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Defending Our Waters—from the High Sierra to the Golden Gate

February 22, 2007

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RE: Petition for Review of Waste Discharge Requirements (NPDES No. CA0038369) for the South Bayside System Authority Wastewater Treatment Plant, Issued by Regional Board Order No. R2-2007-0006

Dear Ms. Jennings and State Water Resources Control Board:

Baykeeper hereby petitions the State Water Resources Control Board ("State Board") for review of the National Pollutant Discharge Elimination System ("NPDES") Permit No. CA0038369 ("the Permit") issued on January 23, 2007 by the California Regional Water Quality Control Board, San Francisco Region ("Regional Board"), by Order No. R2-2007-0006, for discharges of pollutants to waters of the United States from the South Bayside System Authority ("SBSA") Wastewater Treatment Plant ("the WWTP"). A copy of Order No. R2-2007-0006 is attached hereto as Exhibit A.

As issued by the Regional Board, the Permit conflicts with the Clean Water Act ("CWA")'s fundamental requirements that NPDES permits include effluent limitations sufficiently stringent to ensure the attainment of CWA water quality standards ("WQS"). WQS are meant to protect the water quality needed for our State's waters to be usable for fishing, swimming, drinking and irrigation water supply, wildlife habitat, and the various other beneficial uses of such waters. Permit limits that ensure attainment of WQS are key to the CWA's scheme of protecting the beneficial uses of the public's waters. There are several flaws in the Permit discussed below that violate CWA requirements, United States Environmental Protection Agency ("EPA") regulations, and the San Francisco Bay Region Basin Plan ("Basin Plan"). As a result, the unlawful Permit issued by the Regional Board does not adequately protect the water quality of San Francisco Bay.

Baykeeper raised and presented all the issues addressed in this Petition to the Regional Board in a December 18, 2006 public comment letter duly submitted to the Regional Board during the applicable public comment period on the Permit and in live oral testimony at the January 23, 2007 public hearing before the Regional Board on the

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Permit. The comment letter is attached to the Petition as Exhibit B. Baykeeper has sent copies of this Petition to the Regional Board and to SBSA.

I. Factual Background

A. Baykeeper

Baykeeper is a regional non-profit public benefit corporation organized under the laws of the State of California. Baykeeper's mission is to protect and enhance the water quality of the waters of the San Francisco Bay and Delta for the benefit of their ecosystems and human communities. Baykeeper strives to protect the Bay and Delta by investigating pollution problems and bringing enforcement actions against polluters directly when necessary.

Using targeted administrative and legal advocacy before the State and regional regulators, Baykeeper plays a lead role in developing sound and legal standards, permits, and regulations. A key area of the group's focus is ensuring that State and Federal environmental laws are implemented properly and enforced.

Baykeeper and its members and the general public are adversely impacted by the discharge of pollutants from the WWTP, which threatens serious adverse impact on San Francisco Bay. Baykeeper and its members and the general public are aggrieved by the Regional Board's Permit decision because the Permit renders the excessive discharges of pollutants from the WWTP lawful under the CWA, thus beyond the public's ability to seek remedy for these discharges under the enforcement provisions of the CWA (which includes action by EPA, the Federal agency primarily responsible for protection the nation's waters, and/or by citizens).

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Baykeeper's counsel's contact information is as follows: Christopher Sproul, Environmental Advocates, 5135 Anza Street, San Francisco, California 94121. Baykeeper's counsel may be reached via telephone at (415) 533-3376, via facsimile at (415) 358-5695, or via electronic mail to csproul@enviroadvocates.com.

B. The WWTP

The WWTP, located at 1400 Radio Road, Redwood City, California 94065 is currently owned and operated by the South Bayside System Authority. The WWTP accepts and treats domestic, commercial and industrial wastewater from a service area with a population of approximately 217,000. The WWTP receives influent flows from the West Bay Sanitary District (population 55,000), the cities of Belmont (25,123), San Carlos (22,718), Redwood City (75,402), Woodside (5,352), and San Mateo County

(28,637). The WWTP discharges up to 29 million gallons of treated sewage to Lower San Francisco Bay.

II. Argument

The Clean Water Act mandates that:

> there shall be achieved . . . not later than July 1, 1977, any more stringent limitations, including those necessary to meet water quality standards, treatment standards, or schedules of compliance, established pursuant to any State law or regulations . . . or any other Federal law or regulation, or required to implement any applicable water quality standard established pursuant to this chapter.

CWA § 301(b)(1)(C), 33 U.S.C. § 1311(b)(1)(C).[1] Further, EPA regulations require permitting authorities to control all pollutants that are or may be discharged at a level that "will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard." 40 C.F.R. § 122.44(d)(1)(i). Despite these unambiguous statutory and regulatory requirements for achieving water quality-based effluent limitations ("WQBELs"), the Permit omits WQBELs on several parameters such as cyanide and dioxin and instead imposes a compliance schedule and interim permit limits far more lenient than WQBELs. In so doing, the permit gives WWTP an extension for meeting WQBELs that extends far beyond the statutory deadline in CWA section 301(b)(1)(C) for achieving WQBELs. Furthermore, the Permit does not include the required effluent limit for chronic toxicity, violates the CWA's anti-backsliding requirements, violates EPA regulations with respect to bypass authorizations, and does not implement bacteria limitations that are stringent enough to protect beneficial uses of the receiving waters. The approach taken to these issues by the Regional Board is blatantly illegal and directly undermines the WQS that are the heart of the Clean Water Act.

A. The Permit's Compliance Schedule Provisions are Inconsistent with Federal and State Law.

1. The CWA does not allow compliance schedules to delay the effective date of WQBELS.

a. CWA Section 301(b)(1)(C) establishes a firm deadline for complying with WQBELs.

Numerous courts have held that neither the EPA nor the states have the authority to extend the deadlines for compliance established by Congress in CWA section 301(b)(1). *See State Water Control Board v. Train*, 559 F.2d 921, 924-25 (4th Cir. 1977) ("Section 301(b)(1)'s effluent limitations are, on their face, unconditional."); *Bethlehem*

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[1] Case law and EPA documents often cite the statutes at large section numbers of the CWA rather than the CWA's United States Code codification. The initial citations to the CWA herein include both; thereafter citations are only to the statutes at-large sections.

Steel Corp. v. Train, 544 F.2d 657, 661 (3d Cir. 1976), *cert. denied sub nom. Bethlehem Steel Corp. v. Quarles*, 430 U.S. 975 (1977) ("Although we are sympathetic to the plight of Bethlehem and similarly situated dischargers, examination of the terms of the statute, the legislative history of [the Clean Water Act] and the case law has convinced us that July 1, 1977 was intended by Congress to be a rigid guidepost").

This deadline applies equally to technology-based effluent limitations and WQBELs. *See Dioxin/Organochlorine Ctr. v. Rasmussen*, 1993 WL 484888 at *3 (W.D. Wash. 1993), *aff'd sub nom. Dioxin/Organochlorine Ctr. v. Clarke*, 57 F.3d 1517 (9th Cir. 1995) ("The Act required the adoption by the EPA of 'any more stringent limitation, including those necessary to meet water quality standards,' by July 1, 1977.") (citation omitted); *Longview Fibre Co. v. Rasmussen*, 980 F.2d 1307, 1312 (9th Cir. 1992) ("[Section 301(b)(1)(C)] requires achievement of the described limitations 'not later than July 1, 1977.' ") (citation omitted). Any discharger not in compliance with a WQBEL after July 1, 1977, violates this clear congressional mandate. *See Save Our Bays and Beaches v. City & County of Honolulu*, 904 F. Supp. 1098, 1122-23 (D. Haw. 1994).

Congress provided no blanket authority in the Clean Water Act for extensions of the July 1, 1977, deadline, but it did provide authority for the states to foreshorten the deadline. CWA section 303(f) provides that:

> [n]othing in this section [1313] shall be construed to affect any effluent limitations or schedule of compliance required by any State to be implemented prior to the dates set forth in section 1311(b)(1) and 1311(b)(2) of this title nor to preclude any State from requiring compliance with any effluent limitation or schedule of compliance at dates earlier than such dates.

33 U.S.C. § 1313(f). Because the statute contains explicit authority to expedite the compliance deadline but not to extend it, the Regional Board may not authorize extensions beyond this deadline in discharge permits.

b*. *The July 1, 1977 deadline for WQBELs applies even where WQS are established after that date.

The July 1, 1977, deadline for achieving WQBELs applies equally even if the applicable water quality standards are established after the compliance deadline. CWA section 301(b)(1)(C) requires the achievement of "more stringent limitations necessary to meet water quality standards . . . established pursuant to any State law . . . or required to implement any applicable water quality standard established pursuant to this chapter." Congress understood that new water quality standards would be established after the July 1, 1977 statutory deadline; indeed, Congress mandated this by requiring states to review and revise their water quality standards every three years. *See* CWA section 303(c). Yet, Congress did not draw a distinction between achievement of water quality standards established before the deadline and those established after the deadline.

Prior to July 1, 1977, therefore, a discharger could be allowed some time to comply with an otherwise applicable WQBEL. Beginning on July 1, 1977, however, dischargers were required to comply as of the date of permit issuance with WQBELs, including those necessary to meet WQS established subsequent to CWA section 301(b)(1)(C)'s compliance deadline.

c. Congress has authorized limited extensions of CWA deadlines for specific purposes, precluding exceptions for other purposes.

In the Clean Water Act Amendments of 1977, Congress provided limited extensions of the July 1, 1977, deadline for achieving WQBELs. In CWA section 301(i), Congress provided that "publicly-owned treatment works" ("POTWs") that must undertake new construction in order to achieve the effluent limitations, and need federal funding to complete the construction, may be eligible for a compliance schedule that may be "in no event later than July 1, 1988." CWA Section 301(i)(1) (emphasis added). Congress provided for the same limited extension for industrial dischargers that discharge into a POTW that received an extension under CWA section 301(i)(1). *See* CWA section 301(i)(2). Also, Congress indicated that the effective date of effluent limitations on toxic pollutant discharge required by CWA section 307(a)(2) could be delayed for up to three years after their promulgation, but no further. 33 U.S.C. § 1317(a)(6). Finally, Congress provided that the effective date of pretreatment standards imposed pursuant to CWA § 307(b) on indirect dischargers ("industrial users") that discharge into a POTW may be delayed for no more than two years after their adoption. *See* CWA section 307(e).

The fact that Congress explicitly authorized certain extensions indicates that it did not intend to allow others which it did not explicitly authorize. In *United States v. Homestake Mining Co.*, the Eighth Circuit held that an enforcement extension authorized by section 301(a)(2)(B) for technology-based effluent limitations did not also extend the deadline for achievement of WQBELs. 595 F.2d 421, 427-28 (8th Cir. 1979). The court pointed to Congress' decision to extend only specified deadlines:

> Having specifically referred to water quality-based limitations in the contemporaneously enacted and similar subsection [CWA section 309](a)(6), the inference is inescapable that Congress intended to exclude extensions for water quality-based permits under subsection 309(a)(5) by referring therein only to Section 301(b)(1)(A). *See generally* H.R. Conf. Rep. No. 95-830, 95th Cong., 1st Sess. 88-89, Reprinted in (1977) U.S.Code Cong. & Admin.News, pp. 4463-64.

Id. at 428. By the same reasoning, where Congress extended the deadline for achieving effluent limitations for specific categories of discharges and otherwise left the July 1, 1977 deadline intact, there is no statutory basis for otherwise extending the deadline.

d. Schedules of compliance may be issued only to facilitate, not to avoid, achievement of effluent limitations by the statutory deadline.

The Clean Water Act defines the term effluent limitation as:

> any restriction established . . . on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters, the waters of the contiguous zone, or the ocean, including schedules of compliance.

CWA section 502(11), 33 U.S.C. § 1362(11). The term schedule of compliance is defined, in turn, as "a schedule of remedial measures including an enforceable sequence of actions or operations leading to compliance with an effluent limitation, other limitation, prohibition, or standard." CWA section 502(17). The purpose of a compliance schedule is to facilitate compliance with an effluent limitation by the applicable deadline by inserting interim goals along the way:

> [a] definition of effluent limitations has been included so that control requirements are not met by narrative statements of obligation, but rather are specific requirements of specificity as to the quantities, rates, and concentration of physical, chemical, biological and other constituents discharged from point sources. It is also made clear that the term effluent limitation includes schedules and time tables of compliance. The Committee has added a definition of schedules and time-tables of compliance so that it is clear that enforcement of effluent limitations is not withheld until the final date required for achievement.

S. Rep. No. 92-414, at 77, *reprinted in* 1972 U.S.C.C.A.N. 3668 (Oct. 28, 1971) (emphasis added). Thus, Congress authorized compliance schedules, not to extend its deadlines for achievement of effluent limitations, but to facilitate achievement by the prescribed deadlines.

In *United States Steel Corp. v. Train*,, the industry plaintiff argued that CWA section 301(b)(1)(C) allows the July 1, 1977, deadline to be met simply by beginning action on a schedule of compliance that eventually would result in achieving the technology- and water quality-based limitations. 556 F.2d 822, 855 (7th Cir 1977). The Court of Appeals disagreed:

> [w]e reject this contorted reading of the statute. We recognize that the definition of 'effluent limitation' includes 'schedules of compliance,' section [1362(11)], which are themselves defined as 'schedules . . . of actions or operations leading to compliance' with limitations imposed under the Act. Section [1362(17)]. It is clear to us, however, that section [1311(b)(1)] requires point sources to achieve the effluent limitations based on BPT or state law, not merely to be in the process of achieving them, by July 1, 1977.

Id. Thus, compliance schedules may not be used as a means of evading, rather than meeting, the deadline for achieving WQBELs.

e. States may not issue permits containing effluent limitations that are less stringent than those required by the Clean Water Act.

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

2. Assuming arguendo that compliance schedules may delay the effective date of WQBELs, the Permittee does not meet the requirements for such compliance schedules.

a. No legal basis exists for the granting of compliance schedules for dioxin-TEQ and cyanide WQBELs.

The Regional Board contends that compliance schedules which delay the effective date of WQBELs (hereinafter "WQBEL delaying compliance schedules") are authorized in the circumstances specified by (1) the California Toxics Rule ("CTR"), 40 C.F.R. § 131.38; (2) the State's implementation plan for toxic pollutant control, *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California,* Section 2, p. 20 (2005) ("SIP"); and/or (3) the San Francisco Bay Basin Plan ("Basin Plan"). Neither the CTR, the SIP, nor the Basin Plan, however, provides a basis for the WQBEL delaying compliance schedules contained in the Permit.

The Permit contains a compliance schedule and final effluent limit for dioxin-TEQ based on the Basin Plan's narrative water quality objective for bioaccumulation and translated into a numeric limit expressed in terms of 2,3,7,8-TCDD equivalents. The Basin Plan provides that the Board may consider compliance schedules for "newly adopted objectives or standards as NPDES permit conditions for particular substances, where revised effluent limitations are not currently being met and where justified." Basin Plan, Section 4.7.6. The narrative Basin Plan water quality objective relied upon in the permit for a dioxin-TEQ WQBEL was originally adopted in 1986 and has not been subsequently changed. *See* Attachment C, Excerpts from 1995 and 2004 Basin Plans.

As recently recognized by the State Board staff in the Draft Order on the East Bay Municipal Utility District's Wet Weather Overflow Facilities[2] (Draft EBMUD Order), the adoption of the SIP in April 2000 cannot be characterized as changing any Basin Plan or other water quality standards. The SIP did not change or newly interpret underlying objectives, it merely established consistent procedures to implement existing standards. Draft EBMUD Order at 29. Thus, it is inappropriate to characterize the water quality objective upon which the dioxin WQBEL in the Permit is based as a newly adopted or interpreted water quality standard as it has not changed since 1986.

The numeric criteria relied upon in the permit for the cyanide criteria was published in the National Toxics Rule ("NTR") in 1992. 40 C.F.R. § 131.38(b)(1); 40 C.F.R. § 131.36(b)(1). The NTR does not grant the authority to issue compliance schedules for WQBELs. Again, although the Basin Plan provides authority for compliance schedules where objectives are newly adopted or revised, the cyanide limit cannot be characterized as new or revised as it has been in effect since 1992. *See* Draft EBMUD Order at 29. Furthermore, the Basin Plan authority to grant compliance schedules for new or revised WQBELs does not apply to WQBELs derived from other sources or merely incorporated by reference into the Basin Plan (though not promulgated as Basin Plan water quality objectives), such as the NTR or CTR.

b. The timeframes used by the Regional Board for granting the compliance schedules does not comply with Basin Plan or SIP guidelines.

The Permit also establishes incorrect deadlines for compliance schedules. Although ostensibly based on the Basin Plan's compliance schedule provisions, the Permit calculates the deadline for final compliance with cyanide and dioxin-TEQ as ten years from the effective date of the SIP. As recently recognized by the State Board, the SIP did not change or newly interpret underlying objectives, it merely established consistent procedures to implement existing standards. Draft EBMUD Order at 29. Further, the Basin Plan's compliance schedule authorization section requires that all measures required to comply with WQBELs shall be completed "in no event later than ten years after new objectives or standards take effect." Basin Plan, Section 4.7.6. The permissible length of compliance schedules must therefore be calculated using the date that the objective or standard was originally promulgated as the baseline. Thus, 2002 was the latest date for compliance with the cyanide WQBEL (as the limit is based on the 1992 NTR), and 1996 was the latest date for compliance with dioxin-TEQ WQBEL (as the limit based on the 1986 Basin Plan).

For the foregoing reasons, the Permit should be remanded to the Regional Board with instruction to remove these compliance schedule provisions for cyanide and dioxin-TEQ.

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[2] In the Matter of Own Motion Review of East Bay Municipal Utility District Wet Weather Permit (Order No. R2-2005-0047 [NPDES No. CA0038440]) and Time Schedule Order (Order No. R2-2005-0048), SWRCB/OCC FILE A-1771 (January 12, 2007).

c. The compliance schedules and interim limits lack enforceable interim requirements likely to lead to compliance.

Even if the use of compliance schedules is lawful, the permit's schedules and interim limitations are inadequate to meet federal and state requirements. The Clean Water Act defines compliance schedules as "an enforceable series of actions or operations leading to compliance with an effluent limitation, other limitation, prohibition, or standard." CWA section 502(a), 33 U.S.C. § 1362(a). EPA regulations further specify that schedules of compliance means "a schedule of remedial measures included in a "permit", including an enforceable sequence of interim requirements (for example, actions, operations, or milestones events) leading to compliance with the CWA and regulations. 40 C.F.R. § 122.2, *see also* 40 C.F.R. § 122.47. Similarly, the compliance schedule authorizing provision of the SIP directs the Regional Board to "establish interim requirements and dates for their achievement in the NPDES permit." SIP at 22. The CWA, EPA regulations, and the SIP all thus mandate that a compliance schedule contains specific, enforceable milestones that will eventually lead to attainment of WQBELs. This interpretation was recently reinforced by EPA. In a letter disapproving portions of the North Coast Basin Plan's compliance schedules provisions, EPA Region 9 Water Division Director Alexis Strauss stated that "the Regional Board, when it issues permits, must nevertheless establish enforceable requirements leading to compliance with the final effluent limitation." Letter to Tom Howard, Acting Executive Director, State Board from Alexis Strauss, Water Division Director, EPA, dated November 29, 2006.

Although the Permit was slightly revised in response to EPA's comments to contain a list of actions, the required actions are still vague and not clearly designed to lead to compliance. The permit merely requires the discharger (1) provide status reports on their efforts in support of SSOs or TMDLs, (2) continue to implement and improve their source control measures, which have been ineffective to date, and (3) submit, by July 1, 2009, a schedule of how it will reduce cyanide and dioxin-TEQ to ensure compliance with the final limits. Obviously, the Regional Board has not presently established a compliance schedule mandating specific, identified actions that will lead to compliance with the permit's cyanide and dioxin-TEQ WQBELs when it has specified the permittee submit two and a half years from now a "schedule" of actions of unspecified content. Moreover, when the permittee submits its July 1, 2009 schedule, the effective date of the final cyanide limit will be only 10 months away—making it highly improbable that the schedule will specify actions that will actually bring the permittee into compliance with the WQBEL. In the Draft EBMUD Order, the State Board staff explicitly rejected a series of studies as a "paper effort" and not meeting the regulatory requirements for compliance schedules. Draft EBMUD Order at 28. This Permit's requirements are even more ambiguous than the EBMUD Permit as aside from continuing source control studies, the SBSA Permit leaves completely unknown what the discharger must or will do to attainment compliance with the Permit's final WQBELs.

If the State Board finds that WQBEL-delaying compliance schedules may be granted to SBSA, the State Board should nonetheless remand the Permit to the Regional

Board with direction to include a specified list of actions that will lead to compliance with WQBELs.

d. Inadequate information exists to determine infeasibility.

Demonstration of infeasibility to immediately comply with final effluent limitations is a perquisite to the issuance of WQBEL-delaying compliance schedules. The Regional Board's infeasibility analyses for cyanide and dioxin-TEQ are impermissibly based solely on the discharger's past discharge monitoring data, which showed concentrations in the effluent that exceed the WQBELs. The fact sheet recites no evidence and provides no analysis of whether SBSA could feasibly comply with WQBELs by changing operations and maintenance practices, installing equipment, changing administration of its pretreatment program, improving staff training, or taking other available measures. It is insufficient to assume, without any evidence or analysis in the administrative record, that a history of discharging pollutant levels exceeding a WQBEL means compliance with a WQBEL is infeasible.

Moreover, the fact sheet lacks any evidence or analysis concerning what measures SBSA should or could employ to comply with the WQBELs and the minimum time SBSA could reasonably be required to employ these measures. Rather than limiting the compliance schedule to the time SBSA could reasonably be expected to come into compliance with WQBELs, the Permit allows SBSA's compliance schedule to last until the last possible date. In so doing, the Regional Board has failed to comply with 40 C.F.R. §§ 122.47(a)(1) and 131.38(e)(4) which require that compliance schedules "require compliance *as soon as possible.*"

As justification for issuing a WQBEL-delaying compliance schedule for dioxin-TEQ limits, the Regional Board found that requiring the permittee to implement measures to reduce dioxins and furans would be "overly burdensome and [] not cost effective for the benefits received." *See* Attachment D, Excerpt from Tentative Order Fact Sheet, Section IV.C.4.d.(5)(g). This is impermissible justification for two reasons. One, the administrative record lacks any evidence supporting this assertion. The fact sheet does not identify any consideration of changes to operation and maintenance or capital infrastructure that might reduce the level of dioxins discharged. The fact sheet also lacks any analysis of the costs of meeting the dioxins limit or the value of reductions. Thus, the Regional Board lacked any evidentiary support for this assertion, which amounts to no more than the Regional Board's unsubstantiated prejudice. Two, even if the Regional Board had evidence to perform reasoned analysis of the costs versus the benefits of setting WQBELs that require the permittee to reduce dioxin discharges, it is improper for Regional Boards to avoid setting effluent limitations in NPDES permits do to their own judgment that the costs of compliance exceed the benefits. As a federal court recently observed, the CWA forbids administrative agencies from taking into account "cost considerations or an assessment of the desirability of reducing adverse environmental impacts in light of the cost of doing so [when setting effluent limitations]. The statute . . . precludes cost-benefit analysis because Congress itself defined the basic relationship between costs and benefits." *Riverkeeper, Inc., et al. v. EPA*, 2007 WL

184658 (2nd Cir. 2007) (Jan. 25, 2007). As noted, Congress mandated that WQBELs must be set at a level necessary to ensure WQS attainment regardless of economic and technological restraints. *Ackels v. EPA* 7 F.3d 862, 865-66 (9th Cir. 1993); *Defenders of Wildlife v. Browner* 191 F.3d 1159, 1163 (9th Cir. 1999); *Oklahoma v. EPA*, 908 F.2d 595, 597-98 (10th Cir. 1990); *rev'd on other grounds Arkansas v. Oklahoma*, 503 US 91 (1992); *accord In the Matter of: NPDES for City of Fayetteville*, 1988 EPA App. LEXIS 35, *13; 2 E.A.D. 594 (June 28, 1988) ("The meaning of [the CWA] is plain and straightforward. It requires unequivocal compliance with applicable water quality standards, and does not make any exceptions for cost or technological feasibility. . . . ").

If the State Board is inclined to consider possibly granting WQBEL-delaying compliance schedules to SBSA, the State Board should at a minimum remand the Permit to the Regional Board with direction to develop a record on whether it is technically feasible for SBSA to comply immediately with the Permits' WQBELs and if not, what is the shortest feasible time given technological constraints (not cost-benefit considerations) for the SBSA to comply with these limits.

B. The permit fails to demonstrate how compliance with the dioxin-TEQ limit will be determined.

The Permit only requires monitoring for dioxin-TEQ twice a year. The final numeric limit for dioxin is expressed as a monthly and daily maximum concentration based limit, but it impossible to determine whether the dischargers will meet the final effluent limit based on this limited monitoring. Nothing in the monitoring provisions or the fact sheet indicates how compliance with final concentration limits can be determined through bi-annual monitoring and whether this frequency of monitoring will produce representative results. The Permit should be remanded to the Regional Board with instruction to require monthly monitoring and a demonstration that monthly grab samples will generate data that is representative of the discharge.

C. The Permit violates the CWA's prohibition on backsliding by relaxing the limits for copper, nickel, and cyanide.

The Clean Water Act's antibacksliding policy was adopted to implement the Act's "national goal that the discharge of pollutants into the navigable waters be eliminated by 1985." 33 U.S.C. § 1251; 49 Fed. Reg. 37,898, 38,019 (September 26, 1984). The CWA and accompanying regulations states that a permit may not be renewed or reissued with less stringent effluent limitations than those contained in the previous permit. 33 U.S.C. § 13429(o), 40 C.F.R. § 122.4(l)(1). The Permit violates these antibacksliding provisions by relaxing SBSA's prior permit limits for copper, nickel, and cyanide. The sole justification offered for the higher limits—that the previous ones were interim limits—is unpersuasive. Implicit in the notion of interim limits is the understanding that subsequent limits will be more, not less stringent. Increasing the amount of a pollutant that a facility can discharge based solely on the fact that the permit lacked a final limit runs counter to the purpose of the CWA's antibacksliding requirements and the goals of the Clean Water Act.

The Permit should be remanded to the Regional Board with direction to revise the limits on copper, nickel, and cyanide so they comport with the above antibacksliding requirements.

