMP for Pollutants with Effluent Limitations

The Discharger shall develop and conduct a PMP as further described below when there is evidence (e.g., sample results reported as DNQ when the effluent limitation is less than the MDL, sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

(1) A sample result is reported as DNQ and the effluent limitation is less than the RL; or

(2) A sample result is reported as ND and the effluent limitation is less than the MDL, using definitions described in the SIP.

d. PMP Submittals for Pollutants with Effluent Limitations

If triggered by the reasons in c. above, the Discharger's PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

(1) An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling, or alternative measures approved by the Executive Officer when it is demonstrated that source monitoring is unlikely to produce useful analytical data;

(2) Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system, or alternative measures approved by the Executive Officer, when it is demonstrated that influent monitoring is unlikely to produce useful analytical data;

(3) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;

(4) Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and

(5) The annual report required by 3.b. above, shall specifically address the following items:

i. All PMP monitoring results for the previous year,

ii. A list of potential sources of the reportable priority pollutant(s),

iii. A summary of all actions undertaken pursuant to the control strategy, and

iv. A description of actions to be taken in the following year.

4. Construction, Operation, and Maintenance Specifications

a. Wastewater Facilities Review and Evaluation and Status Reports

(1) The Discharger shall operate and maintain its wastewater collection, treatment, and disposal facilities in a manner to ensure that all facilities are adequately staffed, supervised, financed, operated, maintained, repaired, and upgraded as necessary, in order to provide adequate and reliable transport, treatment, and disposal of all wastewater from both existing and planned future wastewater sources under the Discharger's service responsibilities.

(2) The Discharger shall regularly review and evaluate its wastewater facilities and operation practices in accordance with (1) above. Reviews and evaluations shall be conducted as an ongoing component of the Discharger's administration of its wastewater facilities.

(3) The Discharger shall provide the Executive Officer, upon request, a report describing the current status of its wastewater facilities and operation practices, including any recommended or planned actions and an estimated time schedule for these actions. The Discharger shall also include, in each annual Self-Monitoring Report, a description or summary of review and evaluation procedures, and applicable wastewater facility programs or capital improvement projects.

b. Operations and Maintenance (O&M) Manual, Review and Status Reports

(1) The Discharger shall maintain an O&M manual for its wastewater facilities. The O&M Manual shall be maintained in usable condition and be available for reference and use by all applicable personnel.

(2) The Discharger shall regularly review, revise, or update, as necessary, the O&M Manual(s) to ensure that the document(s) may remain useful and relevant to current equipment and operation practices. Reviews shall be conducted annually, and revisions or updates shall be completed as necessary. Applicable revisions of the O&M manual shall be completed within 90 days of any significant changes being made in facility equipment or operation practices.

(3) The Discharger shall provide the Executive Officer a report describing the current status of its O&M manual, including any recommended or planned actions and an estimated time schedule for these actions, upon request. The Discharger shall also include a description or summary of review and evaluation procedures and applicable changes to its O&M manual in each Annual Self-Monitoring Report.

c. Contingency Plan, Review and Status Reports

(1) The Discharger shall maintain a Contingency Plan as required by Regional Water Board Resolution 74-10 (Attachment G) and as prudent in accordance with current municipal facility emergency planning. The discharge of pollutants in violation of this Order where the Discharger has failed to develop and/or adequately implement a Contingency Plan will be the basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California CWC.

(2) The Discharger shall regularly review and update the Contingency Plan so that the plan may remain useful and relevant to current equipment and operation practices. Reviews shall be conducted annually, and updates shall be completed as necessary.

(3) The Discharger shall provide the Executive Officer a report describing the current status of its review and update of the Contingency Plan upon request. The Discharger shall also include a description or summary of review and evaluation procedures and applicable changes to its Contingency Plan in each Annual Self-Monitoring Report.

5. Special Provisions for POTWs

a. Pretreatment Program

(1) The Discharger shall implement and enforce its approved pretreatment program in accordance with federal Pretreatment Regulations (40 CFR 403); pretreatment standards promulgated under Sections 307(b), 307(c), and 307(d) of the Clean Water Act; pretreatment requirements specified under 40 CFR 122.44(j); and the requirements in Attachment H, "Pretreatment Requirements." The Discharger's responsibilities include, but are not limited to:

i. Enforcement of National Pretreatment Standards of 40 CFR 403.5 and 403.6;

ii. Implementation of its pretreatment program in accordance with legal authorities, policies, procedures, and financial provisions described in the General Pretreatment regulations (40 CFR 403) and its approved pretreatment program;

iii. Submission of reports to USEPA, the State Water Board, and the Regional Water Board, as described in Attachment H "Pretreatment Requirements"; and

iv. Evaluation of the need to revise local limits under 40 CFR 403.5(c)(1) and, within 180 days after the effective date of this Order, submission of a report describing the changes, with a plan and schedule for implementation. To ensure no significant increase in the discharge of copper, and thus compliance with

antidegradation requirements, the Discharger shall not consider eliminating or relaxing local limits for copper in this evaluation.