D. The Permit's Bypass/Blending provisions violate applicable regulations.

1. **The Permit must specify under what conditions no feasible alternatives exist for anticipated bypasses.**

Anticipated bypasses may be authorized by the Regional Board provided that they meet all the requirements of 40 C.F.R. § 122.41(m)(4), which requires, in part, that no feasible alternatives exist. However, Discharge Prohibition ¶ III.C states that "Taking portions of process units out of service and partial bypassing of dual- or mono-media filters performed in accordance with provisions of an Operational Plan submitted by the Discharger and approved by the Executive Officer shall not be considered "bypasses" or violations of this Order." The Regional Board's declaration that this activity is not a bypass or require a feasibility analysis plainly contradicts EPA regulations which require specify the conditions under which anticipated bypass may be authorized. 40 C.F.R. § 122.41(m)(4)(i). As the EPA pointed out in their comments on the recently-approved East Bay Dischargers Authority permit, anticipated bypasses may only be approved in the permit after analysis and implementation of all feasible alternatives. Letter to Lila Tang from EPA regarding NPDES Permit No. CA 0037699, July 12, 2006. Furthermore, the conclusions of the feasibility analysis must be stated in the permit findings and the permit must include the specific conditions under which the discharge may occur, including minimum wet weather flow rates. *Id.*

2. **The Regional Board may not lawfully grant the Executive Officer authority to amend the Permit without public participation.**

In addition to violating EPA regulations, the above bypass provision illegally authorizes the Executive Officer unilaterally, without public notice or comment, to amend the permit to authorize certain discharges that the permit, as currently framed, does not authorize. When the Executive Officer receives and approves the Operational Plan, the Permit is thereby amended, without giving the public an opportunity to comment on the Plan and perhaps persuade the Executive Officer to reject or require modification to the Plan. This violates 40 C.F.R. §§ 124.5(c), 124.6(d) and 124.10 and 23 Cal. Code of Reg. § 2235.2 ("Waste discharge requirements for discharge from point sources to navigable waters shall be issued and administered in accordance with the currently applicable federal regulations for the . . . NPDES program") which mandate that the Regional Board issue public notice and take and respond to public comment before modifying an NPDES permit. *Envtl. Def. Ctr., Inc. v. EPA*, 344 F.3d 832 (9th Cir. 2003). In addition, this clause fails to limit the Executive Officer to approving only such Operational Plans as would allow bypasses that comport with 40 C.F.R. § 122.41(m).

Therefore, the Permit should be remanded to the Regional Board with direction to revise the bypass provision to comply with 40 C.F.R. § 122.41(m)(4)(i) and remove the clause allowing the Executive Officer to modify the Permit without public participation.

E. Actual receiving water monitoring should be required.

In this permit, as with previous permits, the discharger is allowed to participate in the Regional Monitoring Program ("RMP") to fulfill receiving water monitoring requirements. The RMP, status and trends program collects water and sediment samples from several dozen locations through the entirety of San Francisco Bay up to the Delta. The water samples and sediment samples are analyzed for the presence of about forty different constituents on a yearly basis and the results are summarized in an annual report by the San Francisco Estuary Institute. However, the discharger's participation in the RMP involves nothing more than committing some amount of funding to the program and possibly making recommendations for special studies that may possibly be undertaken at some future time. The Regional Board's conclusion that participation in the RMP is an adequate surrogate for gathering site specific data related to SBSA's impacts on the receiving water is arbitrary and capricious. Thus, the Permit should be remanded to the Regional Board with instruction to include provisions that require receiving water monitoring requirements tailored to reasonably determine the impacts that SBSA's discharge is having on receiving waters.

F. The Permit must include an effluent limit for chronic toxicity.

The Permit inappropriately omits a chronic toxicity limit. EPA regulations mandate the inclusion of whole effluent toxicity limits in NPDES permits whenever a discharge "causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative criterion within an applicable State water quality standard." 33 U.S.C. § 301(b)(1)(C); 40 C.F.R. § 122.44(d)(1)(i). It has been EPA policy for over a decade that whole effluent toxicity includes both acute toxicity <u>and</u> chronic toxicity and that the latter be measured using EPA-identified protocols that employ appropriately sensitive species from a suite of three or more tested species. U.S. EPA, Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, page 4 (March 1991) ("[t]he whole effluent approach to toxics control…involves the use of acute and chronic toxicity tests."). Further, the Basin Plan likewise includes both water quality objectives for both acute and chronic toxicity and bioassay requirements to evaluate compliance with the objectives. Basin Plan, Section 4.5.5.3. The Permit findings support that SBSA's discharge has such reasonable potential to cause or contribute to excursions above WQS. However, the Permit lacks an actual chronic toxicity limit, providing instead that the permittee shall demonstrate compliance with the Basin Plan narrative toxicity objectives by complying with a series of tiered investigation and remedial requirements. Permit at ¶ IV.A.4. This provision is inappropriately designed to protect the permittee from regulation rather than to protect the environment.

To begin, there is no *environmental protection* reason why a chronic toxicity limitation would not be needed unless and until the permittee fails to comply with

toxicity testing requirements or TRE requirements. The effluent will be no more or less toxic if either event occurs. The only rationale for imposing a chronic toxicity limitation at that point would be as a sanction against a violating permittee. This sanction, however, would only have consequence if the permittee's discharge *is in fact excessively toxic*. If this is the case, however, the discharger will have been allowed to discharge effluent that has excessive chronic toxicity for what will certainly be many months without facing the enforcement sanctions that normally apply to dischargers who violate NPDES effluent limitations. The permittee is only required to conduct toxicity tests every six months and is only required to perform a TRE if its effluent is shown to violate a three sample median value of 10 TUc (which will take 18 months worth of data to calculate) or to violate a single sample median of 20 TUc–thus it will be many months before the Regional Board would possibly consider imposing a chronic toxicity limitation.[3]

Ironically, the Regional Board implicitly recognizes that guarding against chronic toxicity is important environmentally, but fails to heed the logic of this implicit recognition. As noted, the Permit mandates that the permittee must increase bioassay testing from once every six months to once per month if its effluent is shown to violate a three sample median value of 10 TUc (which, again, will take 18 months worth of data to calculate) or to violate a single sample median of 20 TUc. The Permit, Effluent Limitations and Discharge Specifications, ¶ IV.4.a.2). If this accelerated monitoring further shows similar toxicity, then the permittee must conduct a Toxicity Identification Evaluation/Toxicity Reduction Evaluation (TIE/TRE) which is supposed to curtail chronic toxicity. Thus, the Regional Board recognizes the need to mandate chronic toxicity reduction as a permit requirement to protect the environment. This being so, the Regional Board should follow the standard approach to regulation of all other pollutant discharge mandated by CWA section 301(b)(1)(C) and accompanying EPA regulations and *set an effluent limitation* needed to ensure that the permittee does not discharge a chronically toxic effluent. The Regional Board is opting not to impose a chronic toxicity effluent limitation solely for an impermissible purpose: to shield the permittee from Clean Water Act enforcement by the U.S. Environmental Protection Agency and citizens via CWA section 505 citizen suit and instead to create a chronic toxicity regulatory process that gives unbridled discretion to the Executive Officer to fashion his or her own unilateral regulatory approach.

The Permit mandates that the permittee submit to the Regional Board a TIE/TRE workplan that, *inter alia*, must be framed to address unilateral comments from the Executive Officer; the permittee must then implement this workplan. The Permit, Effluent Limitations and Discharge Specifications, ¶ IV.4.a.4. The Regional Board is not required to give public notice of the workplan or the Executive Officer's required modifications to the workplan, nor take and respond to public comment on them, yet the workplan will be in effect a new permit term. The Regional Board would thus cut

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[3] The provision that failure to conduct required toxicity tests or a Toxicity Reduction Evaluation (TRE) "shall result in the establishment of effluent limitations for chronic toxicity" is further poorly drafted in that it fails, one, to indicate what the effluent limitation for chronic toxicity will be (e.g., 10 TUc monthly average, etc.) or two, to specify a process for the establishment of such limitations–automatic, upon notice and public comment, etc.

citizens and the U.S. EPA out of the process of designing the TIE/TRE workplan. This, however, violates the Clean Water Act's requirements for public notice and comment in adopting NPDES permits. *See* 40 C.F.R. §§ 124.5(c), 124.6(d) and 124.10; 23 Cal. Code of Reg. § 2235.2 ("Waste discharge requirements for discharge from point sources to navigable waters shall be issued and adminstered in accordance with the currently applicable federal regulations for the . . . NPDES program"); *Environmental Defense Center, Inc. v. EPA*, 344 F.3d 832, 856-57 (9th Cir. Cal. 2003), *cert. denied*, *Texas Cities Coalition on Stormwater v. EPA*, 541 U.S. 1085 (2004); *Waterkeeper Alliance, Inc. v. EPA*, 399 F.3d 486, 503-04, *amended by* 2005 U.S. App. LEXIS 6533 (2d. Cir. 2005).

Similarly, the Permit mandates that the permittee may drop accelerated toxicity testing monitoring if "based on the TRE, the Executive Office authorizes a return to routine monitoring." The Permit, Effluent Limitations and Discharge Specifications, ¶ IV.4.a.4. This would amount to an Executive Officer unilateral modification of the Permit, based on the Executive Officer's private and unilateral review of the TRE, to no longer require TRE work and accelerated monitoring. EPA and citizens groups would again be shut out of the process and given no recourse to seek, via enforcement, a continuation of the TRE or accelerated monitoring once the Executive Officer reached his or her unilateral decision. Again, however, this violates the Clean Water Act's requirements for public notice and comment.

If the Regional Board were to concern itself with protecting the environment, rather than insulating the permittee from possible effluent limitation violations and enforcement from the U.S. EPA and citizens groups, it would make the chronic toxicity effluent limitation immediately effective.

Finally, the requirement that chronic toxicity testing shall only be conducted once every six months is unduly lenient and not environmentally protective. Under this approach, the permittee could discharge chronically toxic effluent for several months without this being detected given the absence of monitoring data. Moreover, generation of only two test results per year will hardly provide a robust data set needed to evaluate with confidence the toxicity profile of the permittee's discharge. Finally, such infrequent testing will fail to capture potential seasonal variability in effluent toxicity. At least monthly testing should be required to correct these problems.

Thus, the Permit should be remanded to the Regional Board with instruction to include appropriate chronic toxicity limitations based on EPA protocols and appropriate whole effluent toxicity monitoring requirements.

G. The Permit violates the Basin Plan's Water Quality Objectives for Coliform Bacteria.

The Permit only includes a monthly geometric mean enterococci limit. The permittees' discharges obviously have reasonable potential to cause or contribute to exceedance of water quality standards ("WQS") for bacteria, however, given that the discharges consist of human waste. Accordingly, the proper basis for the bacteria

effluent limitations are the applicable WQS set forth in: (1) the water quality objectives for waters whose beneficial use include shellfish harvesting found in Table 3-1 of the Basin Plan (i.e., 5-sample median fecal coliform value not to exceed 14 MPN/100 ml and the 90th percentile value not to exceed 43 MPN/100 ml *and* 5-sample median total coliform value not to exceed 70 MPN/100 ml and the 90th percentile value not to exceed 230 MPN/100 ml), (2) the water quality objectives for salt waters used for recreation found in Table 3-2, which is a legally binding part of the Basin Plan and which established steady state enteroccocus limitations of 35 MPN/100 ml and instantaneous maximum limitations of 104 MPN/100 ml), and (3) the EPA Beach Act Rule, which establishes similar enterococcus water quality objectives in heavily used recreational waters, which include the waters at issue. 40 C.F.R. § 131.41(c)(2). Thus, the Permit's monthly geometric mean enterococci limit does not comply with any of the above authorities. The Permit should be remanded to the Regional Board with instruction to revise the bacteria limits to comport with the beneficial uses of the receiving water as listed in Table 3-1 of the Basin Plan.

III. Conclusion

The State Board should reverse the Regional Board's Permit decision and remand the Permit to the Regional Board with instructions to include appropriate WQBELs and other revisions discussed above. Baykeeper, however, requests that the State Board hold in abeyance further action on this Petition for up to two years or further notice by Baykeeper, whichever comes first. Baykeeper has already filed and anticipates filing several more additional petitions for review challenging NPDES permit decisions by Regional Board 2 that repeat the same errors as this permit decision. For economy of the State Board and all parties, Baykeeper will request the State Board to consolidate these petitions and/or to resolve the common issues presented by these petitions by action on a subset of the petitions. Accordingly, Baykeeper urges that holding this petition in abeyance for now is a sensible approach.

Dated: February 22, 2007

Respectfully submitted,

Christopher A. Sproul

Christopher Sproul,
Attorney for Baykeeper

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

South Bayside System Authority, 1400 Radio Road, Redwood City, CA 94065

Attachment A

Linda S. Adams
Secretary for Environmental Protection

California Regional Water Quality Control Board

San Francisco Bay Region

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Arnold Schwarzenegger
Governor

ORDER NO. R2-2007-0006
NPDES NO. CA0038369

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

Table 1. Discharger Information

Discharger	South Bayside System Authority (SBSA)
Name of Facility	South Bayside System Authority Wastewater Treatment Plant and its conveyance system
Facility Address	1400 Radio Road
	Redwood City, CA 94065
	San Mateo County

The discharge by South Bayside System Authority (SBSA) from the discharge point identified below is subject to waste discharge requirements as set forth in this Order.

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	POTW Effluent	37 º, 33', 40" N	122 º, 13', 02" W	Lower San Francisco Bay

Table 3. Administrative Information

This Order was adopted by the Regional Water Board on:	**January 23, 2007**
This Order shall become effective on:	**April 1, 2007**
This Order shall expire on:	**March 31, 2012**
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Board have classified this discharge as a major discharge.	
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of this Order expiration date as application for issuance of new waste discharge requirements.	

IT IS HEREBY ORDERED, that this Order supersedes Order No. 01-012 except for enforcement purposes, and, in order to meet the provisions contained in Division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

I, 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 the date indicated above.

_____
Bruce H. Wolfe, Executive Officer

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Attachments

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Attachment C – Flow Schematic C-1
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Attachment E – Monitoring and Reporting Program (MRP) E-1
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Attachment G – The following documents are part of this Permit, but are not physically attached due to volume. They are available on the internet at www.waterboards.ca.gov/sanfranciscobay/
- Self-Monitoring Program, Part A, adopted August 1993
- Standard Provisions and Reporting Requirements, August 1993
- August 6, 2001 Staff Letter: *Requirement for Priority Pollutant Monitoring in Receiving Water and Wastewater Discharges*

Attachment H – Pretreatment Requirements H-1

I. FACILITY INFORMATION

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

Table 4. Facility Information

Discharger	South Bayside System Authority (SBSA)
Name of Facility	South Bayside System Authority WWTP and its conveyance system
Facility Address	1400 Radio Road
	Redwood City, CA 94065
	San Mateo County
Facility Contact, Title, and Phone	Daniel Child, Manager, (650) 594-8411 Ext. 124
Mailing Address	1400 Radio Road Redwood City, CA 94065
Type of Facility	Publicly Owned Treatment Works (POTW)
Facility Design Flow	29 million gallons per day (mgd)

II. FINDINGS

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

A. Background. SBSA is currently discharging under Order No. 01-012 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0038369. The Discharger submitted a Report of Waste Discharge, dated July 20, 2005 and applied for an NPDES permit renewal to discharge up to 29 million gallons per day (mgd) of treated wastewater from the SBSA wastewater treatment plant. The application was deemed complete on January 10, 2006.

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

B. Facility Description. The Discharger owns and operates the SBSA Wastewater Treatment Plant (WWTP), an advanced secondary wastewater treatment plant, and its conveyance system. SBSA transports and treats domestic, commercial and industrial wastewater from a service area with a population of approximately 217,000. The following contributors and associated populations contribute to influent flows to the SBSA Wastewater Treatment Plant: West Bay Sanitary District (population 55,000), the cities of Belmont (25,123), San Carlos (22,718), Redwood City (75,402), Woodside (5,352), and San Mateo County (28,637).

SBSA’s conveyance system consists of four pump stations, which receive wastewater from the satellite wastewater collection systems of four municipal jurisdictions (i.e., West Bay Sanitary District, City of Belmont, City of San Carlos and City of Redwood City), and approximately eight miles of force main that convey wastewater to the WWTP. Influent is gravity fed to the four pump stations located within the four municipal jurisdictions and conveyed through the force main to the SBSA treatment facility. The SBSA Joint Powers

Authority (JPA) Agreement has established contractual flow limits for each of the four member agencies. This limits the flow entering the four SBSA pump stations. Wastewater passes from the pump stations through the force main to the primary sedimentation basins. During wet weather the Booster Station and the Influent Lift Station may be used to handle elevated flow rates in the force main. One member agency owns a flow equalization basin that may be used by SBSA to reduce that agency's flow to the SBSA force main.

Wastewater treatment consists of primary sedimentation using clarifiers, biological treatment using fixed film reactors and activated sludge, secondary sedimentation, effluent filtration using dual- or mono-media filters, disinfection using hypochlorite, and dechlorination using sodium bisulfite. Sludge is treated by gravity thickening, anaerobic digestion and dewatered by high-speed centrifuge or air dried using sludge drying beds. Final sludge cake and air-dried sludge is disposed via landfilling or used as an alternative daily cover.

Treated wastewater is discharged from Discharge Point 001 through a submerged diffuser approximately 2.3 miles southeast of the center span of the San Mateo-Hayward Bridge into the Lower San Francisco Bay, a water of the State and United States. The diffuser is 6,700 feet offshore in the main shipping channel at a depth of 45 feet below the water surface at mean lower low tide. The Foster City shoreline is located 1.7 to 4.0 miles from the discharge point; shellfish beds may exist on the Foster City shoreline. Note: these measurements are derived from NOAA chart no. 18651, San Francisco Bay Southern Part (40th edition July 25, 1995).

In 2005, SBSA treated an average of 18.5 mgd with an average dry weather flow of 16.8 mgd and a peak wet weather flow rate of 49.6 mgd. The dry weather design flow for the facility is 29 mgd.

Since 2000, SBSA has produced up to 0.25 mgd of tertiary treated, "unrestricted use" effluent for recycle/reuse by an SBSA landscape impoundment and by the City of Redwood City for landscaping irrigation in the community. An additional chemical coagulation treatment step is used for recycled water. A coagulant polymer is injected just prior to filtration. Construction is underway to install a 4.3 million gallon storage tank and recycled water chlorine contact tank and to expand the production capacity to meet a recycled water demand estimated at up to 2.5 mgd by midyear 2007. The new facilities are designed to meet future changes in recycled water demand over the foreseeable future.

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

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

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

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

F. Technology-based Effluent Limitations. NPDES regulations at 40 CFR 122.44 (a) require that permits include applicable technology-based limitations and standards. This Order includes technology-based effluent limitations based on Secondary Treatment Standards at 40 CFR 133 and Best Professional Judgment (BPJ) in accordance with 40 CFR 125.3. The Regional Water Board has considered the factors associated with these requirements when developing all effluent limitations. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet.

G. Water Quality-based Effluent Limitations. 40 CFR 122.44 (d) requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) may be established: (1) using USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) on an indicator parameter for the pollutant of concern; or (3) using 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 at 40 CFR 122.44(d)(1)(vi).

H. Water Quality Control Plans. The Regional Water Board adopted a *Water Quality Control Plan for the San Francisco Bay Basin* (revised in 2005*)* (hereinafter the Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Resources Control Board (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). Because of the marine influence on receiving waters of the San Francisco Bay, total dissolved solids levels in the Bay commonly (and often significantly) exceed 3,000 mg/L and thereby meet an exception to State Water Board Resolution No. 88-63. Therefore, the designation MUN is not applicable to the Lower San Francisco Bay. Beneficial uses applicable to Lower San Francisco Bay are as follows.

Table 5. Basin Plan Beneficial Uses of Lower San Francisco Bay

Discharge Point	Receiving Water Name	Beneficial Uses
001	Lower San Francisco Bay	Industrial Service Supply (IND) Navigation (NAV) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2) Ocean Commercial and Sport Fishing (COMM) Wildlife Habitat (WILD) Preservation of Rare and Endangered Species (RARE) Fish Migration (MIGR) Shellfish Harvesting (SHELL) Estuarine Habitat (EST)

Requirements of this Order implement the Basin 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 applied 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 promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

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

basis for the compliance schedules and interim effluent limitations is included in the Fact Sheet.

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. [40 C.F.R. § 131.21; 65 Fed. Reg. 24641 (April 27, 2000)]. Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after 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 restrictions on individual pollutants that are no more stringent than required by the federal CWA. Individual pollutant restrictions consist of technology-based restrictions and water quality-based effluent limitations. The technology-based effluent limitations consist of restrictions on carbonaceous biochemical oxygen demand ($CBOD_5$), total suspended solids (TSS), pH, turbidity, and oil and grease. Restrictions on these pollutants are specified in federal regulations as discussed in Section III.C.6 of the Fact Sheet. Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to 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 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 technology-based requirements of the CWA and the applicable water quality standards for purposes of the CWA.

N. Antidegradation Policy. 40 CFR 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. As discussed in detail in the Fact Sheet, the permitted discharge is consistent with the antidegradation provision 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) of 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 Order No. 01-012, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in Order No. 01-012.

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

Q. Standard and Special Provisions. Standard Provisions, which apply to all NPDES permits in accordance with 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 are applicable 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 attached Fact Sheet.

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

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

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

III. DISCHARGE PROHIBITIONS

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

B. Discharge of wastewater at any point at which the treated wastewater does not receive an initial dilution of at least 10:1 is prohibited.

C. The bypass of untreated or partially treated wastewater to waters of the United States, either at the treatment plant or from the conveyance system or pump stations tributary to the treatment plant, is prohibited, except as provided for bypasses under the conditions stated in 40 CFR 122.41(m)(4) and (n), and in A.13 of the *Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits, August 1993* (Attachment G). Taking portions of process units out of service and partial bypassing of

dual- or mono-media filters performed in accordance with provisions of an Operational Plan submitted by the Discharger and approved by the Executive Officer shall not be considered "bypasses" or violations of this Order.

D. An average dry weather flow discharge greater than 29 mgd is prohibited. The average dry weather flow shall be determined over three consecutive dry weather months each year.

E. Any sanitary sewer overflow that 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

A. Effluent Limitations – Discharge Point 001

1. Final Effluent Limitations – Discharge Point 001

a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001 with compliance measured at Monitoring Location EFF-001 as described in the attached MRP (Attachment E).

Table 6a. Effluent Limitations Between May 1st and September 30th

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Oil and Grease	mg/L	10	---	20	---	---
pH (1)	standard units	---	---	---	6.0	9.0
Total Suspended Solids (TSS)	mg/L	8	12		---	---
Carbonaceous Biochemical Oxygen Demand (CBOD) (5-day @ 20 Deg. C)	mg/L	8	12		---	---
Chlorine, Total Residual (2)	mg/L	---	---	---	---	0.0 (2)
Turbidity	NTU	10	---	20	---	---

Table 6b. Effluent Limitations Between October 1st and April 30th

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Oil and Grease	mg/L	10	---	20	---	---
pH (1)	standard units	---	---	---	6.0	9.0
Total Suspended Solids (TSS)	mg/L	16	24		---	---
Carbonaceous Biochemical Oxygen Demand (CBOD) (5-day @ 20 Deg. C)	mg/L	16	24		---	---
Chlorine, Total Residual	mg/L	---	---	---	---	0.0 (2)
Turbidity	NTU	20	---	40	---	---

(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) a. 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.

b. The Discharger may record discrete readings from the continuous monitoring every hour on the hour, and report, on a daily basis, the minimum and maximum concentration observed following dechlorination. Total chlorine dosage (kg/day) shall be recorded on a daily basis. The analyzers shall monitor the final effluent and measure either total chlorine residual or residual dechlorination agent. The Discharger will develop a backup system to demonstrate compliance in case the on-line monitoring system fails.

c. For total residual chlorine (TRC) detection levels, the Discharger shall use a method for analysis of TRC approved by USEPA for analysis of wastewaters at 40 CFR 136. The method of analysis shall achieve a method detection limit (MDL) at least as low as that achieved by the Amperometric Titration Method (4500-Cl D from *Standard Methods for Examination of Water and Wastewater*, Edition 20). The State Water Board is considering a statewide policy on chlorine residual. This Order may be reopened in the future to reflect any changes relating to chlorine residual.

b. CBOD and TSS 85% Percent Removal: The average monthly percent removal of CBOD and TSS values, by concentration, shall not be less than 85 percent.

c. Fecal Coliform Bacteria: The treated wastewater shall meet the following limits of bacteriological quality:

(1) The five day geometric mean fecal coliform density shall not exceed 500MPN/100ml; and

(2) The 90th percentile value of the last ten values shall not exceed 1100 MPN/100 ml.

d. Enterococci Bacteria: The monthly geometric mean enterococci bacteria density shall not exceed 35 MPN/100 mL.

2. Effluent Limitations for Toxics Substances – Discharge Point 001

a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001 with compliance measured at Monitoring Location EFF-001 as described in the attached MRP (Attachment E):

Table 6c. Toxic Substances Effluent Limitations (1, 2)

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Priority Pollutants						
Copper (3)	µg/L	67	---	109	---	---
Mercury	µg/L	0.023	---	0.034	---	---
Nickel	µg/L	84	---	125	---	---
Cyanide (4,5)	µg/L	3.8	---	6.4	---	---
Dioxin-TEQ (6)	ug/L	1.4×10^{-8}	---	2.8×10^{-8}	---	---

(1) (a) Limitations 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 Section 2.4.5 of the SIP, the table below indicates the Minimum Level (ML) upon which the Reporting Level is based for compliance determination purposes. In addition, in order to perform reasonable potential analysis for future permit reissuance, the Discharger shall use methods with MLs lower than the applicable water quality objectives or water quality criteria (e.g., copper). A Minimum Level 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) Alternate Effluent Limits for Copper:

a. If a copper Site Specific Objective (SSO) for the receiving water becomes legally effective, resulting in adjusted saltwater Criterion Continuous Concentration (CCC) of 2.5 µg/l and Criterion Maximum Concentration (CMC) of 3.9 µg/l as documented in the *North of Dumbarton Bridge Copper and Nickel Site-Specific Objective (SSO) Derivation (Clean Estuary Partnership December 2004)*, upon its effective date, the following limitations shall supersede those copper limitations listed in Table 6c (the rationale for these effluent limitations can be found in the Fact Sheet [**Attachment F**]).

MDEL of 84 µg/L, and AMEL of 52 µg/L.

b. If a different copper SSO for the receiving water is adopted, the alternate WQBELs based on the SSO will be determined after the SSO effective date.

(4) The final limit for cyanide shall take effect on April 28, 2010, unless the alternate effluent limitations for cyanide specified in A.2.a.(3) become effective sooner.

(5) Alternate Effluent Limits for Cyanide

a. If a cyanide SSO for the receiving water becomes legally effective, resulting in adjusted saltwater criteria CCC of 2.9 µg/l (based on the assumptions in *Draft Staff Report on Proposed Site-Specific Water Quality Objectives for Cyanide for San Francisco* Bay, dated August 18, 2006), upon its effective date, the following limitations shall supersede those cyanide limitations listed in Table 6c (the rationale for these effluent limitations can be found in the Fact Sheet [**Attachment F**]).

MDEL of 37 µg/L, and AMEL of 22 µg/L.

b. If a different cyanide SSO for the receiving water is adopted, the alternate WQBELs based on the SSO will be determined after the SSO effective date.

c. Compliance may be demonstrated by measurement of weak acid dissociable cyanide.

(6) Final limits for dioxin-TEQ will take effect on January 31, 2011.

Table 7. Minimum Levels for Pollutants with Effluent Limitations

Parameter	Minimum Level	Units
Copper	2	µg/L
Mercury	0.0005	µg/L
Nickel	5	µg/L
Cyanide	5	µg/L
Dioxin-TEQ	(1)	

(1) ML for dioxin-TEQ shall be ½ that specified for EPA Method 1613

3. Acute Toxicity:

a. Representative samples of the effluent at Discharge Point 001 shall meet the following limits for acute toxicity: Bioassays shall be conducted in compliance with Section V.A of the Monitoring and Reporting Program (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 as specified in writing by the Executive Officer 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), with exceptions granted to the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP) upon the Discharger's request with justification.

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 not adversely impacting receiving water quality or beneficial uses, then such toxicity does not constitute a violation of this effluent limitation.

4. Chronic Toxicity

a. Compliance with the Basin Plan narrative chronic toxicity objective of the effluent at Discharge Point 001 shall be demonstrated according to the following tiered requirements based on results from representative samples of the treated final effluent at Discharge Point 001 meeting test acceptability criteria and Section V.B of the MRP (**Attachment E**). Failure to conduct the required toxicity tests or a TRE within a designated period shall result in the establishment of effluent limitations for chronic toxicity.

(1) Conduct routine monitoring.

(2) Accelerate monitoring after exceeding a three sample median value of 10 chronic toxicity units (TUc) or a single sample maximum of 20 TUc. Accelerated monitoring shall consist of monthly monitoring.

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

(4) If accelerated monitoring confirms consistent toxicity above either "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), and that incorporates any and all comments from the Executive Officer.

(5) Return to routine monitoring after appropriate elements of TRE workplan are implemented and either the toxicity drops below "trigger" levels 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**).

B. Mercury Mass Emission Limitation

Until TMDL and Waste Load Allocation (WLA) efforts for mercury provide enough information to establish a different WQBEL, the Discharger shall demonstrate that the total mercury mass loading from the discharge at Discharge Point 001 to Lower San Francisco Bay has not increased by complying with the following:

1. Mass Emission Limit: The mass emission limit for mercury is 0.044 kilograms per month (kg/month). The total mercury mass load shall not exceed this limit.

2. Compliance with this limit shall be evaluated using running annual average mass load. Running annual averages shall be calculated by taking the arithmetic average of the current monthly mass loading value (see sample calculation below) and the previous 11-months values. Sample calculation:

   Flow (mgd) = Average of monthly plant effluent flows in mgd.

   Constituent Concentration (µg/L) = Average of monthly effluent concentration measurements in µg/L. If more than one measurement is obtained in a calendar month, the average of these measurements is used as the monthly value for that month. If test results are less than the method detection limit used, the measurement value is assumed to be equal to the method detection limit.

   Mass Loading (kg/month) = (Flow) x (Constituent Concentration) x 0.1151.

   This mass emission limit is consistent with the current *Mercury in San Francisco Bay Proposed Basin Plan Amendment and Staff Report for Revised Total Maximum Daily Load (TMDL) and Proposed Mercury Water Quality Objectives* (August 1,

2006) and will be superseded upon completion of a TMDL and WLA. According to the antibacksliding rule in the Clean Water Act, Section 402(o), the permit may be modified to include a less stringent requirement following completion of a TMDL and WLA.

C. Interim Effluent Limitations

a. Until final effluent limitations for cyanide and dioxin-TEQ become effective, the Discharger shall maintain compliance with the following interim limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the attached MRP. These interim effluent limitations shall apply in lieu of the corresponding final effluent limitations specified for the same parameters during the time period indicated in this provision.

Table 8. Interim Effluent Limitations

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Cyanide (1)	µg/L	---	18	---	---
Dioxin-TEQ	(2)	(2)	(2)	(2)	(2)

(1) The interim limit for cyanide shall remain in effect until April 28, 2010, or until the effective date of the alternate effluent limitations for cyanide specified in A.2.a.(3), whichever occurs sooner. Compliance may be demonstrated by measurement of weak acid dissociable cyanide.

(2) Order No. 01-012 established a mass emission limit for dioxin-TEQ of 0.44 milligrams per month. This Order retains this mass emission limitation. The dioxin-TEQ interim limit shall remain in effect until January 31, 2011.

D. Reclamation Specifications

Not Applicable.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

1. Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. The discharges shall not cause the following in Lower San Francisco Bay:

   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; and

e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or which 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

      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 6.5 and 8.5

   d. Un-ionized Ammonia 0.025 mg/L as N, annual median
      0.4 mg/L as N, maximum

B. Groundwater Limitations

Not Applicable.

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* **(Attachment G),** including any amendments thereto. Where provisions or reporting requirements specified in this Order are different from equivalent or related provisions or reporting requirements given in the Standard Provisions, the specifications of this Order shall apply. Duplicative requirements in the federal Standard Provisions in VI.A.1.2, above (**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 (MRP) Requirements

The Discharger shall comply with the MRP and future revisions thereto, in Attachment E of this Order. 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 discharge(s) governed by this Order will have, or will cease to have, a reasonable potential to cause or contribute to adverse impacts on water quality and/or beneficial uses of the receiving waters.

b. If new or revised WQOs or 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 waste load 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, 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(s) should be modified.

d. If administrative or judicial decision on a separate NPDES permit or WDR that 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 Outfall 001 (measured at EFF-001) for the constituents listed in Enclosure A of the Regional Water Board's August 6, 2001 Letter, 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 summarize the analytical results of the data collected to date and describe future monitoring to take place, based upon these results, in the annual report required by Part A of the Self-Monitoring Program (Attachment I). The first annual report under this Order is due February 1, 2008, for the

period from the effective date of this Order through December 31, 2007. A final report that presents all the data shall be submitted to the Regional Water Board no later than 180 days prior to this Order expiration date. This final report shall be submitted with the application for permit reissuance. Reporting requirements under this section may be satisfied by: (a) monthly reporting using the electronic reporting system (ERS), or an equivalent electronic system required by the Regional Water Board or State Water Board, and (b) submittal of a complete application for permit reissuance no later than 180 days prior to the permit expiration date.

b. Ambient Background Receiving Water Study

The Discharger shall collect or participate in collecting background ambient receiving water monitoring for priority pollutants that is required to perform RPA and to calculate effluent limitations. The data on the conventional water quality parameters (pH, salinity, and hardness) shall also 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 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 the data to the Regional Water Board 180 days prior to Order expiration. This final report shall be submitted with the application for permit reissuance.

c. Optional Mass Offset

If the Discharger can demonstrate that further net reductions of the total mass loadings of 303(d)-listed pollutants to the receiving water 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.

d. Cyanide and Dioxin-TEQ Compliance Schedules

The Discharger shall comply with the following tasks and deadlines:

Task	Deadline
1. Implement source control measures identified in the Discharger's Infeasibility Report to reduce concentrations of cyanide and dioxin-TEQ to the treatment plant, and therefore to receiving waters.	Upon the effective date of this Order.
2. The Discharger shall evaluate and report on the effectiveness of its source control measures in reducing concentrations of cyanide and dioxin-TEQ to its treatment plant. If previous measures have not been successful in enabling the Discharger to comply with final limits for cyanide and dioxin-TEQ, the Discharger shall also identify and implement additional source control measures to further reduce concentrations of these pollutants. If the cyanide SSO becomes effective and an alternate limit takes effect, the Discharger shall implement any applicable additional pollutant minimization measures described in Basin Plan implementation requirements associated with the cyanide SSO.	Annually in the Annual Best Management Practices and Pollutant Minimization Report required by Provision VI.C.3
3. In the event that source control measures are insufficient for meeting final water quality based effluent limits specified in Effluent Limitations and Discharge Specifications A.2 for cyanide and dioxin-TEQ, the Discharger shall submit a schedule for implementation of additional actions to reduce the concentrations of these pollutants.	July 1, 2009 for cyanide and dioxin-TEQ
4. The Discharger shall commence implementation of the identified additional actions in accordance with the schedule submitted in task 3, above.	August 15, 2009.
5. Full Compliance with IV. Effluent Limitations and Discharger Specifications A.2 for cyanide.	April 28, 2010
6. Full Compliance with IV. Effluent Limitations and Discharger Specifications A.2 for dioxin-TEQ. Alternatively, the Discharger may comply with the limit in IV through implementation of a mass offset strategy for dioxin-TEQ in accordance with policies in effect at that time.	January 31, 2011

3. Best Management Practices and Pollution Minimization Program

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

b. The Discharger shall submit an annual report, acceptable to the Executive Officer, no later than February 28th of each calendar year. For those agencies

choosing 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 its treatment plant, treatment plant processes and service area.*

(2) *A discussion of the current pollutants of concern.* Periodically, the Discharger shall the discharger shall analyze its own situation to determine which pollutants are currently a problem and/or which pollutants may be potential future problems. This discussion shall include the reasons why the pollutants were chosen.

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

(4) *Identification of tasks 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 group, regional, or national tasks that will address its pollutants of concern. The Discharger is strongly encouraged to participate in group, regional, or national tasks that will 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 about the pollutants of concern, potential sources, and how they might be able to help reduce the discharge of these pollutants of concern into the treatment facilities. 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 prevention 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 newspaper articles or advertisements, radio or television stories or spots, newsletters, utility bill inserts, and web site. Information shall be specific to the target audiences. The Discharger shall coordinate with other agencies as appropriate.

(7) *Discussion of criteria used to measure Program's and tasks' effectiveness.* The Discharger shall establish criteria to evaluate the effectiveness of its Pollution Minimization Program. This shall also include a discussion of the

specific criteria used to measure the effectiveness of each of the tasks in item b.3., b.4., b.5., and b.6.

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

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

(10) *Identification of specific tasks and time schedules for future efforts.* Based on the evaluation, the Discharger shall detail how it intends to continue or change its tasks in order to more effectively reduce the amount of pollutants to the treatment plant, and subsequently in its effluent.

c. Pollutant Minimization Program for Pollutants with Effluent Limitations

The Discharger shall develop and conduct a Pollutant Minimization Program (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. 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 section a.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 Manual (O&M), Review and Status Reports

(1) The Discharger shall maintain an O&M Manual as described in the findings of this Order for the Discharger's 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. For any significant changes in treatment facility equipment or operation practices, applicable revisions shall be completed within 90 days of completion of such changes.

(3) The Discharger shall provide the Executive Officer, upon request, 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. The Discharger shall also include, in each annual self-monitoring report, a description or summary of review and evaluation procedures and applicable changes to its operations and maintenance manual.

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 Water Code.

(2) The Discharger shall regularly review and update, as necessary, 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, upon request, a report describing the current status of its Contingency Plan review and update. The Discharger shall also include, in each annual self-monitoring report, a description or summary of review and evaluation procedures and applicable changes to its Contingency Plan.

5. Special Provisions for POTWs

a. Pretreatment Program

1) Pretreatment Program: The Discharger shall implement and enforce its approved pretreatment program in accordance with Federal Pretreatment Regulations (40 CFR § 403), pretreatment standards promulgated under Section 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".

iv. Evaluate the need to revise local limits under 40 CFR § 403.5(c)(1); and within 180 days after the effective date of this Order, submit a report acceptable to the Executive Officer 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 the USEPA may take enforcement actions against the Discharger as authorized by the Clean Water Act.

b. Sludge Management Practices Requirements

1) All sludge generated by the Discharger must be disposed of in a municipal solid waste landfill, 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 sludge 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) Sludge 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 sludge use or disposal which has a likelihood of adversely affecting human health or the environment.

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

5) The sludge 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 sludge that is applied to the land, placed on a surface disposal site, or fired in a sludge 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) Sludge that is 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 sludge disposed of and the landfill(s) to which it was sent.

8) Permanent on-site sludge 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) Sludge 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 facility that is subject to this Order. As such, the Discharge 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 Collection System Agencies (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 Waste Discharge Requirements for Collection

System Agencies (General Collection System WDR) and this Order, the General Collection System WDR more clearly and specifically stipulates requirements for operation and maintenance and for reporting and mitigating sanitary sewer overflows. Implementation of the General Collection System WDR requirements 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 Collection System WDR will satisfy NPDES reporting requirements for sewage spills. Furthermore, the Discharger shall comply with the schedule for development of sewer system management plans (SSMPs) as indicated in the letter issued by the Regional Water Board on July 7, 2005, pursuant to Water Code Section 13267. Until the statewide on-line reporting system becomes operational, the Discharger shall report sanitary sewer overflows electronically according to the Regional Water Board's SSO reporting program.

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 the MRP, Attachment A and Section VI of the Fact Sheet of this Order. 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 “Detected, but Not Quantified” (DNQ) or “Not Detected” (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:

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): 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): 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: 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 U.S. EPA 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 the 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 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: 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: 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).

Method Detection Limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (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.

Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND) are those sample results less than the laboratory's MDL.

Ocean Waters are the territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP) means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to

another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Regional Water Board.

Reporting Level (RL) is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Satellite Collection System is the portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Source of Drinking Water is any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

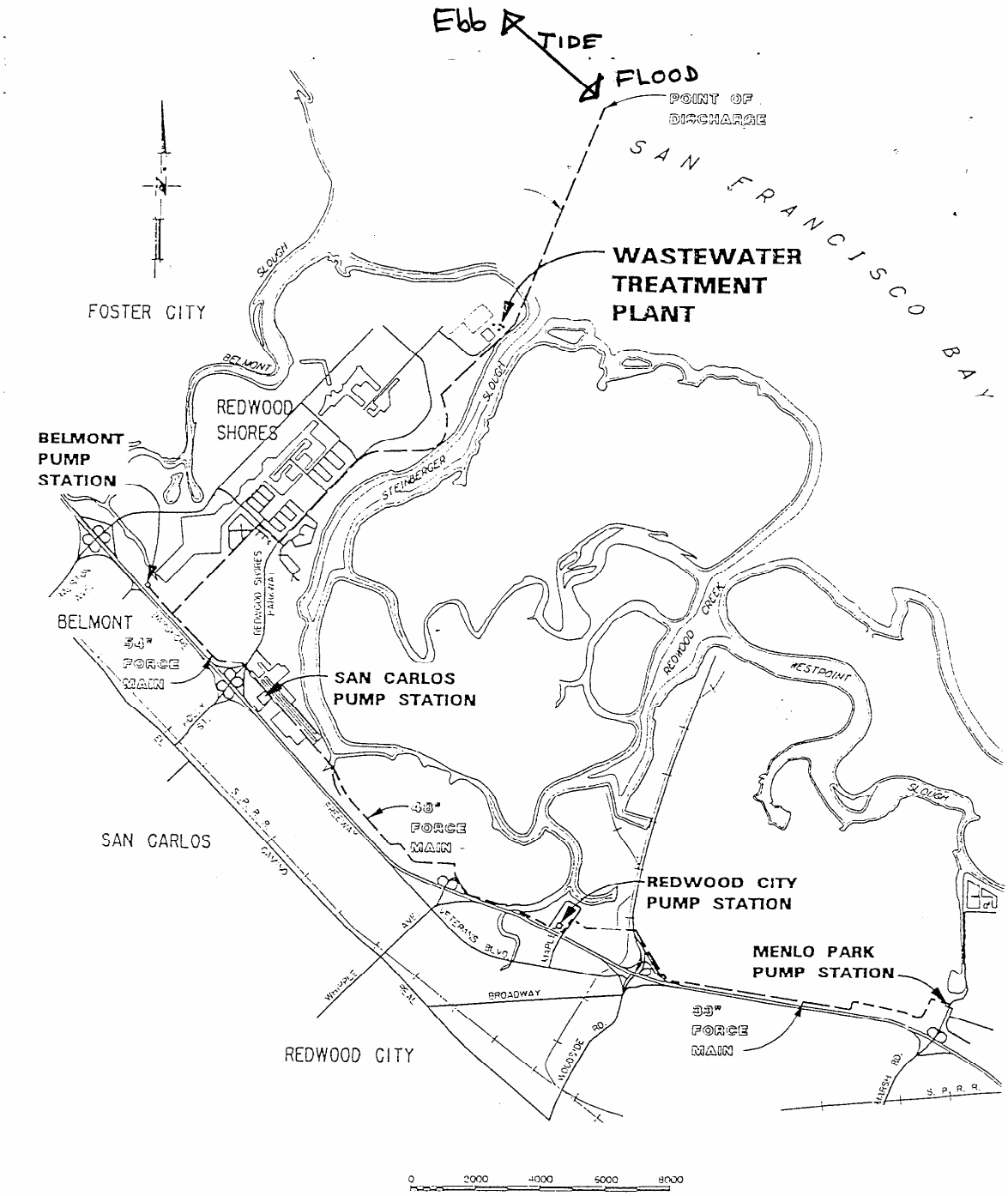
Standard Deviation (σ) is a measure of variability that is calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:
x is the observed value;
μ is the arithmetic mean of the observed values; and
n is the number of samples.

Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

ATTACHMENT B - MAP

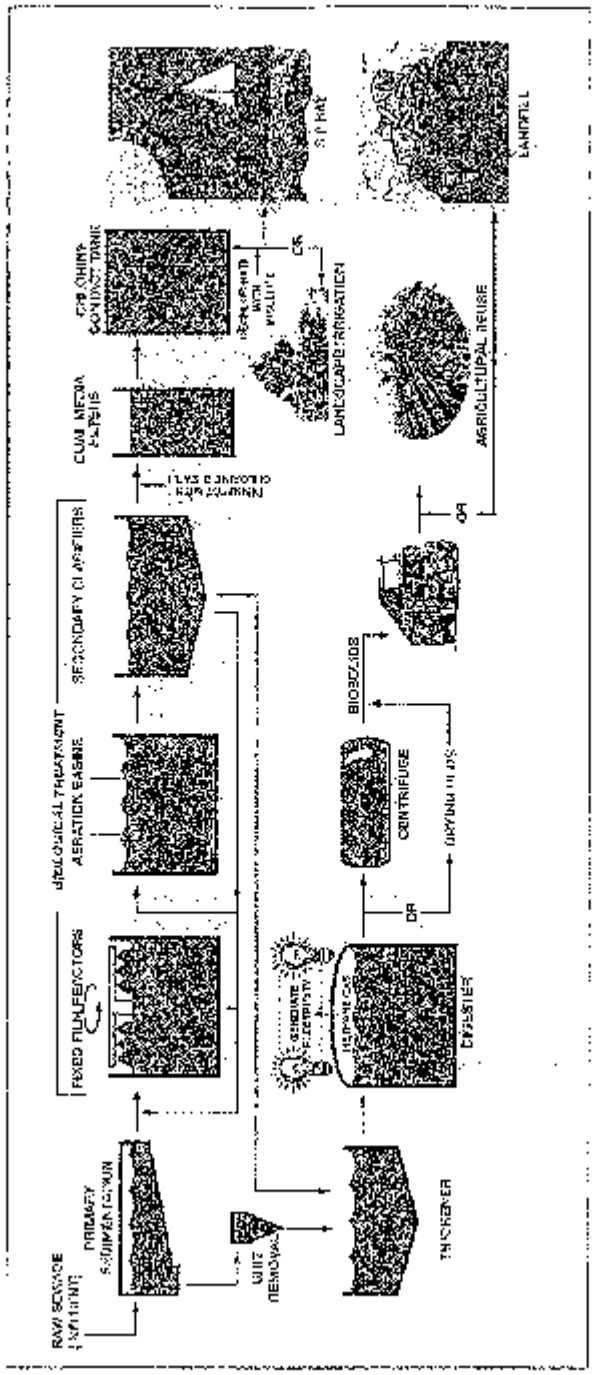


SOUTH BAYSIDE SYSTEM AUTHORITY

SAN MATEO COUNTY, CALIFORNIA

FACILITIES LOCATION MAP

ATTACHMENT C – SBSA FLOW SCHEMATIC AND SAMPLING LOCATIONS



ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 C.F.R. § 122.41(a).)

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. § 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order (40 C.F.R. § 122.41(e)).

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 C.F.R. § 122.41(i); Wat. Code, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 C.F.R. § 122.41(i)(1));

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 C.F.R. § 122.41(i)(2));

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 C.F.R. § 122.41(i)(3)); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 C.F.R. § 122.41(i)(4).)

G. Bypass

1. Definitions

   a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)

   b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)

2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and

c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)

4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)

5. Notice

a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)

b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).).

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):

a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));

b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));

c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and

d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of this Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. § 122.41(l)(3); § 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)

B. Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 C.F.R. § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)

2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 C.F.R. § 122.22(a)(3).).

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and

   c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware

that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 C.F.R. § 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.22(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):

   a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)

b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R.§ 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 C.F.R. § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Regional Water Board is authorized to enforce the terms of this Order under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following (40 C.F.R. § 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)); and

2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of this Order. (40 C.F.R. § 122.42(b)(2).)

3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. § 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

NPDES regulations at 40 CFR 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. The Discharger shall comply with the MRP for this Order as adopted by the Regional Water Board, and with all of the Self-Monitoring Program, Part A, adopted August 1993 (SMP). The MRP and SMP may be amended by the Executive Officer pursuant to USEPA regulations 40 CFR122.62, 122.63, and 124.5. If any discrepancies exist between the MRP and SMP, the MRP prevails.

B. Sampling is required during the entire year when discharging. All analyses shall be conducted using current USEPA methods, or that have been approved by the USEPA Regional Administrator pursuant to 40 CFR 136.4 and 40 CFR 136.5, or equivalent methods that are commercially and reasonably available, and that provide quantification of sampling parameters and constituents sufficient to evaluate compliance with applicable effluent limits and to perform reasonable potential analysis. Equivalent methods must be more sensitive than those specified in 40 CFR 136, must be specified in the permit, and must be approved for use by the Executive Officer, following consultation with the State Water Quality Control Board's Quality Assurance Program.

C. Sampling and analysis of additional constituents is required pursuant to Table 1 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**).

D. *Minimum Levels.* For compliance and reasonable potential monitoring, analyses shall be conducted using the commercially available and reasonably achievable detection levels that are lower than applicable water quality objectives or criteria, or the effluent limitations, whichever is lower. The objective is to provide quantification of constituents sufficient to allow evaluation of observed concentrations with respect to the Minimum Levels (MLs) given below.

MLs are the concentrations 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. All MLs are expressed as µg/L.

Table E-1 lists the test methods the Discharger may use for compliance and reasonable potential monitoring for the pollutants with effluent limits.

Table E-1. Test Methods and Minimum Levels for Pollutants with Reasonable Potential

CTR #	Constituent	Types of Analytical Methods [a] Minimum Levels (µg/L)											
		GC	GCMS	LC	Color	FAA	GFAA	ICP	ICPMS	SPGFAA	HYDRIDE	CVAF	DCP
6	Copper					25	5	10	0.5	2			
8	Mercury [b]											0.0005	
9	Nickel					50	5	20	1	5			
14	Cyanide				5								
16a	Dioxin-TEQ[c]												

[a] Analytical Methods / Laboratory techniques are defined as follows:
Color = Colorimetric;
CVAF = Cold Vapor Atomic Fluorescence.
DCP = Direct Current Plasma
FAA = Furnace Atomic Absorption;
GC = Gas Chromatography
GCMS = Gas Chromatography Mass Spectroscopy
GFAA = Graphite Furnace Atomic Absorption;
ICP = Inductively Coupled Plasma
ICPMS = Inductively Coupled Plasma/Mass Spectrometry;
LC = Liquid Chromatography
SPGFAA = Stabilized Platform Graphite Furnace Atomic Absorption (i.e. EPA 200.9)

[b] Mercury: The Discharger may, at its option, sample effluent mercury either as grab or as 24-hour composite samples. Use ultra-clean sampling (U.S. EPA 1669) to the maximum extent practicable and ultra-clean analytical methods (U.S. EPA 1631) for mercury monitoring. The Discharger may only use alternative methods if the method has an ML of 0.5 ng/L or less, and approval is obtained from the Executive Officer prior to conducting the monitoring.

[c] Use U.S. EPA Method 1613. ML shall be ½ that specified for U.S. EPA Method 1613.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-2. Monitoring Station Locations

Type of Sampling Location	Monitoring Location Name	Monitoring Location Description
Influent Station	INF-001	At any point at the treatment facility preceding any primary treatment.
Plant Effluent Station	EFF-001	At any point after full treatment, from the treatment facility to the outfall in the Lower San Francisco Bay.
Plant Effluent Station	EFF-001-D	At any point in the disinfection facilities where adequate contact with the disinfectant is assured.
Overflows and Bypass Station	OV-1	Bypass or overflows from manholes, pump stations, or collection systems.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. The Discharger shall monitor influent to the facility at INF-001 as follows.

Table E-3. Influent Monitoring

Parameter	Units	Minimum Sampling Frequency	Required Analytical Test Method
		C-24 (2)	
Conventional Pollutants			
Flow rate (1)	mgd	Cont/D	(3)
$CBOD_5$, 20ºC	mg/L	2/W	(3)
Total Suspended Solids (TSS)	mg/L	2/W	(3)

(1) For influent flows, the following information shall also be reported monthly:

Daily: Total Daily Flow Volume (MG)
Daily: Daily Average Flow (MGD)
Monthly: Monthly Average Flow (MGD)
Monthly: Maximum Daily Flow (MGD)
Monthly: Minimum Daily Flow (MGD)
Monthly: Total Flow Volume (MG)

(2) Composite samples of influent shall be collected on varying days selected at random and shall not include any plant recirculation or other side stream waste. Deviation from this must be approved by the Executive Officer.

(3) Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location – EFF-001

1. The Discharger shall monitor treated effluent from the facility at EFF-001 as follows:

Table E-4. Effluent Monitoring

Parameter	Units	Minimum Sampling Frequency			Required Analytical Test Method
		Continuous	C-24	G	
Flow Rate (2)	mgd	**Cont/D**			(1)
Oil and Grease (3)	mg/L			2/Y	(1)
pH (4)	s.u.			2/W	(1)
CBOD (5-day @ 20 Deg. C) (5)	mg/L		2/W		(1)
Total Suspended Solids (TSS) (5)	mg/L		2/W		(1)
Acute Toxicity (6)	% survival		M		(1)
Chlorine, Total Residual (7)	mg/L	**Cont. or 1/H**			(1)
Chronic Toxicity (8)	TUc		Q		(1)
Dissolved Oxygen	mg/L			D	(1)
Temperature	°C			D	(1)
Turbidity	NTU		**2/W**		(1)
Visual Observations(9)					
Copper	µg/L		**M**		(1)
Cyanide	µg/L			**M**	(1)

Dioxin – TEQ [10]	µg/L, kg/mo			**2/Y**	(1)
Nickel	µg/L		**M**		(1)
Mercury (11)	µg/L, kg/mo		**M**		(1)
Remaining Priority Pollutants	µg/L		**1/Y (12, 13)**		(1)

(1) Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136. For priority pollutants, the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP. Where no methods are specified for a given pollutant, the methods must be approved by this Regional Water Board or the State Board.

(2) Flow Monitoring:

For effluent flows, the following information shall also be reported monthly:
Daily: Total Daily Flow Volume (MG)
Daily: Daily Average Flow (MGD)
Monthly: Monthly Average Flow (mgd)
Monthly: Maximum Daily Flow (mgd)
Monthly: Minimum Daily Flow (mgd)
Monthly: Total Flow Volume (MG)

(3) Each oil and grease sampling event shall consist of a composite sample comprised of three grab samples taken at equal intervals during the sampling date, with each grab sample being collected in a glass container. Each glass container used for sample collection or mixing shall be thoroughly rinsed with solvent rinsings as soon as possible after use, and the solvent rinsings shall be added to the composite sample for extraction and analysis.

(4) If pH is monitored continuously; the minimum and maximum pH values for each day shall be reported in monthly self-monitoring reports.

(5) The percent removal for CBOD and TSS shall be reported for each calendar month.

(6) Acute bioassay tests shall be performed in accordance with Section V.A of this MRP.

(7) Chlorine residual/residual dechlorination agent: The Discharger may record discrete readings from the continuous monitoring every hour on the hour, and report, on a daily basis, the minimum and maximum concentration observed following dechlorination. Total chlorine dosage (kg/day) shall be recorded on a daily basis.

(7a) TRC Detection Levels: Discharger shall use a method for analysis of TRC approved by USEPA for analysis of wastewaters at 40 CFR 136. The method of analysis shall achieve a method detection limit (MDL) at least as low as that achieved by the Amperometric Titration Method (4500-Cl D from *Standard Methods for Examination of Water and Wastewater*, Edition 20).