(2) The Discharger shall implement its approved pretreatment program and the program shall be an enforceable condition of this Order. If the Discharger fails to perform the pretreatment functions, the Regional Water Board, the State Water Board, or USEPA may take enforcement actions against the Discharger as authorized by the Clean Water Act.

b. Biosolids Management Practices Requirements

(1) All biosolids generated by the Discharger must be disposed of in a municipal solid waste landfill, used as part of a waste-to-energy facility, reused by land application, or disposed of in a sludge-only landfill in accordance with 40 CFR 503. If the Discharger desires to dispose of biosolids by a different method, a request for permit modification must be submitted to USEPA 180 days before start-up of the alternative disposal practice. All the requirements in 40 CFR 503 are enforceable by USEPA whether or not they are stated in an NPDES permit or other permit issued to the Discharger. The Regional Water Board should be copied on relevant correspondence and reports forwarded to USEPA regarding sludge management practices.

(2) Biosolids treatment, storage and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.

(3) The Discharger shall take all reasonable steps to prevent or minimize any biosolids use or disposal which has a likelihood of adversely affecting human health or the environment.

(4) The discharge of biosolids shall not cause waste material to be in a position where it is or can be carried from the biosolids treatment and storage site and deposited in waters of the State.

(5) The biosolids treatment and storage site shall have facilities adequate to divert surface runoff from adjacent areas, to protect boundaries of the site from erosion, and to prevent any conditions that would cause drainage from the materials in the temporary storage site. Adequate protection is defined as protection from at least a 100-year storm and protection from the highest possible tidal stage that may occur.

(6) For biosolids that are applied to the land, placed on a surface disposal site, or fired in a biosolids incinerator as defined in 40 CFR 503, the Discharger shall submit an annual report to USEPA and the Regional Water Board containing monitoring results and pathogen and vector attraction reduction requirements as specified by 40 CFR 503, postmarked February 15 of each year, for the period covering the previous calendar year.

(7) Biosolids that are disposed of in a municipal solid waste landfill must meet the requirements of 40 CFR 258. In the annual Self-Monitoring Report, the Discharger shall include the amount of biosolids disposed of and the landfill(s) to which it was sent.

(8) Permanent on-site biosolids storage or disposal activities are not authorized by this Order. A report of Waste Discharge shall be filed and the site brought into compliance with all applicable regulations prior to commencement of any such activity by the Discharger.

(9) Biosolids Monitoring and Reporting Provisions of this Regional Water Board's Standard Provisions (Attachment G), apply to sludge handling, disposal and reporting practices.

(10) The Regional Water Board may amend this Order prior to expiration if changes occur in applicable State and federal sludge regulations.

c. Sanitary Sewer Overflows and Sewer System Management Plan

The Discharger's collection system is part of the Plant that is subject to this Order. As such, the Discharger must properly operate and maintain its collection system (Attachment D, Standard Provisions - Permit Compliance, subsection I.D). The Discharger must report any noncompliance (Attachment D, Standard Provision - Reporting, subsections V.E.1 and V.E.2) and mitigate any discharge from the Discharger's collection system in violation of this Order (Attachment D, Standard Provisions - Permit Compliance, subsection I.C). The General Waste Discharge Requirements for Sanitary Sewer Systems (General WRDs for Wastewater Collection Agencies, State Water Board Order No. 2006-0003 DWQ) has requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. While the Discharger must comply with both the General WDRs for Wastewater Collection Agencies and this Order, the General WDRs for Wastewater Collection Agencies more clearly and specifically stipulate requirements for operation and maintenance and for reporting and mitigating sanitary sewer overflows.

Implementation of the requirements of the General WDR for Wastewater Collection Agencies for proper operation and maintenance and mitigation of spills will satisfy the corresponding federal NPDES requirements specified in this Order. Following reporting requirements in the General WDRs for Wastewater Collection Agencies will satisfy NPDES reporting requirements for sewage spills. Furthermore, the Discharger shall continue to comply with the schedule for development of sewer system management plans as indicated in the Regional Water Board letter issued on July 7, 2005, pursuant to CWC Section 13267; and with the sanitary sewer overflow and unauthorized discharge notification and reporting requirements of the Regional Water Board letter issued on May 1, 2008, pursuant to CWC Section 13267; and with the sanitary sewer overflow and unauthorized discharge notification and reporting requirements of the Regional Water Board letter issued on May 1, 2008, pursuant to CWC section 13267. The Discharger shall report sanitary sewer overflows electronically using the State Water Board's on-line reporting system.