(7b) The Discharger may elect to use continuous on-line monitoring to demonstrate compliance with the effluent TRC limit. The analyzers shall monitor the final effluent and measure either total chlorine residual or residual dechlorination agent. The Discharger will develop a backup system to demonstrate compliance in case the on-line monitoring system fails.

(8) Critical Life Stage Toxicity Test shall be performed and reported in accordance with the Chronic Toxicity Requirements specified in Sections V.B of the MRP.

(9) In conducting the effluent sampling, visual observations shall be made. A log shall be kept of the effluent conditions. Attention shall be given to:

a. The presence or absence of floating or suspended material of waste origin, including oil, grease, algae, and other macroscopic particulate matter,

b. Odor: Presence or absence, characterization, source, distance of travel.

Notes on effluent conditions shall be summarized in the monitoring report.

(10) Dioxin-TEQ analyzed by U.S. EPA Method 1613

(11) Mercury: The Discharger may, at its option, sample effluent mercury either as grab or as 24-hour composite samples. Use ultra-clean sampling (U.S. EPA 1669) to the maximum extent practicable and ultra-clean analytical methods (U.S. EPA 1631) for mercury monitoring. The Discharger may only use alternative methods if the method has an ML of 0.5 ng/L or less, and approval is obtained from the Executive Officer prior to conducting the monitoring.

(12) Sampling for all priority pollutants in the SIP is addressed in a letter dated August 6, 2001, from Regional Water Board Staff: "Requirements for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy" (not attached, but available for review or download on the Regional Water Board's website at www.waterboards.ca.gov/sanfranciscobay/).

(13) For the same pollutants, the sampling frequencies shall be the higher ones under this table or under the pretreatment program sampling required in VII.A of this MRP (Table E-6). Pretreatment program monitoring can be used to satisfy part of these sampling requirements.

B. Monitoring Location EFF-001-D

1. The Discharger shall monitor effluent at EFF-001-D as follows.

Table E-5. Effluent Monitoring for Bacteria

Parameter	Units	Minimum Sampling Frequency			Required Analytical Test Method
		Continuous	C-24	G	
Fecal Coliform Bacteria	MPN/100 mL	---	---	2 / W	(1)
Enterococci Bacteria (2)	MPN/100 mL	---	---	M	(1)

(1) Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136. For priority pollutants, the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP. Where no methods are specified for a given pollutant, the methods must be approved by this Regional Water Board or the State Board.

(2) The Discharger shall monitor for enterococci using USEPA's Membrane Filter Test Method 1600 or the IDEXX Enterolert method.

C. Monitoring Location – OV-1

1. The Discharger shall monitor bypasses and sewer overflows at OV-1 and report the estimated volume of each overflow or bypass event, the duration of the event, and the corrective action measures taken.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

The Discharger shall monitor acute and chronic toxicity at EFF-001 as follows:

A. Whole Effluent Acute Toxicity

1. Compliance with the acute toxicity effluent limitations of this Order shall be evaluated by measuring survival of test organisms exposed to 96-hour continuous flow-through bioassays.

2. Test organisms shall be rainbow trout unless specified otherwise in writing by the Executive Officer.

3. All bioassays shall be performed according to the most up-to-date protocols in 40 CFR Part 136, currently in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms,"5th Edition.

4. If specific identifiable substances in the discharge can be demonstrated by the Discharger as being rapidly rendered harmless upon discharge to the receiving water, compliance with the acute toxicity limit may be determined after the test samples are adjusted to remove the influence of those substances. Written approval from the Executive Officer must be obtained to authorize such an adjustment.

5. Effluent used for fish bioassays must be dechlorinated prior to testing. Monitoring of the bioassay water shall include, on a daily basis, the following parameters: pH, dissolved oxygen, ammonia (if toxicity is observed), temperature, hardness, and

alkalinity. These results shall be reported. If a violation of acute toxicity requirements occurs or if the control fish survival rate is less than 90 percent, the bioassay test shall be restarted with new batches of fish and shall continue back to back until compliance is demonstrated.

B. Whole Effluent Chronic Toxicity

1. Chronic Toxicity Monitoring Requirements

   a. *Sampling*. The Discharger shall collect 24-hour composite samples of the effluent at the compliance point station specified in a table above, for critical life stage toxicity testing as indicated below. For toxicity tests requiring renewals, 24-hour composite samples collected on consecutive days are required.

   b. *Test Species*. *Mysidopsis bahia (also know as Americamysis bahia)*. The Executive Officer may change to another test species if data suggest that another test species is more sensitive to the discharge.

   c. *Methodology*. Sample collection, handling and preservation shall be in accordance with USEPA protocols. In addition, bioassays shall be conducted in compliance with the most recently promulgated test methods, as shown in **Appendix E-1.** These are "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms," currently third edition (EPA-821-R-02-014), and "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms," currently fourth Edition (EPA-821-R-02-013), with exceptions granted the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP).

   d. *Dilution Series.* The Discharger shall conduct tests at 40%, 20%, 10%, 5%, and 2.5%. The "%" represents percent effluent as discharged.

2. Chronic Toxicity Reporting Requirements

   a. *Routine Reporting*. Toxicity test results for the current reporting period shall include, at a minimum, for each test:

      (1) Sample date(s)

      (2) Test initiation date

      (3) Test species

      (4) End point values for each dilution (e.g., number of young, growth rate, percent survival)

      (5) NOEC value(s) in percent effluent

      (6) IC15, IC25, IC40, and IC50 values (or EC15, EC25 ... etc.) as percent effluent

(7) TUc values (100/NOEC, 100/IC25, or 100/EC25)

(8) Mean percent mortality (±s.d.) after 96 hours in 100% effluent (if applicable)

(9) NOEC and LOEC values for reference toxicant test(s)

(10) IC50 or EC50 value(s) for reference toxicant test(s)

(11) Available water quality measurements for each test (pH, D.O., temperature, conductivity, hardness, salinity, ammonia)

b. *Compliance Summary*. The results of the chronic toxicity testing shall be provided in the self-monitoring report and shall include a summary table of chronic toxicity data from at least eleven of the most recent samples. The information in the table shall include items listed above under 2.a, specifically item numbers i, iii, v, vi(IC25 or EC25), vii, and viii.

3. Chronic Toxicity Reduction Evaluation (TRE)

a. *Prepare Generic TRE Work Plan.* To be ready to respond to toxicity events, the Discharger shall prepare a generic TRE work plan within 90 days of the effective date of this Order. The Discharger shall review and update the work plan as necessary to remain current and applicable to the discharge and discharge facilities.

b. Submit Specific TRE Work Plan. Within 30 days of exceeding either trigger for accelerated monitoring, the Discharge shall submit to the Regional Water Board a TRE work plan, which should be the generic work plan revised as appropriate for this toxicity event after consideration of available discharge data.

c. Initiate TRE. Within 30 days of the date of completion of the accelerated monitoring tests observed to exceed either trigger, the Discharger shall initiate a TRE in accordance with a TRE work plan that incorporates any and all comments from the Executive Officer.

d. The TRE shall be specific to the discharge and be prepared in accordance with current technical guidance and reference materials, including USEPA guidance materials. The TRE shall be conducted as a tiered evaluation process, such as summarized below:

i. Tier 1 consists of basic data collection (routine and accelerated monitoring).

ii. Tier 2 consists of evaluation of optimization of the treatment process, including operation practices and in-plant process chemicals.

iii. Tier 3 consists of a toxicity identification evaluation (TIE).

iv. Tier 4 consists of evaluation of options for additional effluent treatment processes.

v. Tier 5 consists of evaluation of options for modifications of in-plant treatment processes.

vi. Tier 6 consists of implementation of selected toxicity control measures, and follow-up monitoring and confirmation of implementation success.

e. The TRE may be ended at any stage if monitoring finds there is no longer consistent toxicity (complying with requirements of Section IV.A.4 of this Order).

f. The objective of the TIE shall be to identify the substance or combination of substances causing the observed toxicity. All reasonable efforts using currently available TIE methodologies shall be employed.

g. As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the source(s) and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with chronic toxicity evaluation parameters.

h. Many recommended TRE elements parallel required or recommended efforts of source control, pollution prevention and storm water control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements or recommended efforts of such programs may be acceptable to comply with TRE requirements.

i. The Regional Water Board recognizes that chronic toxicity may be episodic and identification of causes of and reduction of sources of chronic toxicity may not be successful in all cases. Consideration of enforcement action by the Regional Water Board will be based in part on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

Not applicable.

VII. RECLAMATION MONITORING REQUIREMENTS

Not Applicable

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Regional Monitoring Program (RMP 1)

The Discharger shall continue to participate in the Regional Monitoring Program, which involves collection of data on pollutants and toxicity in water, sediment and biota of the Estuary. The Discharger's participation and support of the RMP is used in consideration of the level of receiving water monitoring required by this Order.

IX. LEGEND FOR MRP TABLES

Types of Samples

C-24 = composite sample, 24 hours
(includes continuous sampling, such as for flows)
C-X = composite sample, X hours
G = grab sample

Frequency of Sampling

Cont. = Continuous
Cont/D = Continuous monitoring & daily reporting
H = once each hour (at about hourly intervals)
W = once each week
2/W = Twice each week
4/W = four times each week
M = once each month
Q = once each calendar quarter (at about three month intervals)
1/Y = once each calendar year
2/Y = twice each calendar year (at about 6 months intervals, once during dry season, once during wet season)

Parameter and Unit Abbreviations

CBOD = Carbonaceous Biochemical Oxygen Demand
D.O. = Dissolved Oxygen
Est V = Estimated Volume (gallons)
Metals = multiple metals; See SMP Section VI.G.
PAHs = Polycyclic Aromatic Hydrocarbons; See SMP Section VI.H.
TSS = Total Suspended Solids
Mgd = Million gallons per day
mg/L = milligrams per liter
ml/L-hr = milliliters per liter, per hour
µg/L = Micrograms per liter
kg/d = kilograms per day
kg/mo = kilograms per month
MPN/100 ml = Most Probable Number per 100 milliliters

X. OTHER MONITORING REQUIREMENTS

A. Pretreatment Requirements

The Discharger shall comply with the pretreatment requirements as specified in Table E-6 for influent (INF-001), effluent (EFF-001), and biosolids:

Table E-6. Pretreatment Program Monitoring Requirements

Constituents	Sample Locations and Frequency			Required Test Methods
	Influent INF-001	Effluent EFF-001	Biosolids	
VOC [1]	2/Y	2/Y	2/Y	624
BNA [1]	2/Y	2/Y	2/Y	625
Hexavalent Chromium [2]	Q	M	2/Y	Standard Methods 3500
Metals [3]	M	M	2/Y	GFAA, ICP, ICP-MS
Mercury [4]	Q	M	2/Y	EPA 245, 1631
Cyanide [4]	Q	M	2/Y	Standard Methods 4500-CN^- C or I

Legend:
M = once each month
Q = once each quarter

2/Y= each calendar year (at about 6 month intervals, once in the dry season, once in the wet season)

VOC = volatile organic compounds

BNA = base/neutrals and acids extractable organic compounds

Footnotes for Table E-6:

[1] GC/MS methods used must be able to quantify to an equivalent level as applicable GC methods (EPA 601, 602, 603, 604, 606).

[2] Total chromium may be substituted for hexavalent chromium at the Discharger's discretion.

[3] The parameters are arsenic, cadmium, selenium, copper, lead, mercury, nickel, silver, zinc, and total chromium (if the Discharger elects to substitute total chromium for hexavalent chromium).

[4] Influent and effluent monitoring conducted per Tables E-3, E-4, and E-5 can be used to satisfy these pretreatment program sampling requirements and vice versa.

B. Dioxin Monitoring

The August 6, 2001 letter from the Regional Water Board to the Discharger requires a minimum sampling frequency of two times per year (summer and winter) for dioxins and furans.

As stated in the Fact Sheet, IV.C.4.d.(5), there is reasonable potential for dioxin-TEQ, and the maximum detection listed in the RPA (i.e., 1.20 E-07) exceeds the criterion given in Enclosure A. Therefore, semi-annual sampling for dioxin-TEQ has been retained in this MRP.

C. Sludge Monitoring

The Discharger shall adhere to sludge monitoring requirements required by 40 CFR Part 503.

XI. REPORTING REQUIRMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this Order, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly and annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-7. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	Day after permit effective date	All	30th day of the month following the sampling month.
Hourly	Day after permit effective date	Hourly	30th day of the month following the sampling month.
Daily	Day after permit effective date	Midnight through 11:59 PM or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	30th day of the month following the sampling month.
Weekly	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	30th day of the month following the sampling month.
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1st day of calendar month through last day of calendar month	30th day of the month following the sampling month.

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	April 30 July 30 October 30 January 30
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31	July 30 January 30
Annually	January 1 following (or on) permit effective date	January 1 through December 31	January 30
Per Discharge Event	Anytime during the discharge event or as soon as possible after aware of the event	At a time when sampling can characterize the discharge event	30th day of the month following the sampling month.

4. Reporting Protocols. The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.

   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

   a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

   b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

      For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

   c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

   d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve.

5. The Discharger shall submit SMRs in accordance with the following requirements:

   a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to

duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

Executive Officer
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612
ATTN: NPDES Permit

C. Discharge Monitoring Reports (DMRs)

1. As described in Section X.B.1 above, at any time during the term of this Order, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.

2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharge shall submit the original DMR and one copy of the DMR to the address listed below:

State Water Resources Control Board
Discharge Monitoring Report Processing Center
Post Office Box 671
Sacramento, CA 95812

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated or modified cannot be accepted.

D. Other Reports

1. Annually, with the first monthly SMR following the respective due dates, the Discharger shall report the results of any special studies, monitoring, and reporting required by section VII. C. 2 (Special Studies, Technical Reports, and Additional Monitoring Requirements) of this Order. The Discharger shall include a report of progress towards meeting compliance schedules established by section VII. C. 2 of this Order.

APPENDIX E-1
CHRONIC TOXICITY
DEFINITION OF TERMS AND SCREENING PHASE REQUIREMENTS

I. Definition of Terms

A. No observed effect level (NOEL) for compliance determination is equal to IC_{25} or EC_{25}. If the IC_{25} or EC_{25} cannot be statistically determined, the NOEL shall be equal to the NOEC derived using hypothesis testing.

B. Effective concentration (EC) is a point estimate of the toxicant concentration that would cause an adverse effect on a quantal, "all or nothing," response (such as death, immobilization, or serious incapacitation) in a given percent of the test organisms. If the effect is death or immobility, the term lethal concentration (LC) may be used. EC values may be calculated using point estimation techniques such as probit, logit, and Spearman-Karber. EC_{25} is the concentration of toxicant (in percent effluent) that causes a response in 25 percent of the test organisms.

C. Inhibition concentration (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a nonlethal, nonquantal biological measurement, such as growth. For example, an IC_{25} is the estimated concentration of toxicant that would cause a 25 percent reduction in average young per female or growth. IC values may be calculated using a linear interpolation method such as USEPA's Bootstrap Procedure.

D. No observed effect concentration (NOEC) is the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation. It is determined using hypothesis testing.

II. Chronic Toxicity Screening Phase Requirements

A. The Discharger shall perform screening phase monitoring:

1. Subsequent to any significant change in the nature of the effluent discharged through changes in sources or treatment, except those changes resulting from reductions in pollutant concentrations attributable to source control efforts, or

2. Prior to permit reissuance. Screening phase monitoring data shall be included in the NPDES permit application for reissuance. The information shall be as recent as possible, but may be based on screening phase monitoring conducted within 5 years before the permit expiration date.

B. Design of the screening phase shall, at a minimum, consist of the following elements:

1. Use of test species specified in **Appendix E-2**, attached, and use of the protocols referenced in those tables, or as approved by the Executive Officer.

2. Two stages:

a. Stage 1 shall consist of a minimum of one battery of tests conducted concurrently. Selection of the type of test species and minimum number of tests shall be based on **Appendix E-2** (attached).

b. Stage 2 shall consist of a minimum of two test batteries conducted at a monthly frequency using the three most sensitive species based on the Stage 1 test results and as approved by the Executive Officer.

3. Appropriate controls.

4. Concurrent reference toxicant tests.

5. Dilution series 100%, 50%, 25%, 10%, 5%, 0 %, where "%" is percent effluent as discharged, or as otherwise approved the Executive Officer.

C. The Discharger shall submit a screening phase proposal acceptable to the Executive Officer. The proposal shall address each of the elements listed above. If within 30 days, the Executive Officer does not comment, the Discharge shall commence with screening phase monitoring.

APPENDIX E-2
SUMMARY OF TOXICITY TEST SPECIES REQUIREMENTS

Critical Life Stage Toxicity Tests for Estuarine Waters

Species	(Scientific Name)	Effect	Test Duration	Reference
Alga	*(Skeletonema costatum)* *(Thalassiosira pseudonana)*	Growth rate	4 days	1
Red alga	*(Champia parvula)*	Number of cystocarps	7–9 days	3
Giant kelp	*(Macrocystis pyrifera)*	Percent germination; germ tube length	48 hours	2
Abalone	*(Haliotis rufescens)*	Abnormal shell development	48 hours	2
Oyster Mussel	*(Crassostrea gigas)* *(Mytilus edulis)*	Abnormal shell development; percent survival	48 hours	2
Echinoderms - Urchins Sand dollar	*(Strongylocentrotus purpuratus, S. franciscanus)* *(Dendraster excentricus)*	Percent fertilization	1 hour	2
Shrimp	*(Mysidopsis bahia)*	Percent survival; growth	7 days	3
Shrimp	*(Holmesimysis costata)*	Percent survival; growth	7 days	2
Topsmelt	*(Atherinops affinis)*	Percent survival; growth	7 days	2
Silversides	*(Menidia beryllina)*	Larval growth rate; percent survival	7 days	3

Toxicity Test References:

1. American Society for Testing Materials (ASTM). 1990. Standard Guide for Conducting Static 96-Hour Toxicity Tests with Microalgae. Procedure E 1218-90. ASTM, Philadelphia, PA.
2. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms. EPA/600/R-95/136. August 1995.
3. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-90/003. July 1994.

Critical Life Stage Toxicity Tests for Fresh Waters

Species	(Scientific Name)	Effect	Test Duration	Reference
Fathead minnow	*(Pimephales promelas)*	Survival; growth rate	7 days	4
Water flea	*(Ceriodaphnia dubia)*	Survival; number of young	7 days	4
Alga	*(Selenastrum capricornutum)*	Cell division rate	4 days	4

Toxicity Test Reference:

4. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, third edition. EPA/600/4-91/002. July 1994.

Toxicity Test Requirements for Stage One Screening Phase

Requirements	Receiving Water Characteristics		
	Discharges to Coast	Discharges to San Francisco Bay[2]	
	Ocean	Marine/Estuarine	Freshwater
Taxonomic diversity	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish	1 plant 1 invertebrate 1 fish
Number of tests of each salinity type: Freshwater[1] Marine/Estuarine	0 4	1 or 2 3 or 4	3 0
Total number of tests	4	5	3

[1] The freshwater species may be substituted with marine species if:

(a) The salinity of the effluent is above 1 part per thousand (ppt) greater than 95 percent of the time, or

(b) The ionic strength (TDS or conductivity) of the effluent at the test concentration used to determine compliance is documented to be toxic to the test species.

[2] (a) Marine/Estuarine refers to receiving water salinities greater than 1 ppt at least 95 percent of the time during a normal water year.

(b) Fresh refers to receiving water with salinities less than 1 ppt at least 95 percent of the time during a normal water year.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in Section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for dischargers in California. Only those sections or subsections of this Order that are specifically identified as "not applicable" have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as "not applicable" are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	2 417037001
Dischargers	South Bayside System Authority
Name of Facility	South Bayside System Authority Wastewater Treatment Plant and conveyance system
Facility Address	1400 Radio Road
	Redwood City, CA 94065
	San Mateo County
Facility Contact, Title, Phone	Daniel Child, Manager, (650) 594-8411 Ext. 124
Authorized Person to Sign and Submit Reports	Daniel Child, Manager, (650) 594-8411 Ext. 124
Mailing Address	1400 Radio Road Redwood City, CA 94065
Billing Address	Same as Mailing Address
Type of Facility	POTW
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	Yes
Reclamation Requirements	Producer
Facility Permitted Flow	29 million gallons per day (mgd)
Facility Design Flow	29 mgd (current dry weather average design flow) 71 mgd (design wet weather peak flow)
Watershed	San Francisco Bay
Receiving Water	Lower San Francisco Bay
Receiving Water Type	Marine

A. The South Bayside System Authority (SBSA) is the owner and operator of the South Bayside System Authority Wastewater Treatment Plant.

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

B. The facility discharges treated wastewater into the deep-water channel of Lower San Francisco Bay, a water of the United States, and is currently regulated by Order No. 01-012 and NPDES Permit No. CA0038369, which was adopted on January 24, 2001.

The terms and conditions of Order No. 01-012 have been automatically continued past its original expiration date of February 1, 2006 and remain in effect until new Waste Discharge Requirements and NPDES permit are adopted pursuant to this Order.

C. The Discharger filed a Report of Waste Discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and NPDES permit on July 20, 2005. A site visit was conducted on September 7, 2006, to further develop the specifications and conditions in this Order.

II. FACILITY DESCRIPTION

A. Description of Wastewater Treatment or Controls

The Discharger owns and operates the SBSA Wastewater Treatment Plant (WWTP), an advanced secondary wastewater treatment plant, and its conveyance system. SBSA transports and treats domestic, commercial and industrial wastewater from a service area with a population of approximately 217,000. The following contributors and associated populations contribute to influent flows to the SBSA Wastewater Treatment Plant: West Bay Sanitary District (population 55,000), the cities of Belmont (25,123), San Carlos (22,718), Redwood City (75,402), Woodside (5,352), and San Mateo County (28,637).

SBSA's conveyance system consists of four pump stations, which receive wastewater from the satellite wastewater collection systems of four municipal jurisdictions (i.e., West Bay Sanitary District, City of Belmont, City of San Carlos and City of Redwood City), and approximately eight miles of force main that convey wastewater to the WWTP. Influent is gravity fed to the four pump stations located within the four municipal jurisdictions and conveyed through the force main to the SBSA treatment facility. The SBSA Joint Powers Authority (JPA) Agreement has established contractual flow limits for each of the four member agencies. This limits the flow entering the four SBSA pump stations. Wastewater passes from the pump stations through the force main to the primary sedimentation basins. During wet weather the Booster Station and the Influent Lift Station may be used to handle elevated flow rates in the force main. One member agency owns a flow equalization basin that may be used by SBSA to reduce that agency's flow to the SBSA force main.

Wastewater treatment consists of primary sedimentation using clarifiers, biological treatment using fixed film reactors and activated sludge, secondary sedimentation, effluent filtration using dual- or mono-media filters, disinfection using hypochlorite, and dechlorination using sodium bisulfite. Sludge is treated by gravity thickening, anaerobic digestion and dewatered by high-speed centrifuge or air dried using sludge drying beds. Final sludge cake and air-dried sludge is disposed via landfill or used as alternative daily cover.

Treated wastewater is discharged from Discharge Point 001 through a submerged diffuser located 2.3 miles southeast of the center span of the San Mateo-Hayward Bridge into the

Lower San Francisco Bay, a water of the State and United States. The diffuser is located 6,700 feet offshore in the main shipping channel at a depth of 45 feet below the water surface at mean lower low tide. The Foster City shoreline is located 1.7 to 4.0 miles from the discharge point; shellfish beds may exist on the Foster City shoreline. Note: these measurements are derived from NOAA chart no. 18651, San Francisco Bay Southern Part (40th edition July 25, 1995).

In 2005, SBSA treated an average of 18.5 mgd with an average dry weather flow of 16.8 mgd and a peak wet weather flow rate of 49.6 mgd. The dry weather design flow for the facility is 29 mgd.

Since 2000, SBSA has produced up to 0.25 mgd of tertiary treated, "unrestricted use" effluent for recycle/reuse by an SBSA landscape impoundment and by the City of Redwood City for landscaping irrigation in the community. An additional chemical coagulation treatment step is used for recycled water. A coagulant polymer is injected just prior to filtration. Construction is underway to install a 4.3 million gallon storage tank and recycled water chlorine contact tank and to expand the production capacity to meet a recycled water demand estimated at up to 2.5 mgd by midyear 2007. The new facilities are designed to meet future changes in recycled water demand over the foreseeable future. As a producer of non-potable recycled wastewater, the Discharger must comply with the applicable provisions of Order No. 96-011, General Water Reuse Requirements for Municipal Wastewater and Water Agencies.

B. Storm Water

1. *Regulation.* Federal Regulations for storm water discharges were promulgated by the USEPA on November 19, 1990. The regulations [40 CFR Parts 122, 123, and 124] require specific categories of industrial activity to obtain an NPDES permit and to implement Best Available Technology Economically Available (BAT) and Best Conventional Pollutant Control Technology (BCT) to control pollutants in industrial storm water discharges.

2. *Exemption from Coverage under Statewide Industrial Storm Water General Permit.* The State Board adopted a statewide NPDES permit for storm water discharges associated with industrial activities (NPDES General Permit CAS000001). The Discharger is not required to be covered under the General Permit because all of the storm water captured within the wastewater treatment plant storm drain system is directed to the headworks of treatment plant and treated to the standards contained in this Order.

C. Discharge Points and Receiving Waters

The location of the SBSA outfall and its receiving water are shown in Table F-2 below.

Table F-2. Outfall Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	POTW Effluent	37 º, 33 ', 40 " N	122 º, 13 ', 02 " W	Lower San Francisco Bay

The Lower San Francisco Bay is located in the South Bay Basin watershed management area, between the Dumbarton Bridge and the San Francisco-Oakland Bay Bridge.

D. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations contained in Order No. 01-012 for discharges to the Lower San Francisco Bay and representative monitoring data from the term of Order No. 01-012 are as follows:

Table F-3a. Historic Effluent Limitations and Monitoring Data Between May 1 and September 30

Parameter	(units)	Effluent Limitations			Monitoring Data (From 1/02 To 3/06)		
		Monthly Average	Weekly Average	Daily Maximum	Highest Monthly Average	Highest Weekly Average	Highest Daily Discharge
Oil and Grease	mg/L	10	---	20	ND	ND	< 2
pH	standard units	---	----	6.0 – 9.0	7.8	7.9	8
TSS	mg/L	8	12	---	6.4	8.5	13
Acute Toxicity (1)	% survival	---	---	---	NA	NA	95%
CBOD	mg/L	8	12	---	7.1	9.7	9.9
Fecal Coliform (2., 3)	MPN/ 100 mL	---	---	---	132	301	900
Chlorine, Total Residual	mg/L	---	---	0.0 (7)	NA (4)	NA (4)	0.3
Chronic Toxicity (5)	TUc	---	---	---	NA	NA	2.5
Settleable Matter (6)	ml/L-hr.	0.1	---	0.2	0.1	0.1	0.1
Turbidity	NTU	10	---	20	3.38	3.95	4.7

Table F-3b. Historic Effluent Limitations and Monitoring Data Between October 1 and April 30

Parameter	(units)	Effluent Limitations			Monitoring Data (From 1/02 To 3/06)		
		Monthly Average	Weekly Average	Daily Maximum	Highest Monthly Average	Highest Weekly Average	Highest Daily Discharge
Oil and Grease	mg/L	10	---	20	ND	ND	<2
pH	standard units	---	---	6.0 – 9.0	7.9	8.0	8.3
TSS	mg/L	16	24	---	6.9	7.6	9.8
Acute Toxicity (1)	% survival	---	---	---	NA	NA	90%
CBOD	mg/L	16	24	---	7.8	9.7	16
Fecal Coliform (2, 3)	MPN/ 100 mL	---	---	---	62	121	240
Chlorine, Total Residual	mg/L	---	---	0.0 7.	NA (4)	NA (4)	2.6
Chronic Toxicity (5)	TUc	---	---	---	NA	NA	18.2
Settleable Matter (6)	ml/L-hr	0.1	---	0.2	0.1	0.1	0.1
Turbidity	NTU	20	---	40	4.02	5.37	9.1

ND = Non-Detect

NA = Not Applicable

(1) An 11-sample median value of not less than 90 percent survival and an 11-sample 90th percentile value of not less than 70 percent survival.

(2) The five day log mean fecal coliform density shall not exceed 500 MPN/100 mL.

(3) The 90th percentile value of the last ten values shall not exceed 1,100 MPN/100 mL.

(4) For TRC, all values were non-detect and were recorded with a "<" value, with the exception of one sample collected on November 18, 2004, with a concentration of 2.6 mg/L. Therefore, monthly and weekly averages could not be calculated based on this week of sample collection.

(5) A chronic toxicity effluent limit was not included in Order No. 01-012. An accelerated monitoring trigger was included after exceeding a three sample median value of 10 chronic toxicity (TUc) or a single sample maximum of 20 TUc or greater.

(6) For settleable matter, all values were non-detect and were recorded with a "<" value, with the exception of one sample collected on October 10, 2002 with a concentration of 0.1 ml/L-hr, respectively. Therefore, monthly and weekly averages were calculated based on this week of sample collection.

(7) For TRC, 0.0 mg/L was established as an instantaneous maximum effluent limitation.

Table F- 4. Historic Effluent Limitations and Monitoring Data for Toxic Pollutants

Parameter	Units	Water Quality-Based Effluent Limits (WQBELs)		Interim Limits		Monitoring Data (From 1/02 To 3/06)
		Daily Average	Monthly Average	Daily Average	Monthly Average	Highest Daily Discharge
Priority Pollutants						
Copper	µg/L	---	---	28	---	24
Cyanide	µg/L	---	---	18	---	10
Lead	µg/L	49	17.12	---	---	1.1
Mercury	µg/L	---	---	---	0.06	0.058
Nickel	µg/L	---	---	20	---	16
Zinc	µg/L	540	230	---	---	60
Tributyltin	µg/L	---	---	0.026	---	0.0073
Dioxin-TEQ	ug/L	---	---	---	---	$1.20X10^{-7}$

Note: Values for cyanide and tributyltin were from the permit renewal application.

E. Compliance Summary

1. **Compliance with Numeric Effluent Limits.** Exceedances of numeric effluent limits were observed during the permit term for total residual chlorine (TRC). The exceedances are outlined below:

Table F- 5. TRC Exceedances

Date of Violation (1)	Daily Maximum Effluent Limitation (mg/L)	Total Residual Chlorine Concentration – Instantaneous Maximum (mg/L)
January 27, 2001(2)	0.0	0.2
February 12, 2001(2)	0.0	0.2
June 25, 2002(2)	0.0	0.3
November 18, 2004	0.0	2.6

(1) Information on TRC violations were compiled by the Regional Water Board.

(2) The Discharger has submitted evidence that adequate sodium bisulfite was introduced and has contested these exceedances as "false positives."

The Discharger has submitted evidence that adequate sodium bisulfite was introduced to the effluent on January 27, 2001, February 12, 2001, and June 25, 2002, and argues that these exceedances are therefore false positives. As yet, no enforcement action has been taken for the TRC exceedances listed above.

Exceedances are not violations when they fall below the method detection limit (MDL). According to Order No. 01-012, the instantaneous maximum effluent limit for TRC is 0.0 mg/L. However, Order No. 01-012 also states, "The requirement shall be 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 (Standard Methods)." As of April 2003, the Discharger has reported its MDL for chlorine residual to be 0.7 mg/L. Therefore, all values for residual chlorine between 0.0 mg/L and 0.7 mg/L were reported as "ND" (non detect).

The Discharger has been using analytical method 4500-Cl (C) (Iodometric Method II) for TRC, but Standard Methods does not define the MDL for this method. The facility has established an MDL of 0.7 mg/l. It conducted two MDL studies for residual chlorine testing. One study was conducted to reflect the work of laboratory staff who conducted tests in ideal lab conditions. The resulting MDL was 0.3 mg/L. The other study was conducted for operators trained in chlorine residual analysis, but having less developed skills in laboratory analysis and analyzing chlorine residual with less-than-ideal conditions outside the laboratory. The resulting MDL was 0.7 mg/L.

Order No. 01-012 states, "The analyses shall be conducted using the lowest commercially available and reasonably achievable detection levels. The objective is to provide quantification of constituents sufficient to allow evaluation of observed concentrations with respect to respective water quality objectives." Moreover, Order No. 01-012 states, "All analyses shall be conducted using analytical methods that are commercially and reasonably available, and that provide quantification of sampling parameters and constituents sufficient to evaluate compliance with applicable effluent limits." Additional analytical methods available for the analyses of wastewater include 4500-Cl (F) DPD Ferrous Titrimetric Method and 4500-Cl (G) DPD Colorimetric Method. Standard Methods define detection limits for Method (G) at 0.01 mg/L and Method (F) at 0.018 mg/L. Each detection limit is stated to be "achievable under ideal conditions; normal working detection limits typically are higher." Other dischargers have reported MDLs no higher than 0.1 mg/L.

Although the Discharger commonly reports compliance with TRC limitations, the Discharger's TRC MDL of 0.7 mg/L indicates that the Discharger cannot confidently quantify chlorine at lower concentrations. As a result, this Order requires the Discharger to use an approved method that achieves an MDL at least as low as that achieved by the Amperometric Titration Method (4500-Cl D from *Standard Methods for Examination of Water and Wastewater*, Edition 20). This method is commercially and reasonably available and commonly used, and of all USEPA approved methods, the Amperometric Titration Method is least subject to interferences from color, turbidity, iron, manganese, and nitrite nitrogen.

Additionally, the Discharger may elect to use continuous monitoring to demonstrate compliance with the effluent TRC limit. The analyzers shall monitor the final effluent and measure either total chlorine residual or residual dechlorination agent.

2. **Compliance with Permit Provisions.** A list of special activities required in the provision for Order No. 01-012, and the status of completion, is shown in Table F-6 below:

Table F-6. Status of Special Activities in Provisions for Order No. 01-012

Provision No.	Description of Activity	Status of Completion
E-5	Compliance with Acute Toxicity Effluent Limitation	All acute toxicity tests completed during the permit term were in compliance
E-7	Screening Study for Chronic Toxicity	Completed
E-13	Dioxin Special Study	Completed
E-14	Ambient Background Receiving Water Study	Completed

F. Planned Changes

Over the next five years, SBSA plans to:

1. Install an Enhanced Primary Treatment System that will use ferric chloride and a polymer blend to increase the removal efficiency of the primary sedimentation basins.

2. Replace the current dual filter media with monomedia.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order is issued pursuant to CWA section 402 and implementing regulations adopted by the USEPA and Chapter 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 this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to CWC Article 4, Chapter 4, Division 7 (commencing with section 13260).

B. California Environmental Quality Act (CEQA)

Under CWC section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100 through 21177.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Board adopted a *Water Quality Control Plan for the San Francisco Bay Basin*, (revised in 2005*)* (hereinafter the

Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Resources Control Board (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). Because of the marine influence on receiving waters of the San Francisco Bay, total dissolved solids levels in the Bay commonly (and often significantly) exceed 3,000 mg/L and thereby meet an exception to State Water Board Resolution No. 88-63. Therefore, the designation MUN will not be applicable to the Lower San Francisco Bay. Beneficial uses applicable to Lower San Francisco Bay are as follows:

Table F-7. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Lower San Francisco Bay	Industrial Service Supply (IND) Navigation (NAV) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2) Ocean Commercial and Sport Fishing (COMM) Wildlife Habitat (WILD) Preservation of Rare and Endangered Species (RARE) Fish Migration (MIGR) Shellfish Harvesting (SHELL) Estuarine Habitat (EST)

Requirements of this Order implement the Basin Plan.

2. **Thermal Plan.** 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 WQOs for coastal and interstate surface waters as well as enclosed bays and estuaries. Requirements of this Order implement the Thermal Plan.

3. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, which was amended on May 4, 1995, and November 9, 1999. About forty criteria in the NTR applied 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.

4. **State Implementation Policy.** On March 2, 2000, State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP*).* The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority

pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

5. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes [40 C.F.R. § 131.21, 65 Fed. Reg. 24641 (April 27, 2000)]. Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after 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.

6. **Stringency of Requirements for Individual Pollutants.** This Order contains restrictions on individual pollutants that are no more stringent than required by the federal CWA. Individual pollutant restrictions consist of technology-based restrictions and water quality-based effluent limitations. The technology-based effluent limitations consist of restrictions on carbonaceous biochemical oxygen demand ($CBOD_5$), total suspended solids (TSS), pH, turbidity, and oil and grease. Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to 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 purposes of the CWA" pursuant to section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the CWA and the applicable water quality standards for purposes of the CWA.

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

antidegradation provision of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

8. **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 that effluent limitations in a reissued permit must be as stringent as those in the previous Order, with some exceptions in which limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order (Order No. 01-012).

D. Impaired Water Bodies on CWA 303(d) List

On June 6, 2003, the USEPA approved a revised list of impaired water bodies prepared by the State [hereinafter referred to as the 303(d) list], prepared pursuant to provisions of CWA section 303(d), which requires identification of specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. Lower San Francisco Bay is listed as an impaired waterbody. The pollutants impairing Lower San Francisco Bay include chlordane, DDT, diazinon, dieldrin, dioxin compounds, exotic species, furan compounds, mercury, nickel, PCBs, dioxin-like PCBs, and selenium. The SIP requires final effluent limitations for all 303(d)-listed pollutants to be consistent with total maximum daily loads and associated waste load allocations.

1. Total Maximum Daily Loads

The Regional Water Board plans to adopt Total Maximum Daily Loads (TMDLs) for pollutants on the 303(d) list in Lower San Francisco Bay within the next ten years. Future review of the 303(d)-list for Lower San Francisco Bay may provide schedules or result in revision of the schedules for adoption of TMDLs.

2. Waste Load Allocations

The TMDLs will establish waste load allocations (WLAs) for point sources and load allocations (LAs) for non-point sources, and will result in achieving the water quality standards for the water bodies. Final WQBELs for 303(d)-listed pollutants in this discharge will be based on WLAs contained in the respective TMDLs.

3. Implementation Strategy

The Regional Water Board's strategy to collect water quality data and to develop TMDLs is summarized below:

a. **Data Collection.** The Regional Water Board has given dischargers to the Bay the option to collectively assist in developing and implementing analytical techniques capable of detecting 303(d)-listed pollutants to at least their respective levels of concern or WQOs/WQC. This collective effort may include development of sample concentration techniques for approval by the USEPA. The Regional Water Board will require dischargers to characterize the pollutant loads from their facilities into the water-quality limited water bodies. The results

will be used in the development of TMDLs, and may be used to update or revise the 303(d) list or change the WQOs/WQC for the impaired water bodies including Lower San Francisco Bay.

b. **Funding Mechanism.** The Regional Water Board has received, and anticipates continuing to receive, resources from Federal and State agencies for TMDL development. To ensure timely development of TMDLs, the Regional Water Board intends to supplement these resources by allocating development costs among dischargers through the RMP or other appropriate funding mechanisms.

E. Other Plans, Polices and Regulations

This Order is also based on the following plans, polices, and regulations:

1. The Federal *Water Pollution Control Act*, Sections 301 through 305, and 307, and amendments thereto, as applicable (CWA);

2. The State Water Board's March 2, 2000 *Policy for* the USEPA's May 18, 2000 *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California* or CTR, 40 C.F.R. §131.38(b) and amendments,;

3. The USEPA's *Quality Criteria for Water* [EPA 440/5-86-001, 1986] and subsequent amendments (the USEPA Gold Book);

4, Applicable Federal Regulations [40 CFR §§ 122 and 131];

5. 40 CFR §131.36(b) and amendments [Federal Register Volume 60, Number 86, 4 May 1995, pages 22229-22237];

6. USEPA's December 10, 1998 National Recommended Water Quality Criteria compilation [Federal Register Vol. 63, No. 237, pp. 68354-68364];

7. USEPA's December 27, 2002 Revision of National Recommended Water Quality Criteria compilation [Federal Register Vol. 67, No. 249, pp. 79091-79095]; and

8. Guidance provided with State Water Board Orders remanding permits to the Regional Water Board for further consideration.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the NPDES regulations: 40 CFR 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR 122.44(d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs may be established: (1) using

USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) on an indicator parameter for the pollutant of concern; or (3) using 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).

A. Discharge Prohibitions

Several specific factors affecting the development of limitations and requirements in this Order are discussed as follows:

1. **Discharge Prohibition III.A (No discharge other than that described in this Order):** This prohibition is the same as in Order No. 01-012. This prohibition is based on CWC Section 13260, which requires filing a report of waste discharge (ROWD) before discharges can occur. The Discharger submitted a ROWD for the discharges described in this Order; therefore discharges not described in this Order are prohibited.

2. **Discharge Prohibition III.B. (No discharges receiving less than 10:1 dilution):** This prohibition is the same as in Order No. 01-012. and is based on Discharge Prohibition No. 1 from Table 4-1 of the Basin Plan, which prohibits discharges that do not receive a minimum 10:1 initial dilution. Furthermore, this Order allows a 10:1 dilution credit in the calculation of some water quality based effluent limitations, and these limits would not be protective of water quality, if the discharge did not actually achieve a 10:1 minimum initial dilution.

3. **Discharge Prohibition III.C (No bypass of untreated or partially treated wastewaters)**: This prohibition is based on 40 CFR 122.41(m)(4). Under certain circumstances, facilities may bypass waste streams to waters of the State in order to prevent loss of life, personal injury, or severe property damage, or if there were no feasible alternatives to the bypass and the Discharger submitted notices of the anticipated bypass to waters of the State.

4. **Discharge Prohibition III.D. (average dry weather flow exceedances)**: This prohibition is based on the design treatment capacity of the wastewater treatment facility. Exceedance of the treatment plants' average dry weather flow design capacity of 29 mgd may result in lowering the reliability of achieving compliance with effluent limitations. Peak wet weather flows may exceed this average dry weather design figure.

5. **Discharge Prohibition III.E. (No sanitary sewer overflows (SSO) to waters of the United States)**: The Discharge Prohibition No. 15 from Table 4-1 of the Basin Plan, and the Clean Water Act prohibits the discharge of wastewater to surface waters except as authorize under an NPDES permit. POTWs must achieve secondary treatment, at a minimum, and any more stringent limitations that are necessary to achieve water quality standards. (33U.S.C. §1311(b)(1)(B) and (C).) Thus, an SSO that results in the discharge of raw sewage, or sewage not meeting secondary treatment, to surface waters is prohibited under the Clean Water Act and the Basin Plan.

B. Technology-Based Effluent Limitations

1. Scope and Authority

CWA section 301 (b) (1) (B) requires USEPA to develop secondary treatment standards for publicly owned wastewater treatment facilities – the level of effluent quality attainable through application of secondary or equivalent treatment. USEPA promulgated such technology-based effluent guidelines for POTWs at 40 CFR 133. These Secondary Treatment regulations include the following minimum requirements for POTWs, which are applicable to discharges from the SBSA wastewater treatment facility.

Table F-8. Secondary Treatment Requirements

	30-Day Average	7-Day Average
BOD_5	30 mg/L	45 mg/L
$CBOD_5$	25 mg/L	40 mg/L
TSS	30 mg/L	45 mg/L
pH	6.0 – 9.0	

(1) The 30 day average percent removal shall not be less than 85 percent.
(2) At the option of the permitting authority, these effluent limitations for $CBOD_5$ may be substituted for limitations for BOD_5.

In accordance with NPDES regulations at 40 CFR 125.3, permitting authorities may use best professional judgment (BPJ) to establish technology-based limitations for discharges in industrial categories for which USEPA has not yet issued effluent guidelines and for types of discharges not covered by an effluent guideline. When BPJ is used, the factors listed at 40 CFR 125.3 (d) must be considered.

2. Applicable Technology-Based Effluent Limitations

This Order retains the following technology-based effluent limitations, applicable to Discharge Point 001, from Order No. 01-012.

Table F-9. Summary of Technology-Based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
$CBOD_5$	mg/L	8 / 16 (1)	12 / 24 (1)		---	---
TSS	mg/L	8 / 16 (1)	12 / 24 (1)		---	---
Oil and Grease	mg/L	10	---	20	---	---
Turbidity	NTUs	10 / 20 (1)	---	20 / 40 (1)		
pH	s.u.	---	---	---	6.0	9.0

(1) The first limitation is applicable May 1 – September 30, and the second limitation is applicable October 1 – April 30.

As previously stated, the SBSA WWTP provides approximately 0.25 mgd for reuse by surface irrigation and landscape impoundment, and recycled water demand is anticipated to increase to 2.5 mgd by midyear 2007. In accordance with State regulations for recycled water at Title 22 of the Administrative Code Division 4, Chapter 3, the Discharger must provide tertiary treated and disinfected effluent when

recycled water is used for surface irrigation. Effluent limitations for turbidity, $CBOD_5$, and TSS, are consistent with the Title 22 standards. As these limits are the same as from Order No. 01-012, consistent with the anti-backsliding provisions of the CWA, they are no more stringent than required by the CWA.

The limitations established for oil and grease are levels attainable by secondary treatment and are required by the Basin Plan (Table 4-2) for all discharges to inland surface waters and enclosed bays and estuaries of the Region.

The pH limitation is retained from Order No. 01-012 and is required by USEPA's Secondary Treatment Regulation at 40 CFR 133 and by the Basin Plan (Table 4-2) for deep water discharges.

The technology-based effluent limitations for settleable matter are not retained from Order No. 01-012, as the Regional Water Board has determined that compliance with the Secondary Treatment Regulation at 40 CFR 133 and with the Basin Plan (Table 4-2) requirements for all discharges to inland surface waters and enclosed bays and estuaries of the Region will assure removal of settleable solids to acceptably low levels – below 0.1 ml/L/hr (30 day average) and 0.2 ml/L/hr (daily maximum).

The maximum daily limitations (MDELs) for CBOD and TSS are not retained from Order No. 01-012. 40 CFR 122.45(d)2 specifies that discharge limitations for POTWs shall be stated as average weekly limitations and average monthly limitations, unless impracticable.

3. Bacteria

a. Fecal Coliform. The Basin Plan (Table 4-2) establishes effluent limitations for total coliform bacteria for all discharges from sewage treatment facilities to inland surface waters and enclosed bays and estuaries of the Region. Fecal coliform limitations may be substituted for the limitations of the Basin Plan "provided it can be conclusively demonstrated through a program approved by the Regional Water Board that such substitution will not result in unacceptable adverse impacts on the beneficial uses of the receiving water." Following a study by the Discharger in 1996, the Regional Water Board amended the Discharger's NPDES permit with Order No. 98-105. Order No. 98-105 substituted a five day log mean fecal coliform effluent limitation of 500 MPN/100ml and a 90th percentile fecal coliform effluent limitation of 1100 MPN/100mL for the previous total coliform effluent limitations. The fecal coliform effluent limitations are retained by this Order.

The Discharger submitted its report on the 1996 study, entitled *Chlorination Reduction Evaluation and Recommendations for Modified Effluent Coliform Limitations,* to the Regional Water Board dated January 1998. The report showed that receiving water fecal coliform concentrations remained below the limited water contact objective of 500 MPN/100 mL in all cases at the off-shore monitoring stations. Receiving water fecal coliform concentrations were also well below the most restrictive 200 MPN/100 ml water contact objective (REC-1), with

the exception of a few samples collected during wet weather influenced periods in January and February 1997. During the dry season months, while the plant was discharging effluent fecal coliform concentrations near the 500 MPN/100 mL target level, receiving water concentrations were below 8 MPN/100 mL, with most values at or below the 2 MPN/100 mL detection limit. Concurrent effluent and receiving water monitoring documented that the REC-1 objective remained fully protected when the plant discharged daily fecal coliform concentrations as high as 16,000 MPN/100 mL. The data analysis showed that there was no discernible relationship between effluent fecal coliform concentrations and off-shore fecal coliform concentrations. Correlation coefficients were insignificant, ranging from 0.001-0.02, with the correlation having a negative slope. As expected based on prior studies, concentrations were elevated during wet weather periods at the off-shore monitoring stations including the reference station.

Public access to the shoreline in the vicinity of the Discharger's outfall is limited. Much of the area is also part of a protected wildlife refuge. The nearest historic shellfish harvesting area is two miles northwest of the outfall at the Foster City shellfish beds. Fecal coliform monitoring conducted by the City of San Mateo during the Discharger's study showed no relationship between either the City of San Mateo's sewage discharges or the Discharger's effluent fecal coliform concentrations and shoreline fecal coliform concentrations. Correlation coefficients were insignificant ranging from 0.007 to 0.3. In the two historic shellfish harvesting areas along the south Foster City shoreline, the five sample median 14 MPN/100 mL fecal coliform shellfish harvesting objective was only met on two occasions. As noted above, shoreline fecal coliform concentrations were unrelated to effluent concentrations. The 1990 Foster City Lagoon Management Plan also noted the large presence of birds in this area and indicated that they may be the greatest "point source" of coliform bacteria in the vicinity. Because there is no relationship between the Discharger's discharge and waters with known shellfish harvesting, we believe that the current fecal coliform limits are protective of the shellfish harvesting beneficial use.

b. Enterococci. This Order establishes a technology-based effluent limit for enterococci bacteria. This limit is based on the level currently economically and technically achievable by six other POTWs in the region. Also consistent with Basin Plan Table 4-2, footnote d, this limit will ensure that there are no "unacceptable adverse impacts on the beneficial uses." Enterococci are more closely associated with gastrointestinal disease than fecal coliform bacteria for water contact. The effluent limits in this order, a geometric mean of 35 MPN/100 mL is equivalent to the marine water quality standard for water contact established for the receiving water by USEPA on November 16, 2004, FR Vol 69, No 220 (Beach Act). The USEPA, in the 2004 Beach Act [40CFR 133.41(e)(1)], indicates that the marine criteria apply to coastal waters of California, and defines coastal waters to include coastal estuaries such as such as the receiving water for this discharge. Bacteria concentrations in the effluent are primarily a function of disinfectant application, so the Discharger can meet these limits with its existing technology. Because these technology-based limits do not account for dilution in the receiving waters (we cannot calculate dilution because the

background enterococci levels are unknown), these limits are also likely conservative in terms of protecting beneficial uses and therefore consistent with Table 4-2, footnote d.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

a. NPDES regulations at 40 CFR 122.44 (d) (1) (i), require permits to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an excursion above any state water quality standard (Reasonable Potential). The process for determining Reasonable Potential and calculating WQBELs, when necessary, is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in the CTR, NTR, Basin Plan, other State plans and policies.

b. NPDES regulations and the SIP provide the basis to establish Maximum Daily Effluent Limitations (MDELs).

(1) NPDES Regulations. NPDES regulations at 40 CFR Part 122.45 (d) state: "For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall *unless impracticable* be stated as maximum daily and average monthly discharge limitations for all discharges other than publicly owned treatment works."

(2) SIP. The SIP (page 8, Section 1.4) requires WQBELs be expressed as MDELs and average monthly effluent limitations (AMELs).

c. MDELs are used in this Order to protect against acute water quality effects. The MDELs are necessary for preventing fish kills or mortality to aquatic organisms.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The WQC and WQOs applicable to the receiving waters for this discharge are from the Basin Plan; the California Toxics Rule (CTR), established by USEPA at 40 CFR 131.38; and the National Toxics Rule (NTR), established by USEPA at 40 CFR 131.36. Some pollutants have WQC/WQOs established by more than one of these three sources.

a. Basin Plan. The Basin Plan specifies numeric WQOs for 10 priority toxic pollutants, as well as narrative WQOs for toxicity and bioaccumulation in order to protect beneficial uses. The pollutants for which the Basin Plan specifies numeric objectives are arsenic, cadmium, chromium (VI), copper in freshwater, lead, mercury, nickel, silver, zinc, and cyanide. The narrative toxicity objective states in part that "[a]ll waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms." The bioaccumulation objective states in part that

"[c]ontrollable 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." Effluent limitations and provisions contained in this Order are designed, based on available information, to implement these objectives.

b. CTR. The CTR specifies numeric aquatic life criteria for 23 priority toxic pollutants and numeric human health criteria for 57 priority toxic pollutants. These criteria apply to all inland surface waters and enclosed bays and estuaries of the San Francisco Bay Region, although Tables 3-3 and 3-4 of the Basin Plan include numeric objectives for certain of these priority toxic pollutants, which supersede criteria of the CTR (except in the South Bay south of the Dumbarton Bridge).

c. NTR. The NTR establishes numeric aquatic life criteria for selenium, numeric aquatic life and human health criteria for cyanide, and numeric human health criteria for 34 toxic organic pollutants for waters of San Francisco Bay upstream to, and including Suisun Bay and the Delta. These criteria of the NTR are applicable to Lower San Francisco Bay, the receiving water for this Discharger.

d. Technical Support Document for Water Quality-Based Toxics Controls. Where numeric objectives have not been established or updated in the Basin Plan, NPDES regulations at 40 CFR Part 122.44 (d) require that WQBELs be established based on USEPA criteria, supplemented where necessary by other relevant information, to attain and maintain narrative WQOs to fully protect designated beneficial uses.

To determine the need for and establish WQBELs, when necessary, the Regional Water Board staff has followed the requirements of applicable NPDES regulations, including 40 CFR Parts 122 and 131, as well as guidance and requirements established by the Basin Plan; USEPA's *Technical Support Document for Water Quality-Based Toxics Control* (the TSD, EPA/505/2-90-001, 1991); and the State Water Resources Control Board's *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (the SIP, 2005).

e. Basin Plan Receiving Water Salinity Policy. The Basin Plan (like the CTR and the NTR) states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water shall be considered in determining the applicable WQC. Freshwater criteria shall apply to discharges to waters with salinities equal to or less than one ppt at least 95 percent of the time. Saltwater criteria shall apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to water with salinities in between these two categories, or tidally influenced freshwaters that support estuarine beneficial uses, the criteria shall be the lower of the salt or freshwater criteria (the latter calculated based on ambient hardness) for each substance.

The receiving water for this discharger, Lower San Francisco Bay, is a salt water environment based on salinity data generated through the San Francisco Estuary Institute's Regional Monitoring Program (RMP) at the Redwood Creek (BA40) and San Bruno Shoal (BB15) sampling stations between 1993 and 2001. In that period, the receiving water's minimum salinity was 11 ppt, its maximum salinity was 31 ppt, and its average salinity was 23 ppt. As salinity was greater than 10 ppt in 100 percent of receiving water samples, the saltwater criteria from the Basin Plan, NTR, and CTR are applicable to this discharge.

f. **Site-Specific Metals Translators.** Because NPDES regulations at 40 CFR 122.45 (c) require effluent limitations for metals to be expressed as total recoverable metal, and applicable water quality criteria for the metals are typically expressed as dissolved metal, factors or translators must be used to convert metals concentrations from dissolved to total recoverable and vice versa. In the CTR, USEPA establishes default translators which are used in NPDES permitting activities; however, site-specific conditions such as water temperature, pH, suspended solids, and organic carbon greatly impact the form of metal (dissolved, filterable, or otherwise) which is present and therefore available in the water to cause toxicity. In general, the dissolved form of the metals is more available and more toxic to aquatic life than filterable forms. Site-specific translators can be developed to account for site-specific conditions, thereby preventing exceedingly stringent or under protective water quality objectives.