6. Copper Action Plan

The Discharger shall implement pretreatment, source control, and pollution prevention for copper in accordance with the following tasks and time schedule.

Table 10. Copper Action Plan

Task	Compliance Date
1. Review Potential Copper Sources The Discharger shall submit an inventory of potential copper sources to the treatment plant.	September 1, 2009
2. Implement Copper Control Program The Discharger shall submit a plan for and begin implementation of a program to reduce copper discharges identified in Task 1 consisting, at a minimum, of the following elements: a. Provide education and outreach to the public (e.g., focus on proper pool and spa maintenance and plumbers' roles in reducing corrosion). b. If corrosion is determined to be a significant copper source, work cooperatively with local water purveyors to reduce and control water corrosivity, as appropriate, and ensure that local plumbing contractors implement best management practices to reduce corrosion in pipes. c. Educate plumbers, designers, and maintenance contractors for pools and spas to encourage best management practices that minimize copper discharges.	February 28, 2010, with 2009 Annual Pollution Prevention report
3. Implement Additional Measures If the three-year rolling mean copper concentration of the receiving water exceeds 2.8 µg/L, evaluate the effluent copper concentration trend, and if it is increasing, develop and implement additional measures to control copper discharges.	Within 90 days of exceedance
4. Report Status of Copper Control Program Submit a report to the Regional Water Board documenting implementation of the copper control program.	With Annual Pollution Prevention reports due February 28th of each year

7. Cyanide Action Plan

The Discharger shall implement monitoring and surveillance, pretreatment, source control, and pollution prevention for cyanide in accordance with the following tasks and time schedule.

Table 11. Cyanide Action Plan

Task	Compliance Date
1. Review Potential Cyanide Contributors The Discharger shall submit an inventory of potential contributors of cyanide to the treatment plant (e.g., metal plating operations, hazardous waste recycling.). If no contributors of cyanide are identified, Tasks 2 and 3 are not required, unless the Discharger receives a request to discharge detectable levels of cyanide to the sanitary sewer. If so, the Discharger shall notify the Executive Officer and implement Tasks 2 and 3.	September 1, 2009
2. Implement Cyanide Control Program The Discharger shall submit a plan for and begin implementation of a program to minimize cyanide discharges to the sanitary sewer system consisting, at a minimum, of the following elements: a. Inspect each potential contributor to assess the need to include that contributing source in the control program. b. Inspect contributing sources included in the control program annually. Inspection elements may be based on U.S. EPA guidance, such as Industrial User Inspection and Sampling Manual for POTWs (EPA 831-B-94-01). c. Develop and distribute educational materials to contributing sources and potential contributing sources regarding the need to prevent cyanide discharges. d. Prepare an emergency monitoring and response plan to be implemented if a significant cyanide discharge occurs. e. If ambient monitoring shows cyanide concentrations of 1.0 µg/L or higher in the main body of San Francisco Bay, undertake actions to identify and abate cyanide sources responsible for the elevated ambient concentrations.	With the Annual Pollution Prevention report due each year on February 28, or within 90 days of completing Task 1
3. Report Status of Cyanide Control Program Submit a report to the Regional Water Board documenting implementation of the cyanide control program.	With the Annual Pollution Prevention report due each year on February 28

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in Section IV of this Order will be determined as specified below:

A. General.

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in Attachment A to the MRP (Attachment E) and Fact Sheet Section VI. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

B. Multiple Sample Data.

When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set

contains one or more reported determinations of DNQ or ND. In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ), also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

$$\textbf{Arithmetic mean} = \mu = \Sigma x / n$$

where:
Σx is the sum of the measured ambient water concentrations; and
n is the number of samples.

Average Monthly Effluent Limitation (AMEL) is the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL) is the highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Bioaccumulative pollutants are those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (*CV*) is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in this Order), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ) are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Effluent Concentration Allowance (ECA) is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in USEPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of San Francisco Bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Estimated Chemical Concentration is the estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters include, but are not limited to, the Sacramento-San Joaquin Delta, as defined in California Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters are all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation is the highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation is the lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Maximum Daily Effluent Limitation (MDEL) means the highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median is the middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the $n/2$ and $n/2+1$).