For deep water discharges to South San Francisco Bay, the Regional Water Board staff use the following translators for copper and nickel, based on recommendations of the Clean Estuary Partnership's *North of Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators* (2005). In determining the need for and calculating WQBELs for all other metals, the Regional Water Board staff has used default translators established by the USEPA in the CTR at 40 CFR 131.38 (b) (2), Table 2.

Table F-10. Translators for Copper and Nickel for Deepwater Discharges of North of Dumbarton Bridge (Central Bay Regions)

Cu and Ni Translators for Deepwater Discharges to Central Bay	Copper		Nickel	
	AMEL Translator	**MDEL Translator**	**AMEL Translator**	**MDEL Translator**
	0.74	0.88	0.65	0.85

3. Determining the Need for WQBELs

NPDES regulations at 40 CFR 122.44 (d) (1) (i) require permits to include WQBELs for all pollutants (non-priority or priority) "which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any narrative or numeric criteria within a State water quality standard" (have Reasonable Potential). Thus, assessing whether a pollutant has Reasonable Potential is the fundamental step in determining whether or not a WQBEL is required. For non-priority pollutants, Regional Water Board staff used available monitoring data, receiving water's designated uses, and/or previous

permit pollutant limitations to determine Reasonable Potential. For priority pollutants, Regional Water Board staff used the methods prescribed in Section 1.3 of the SIP to determine if the discharge from the South Bayside System Authority WWTP demonstrates reasonable potential as described below in sections 3.c – 3.h.

a. Reasonable Potential Analysis

Using the methods prescribed in Section 1.3 of the SIP, Regional Water Board staff analyzed the effluent data to determine if the discharge from the Water Pollution Control Plant demonstrates Reasonable Potential. The Reasonable Potential Analysis (RPA) compares the effluent data with numeric and narrative WQOs in the Basin Plan and numeric WQC from the USEPA, the NTR, and the CTR. The Basin Plan objectives and CTR criteria are shown in Appendix A of this Fact Sheet.

b. Reasonable Potential Methodology

Using the methods and procedures prescribed in Section 1.3 of the SIP, Regional Water Board staff analyzed the effluent and background data and the nature of facility operations to determine if the discharge has reasonable potential to cause or contribute to exceedances of applicable SSOs or WQC. Appendix A of this Fact Sheet shows the stepwise process described in Section 1.3 of the SIP.

The RPA projects a maximum effluent concentration (MEC) for each pollutant based on existing data, while accounting for a limited data set and effluent variability. There are three triggers in determining Reasonable Potential.

(1) The first trigger is activated if the MEC is greater than the lowest applicable WQO (MEC $\geq$ WQO), which has been adjusted, if appropriate, for pH, hardness, and translator data. If the MEC is greater than the adjusted WQO, then that pollutant has reasonable potential, and a WQBEL is required.

(2) The second trigger is activated if the observed maximum ambient background concentration (B) is greater than the adjusted WQO (B > WQO), and the pollutant is detected in any of the effluent samples.

(3) The third trigger is activated if a review of other information determines that a WQBEL is required to protect beneficial uses, even though both MEC and B are less than the WQO/WQC. A limitation may be required under certain circumstances to protect beneficial uses.

c. Effluent Data

The Regional Water Board's August 6, 2001 letter titled *Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy* (hereinafter referred to as the Regional Water Board's August 6, 2001 Letter) to all permittees, formally required the Discharger (pursuant to Section 13267 of the CWC) to initiate or continue to monitor for the

priority pollutants using analytical methods that provide the best detection limits reasonably feasible. Regional Water Board staff analyzed this effluent data and the nature of the South Bayside System Authority plant to determine if the discharge has Reasonable Potential. The RPA was based on the effluent monitoring data collected by the Discharger from January 2002 through March 2006.

d. Ambient Background Data

Ambient background values are used in the reasonable potential analysis (RPA) and in the calculation of effluent limitations. For the RPA, ambient background concentrations are the observed maximum detected water column concentrations. The SIP states that for calculating WQBELs, ambient background concentrations are either the observed maximum ambient water column concentrations or, for criteria/objectives intended to protect human health from carcinogenic effects, the arithmetic mean of observed ambient water concentrations. The RMP station at Yerba Buena Island, located in the Central Bay, has been monitored for most of the inorganic (CTR constituent numbers 1-15) and some of the organic (CTR constituent numbers 16–126) toxic pollutants, and this data from the RMP was used as background data in performing the RPA for this Discharger.

Not all the constituents listed in the CTR have been analyzed by the RMP. These data gaps are addressed by the Board's August 6, 2001 Letter titled "Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy" (hereinafter referred to as the Board's August 6, 2001 Letter—available online; see Standard Language and Other References Available Online, below). The Board's August 6, 2001 Letter formally requires Dischargers (pursuant to Section 13267 of the California Water Code) to conduct ambient background monitoring and effluent monitoring for those constituents not currently monitored by the RMP and to provide this technical information to the Regional Water Board.

On May 15, 2003, a group of several San Francisco Bay Region Dischargers (known as the Bay Area Clean Water Agencies, or BACWA) submitted a collaborative receiving water study, entitled the *San Francisco Bay Ambient Water Monitoring Interim Report*. This study includes monitoring results from sampling events in 2002 and 2003 for the remaining priority pollutants not monitored by the RMP. The RPA was conducted and the WQBELs were calculated using RMP data from 1993 through 2003 for inorganics and organics at the Yerba Buena Island RMP station, and additional data from the BACWA *Ambient Water Monitoring: Final CTR Sampling Update Report* for the Yerba Buena Island RMP station. The Dischargers may utilize the receiving water study provided by BACWA to fulfill all requirements of the August 6, 2001 letter for receiving water monitoring in this Order.

e. RPA Determination

The MECs, most stringent applicable WQOs/WQC, and background concentrations used in the RPA are presented in the following table, along with the RPA results (yes or no) for each pollutant analyzed. Reasonable potential was not determined for all pollutants, as there are not applicable water quality objectives/criteria for all pollutants, and monitoring data was not available for others. RPA results are shown below and Appendix A of this Fact Sheet. The pollutants that exhibit Reasonable Potential are copper, nickel, mercury, cyanide, and dioxin-TEQ.

Table F-11. Summary of RPA Results

CTR #	Priority Pollutants	MEC or Minimum DL [a][b] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [a][b] (µg/L)	RPA Results[c]
1	Antimony	**3.8**	4300	1.8	No
2	Arsenic	**2.9**	36	2.46	No
3	Beryllium	< 0.1	No Criteria	0.215	Ud
4	Cadmium	**0.1**	9.4	0.13	No
5a	Chromium (III)	**1.2**	No Criteria	Not Available	Ud
5b	Chromium (VI)	**1.2**	50	4.4	No
6	Copper	**24**	4.2	2.45	**Yes**
7	Lead	**1.1**	8.5	0.80	No
8	Mercury (303d listed)	**0.026**	0.025	0.0086	**Yes**
9	Nickel	**16**	12.6	3.7	**Yes**
10	Selenium (303d listed)	**3**	5	0.39	No
11	Silver	**1.3**	2.2	0.052	No
12	Thallium	**0.1**	6.3	0.21	No
13	Zinc	**52**	86	5.1	No
14	Cyanide	**7.2**	1.0	< 0.4	**Yes**
15	Asbestos	Not Available	No Criteria	Not Available	Ud
16	2,3,7,8-TCDD (303d listed)	< 7.29E-07	1.4E-08	Not Available	No
16-TEQ	Dioxin TEQ (303d listed)	**1.20E-07**	1.4E-08	7.10E-08	**Yes**
17	Acrolein	< 0.6	780	< 0.5	No
18	Acrylonitrile	< 0.3	0.66	0.03	No
19	Benzene	< 0.1	71	< 0.05	No
20	Bromoform	< 0.1	360	< 0.5	No
21	Carbon Tetrachloride	< 0.1	4.4	0.06	No
22	Chlorobenzene	< 0.1	21000	< 0.5	No
23	Chlorodibromomethane	< 0.1	34	< 0.05	No
24	Chloroethane	< 0.1	No Criteria	< 0.5	Ud
25	2-Chloroethylvinyl ether	< 0.1	No Criteria	< 0.5	Ud
26	Chloroform	**3.9**	No Criteria	< 0.5	Ud
27	Dichlorobromomethane	13	46	< 0.05	No
28	1,1-Dichloroethane	< 0.1	No Criteria	< 0.05	Ud
29	1,2-Dichloroethane	< 0.1	99	0.04	No
30	1,1-Dichloroethylene	< 0.1	3.2	< 0.5	No
31	1,2-Dichloropropane	< 0.1	39	< 0.05	No
32	1,3-Dichloropropylene	< 0.1	1700	Not Available	No
33	Ethylbenzene	< 0.1	29000	< 0.5	No
34	Methyl Bromide	< 0.1	4000	< 0.5	No
35	Methyl Chloride	< 0.04	No Criteria	< 0.5	Ud
36	Methylene Chloride	**4.0**	1600	0.5	No

CTR #	Priority Pollutants	MEC or Minimum DL [a][b] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [a][b] (µg/L)	RPA Results[c]
37	1,1,2,2-Tetrachloroethane	< 0.1	11	< 0.05	No
38	Tetrachloroethylene	< 0.3	8.85	< 0.05	No
39	Toluene	**0.8**	200000	< 0.3	No
40	1,2-Trans-Dichloroethylene	< 0.1	140000	< 0.5	No
41	1,1,1-Trichloroethane	< 0.1	No Criteria	< 0.5	Ud
42	1,1,2-Trichloroethane	< 0.1	42	< 0.05	No
43	Trichloroethylene	< 0.1	81	< 0.5	No
44	Vinyl Chloride	< 0.1	525	< 0.5	No
45	2-Chlorophenol	Not Available	400	< 1.2	No
46	2,4-Dichlorophenol	Not Available	790	< 1.3	No
47	2,4-Dimethylphenol	Not Available	2300	< 1.3	No
48	2-Methyl- 4,6-Dinitrophenol	Not Available	765	< 1.2	No
49	2,4-Dinitrophenol	Not Available	14000	< 0.7	No
50	2-Nitrophenol	Not Available	No Criteria	< 1.3	Ud
51	4-Nitrophenol	Not Available	No Criteria	< 1.6	Ud
52	3-Methyl 4-Chlorophenol	Not Available	No Criteria	< 1.1	Ud
53	Pentachlorophenol	< 0.9	7.9	< 1.0	No
54	Phenol	< 0.4	4600000	< 1.3	No
55	2,4,6-Trichlorophenol	< 0.6	6.5	< 1.3	No
56	Acenaphthene	< 0.03	2700	0.0015	No
57	Acenaphthylene	< 0.02	No Criteria	0.00053	Ud
58	Anthracene	< 0.03	110000	0.0005	No
59	Benzidine	< 0.3	0.00054	< 0.0015	No
60	Benzo(a)Anthracene	< 0.1	0.049	0.0053	No
61	Benzo(a)Pyrene	< 0.02	0.049	0.00029	No
62	Benzo(b)Fluoranthene	< 0.02	0.049	0.0046	No
63	Benzo(ghi)Perylene	< 0.02	No Criteria	0.0027	Ud
64	Benzo(k)Fluoranthene	< 0.02	0.049	0.0015	No
65	Bis(2-Chloroethoxy)Methane	< 0.3	No Criteria	< 0.3	Ud
66	Bis(2-Chloroethyl)Ether	< 0.3	1.4	< 0.3	No
67	Bis(2-Chloroisopropyl)Ether	< 0.6	170000	Not Available	No
68	Bis(2-Ethylhexyl)Phthalate	**3.2**	5.9	< 0.5	No
69	4-Bromophenyl Phenyl Ether	< 0.4	No Criteria	< 0.23	Ud
70	Butylbenzyl Phthalate	< 0.4	5200	< 0.52	No
71	2-Chloronaphthalene	< 0.3	4300	< 0.3	No
72	4-Chlorophenyl Phenyl Ether	< 0.4	No Criteria	< 0.3	Ud
73	Chrysene	< 0.02	0.049	0.0024	No
74	Dibenzo(a,h)Anthracene	< 0.03	0.049	0.00064	No
75	1,2-Dichlorobenzene	Not Available	17000	< 0.8	No
76	1,3-Dichlorobenzene	< 0.1	2600	< 0.8	No
77	1,4-Dichlorobenzene	**0.6**	2600	< 0.8	No
78	3,3 Dichlorobenzidine	< 0.3	0.077	< 0.001	No
79	Diethyl Phthalate	< 0.4	120000	< 0.24	No
80	Dimethyl Phthalate	< 0.4	2900000	< 0.24	No
81	Di-n-Butyl Phthalate	< 0.4	12000	< 0.5	No
82	2,4-Dinitrotoluene	< 0.3	9.1	< 0.27	No
83	2,6-Dinitrotoluene	< 0.3	No Criteria	< 0.29	Ud
84	Di-n-Octyl Phthalate	< 0.4	No Criteria	< 0.38	Ud
85	1,2-Diphenylhydrazine	< 0.03	0.54	0.0037	No
86	Fluoranthene	< 0.03	370	0.011	No
87	Fluorene	< 0.02	14000	0.00208	No
88	Hexachlorobenzene	< 0.4	0.00077	0.0000202	No
89	Hexachlorobutadiene	< 0.2	50	< 0.3	No

CTR #	Priority Pollutants	MEC or Minimum DL [a][b] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [a][b] (µg/L)	RPA Results[c]
90	Hexachlorocyclopentadiene	< 0.1	17000	< 0.31	No
91	Hexachloroethane	< 0.2	8.9	< 0.2	No
92	Indeno(1,2,3-cd)Pyrene	< 0.02	0.049	0.004	No
93	Isophorone	< 0.3	600	< 0.3	No
94	Naphthalene	< 0.02	No Criteria	0.0023	Ud
95	Nitrobenzene	< 0.3	1900	< 0.25	No
96	N-Nitrosodimethylamine	< 0.4	8.1	< 0.3	No
97	N-Nitrosodi-n-Propylamine	< 0.3	1.4	< 0.001	No
98	N-Nitrosodiphenylamine	< 0.4	16	< 0.001	No
99	Phenanthrene	< 0.02	No Criteria	0.0061	Ud
100	Pyrene	< 0.02	11000	0.0051	No
101	1,2,4-Trichlorobenzene	< 0.1	No Criteria	< 0.3	Ud
102	Aldrin	< 0.002	0.00014	Not Available	No
103	alpha-BHC	< 0.002	0.013	0.000496	No
104	beta-BHC	< 0.001	0.046	0.000413	No
105	gamma-BHC	< 0.001	0.063	0.0007034	No
106	delta-BHC	< 0.001	No Criteria	0.000042	Ud
107	Chlordane (303d listed)	< 0.001	0.00059	0.00018	No
108	4,4'-DDT (303d listed)	< 0.001	0.00059	0.000066	No
109	4,4'-DDE (linked to DDT)	< 0.001	0.00059	0.000693	No
110	4,4'-DDD	< 0.001	0.00084	0.000313	No
111	Dieldrin (303d listed)	< 0.002	0.00014	0.000264	No
112	alpha-Endosulfan	< 0.002	0.0087	0.000031	No
113	beta-Endolsulfan	< 0.001	0.0087	0.000069	No
114	Endosulfan Sulfate	< 0.001	240	0.0000819	No
115	Endrin	< 0.002	0.0023	0.000036	No
116	Endrin Aldehyde	< 0.002	0.81	Not Available	No
117	Heptachlor	< 0.003	0.00021	0.000019	No
118	Heptachlor Epoxide	< 0.002	0.00011	0.00002458	No
119-125	PCBs sum (303d listed)	< 0.03	0.00017	Not Available	No
126	Toxaphene	< 0.2	0.00020	Not Available	No
	Tributylin	0.0029	0.01	< 0.001	No
	Total PAHs	Not Available	15	0.26	No

(a) The Maximum Effluent Concentration (MEC) or maximum background concentration is the actual detected concentration unless there is a "<" sign before it, in which case the value shown is the minimum detection level.

(b) The MEC or maximum background concentration is "Not Available" when there are no monitoring data for the constituent.

(c) RPA Results = Yes, if MEC > WQO/WQC, or B > WQO/WQC and MEC is detected;
= No, if MEC and B are < WQO/WQC or all effluent data are undetected;
= Undetermined, if no criteria have been promulgated;
= Cannot Determine, if there are insufficient data.

(1) Constituents with limited data. The Discharger has performed sampling and analysis for the constituents listed in the CTR. This data set was used to perform the RPA. In some cases, Reasonable Potential cannot be determined because effluent data are limited, or ambient background concentrations are not available. The Dischargers will continue to monitor for these constituents in the effluent using analytical methods that provide the best feasible detection limits. When additional data become available, further RPA will be conducted to determine whether to add numeric effluent limitations to this Order or to continue monitoring.

(2) Pollutants with no Reasonable Potential. WQBELs are not included in this Order for constituents that do not demonstrate Reasonable Potential; however, monitoring for those pollutants is still required. If concentrations of these constituents are found to have increased significantly, the Dischargers will be required to investigate the source(s) of the increase(s). Remedial measures are required if the increases pose a threat to water quality in the receiving water.

The previous Order (Order No. 01-012) included WQBELs for lead, zinc, and tributyltin; however, because the reasonable potential analysis showed that discharges from the South Bayside System Authority WWTP no longer demonstrate a reasonable potential to cause or contribute to exceedances of applicable water quality criteria for these pollutants, limitations from Order No. 01-012 are not retained and new limitations are not included in this Order.

Elimination of WQBELs for lead, zinc, and tributyltin in this Order satisfies the exception to anti-backsliding requirements expressed at Section 402(o)(2)(B)(i) of the Clean Water Act, which allows a reissued permit to include less stringent limitations when "information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods), and which would have justified the application of a less stringent effluent limitation at the time of permit issuance." In these circumstances, less stringent limitations (here, the elimination of limitations) are based on new data, which was generated during the term of Order No. 01-012, and which demonstrates no reasonable potential for discharges from the facility to cause or contribute to exceedances of applicable water quality standards for these pollutants.

4. WQBEL Calculations.

a. Pollutants with Reasonable Potential

WQBELs were developed for the toxic and priority pollutants that were determined to have reasonable potential to cause or contribute to exceedances of the WQOs or WQC. The WQBELs were calculated based on appropriate WQOs/WQC and the appropriate procedures specified in Section 1.4 of the SIP. The WQOs or WQC used for each pollutant with Reasonable Potential is discussed below.

b. Dilution Credit

The SIP provides the basis for any dilution credit. The South Bay System Authority outfall is designed to achieve a minimum of 10:1 dilution. Based on a review of RMP data from local and Central Bay stations, there is variability in the receiving water, and the hydrology of the receiving water is itself very complex. Thus there is uncertainty associated with the representative nature of the appropriate ambient background data for effluent limit calculations. Pursuant to Section 1.4.2.1 of the SIP, "dilution credit may be limited or denied on a pollutant-by-pollutant basis … " Pursuant to Section 1.4.2.1 of the SIP, "dilution

credit may be limited or denied on a pollutant-by-pollutant basis…." The Regional Water Board finds that a conservative 10:1 dilution credit for non-bioaccumulative priority pollutants, and a zero dilution credit for bioaccumulative priority pollutants are necessary for protection of beneficial uses. The detailed basis for each are explained below.

(i) For certain bioaccumulative pollutants dilution credits are not included in calculating the final WQBELs. This decision is based on the concentrations of these pollutants in aquatic organisms, sediment, and the water column. The Regional Water Board placed selenium, mercury, and polychlorinated biphenyls (PCBs) on the CWA Section 303(d) list. U.S. EPA added dioxin and furan compounds, chlordane, dieldrin, and 4,4'-DDT to the CWA Section 303(d) list. A dilution credit is also not allowed for mercury. The reasoning for these decisions is based on the following factors that suggest there is no more assimilative capacity in the Bay for these pollutants.

Samples of tissue taken from fish in the San Francisco Bay show the presence of these pollutants at concentrations greater than screening levels (*Contaminant Concentrations in Fish from San Francisco Bay, May 1997)*. The Office of Environmental Health and Hazard Assessment (OEHHA) also completed a preliminary review of data in the 1994 San Francisco Bay pilot study, *Contaminated Levels in Fish Tissue from San Francisco Bay*. The results of this study also showed elevated levels of chemical contaminants in fish tissues. In December 1994 OEHHA subsequently issued an interim consumption advisory covering certain fish species in the Bay. This advisory is still in effect for exposure to sport fish that are found to be contaminated with mercury, dioxins, and pesticides (e.g., DDT).

(ii) Section 2.1.1 of the SIP states that for bioaccumulative compounds on the 303(d) list, the Regional Water Board should consider whether mass-loading limits are limited to current levels. The Regional Water Board finds that mass-loading limits are warranted for mercury in the receiving waters of this Discharger. This is to ensure that this Discharger does not contribute further to impairment of the narrative objective for bioaccumulation.

(iii) For non-bioaccumulative constituents, a conservative allowance of 10:1 dilution for discharges to the Bay has been assigned for protection of beneficial uses. The basis for using 10:1 is that it was granted in the previous permit. This 10:1 dilution ratio also follows the Basin Plan's prohibition, Number 1, which prohibits discharges with less than 10:1 dilution. The dilution credit is also based on SIP provisions, Section 1.4.2, that consider the following:.

(a) A far-field background station is appropriate because the receiving water body (the Bay) is a very complex estuarine system with highly variable and seasonal upstream freshwater inflows and diurnal tidal saltwater inputs. The SIP allows background to be determined on a discharge-by-discharge or water body-by-water body basis (SIP 1.4.3). Consistent with

the SIP, Regional Water Board staff have chosen to use a water body-by-water body basis because of the uncertainties inherent in accurately characterizing ambient background in a complex estuarine system on a discharge-by-discharge basis.

The Yerba Buena Island Station fits the guidance for ambient background in the SIP compared to other stations in the RMP. The SIP states that background data are applicable if they are "representative of the ambient receiving water column that will mix with the discharge." Regional Water Board staff believe that water from this station is representative of water that will mix with the discharge from this Discharger. Although this station is located near the Golden Gate, it would represent the typical water flushing in and out of the Bay each tidal cycle and represents the receiving water the will mix with the discharge.

(b) Because of the complex hydrology of the San Francisco Bay, a mixing zone has not been established. There are uncertainties in accurately determining the mixing zones for each discharge. The models that have been used to predict dilution have not considered the three-dimensional nature of the currents in the estuary resulting from the interaction of tidal flushes and seasonal fresh water outflows. Salt water is heavier than fresh water, colder saltwater from the ocean flushes in twice a day generally under the warmer fresh river waters that flow out annually. When these waters mix and interact, complex circulation patterns occur due to the different densities of these waters. These complex patterns occur throughout the estuary but are most prevalent in the San Pablo, Carquinez Strait, and Suisun Bay areas. The locations change depending on the strength of each tide and the variable rate of delta outflow. Additionally, sediment loads to the bay from the Central Valley also change on a longer-term basis. These changes can result in changes to the depths of different parts of the Bay making some areas more shallow and/or other areas more deep. These changes affect flow patterns that in turn can affect the initial dilution achieved by a diffuser.

(c) The SIP allows a limited mixing zone and dilution credit for persistent pollutants. Discharges to the bay are defined in the SIP as incompletely mixed discharges. Thus, dilution credit should be determined using site-specific information. The SIP 1.4.2.2 specifies that the Regional Water Board "significantly limit a mixing zone and dilution credit as necessary … For example, in determining the extent of a mixing zone or dilution credit, the RWQCB shall consider the presence of pollutants in the discharge that are …persistent." The SIP defines persistent pollutants to be "substances for which degradation or decomposition in the environment is nonexistent or very slow." The pollutants at issue here are persistent pollutants (e.g. copper). The dilution studies that estimate actual dilution do not address the effects of these persistent pollutants in the Bay environment, such as their long-term effects on sediment concentrations.

c. Summary of Water Quality Based Effluent Limitations

The following provides a summary of water quality based effluent limitations from Order No. 01-012:

Table F-12. Summary of Water Quality Based Effluent Limitations for Toxic Pollutants from Previous Permit

Parameter	Units	Water Quality Based Effluent Limitations			Interim Limits	
		Average Monthly	Average Weekly	Maximum Daily	Daily Maximum	Monthly Average
Copper	µg/L	---	---	---	28	---
Mercury	µg/L	---	---	---	0.06	---
Nickel	µg/L	---	---	---	20	---
Cyanide	µg/L	---	---	---	18	---

d. Calculation of Pollutant Specific WQBELs

(1) Copper

(a) *Copper WQC*. Site-specific translators were applied to chronic (3.1 µg/L dissolved metal) and acute (4.8 µg/L dissolved metal) criteria of the Basin Plan and the CTR for protection of salt water aquatic life to calculate the values of 4.2 µg/L for chronic protection and 5.5 µg/L for acute protection, which were used to perform the RPA. The calculations used site-specific translators of 0.74 (chronic) and 0.88 (acute), as recommended by the Clean Estuary Partnership's *North of Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators* (2005).

(b) *RPA Results*. This Order establishes effluent limitations for copper, as the maximum observed effluent concentration of 24 µg/L exceeds the applicable water quality criteria for this pollutant, demonstrating reasonable potential by Trigger 1, as defined previously.

(c) *Copper WQBELs*. WQBELs are calculated based on water quality criteria of the CTR. The criteria are expressed as total recoverable metal, using site-specific translators recommended by the Clean Estuary Partnership's North of Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators (2004), and a water effects ratio (WER) of 2.4, as recommended by the Partnership. The following table compares effluent limitations for copper from the expiring permit (Order No. 01-012) with newly calculated limitations determined according to SIP procedures (and a coefficient of variation of 0.37). The newly calculated limitations take into account the deep water nature of the discharge, and therefore, in accordance with the Basin Plan, are based on a minimum initial dilution of 10 to 1.

Table F-13. Effluent Limitations for Copper

Effluent Limitations for Copper		
	AMEL	**MDEL**
Order No. 01-012	---	28 µg/L (interim limit)
Based on CTR Criteria	67 µg/L	109 µg/L

Because the maximum daily limitation of Order No. 01-012 was an interim limitation, it is not being retained by this Order, and the newly calculated limitations, based CTR water quality criteria, and site-specific translators and the WER measured by the Clean Estuary Partnership, are being established as final effluent limitations for copper.

(d) *Immediate Compliance Feasible*. Statistical analysis of effluent data for copper, collected over the period of April 2003 – March 2006, shows that the 95th percentile (14 µg/L) is less than the AMEL (67 µg/L); the 99th percentile (17 µg/L) is less than the MDEL (109 µg/L); and the mean (9.0 µg/L) is less than the long term average of the projected lognormal distribution of the effluent data set after accounting for effluent variability (39 µg/L). The Regional Water Board concludes, therefore, that immediate compliance with final effluent limitations for copper is feasible, and final effluent limitations will become effective upon adoption of this Order.

(e) *Alternate Limitations for Copper*. As described in the Clean Estuary Partnership's North of Dumbarton Bridge Copper and Nickel Site-Specific Objective Determination (December 2004), the Regional Water Board is proposing to develop site-specific criteria for copper in non-ocean, marine waters of the Region. Proposed site-specific objectives for copper are 2.5 and 3.9 µg/L as four-day and one-hour average criteria, respectively. If these site-specific objectives for copper are adopted, final effluent limitations, calculated according to Section 1.4 of the SIP, using a WER of 2.4, would be 52 µg/L (AMEL) and 84 µg/L (MDEL). If these site-specific objectives for copper are adopted, the alternate effluent limits will become effective upon the adoption date, so long as the site-specific objectives and their current justification remain unchanged.

(f) *Antibacksliding/Antidegradation*. Antibacksliding and antidegradation requirements are satisfied as Order No. 01-012 did not include final effluent limitations for copper.

(2) Mercury

(a) *Mercury WQC*. The most stringent applicable water quality criteria for mercury are established by the Basin Plan for protection of salt water aquatic life – 2.1 µg/L and 0.025 µg/L, acute and chronic criteria respectively.

(b) *RPA Results*. This Order establishes final water quality-based effluent limitations on mercury concentrations, as the maximum observed effluent

concentration of 0.026 µg/L exceeds the applicable chronic criterion for this pollutant, demonstrating reasonable potential by Trigger 1, as defined previously.

(c) *Mercury WQBELs*. Final WQBELs for mercury, calculated according to SIP procedures, and the interim effluent limitations on both for mercury concentration and mercury mass emission from Order No. 01-012 are summarized in the following table. Because mercury is a bioaccumulative pollutant, the final WQBELs are calculated without credit for dilution.

Table F-14. Effluent Limitations for Mercury

Effluent Limitations for Mercury		
	AMEL	**MDEL**
Order No. 01-012 (1)	--	0.06 µg/L (interim limit)
Final Limits	0.023 µg/L	0.034 µg/L

(1) Order No. 01-012 also included a final mercury mass limit of 0.24 kg/month, expressed as a running annual average.

The SIP also suggests that mass emission limits should be established for bioaccumulative pollutants that have been included on the 303 (d) list for the receiving water. Because mercury is bioaccumulative and is included in the 303(d) list for Lower San Francisco Bay, Order No. 01-012 established a mass emission limit for mercury of 0.24 kilograms per month, as stated in Footnote 1 above. This Order establishes a new mass emission limit for mercury (0.044 kg/month), which reflects SBSA's mass emission allowance (0.53 kg/yr) in the mercury TMDL.

(d) *Immediate Compliance Feasible*. Statistical analysis of effluent data for mercury concentrations, collected over the period of April 2003 – March 2006, shows that the 95th percentile mecury concentration (0.017 µg/L) is less than the AMEL (0.023 µg/L); the 99th percentile mercury concentration (0.02 µg/L) is less than the MDEL (0.034 µg/L); and the mean mercury concentration (0.011 µg/L) is less than the long term average of the projected lognormal distribution of the effluent data set after accounting for effluent variability (0.02 µg/L). The Regional Water Board therefore concludes that immediate compliance with final WQBELs for mercury concentrations is feasible, and final WQBELs for mercury concentrations will become effective upon adoption of this Order.

(e) *Mercury TMDL.* The current 303(d) list includes Lower San Francisco Bay as impaired by mercury due to high mercury concentrations in the tissue of fish from the Bay. Methyl-mercury, the highly toxic form of mercury, is a persistent bioaccumulative pollutant. There is no evidence to show that the mercury discharged is taken out of the hydrologic system by processes such as evaporation before reaching Lower San Francisco Bay. Absent this evidence, the Regional Water Board assumes that the mercury reaches the Bay through either sediment transport or water flows. The Regional Water Board has established a TMDL process that will lead

toward overall reduction of mercury mass loadings into Lower San Francisco Bay. The final mercury mass emission limitations will be based on the Discharger's WLA in the TMDL. While the TMDL is being developed, the Discharger will comply with final mercury concentration and interim mass-based limitations to cooperate in maintaining current ambient receiving water conditions.

(f) *Mercury Source Control Strategy.* The Regional Water Board is developing a TMDL to control mercury levels in Lower San Francisco Bay. The Regional Water Board, together with other stakeholders, will cooperatively develop source control strategies as part of TMDL development. Municipal discharge point sources are not a significant source of mercury to Lower San Francisco Bay. Therefore, the currently preferred strategy is to apply interim mass loading limitations to point source discharges while focusing mass reduction efforts on other more significant sources. While the TMDL is being developed, the Discharger will cooperate in maintaining ambient receiving water conditions by complying with interim mass emission limits for mercury. Therefore, this Order includes an interim mass emission limitation for mercury.

(g) *Final Mercury Limitations.* Final mercury limitations may be revised/established to be consistent with the WLA assigned in the final mercury TMDL. While the TMDL is being developed, the Discharger will comply with the final WQBELs and interim mass emission limitations to cooperate in maintaining current ambient receiving water conditions.

(h) *Antibacksliding/Antidegradation*. Antibacksliding and antidegradation requirements are satisfied, as Order No. 01-012 did not include final WQBELs for mercury; and this order establishes a more stringent interim mass emission limit calculated based on SBSA's mass emissions allowance in the mercury TMDL.

(3) Nickel

(a) *Nickel WQC*. Site-specific translators were applied to chronic (8.2 µg/L dissolved metal) and acute (74 µg/L dissolved metal) criteria of the Basin Plan and the CTR for protection of salt water aquatic life to calculate the values of 13 µg/L for chronic protection and 87 µg/L for acute protection, which were used to perform the RPA. These values were determined using site-specific translators of 0.65 (chronic) and 0.85 (acute), as recommended by the Clean Estuary Partnership's *North of Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators* (2005).

(b) *RPA Results*. This Order establishes effluent limitations for nickel, as the maximum observed effluent concentration of 16 µg/L exceeds the applicable chronic criterion for this pollutant, demonstrating reasonable potential by Trigger 1, as defined previously.

(c) *Nickel WQBELs*. WQBELs for nickel are calculated based on water quality criteria of the CTR and are expressed as total recoverable metal, using site-specific translators recommended by the Clean Estuary Partnership's *North of Dumbarton Bridge Copper and Nickel Development and Selection of Final Translators* (2004). The following table compares effluent limitations for nickel from the expiring permit (Order No. 01-012) with limitations calculated according to SIP procedures (and a coefficient of variation of 0.29). The newly calculated limitations take into account the deep water nature of the discharge, and therefore, in accordance with the Basin Plan, are based on a minimum initial dilution of 10 to 1.

Table F-15. Effluent Limitations for Nickel

Effluent Limitations for Nickel		
	AMEL	**MDEL**
Order No. 01-012	---	20 µg/L (interim limit)
Based on CTR Criteria	84 µg/L	125 µg/L

Because the maximum daily limitation of Order No. 01-012 was an interim limitation, it is not being retained by this Order; and the newly calculated limitations, based on site-specific translators recommended by the Clean Estuary Partnership, are being established as final effluent limitations for nickel.

(d) *Immediate Compliance Feasible*. Statistical analysis of effluent data for nickel, collected over the period of April 2003 – March 2006, shows that the 95th percentile (9.0 µg/L) is less than the AMEL (84 µg/L); the 99th percentile (10 µg/L) is less than the MDEL (125 µg/L); and the mean (6.3 µg/L) is less than the long term average of the projected lognormal distribution of the effluent data set after accounting for effluent variability (67 µg/L). The Regional Water Board concludes, therefore, that immediate compliance with final effluent limitations for nickel is feasible, and final effluent limitations will become effective upon adoption of this Order.

(e) *Antibacksliding/Antidegradation*. Antibacksliding and antidegradation requirements are satisfied as Order No. 01-012 did not include final effluent limitations for nickel.

(4) Cyanide

(a) *Cyanide WQC*. The most stringent applicable water quality criteria for cyanide are established by the NTR for protection of aquatic life in San Francisco Bay. The NTR establishes both the saltwater Criterion Maximum Concentration (acute criterion) and the Criterion Chronic Concentration (chronic criterion) at 1.0 µg/L.

(b) *RPA Results*. This Order establishes effluent limitations for cyanide because the MEC of 7.2 µg/L exceeds the governing WQC of 1 µg/L, demonstrating reasonable potential by Trigger 1, as defined previously.

(c) *Cyanide WQBELs*. Final WQBELs for cyanide, calculated according to SIP procedures, are 6.4 µg/L as MDEL and 3.8 µg/L as the AMEL. These limitations take into account the deep water nature of the discharge, and therefore, in accordance with the Basin Plan, are based on a minimum initial dilution of 10 to 1.

(d) *Immediate Compliance Infeasible*. The Discharger's Feasibility Study asserts that the facility cannot immediately comply with final WQBELs for cyanide. Statistical analysis of effluent data for cyanide, collected over the period of April 2003 through March 2006, show that the 95th percentile (9.2 µg/L) is greater than the AMEL (3.8 µg/L); the 99th percentile (14 µg/L) is greater than the MDEL (6.4 µg/L); and the mean (3.9 µg/L) is greater than the long term average of the projected lognormal distribution of the effluent data set after accounting for effluent variability (3 µg/L). Based on this analysis, the Regional Water Board concurs with the Discharger's assertion of infeasibility to comply with final WQBELs for cyanide.

(e) *Interim Effluent Limitation*. Because it is infeasible for the Discharger to immediately comply with the final WQBELs for cyanide, an interim effluent limitation is required. The interim limitation of a maximum daily concentration of 18 µg/L is being retained from Order No. 01-012.

(f) *Term of Interim Effluent Limitation*. The cyanide interim effluent limitation shall remain in effect through April 28, 2010, or until the Regional Water Board amends the limitation based on additional data or SSOs.

(g) *Alternative Limit for Cyanide*. As described in *Draft Staff Report on Proposed Site-Specific Water Quality Objectives and Effluent Limit Policy for Cyanide for San Francisco Bay*, dated November 10, 2005, the Regional Water Board is proposing to develop site-specific criteria for cyanide. In this report, the proposed site-specific criteria for marine waters are 2.9 µg/L as a four-day average, and 9.4 µg/L as a one-hour average. Based on these assumptions, and the Dischargers current cyanide data (coefficient of variation = 0.40), final WQBELs for cyanide will be 37 µg/L as a MDEL, and 22 µg/L as an AMEL. These alternative limits will become effective only if the site-specific objectives adopted for cyanide are based on the same assumptions as stated in the Staff report of November 10, 2005.

(h) *Antibacksliding/Antidegradation*. Antibacksliding and antidegradation requirements are satisfied, as Order No. 01-012 did not include final effluent limitations for cyanide.

(5) Dioxin-TEQ

(a) *WQC*. The most stringent applicable water quality criterion for dioxin-TEQ is 1.4×10^{-8} µg/L, which is translated from the narrative bioaccumulation objective established by the Regional Water Board through the Basin

Plan. The Basin Plan's narrative bioaccumulation objective is applicable to dioxins and furans, since these constituents accumulate in sediments and bioaccumulate in the fatty tissue of fish and other organisms. The narrative objective is translated into a numeric objective expressed in 2,3,7,8-TCDD equivalents (or dioxin-TEQ) based on the CTR criterion for 2,3,7,8-TCDD and the application of the Toxic Equivalence Factors (TEFs) for dioxins and furans adopted by the World Health Organization in 1998.

(b) *RPA Results*. Because the receiving water is currently listed on the CWA 303(d) list as impaired due to dioxins and furans, and the maximum observed effluent concentration of Dioxin–TEQ is 1.20×10^{-7} µg/L, which exceeds the translated water quality objective of 1.4×10^{-8} µg/L, dioxin-TEQ in the discharge has a reasonable potential to contribute to exceedances of the narrative bioaccumulation objective.

(c) *WQBELs*. Concentration-based WQBELs for Dioxin–TEQ, using SIP procedures as guidance, are 2.8×10^{-8} and 1.4×10^{-8} µg/L as the maximum daily effluent limit (MDEL) and the average monthly effluent limit (AMEL), respectively. Because dioxin-TEQ is a bioaccumulative pollutant, these limitations are calculated without credit for dilution.

(d) *Immediate Compliance Infeasible*. The Discharger's Feasibility Study asserts the Discharger cannot immediately comply with final concentration-based WQBELs for dioxin-TEQ. The Regional Water Board concurs with the Discharger's assertion of infeasibility to comply, as effluent concentrations of dioxin-TEQ measured during the term of Order No. 01-012 exceed the WQBEL (above).

(e) *Interim Effluent Limits.* Both the CTR and the SIP require a numeric interim limit when the compliance schedule exceeds 1 year. The SIP allows for the interim limit to be based on facility performance or existing permit limitations, which ever is more stringent. The interim limit in Order No. 01-012 was based on facility performance. The SIP also suggests that mass limits should be established for bioaccumulative pollutants where the receiving water body has been included on the 303(d) list. Because dioxin-TEQ compounds are bioaccumulative and Lower San Francisco Bay is included on the 303(d) list, Order No. 01-012 established a mass emission limit for dioxin-TEQ of 0.44 milligrams per month. This Order retains the mass emission limitation for dioxin-TEQ of 0.44 mg/month from Order No. 01-012.

(f) *Term of Interim Limits.* The interim limit is effective until January 31, 2011, as provided in the previous permit. Since this compliance schedule is within the term of the permit, this Order includes final WQBELs in addition to this interim limitation.

(g) *General Sources of Dioxins and Furans.* The Regional Water Board recognizes that the primary source of dioxins and furans in the Bay Area is air emissions from combustion sources. Based on staff report "Dioxin in

Bay Environment – A Review of the Environmental Concerns, Regulatory History, Current Status, and Possible Regulatory Options" dated February 1998, and the USEPA report "Status of Dioxin Reassessment and Policy Response" of 2000. Dioxins and furans in waste water are mainly attributed to domestic waste and storm water runoff. The latter is especially significant as the storm water carries particles on which the deposited pollutants have become attached. The main source of dioxins and furans in the domestic waste stream is beyond the Discharger's control as it already operates a well-maintained advanced secondary treatment plant. Because of this, dioxins and furans concentrations cannot be further reduced without significant upgrades to the facility. Therefore, other strategies should be explored to address the impairment by dioxin-TEQ. These strategies include potential mass offsets which are included in provisions relating to compliance schedule interim requirements for dioxin-TEQ at VI.C.2.d and VI.C.4.

(h) *Antibacksliding/Antidegradation*. Antibacksliding and antidegradation requirements are satisfied, as Order No. 01-012 did not include concentration-based limitations for dioxin-TEQ, and the mass-based limit from the previous permit is retained.

e. Effluent Limit Calculations

Table F-16 shows how the effluent limits were calculated.

Table F-16. Effluent Limit Calculations

Priority Pollutants	Copper		Mercury	Nickel	Cyanide		Dioxin TEQ
Units	µg/L		µg/L	µg/L	µg/L	µg/L	µg/L
Basis and Criteria Type	BP & CTR, SW Aq LF	Alternate Limits Using SSOs (December 2004 WER)	BP SW Aq Life	BP & CTR SW Aq Life	NTR Criterion for the Bay	Proposed SSO (Nov. 10, 2005)	BP HH
CTR Criteria – Acute	5.5	---	2.1	87	1.0	9.4	
CTR Criteria – Chronic	4.2	---	0.025	13	1.0	2.9	
SSO Criteria – Acute (Dissolved)	---	3.9					
SSO Criteria – Chronic (December 2004) (dissolved)	---	2.5					
Water Effects Ratio (WER)	2.4	2.4					
Lowest WQO			0.025	12.6	1.0	2.9	1.40E-08
CTR Conversion Factor for Saltwater (Acute and Chronic)	0.83	0.83					
Site-Specific Translator – MDEL	0.88	0.88		0.85			
Site-Specific Translator – AMEL	0.74	0.74		0.65			
Dilution Factor (D) (if applicable)	9	9	0	9	9	9	0
No. of samples per month	4	4	4	4	4	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y	Y	Y	Y	N
HH criteria analysis required? (Y/N)	N	N	Y	N	Y	Y	Y
Applicable Acute WQO	13	11	2.10	87	1.0	9.4	
Applicable Chronic WQO	10	8.1	0.025	13	1.0	2.9	
HH criteria	---	---	0.051	4600	220,000	220,000	1.40E-08
Background (Maximum Conc for Aquatic Life calc)	2.45	2.45	0.0086	3.73	0.4	0.4	7.10E-08
Background (Average Conc for Human Health calc)			0.0022				5.00E-08
Is the pollutant Bioaccumulative (Y/N)? (e.g. Hg)	N	N	Y	N	N	N	Y

Priority Pollutants	Copper		Mercury	Nickel	Cyanide		Dioxin TEQ
Units	µg/L		µg/L	µg/L	µg/L	µg/L	µg/L
Basis and Criteria Type	BP & CTR, SW Aq LF	Alternate Limits Using SSOs (December 2004 WER)	BP SW Aq Life	BP & CTR SW Aq Life	NTR Criterion for the Bay	Proposed SSO (Nov. 10, 2005)	BP HH
ECA acute	109	84	2.10	837	6.4	90.4	
ECA chronic	78	59	0.025	93	6.4	25.4	
ECA HH			0.051		220000	220000	1.40E-08
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N	N	N	N	N	Y
Avg of effluent data points	9.0	9.0	0.011	6.3	3.9	3.9	
Std Dev of effluent data points	3.3	3.3	0.003	1.8	1.6	1.6	
CV calculated	0.37	0.37	0.29	0.29	0.40	0.40	N/A
CV (selected) – Final	0.37	0.37	0.29	0.29	0.40	0.40	0.60
ECA acute mult99	0.46	0.46	0.54	0.53	0.44	0.44	
ECA chronic mult99	0.66	0.66	0.72	0.72	0.64	0.64	
LTA acute	50.20	38.88	1.13	446.22	2.82	39.78	
LTA chronic	51.95	39.07	0.02	66.57	4.12	16.35	
Minimum of LTAs	50.20	38.88	0.02	66.57	2.82	16.35	
AMEL mult95	1.33	1.33	1.25	1.26	1.36	1.36	1.55
MDEL mult99	2.17	2.17	1.86	1.88	2.27	2.27	3.11
AMEL (aq life)	66.89	51.81	0.023	83.80	3.82	22.20	
MDEL (aq life)	108.86	84.31	0.034	124.88	6.40	37.16	
MDEL/AMEL Multiplier	1.63	1.63	1.48	1.49	1.67	1.67	2.01
AMEL (human hhh)			0.051		220000	220000	1.40E-08
MDEL (human hhh)			0.076		368269	368269	2.81E-08
Minimum of AMEL for Aq. Life vs HH	66.89	51.81	0.023	83.80	3.82	22.20	1.40E-08
Minimum of MDEL for Aq. Life vs HH	108.86	84.31	0.034	124.88	6.40	37.16	2.81E-08
Current limit in permit (30-day average)	---	---	0.06 (interim)	---	---	---	(1)
Current limit in permit (daily)	28 (interim)	28 (interim) (2)	---	20 (interim)	18 (interim)	18 (interim)	---
Final limit – AMEL	67	52	0.023	84	3.8	22	1.4E-08
Final limit – MDEL	109	84	0.034	125	6.4	37	2.8E-08
Max. Effl Conc (MEC)	24	24	0.026	16	7.2	7.2	1.20E-07

(1) Order No. 01-012 included a mass emission limitation for dioxin-TEQ of 0.44 mg/month.

(2) Order No. 01-012 included a mass emission limitation for mercury of 0.24 kg/month.

5. Whole Effluent Acute Toxicity

a. *Permit Requirements.* This Order includes effluent limits for whole-effluent acute toxicity that are unchanged from Order No. 01-012, and are based on the Basin Plan at Chapter 4, Page 9 (Acute Toxicity). All bioassays shall be performed according to the U.S. EPA approved method in 40 CFR 136, currently "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 5th Edition." The Discharger is required to use the 5th Edition method for compliance determination upon the effective date of this Order. The previous Order required the Discharger to use the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 3rd Edition" from permit adoption until February 1, 2002 using fathead minnows and 3-spined sticklebacks. From February 1, 2002 to permit expiration, the Discharger was required to use the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 4rd Edition" using fathead minnows or rainbow trout.

b. *Compliance History.* The Discharger's acute toxicity monitoring data from 2002 – 2006 show that there were no exceedances of the effluent limitations during the permit term, with fish survival rates ranging between 90-100%.

c. *Ammonia Toxicity.* If acute toxicity is observed in the future and the Discharger believes that it is due to ammonia toxicity, this has to be shown through a Toxicity Identification Evaluation (TIE) acceptable to the Executive Officer. If the Discharger demonstrates to the satisfaction of the Executive Officer that exceedance of the acute toxicity limits is caused by ammonia and that the ammonia in the discharge is not adversely impacting receiving water quality or beneficial uses, then such toxicity does not constitute a violation of this effluent limit. If ammonia toxicity is verified in the TIE, the Discharger may utilize an adjustment protocol approved by the Executive Officer for the routine bioassay testing.

6. Whole Effluent Chronic Toxicity

a. *Permit Requirements.* This Order includes requirements for chronic toxicity monitoring based on the Basin Plan at Chapter 4, Page 9, and in accordance with USEPA and State Water Board Task Force guidance. This Order includes the Basin Plan narrative toxicity objective as the applicable effluent limit, implemented via monitoring with numeric values as "triggers" to initiate accelerated monitoring and to initiate a chronic toxicity reduction evaluation (TRE) as necessary. The permit requirements for chronic toxicity are also consistent with the CTR and SIP requirements.

b. *Chronic Toxicity Triggers.* This Order includes chronic toxicity triggers of 10 chronic toxicity units (TUc[1]) for a three-sample median and 20 TUc for single-sample maximum, consistent with Table 4-6 of the Basin Plan for dischargers monitoring chronic toxicity quarterly.

c. *Monitoring History.* The Discharger's chronic toxicity monitoring data show that there were no exceedances of the trigger between 2002 and 2006.

d. *Screening Phase Study.* The Discharger has prepared a chronic toxicity screening phase study plan and the results of this study have been incorporated herein.

e. *Permit Reopener.* The Regional Water Board will consider amending this Order to include numeric toxicity limits if the Discharger fails to aggressively implement all reasonable control measures included in its approved TRE workplan, following detection of consistent significant non-artifactual toxicity.

[1.] A TUc equals 100 divided by the no observable effect level (NOEL). The NOEL is determined from IC, EC, or NOEC values. Monitoring and TRE requirements may be modified by the Executive Officer in response to the degree of toxicity detected in the effluent or in ambient waters related to the discharge. Failure to conduct the required toxicity tests or a TRE within a designated period shall result in the establishment of effluent limits for chronic toxicity.

7. Chlorine

The instantaneous maximum limitation for chlorine of 0.0 mg/L is being retained by this Order. This limitation is required by the Basin Plan (Table 4-2).

D. Final Effluent Limitations

1. Following is a summary of the technology-based and water quality-based effluent limitations established by this Order for Discharge Point 001.

Table F-17. Summary of Technology-Based Effluent Limitations Between May 1st and September 30th

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Oil and Grease	mg/L	10	---	20	---	---
pH	standard units	---	---	---	6.0	9.0
TSS	mg/L	8	12		---	---
$CBOD_5$	mg/L	8	12		---	---
Chlorine, Total Residual	mg/L	---	---	---	---	0.0
Turbidity	NTU	20	---	40	---	---

Table F-18. Summary of Technology-Based Effluent Limitations Between October 1st and April 30th

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Oil and Grease	mg/L	10	---	20	---	---
pH	standard units	---	---	---	6.0	9.0
TSS	mg/L	16	24		---	---
CBOD	mg/L	16	24		---	---
Chlorine, Total Residual	mg/L	---	---	---	---	0.0
Turbidity	NTU	20	---	40	---	---

The Discharger shall also comply with the following effluent limitations.

- **CBOD and TSS 85% Percent Removal:** The average monthly percent removal of CBOD and TSS shall not be less than 85 percent.

- **Fecal Coliform Bacteria:** The treated wastewater shall meet the following limits of bacteriological quality.

  (1) The five day log mean fecal coliform density shall not exceed 500MPN/100ml; and

  (2) The 90th percentile value of the last ten values shall not exceed 1100 MPN/100 mL.

- **Enterococci Bacteria**: The monthly geometric mean enterococci bacteria density shall not exceed 35 MPN/100 mL.

Table F-19. Summary of Effluent Limitations for Toxic Pollutants

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Copper (1)	µg/L	67	---	109	---	---
Mercury	µg/L	0.023	---	0.034	---	---
Nickel	µg/L	84	---	125	---	---
Cyanide (2,3)	µg/L	3.8	---	6.4	---	---
Dioxin-TEQ (4)	ug/L	0.014×10^{-6}		0.028×10^{-6}		

(1) Alternate Effluent Limits for Copper:

a. If a copper SSO for the receiving water becomes legally effective, resulting in adjusted saltwater Criterion Continuous Concentration (CCC) of 2.5 µg/l and Criterion Maximum Concentration (CMC) of 3.9 µg/l as documented in the *North of Dumbarton Bridge Copper and Nickel Site-Specific Objective (SSO) Derivation (Clean Estuary Partnership December 2004)*, upon its effective date, the following limitations shall supersede those copper limitations listed in Table 6c.

AMEL of 52 µg/L, and MDEL of 84 µg/L.

b. If a different copper SSO for the receiving water is adopted, the alternate WQBELs based on the SSO will be determined after the SSO effective date.

(2) The final limit for cyanide shall take effect on April 28, 2010, unless the alternate effluent limitations for cyanide become effective sooner.

(3) Alternate Effluent Limits for Cyanide

a. If a cyanide SSO for the receiving water becomes legally effective, resulting in adjusted saltwater criteria CCC of 2.9 µg/l (based on the assumptions in *Draft Staff Report on Proposed Site-Specific Water Quality Objectives and Effluent Limit Policy for Cyanide for San Francisco* Bay, dated November 10, 2005), upon its effective date, the following limitations shall supersede those cyanide limitations listed in Table 6c.

AMEL of 22 µg/L, and MDEL of 37 µg/L.

b. If a different cyanide SSO for the receiving water is adopted, the alternate WQBELs based on the SSO will be determined after the SSO effective date.

c. Compliance may be demonstrated by measurement of weak acid dissociable cyanide.

(4) The final effluent limitations for dioxin-TEQ become effective on January 31, 2011. Until then, this Order retains, from Order No. 01-012, a mass emission limitation for dioxin-TEQ of 0.044 mg/month, expressed as a running annual average.

- **Acute Toxicity.** The Discharger shall comply with the following limitations for whole effluent, acute toxicity.

  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.

- **Interim Mercury Mass Emission Limitation**

Until TMDL and Waste Load Allocation (WLA) efforts for mercury provide enough information to establish a different WQBEL, the mass emission of mercury shall not exceed 0.044 kilograms per month (kg/month).

- **Dioxin TEQ – Interim Mass Emission Limit**

  Until TMDL and Waste Load Allocation (WLA) efforts for dioxin provide enough information to establish a different WQBEL, the mass emission of dioxin-TEQ shall not exceed 0.44 milligrams per month (mg/month) as TEQ.

2. **Anti-Backsliding/Antidegradation.**

   a. **Effluent Limitations Retained from Order No. 01-012**. Limitations for the following parameters are retained and are unchanged from Order No. 01-012.

      - Oil and grease
      - pH
      - Average monthly and average weekly limitations for $CBOD_5$ and TSS
      - Total residual chlorine
      - Turbidity
      - 85 % removal requirement for $CBOD_5$ and TSS
      - Fecal coliform bacteria
      - Acute toxicity
      - Dioxin-TEQ mass emission limitation

      By retaining effluent limitations for these parameters in this Order, these limitations are at least as stringent as those in Order No. 01-012, meeting applicable anti-backsliding requirements of the Clean Water Act. Retention of effluent limitations for these parameters also ensures that the existing quality of the receiving water will not be degraded (in terms of these parameters) as a result of this Order.

   b. **More Stringent Effluent Limitations**. Limitations for the following parameters were established by Order No. 01-012 but are made more stringent by this Order.

      - Mercury mass emission limitation.
      - Interim limitation for copper is replaced by final limitations in this Order.
      - Interim concentration-based limitation for mercury is replaced by final concentration-based limitations in this Order.
      - Interim limitations for nickel are replaced by final limitations in this Order.
      - Interim limitations for cyanide replaced and final limitations become effective on April 28, 2010.

      The establishment of more stringent limitations for these parameters in this Order satisfies applicable anti-backsliding requirements and ensures that the existing quality of the receiving water will not be degraded (in terms of these parameters) as a result of this Order.

c. Effluent Limitations Not Retained from Order No. 01-012. Limitations for the following parameters are not retained by this Order.

- Maximum daily limitations for $CBOD_5$ and TSS
- Settleable solids
- Lead

Effluent limitations for settleable solids have not been retained by this Order. For South Bayside System Authority Wastewater Treatment Facility, like other facilities achieving secondary or more advanced levels of treatment, the Regional Water Board has determined that compliance with the requirements of 40 CFR 133 and of Table 4-2 of the Basin Plan will likewise assure removal of settleable solids to acceptably low levels - below 0.1 ml/L/hr (30 day average) and 0.2 ml/L/hr (daily maximum).

Order No. 01-012 included final effluent limitations for lead; however, because the reasonable potential analysis showed that discharges from the South Bayside System Authority Wastewater Treatment Facility no longer demonstrate a reasonable potential to cause or contribute to exceedances of applicable water quality criteria for this pollutant, limitations for lead from the previous permit are not retained, and new limitations are not included in this Order. Elimination of WQBELs for lead is consistent with the exception to anti-backsliding requirements expressed at Section 402 (o) (2) (B) (i) of the Clean Water Act, which allows a reissued permit to include less stringent limitations when "information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods), and which would have justified the application of a less stringent effluent limitation at the time of permit issuance." In these circumstances, less stringent limitations (here, the elimination of limitations) are based on new data, which was generated during the term of Order No. 01-012, and which demonstrates no reasonable potential for discharges from the facility to cause or contribute to exceedances of applicable water quality standards for this pollutant.

With twice weekly monitoring required for $CBOD_5$ and TSS, average weekly limitations for these parameters are effectively more stringent than maximum daily limitations, and therefore, maximum daily limitations for $CBOD_5$ and TSS have not been retained from Order No. 01-012.

E. Interim Effluent Limitations

1. Cyanide

This Order establishes the following interim effluent limitations for cyanide.

Table F-20. Summary of Interim Effluent Limitations for Cyanide

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Cyanide	µg/L	---	---	18	---	---

a. Feasibility Evaluation. The Discharger submitted an infeasibility to comply report for Discharge Point E-001, dated July 28, 2006, for cyanide (Infeasibility Study). The Infeasibility Study asserts that the Discharger cannot immediately comply with final WQBELs for cyanide. Regional Water Board staff used the Discharger's self-monitoring data from April 2003 – March 2006 to confirm the Discharger's assertion of infeasibility.

b. Statistical analysis of effluent data for cyanide, collected over the period of April 2003 through March 2006, show that the 95th percentile (9.2 µg/L) is greater than the AMEL (3.8 µg/L); the 99th percentile (14 µg/L) is greater than the MDEL (6.4 µg/L); and the mean (3.9 µg/L) is greater than the long term average of the projected lognormal distribution of the effluent data set after accounting for effluent variability (3 µg/L). Based on this analysis, the Regional Water Board concurs with the Discharger's assertion of infeasibility to comply with final WQBELs for cyanide.

c. Determination of Interim Effluent Limitations. Interim effluent limitations were derived for cyanide as the Discharger has shown infeasibility of complying with final limitations and has demonstrated that compliance schedules are justified based on the Discharger's source control and pollution minimization efforts in the past and continued efforts in the present and future. The SIP requires that interim numeric effluent limitations for cyanide be based on either interim performance-based limitations or previous permit limitations, whichever is more stringent.

Regional Water Board staff considered the Discharger's effluent data from April 2003 through March 2006 and found that the 99.87th percentile of the data set (21 µg/L) exceeded the existing maximum daily interim (performance-based) effluent limitation of 18 µg/L is from Order No. 01-012. The more stringent limit of 18 ug/L is retained by this Order.

d. Compliance Schedule

(1) The SIP and the Basin Plan authorize compliance schedules in a permit if an existing Discharger cannot immediately comply with a new and more stringent effluent limitation. Compliance schedules for limitations derived from CTR or the NTR WQC are based on Section 2.2 of the SIP, and compliance schedules for limitations derived from Basin Plan WQOs are based on the Basin Plan. Both the SIP and the Basin Plan require the Discharger to demonstrate the infeasibility of achieving immediate compliance with the new limitation to qualify for a compliance schedule.

The SIP and Basin Plan require the following documentation to be submitted to the Regional Water Board to support a finding of infeasibility:

- Descriptions of diligent efforts the Discharger have made to quantify pollutant levels in the discharge, sources of the pollutant in the waste stream, and the results of those efforts.
- Descriptions of source control and/or pollutant minimization efforts currently under way or completed.
- A proposed schedule for additional or future source control measures, pollutant minimization, or waste treatment.
- A demonstration that the proposed schedule is as short as practicable.

The Basin Plan provides for a 10-year compliance schedule to implement measures to comply with new standards as of the effective date of those standards. This provision applies to the objectives adopted in the 2004 Basin Plan Amendment. Additionally, the provision authorizes compliance schedules for new interpretations of other existing standards if the new interpretation results in more stringent limitations.

(2) As previously described, the Discharger submitted the Infeasibility Study, and the Regional Water Board staff confirmed their assertions.

(3) This permit establishes a compliance schedule extending to April 28, 2010, for cyanide. Since this compliance schedule is within the term of the permit, this Order includes final WQBELs in addition to interim limitations.

During the compliance schedule period, the Regional Water Board may take appropriate enforcement actions if interim limitations and requirements are not met.

2. Dioxin-TEQ

This Order retains the interim effluent limitation established and the compliance schedule granted by Order No. 01-012 for dioxin-TEQ.

a. Feasibility Evaluation: The Discharger's Feasibility Study asserts the Discharger cannot immediately comply with final concentration-based WQBELs for dioxin-TEQ. The Regional Water Board concurs with the Discharger's assertion of infeasibility to comply, as effluent concentrations of dioxin-TEQ measured during the term of Order No. 01-012 exceed the WQBEL of 1.4×10^{-8} ug/L.

b. Determination of Interim Effluent Limitations: Both the CTR and the SIP require a numeric interim limit when the compliance schedule exceeds 1 year.

The SIP allows for the interim limit to be based on facility performance or existing permit limitations, which ever is more stringent. The interim limit in Order No. 01-012 was based on facility performance. Because dioxin-TEQ compounds are bioaccumulative and Lower San Francisco Bay is included on the 303(d) list, Order No. 01-012 established a mass-based interim effluent limitation for dioxin-TEQ of 0.44 milligrams per month (mg/mo). This Order retains the mass emission limitation for dioxin-TEQ of 0.44 mg/mo from Order No. 01-012. Order No. 01-012 did not establish concentration-based interim effluent limits, and the data are insufficient to calculate a concentration-based effluent limit for this Order.

c. Compliance Schedule

(1) As previously described, the Discharger submitted a Feasibility Study, and the Regional Water Board staff confirmed their assertion that immediate compliance with the final dioxin-TEQ effluent limits is infeasible.

(2) This permit continues the compliance schedule granted by Order No. 01-012 extending to January 31, 2011, for dioxin-TEQ. Since this compliance schedule is within the term of the permit, this Order includes final WQBELs in addition to interim mass-based effluent limitations.

During the compliance schedule period, the Regional Water Board may take appropriate enforcement actions if interim mass limitations and requirements are not met.

F. Land Discharge Specifications

Not Applicable.

G. Reclamation Specifications

Not applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

Receiving water limitations are retained from the previous and reflect applicable water quality standards from the Basin Plan.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS (PROVISIONS B)

The principal purposes of a monitoring program by a discharger are to:

- Document compliance with waste discharge requirements and prohibitions established by the Regional Water Board,
- Facilitate self-policing by the discharger in the prevention and abatement of pollution arising from waste discharge,

- Develop or assist in the development of limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards, and to

- Prepare water and wastewater quality inventories.

The MRP is a standard requirement in almost all NPDES permits issued by the Regional Water Board, including this Order. It contains definitions of terms, specifies general sampling and analytical protocols, and sets out requirements for reporting of spills, violations, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Regional Water Board's policies. The MRP also defines the sampling stations and frequency, the pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all parameters for which effluent limitations are specified. Monitoring for additional constituents, for which no effluent limitations are established, is also required to provide data for future completion of RPAs for them.

A. Influent Monitoring

Influent monitoring requirements are unchanged and are retained from Order No. 01-012. Periodic monitoring of $CBOD_5$ and TSS in influent allows determination of compliance with this Order's 85 percent removal requirement.

B. Effluent Monitoring

Order No. 01-012 established two effluent monitoring locations, E-001 and E-001D, allowing that they may be the same location, and required effluent monitoring for all constituents at location E-001D. The sampling points were defined as follows:

> *Location E-001: At any point in the outfall from the treatment facilities between the point of discharge and the point at which all waste tributary to that outfall is present (may be the same as E-001-D).*
>
> *Location E-001-D: At any point in the disinfection facilities for Waste E-001, at which point adequate contact with the disinfectant is assured.*

The Discharger normally collects samples from the end of the third pass of the chlorine contact tank prior to dechlorination for bacteria; from Effluent Pump Wet Pit B for chlorine residual; and from the outfall pipe at a location downstream of dechlorination and just outside the main treatment building for all other constituents. Alternate sampling locations at the first pass of the chlorine contact tank or Effluent Pump Wet Pit B for bacteriological samples, and at Effluent Pump Wet Pit B or the outfall pipe for chlorine residual, are used during maintenance of the chlorine contact tank. The discharger has recently started using an ATI sulfite analyzer located downstream of dechlorination to demonstrate excess dechlorination agent in the final effluent. This order retains effluent monitoring locations E-001 and E-001-D with slightly revised definitions to better reflect actual plant operation. Bacteriological sampling is to be performed at Location E-001-D; sampling for all other analyses is to be conducted at Location E-001.

The MRP retains effluent monitoring requirements from Order No. 01-012 for flow, fecal coliform bacteria, oil and grease, pH, $CBOD_5$, TSS, acute and chronic toxicity, total residual chlorine, dissolved oxygen, and temperature. The MRP also requires monthly effluent monitoring for copper, mercury, cyanide, and nickel, and semiannual monitoring for dioxin-TEQ, pollutants for which effluent limitations have been established by this Order. The following bulleted text highlights differences in monitoring requirements between Order No. 01-012 and this Order.

- Although Order No. 01-012 included effluent limitations for turbidity, monitoring for turbidity was not required. This Order includes a monitoring requirement for turbidity to determine compliance with effluent limitations.

- This Order requires routine monitoring only for those toxic pollutants which have effluent limitations established by this Order. Monitoring for all other toxic, priority pollutants must be conducted according to procedures and schedules established by the Regional Water Board's letter of August 6, 2001 to Permitted Wastewater Dischargers regarding Requirement for Monitoring Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy.

- This Order requires monitoring for total residual chlorine with an EPA approved method that will "achieve a method detection limit (MDL) at least as low as that achieved by the Amperometric Titration Method (4500-Cl D from Standard Methods for Examination of Water and Wastewater, Edition 20)" The Regional Water Board considers this method to be the least sensitive to interferences from color, turbidity, iron, manganese, and nitrite nitrogen, and capable of consistently achieving an MDL of less than 0.1 mg/L. The Discharger may elect to use continuous monitoring to demonstrate compliance with the effluent TRC limit. The analyzers shall monitor the final effluent and measure either total chlorine residual or residual dechlorination agent.

C. Bypasses or Sewer Overflow Monitoring

The MRP retains monitoring requirements to record observations related to bypasses or sewer overflows.

D. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** Monthly 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity.

2. **Chronic Toxicity.** Chronic whole effluent toxicity testing is required four times per year in order to demonstrate compliance with the Basin Plan's narrative toxicity objective.

E. Receiving Water Monitoring

1. Regional Monitoring Program

On April 15, 1992, the Regional Water Board adopted Resolution No. 92-043 directing the Executive Officer to implement the Regional Monitoring Program (RMP) for the San Francisco Bay. Subsequent to a public hearing and various meetings, Regional Water Board staff requested major permit holders in this region, under authority of section 13267 of California Water Code, to report on the water quality of the estuary. These permit holders responded to this request by participating in a collaborative effort, through the San Francisco Estuary Institute. This effort has come to be known as the San Francisco Bay Regional Monitoring Program for Trace Substances. This Order specifies that the Discharger shall continue to participate in the RMP, which involves collection of data on pollutants and toxicity in water, sediment and biota of the estuary.

F. Other Monitoring Requirements

Not applicable

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions (Provision VI.A)

Standard Provisions, which in accordance with 40 CFR §§122.41and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in **Attachments D and H** of this Order.

B. Monitoring and Reporting Requirements (Provision VI.B)

The Discharger is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are contained in the MRP (**Attachment E**), Standard Provisions and SMP, Part A (**Attachment G)** of the Permit. This provision requires compliance with these documents, and is based on 40 CFR 122.63. The Standard Provisions and SMP, Part A are standard requirements in almost all NPDES permits issued by the Regional Water Board, including this Order. They contain definitions of terms, specify general sampling and analytical protocols, and set out requirements for reporting of spills, violations, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Regional Water Board's policies. The MRP contains a sampling program specific for the facility. It defines the sampling stations and frequency, the pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all parameters for which effluent limitations are specified. Monitoring for additional constituents, for which no effluent limitations are established, is also required to provide data for future completion of RPAs for them.

C. Special Provisions (Provision VI.C)

1. Reopener Provisions

These provisions are based on 40 CFR 123 and allow future modification of this Order and its effluent limitations as necessary in response to updated WQOs that may be established in the future.

2. Special Studies and Additional Monitoring Requirements

a. Effluent Characterization Study. This Order does not include effluent limitations for the selected constituents addressed in the August 6, 2001 letter that do not demonstrate Reasonable Potential, but this provision requires the Discharger to continue monitoring for these pollutants as described in the August 6, 2001 letter and as specified in the MRP of this Order. If concentrations of these constituents increase significantly, the Discharger will be required to investigate the source of the increases and establish remedial measures, if the increases result in reasonable potential to cause or contribute to an excursion above the applicable WQO/WQC. This provision is based on the Basin Plan and the SIP.

b. Ambient Background Receiving Water Study. This provision is based on the Basin Plan, the SIP, and the August 6, 2001 letter for priority pollutant monitoring. As indicated in this Order, this requirement may be met by participating in the collaborative BACWA study.

c. Optional Mass Offset Plan: This option is provided to encourage the Discharger to further implement aggressive reduction of mass loads to the Lower San Francisco Bay. If the Discharger wishes to pursue a mass offset program, a mass offset plan for reducing 303(d) listed pollutants to the same receiving water body needs to be submitted for Board approval. The Board will consider any proposed mass offset plan and amend this Order accordingly.

d. Cyanide and Dioxin-TEQ Compliance Schedules: This provision is based on the Basin Plan at p. 4-14 (Compliance Schedules) and 40 CFR 122.47(a)(3). Maximum compliance schedules are allowed for cyanide and dioxin-TEQ because of the considerable uncertainty in determining an effective measure (e.g., pollution prevention, treatment upgrades) that should be implemented to ensure compliance with final limits. In our view, it is appropriate to allow the Discharger sufficient time to first explore source control measures before requiring it to propose further actions, such as treatment plant upgrades, that are likely to be much more costly. This approach is supported by the Basin Plan (page 4-25), which states, “In general, it is often more economical to reduce overall pollutant loading into treatment systems than to install complex and expensive technology plant.” Finally, because of the ubiquitous nature of the sources of dioxin-TEQ, this provision also allows the Discharger to address compliance with calculated WQBELs through other strategies, such as mass offsets.

3. Best Management Practices and Pollution Minimization Program

This provision is based on Chapter 4 of the Basin Plan and Section 2.4.5 of the SIP.

4. Construction, Operation, and Maintenance Specifications

a. Wastewater Facilities, Review and Evaluation, Status Reports: This provision is based on Order No. 01-012 and the Basin Plan. See Section VI.C.10 of this Order for specific requirements.

b. Operations and Maintenance Manual, Review and Status Reports: This provision is based on the Basin Plan, the requirements of 40 CFR §122, and Order No. 01-012. See Section VI.C.10 of this Order for specific requirements.

c. Contingency Plan, Review and Status Reports: This provision is based on the Basin Plan, the requirements of 40 CFR §122, and Order No. 01-012. See Section VI.C.10 of this Order for specific requirements.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Sanitary Sewer Overflows and Sewer System Management Plan: This provision is to explain this Order's requirements as they relate to the Discharger's conveyance system, and to promote consistency with the State Water Resources Control Board adopted Statewide General Waste Discharge Requirements for Sanitary Sewer Overflow (SSO WDRs) and a related Monitoring and Reporting Program (Order No. 2006-0003-DWQ). The bases for these requirements are described elsewhere in this Fact Sheet. See Section VI.C.6 of this Order for specific requirements.

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, the San Francisco Bay Regional Water Board, is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for South Bayside System Authority. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Dischargers 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. Notification was provided through the following: **San Mateo Times, November 30, 2006.**

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in

person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 5:00 p.m. on **Monday, December 18, 2006.**

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: **January 23, 2007**
Time: **9:00 AM**
Location: Elihu Harris State Office Building
1515 Clay Street, 1st Floor Auditorium
Oakland, CA 94612

Contact: John Madigan, (510) 622-2405, email jmadigan@waterboards.ca.gov

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our Web address is http://www.waterboards.ca.gov/sanfranciscobay where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling 510-622-2300.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to John Madigan at 510-622-2405 (e-mail at JMadigan@waterboards.ca.gov).

ATTACHMENT H - PRETREATMENT REQUIREMENTS

Pretreatment Program Provisions

1. The Discharger shall implement all pretreatment requirements contained in 40 CFR §403, as amended. The Discharger shall be subject to enforcement actions, penalties, and fines as provided in the Clean Water Act (33 USC 1351 et seq.), as amended. The Discharger shall implement and enforce its Approved Pretreatment Program or modified Pretreatment Program as directed by the Regional Water Board's Executive Officer or the EPA. The EPA and/or the State may initiate enforcement action against an industrial user for noncompliance with applicable standards and requirements as provided in the Clean Water Act.

2. The Discharger shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d) and 402(b) of the Clean Water Act. The Discharger shall cause industrial users subject to Federal Categorical Standards to achieve compliance no later than the date specified in those requirements or, in the case of a new industrial user, upon commencement of the discharge.

3. The Discharger shall perform the pretreatment functions as required in 40 CFR §403 and amendments or modifications thereto including, but not limited to:

   i) Implement the necessary legal authorities to fully implement the pretreatment regulations as provided in 40 CFR §403.8(f)(1);

   ii) Implement the programmatic functions as provided in 40 CFR §403.8(f)(2);

   iii) Publish an annual list of industrial users in significant noncompliance as provided per 40 CFR §403.8(f)(2)(vii);

   iv) Provide for the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR §403.8(f)(3); and

   v) Enforce the national pretreatment standards for prohibited discharges and categorical standards as provided in 40 CFR §§403.5 and 403.6, respectively.

4. The Discharger shall submit annually a report to the EPA Region 9, the State Water Board and the Regional Water Board describing its pretreatment program activities over the previous twelve months. In the event that the Discharger is not in compliance with any conditions or requirements of the Pretreatment Program, the Discharger shall also include the reasons for noncompliance and a plan and schedule for achieving compliance. The report shall contain, but is not limited to, the information specified in Appendix A entitled, "Requirements for Pretreatment Annual Reports," which is made a part of this Order. The annual report is due on the last day of February each year.

5. The Discharger shall submit semiannual pretreatment reports to the EPA Region 9, the State Water Board and the Regional Water Board describing the status of its significant industrial

users (SIUs). The report shall contain, but is not limited to, the information specified in Appendix B entitled, "Requirements for Semiannual Pretreatment Reports," which is made part of this Order. The semiannual reports are due July 31st (for the period January through June) and January 31st (for the period July through December) of each year. The Executive Officer may exempt a Discharger from the semiannual reporting requirements on a case by case basis subject to State Water Board and EPA's comment and approval.

6. The Discharger may combine the annual pretreatment report with the semiannual pretreatment report (for the July through December reporting period). The combined report shall contain all of the information requested in Appendices A and B and will be due on January 31st of each year.

7. The Discharger shall conduct the monitoring of its treatment plant's influent, effluent, and sludge as described in Appendix C entitled, "Requirements for Influent, Effluent and Sludge Monitoring," which is made part of this Order. The results of the sampling and analysis, along with a discussion of any trends, shall be submitted in the semiannual reports. A tabulation of the data shall be included in the annual pretreatment report. The Executive Officer may require more or less frequent monitoring on a case by case basis.

APPENDIX A
REQUIREMENTS FOR PRETREATMENT ANNUAL REPORTS

The Pretreatment Annual Report is due each year on the last day of February. [If the annual report is combined with the semiannual report (for the July through December period) the submittal deadline is January 31st of each year.] The purpose of the Annual Report is 1) to describe the status of the Publicly Owned Treatment Works (POTW) pretreatment program and 2) to report on the effectiveness of the program, as determined by comparing the results of the preceding year's program implementation. The report shall contain at a minimum, but is not limited to, the following information:

1) **Cover Sheet**

The cover sheet must contain the name(s) and National Pollutant Discharge Elimination Discharge System (NPDES) permit number(s) of those POTWs that are part of the Pretreatment Program. Additionally, the cover sheet must include the name, address and telephone number of a pretreatment contact person; the period covered in the report; a statement of truthfulness; and the dated signature of a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for overall operation of the POTW (40 CFR §403.12(j)).

2) **Introduction**

The Introduction shall include any pertinent background information related to the Discharger, the POTW and/or the industrial user base of the area. Also, this section shall include an update on the status of any Pretreatment Compliance Inspection (PCI) tasks, Pretreatment Performance Evaluation tasks, Pretreatment Compliance Audit (PCA) tasks, Cleanup and Abatement Order (CAO) tasks, or other pretreatment-related enforcement actions required by the Regional Water Board or the EPA. A more specific discussion shall be included in the section entitled, "Program Changes."

3) **Definitions**

This section shall contain a list of key terms and their definitions that the Discharger uses to describe or characterize elements of its pretreatment program.

4) **Discussion of Upset, Interference and Pass Through**

This section shall include a discussion of Upset, Interference or Pass Through incidents, if any, at the POTW(s) that the Discharger knows of or suspects were caused by industrial discharges. Each incident shall be described, at a minimum, consisting of the following information:

a) a description of what occurred;

b) a description of what was done to identify the source;

c) the name and address of the industrial user (IU) responsible

d) the reason(s) why the incident occurred;

e) a description of the corrective actions taken; and

f) an examination of the local and federal discharge limits and requirements for the purposes of determining whether any additional limits or changes to existing requirements may be necessary to prevent other Upset, Interference or Pass Through incidents.

5) **Influent, Effluent and Sludge Monitoring Results**

This section shall provide a summary of the analytical results from the "Influent, Effluent and Sludge Monitoring" as specified in Appendix C. The results should be reported in a summary matrix that lists monthly influent and effluent metal results for the reporting year.

A graphical representation of the influent and effluent metal monitoring data for the past five years shall also be provided with a discussion of any trends.

6) **Inspection and Sampling Program**

This section shall contain at a minimum, but is not limited to, the following information:

a) Inspections: the number of inspections performed for each type of IU; the criteria for determining the frequency of inspections; the inspection format procedures;

b) Sampling Events: the number of sampling events performed for each type of IU; the criteria for determining the frequency of sampling; the chain of custody procedures.

7) **Enforcement Procedures**

This section shall provide information as to when the approved Enforcement Response Plan (ERP) had been formally adopted or last revised. In addition, the date the finalized ERP was submitted to the Regional Water Board shall also be given.

8) **Federal Categories**

This section shall contain a list of all of the federal categories that apply to the Discharger. The specific category shall be listed including the subpart and 40 CFR section that applies. The maximum and average limits for the each category shall be provided. This list shall

indicate the number of Categorical Industrial Users (CIUs) per category and the CIUs that are being regulated pursuant to the category. The information and data used to determine the limits for those CIUs for which a combined waste stream formula is applied shall also be provided.

9) **Local Standards**

This section shall include a table presenting the local limits.

10) **Updated List of Regulated SIUs**

This section shall contain a complete and updated list of the Discharger's Significant Industrial Users (SIUs), including their names, addresses, and a brief description of the individual SIU's type of business. The list shall include all deletions and additions keyed to the list as submitted in the previous annual report. All deletions shall be briefly explained.

11) **Compliance Activities**

a) **Inspection and Sampling Summary:** This section shall contain a summary of all the inspections and sampling activities conducted by the Discharger over the past year to gather information and data regarding the SIUs. The summary shall include:

(1) the number of inspections and sampling events conducted for each SIU;

(2) the quarters in which these activities were conducted; and

(3) the compliance status of each SIU, delineated by quarter, and characterized using all applicable descriptions as given below:

(a) in consistent compliance;

(b) in inconsistent compliance;

(c) in significant noncompliance;

(d) on a compliance schedule to achieve compliance, (include the date final compliance is required);

(e) not in compliance and not on a compliance schedule;

(f) compliance status unknown, and why not.

b) **Enforcement Summary:** This section shall contain a summary of the compliance and enforcement activities during the past year. The summary shall include the names of all the SIUs affected by the following actions:

(1) Warning letters or notices of violations regarding SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements. For each notice, indicate whether it was for an infraction of a federal or local standard/limit or requirement.

(2) Administrative Orders regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements. For each notice, indicate whether it was for an infraction of a federal or local standard/limit or requirement.

(3) Civil actions regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements. For each notice, indicate whether it was for an infraction of a federal or local standard/limit or requirement.

(4) Criminal actions regarding the SIUs' apparent noncompliance with or violation of any federal pretreatment categorical standards and/or requirements, or local limits and/or requirements. For each notice, indicate whether it was for an infraction of a federal or local standard/limit or requirement.

(5) Assessment of monetary penalties. Identify the amount of penalty in each case and reason for assessing the penalty.

(6) Order to restrict/suspend discharge to the POTW.

(7) Order to disconnect the discharge from entering the POTW.

12) **Baseline Monitoring Report Update**

This section shall provide a list of CIUs that have been added to the pretreatment program since the last annual report. This list of new CIUs shall summarize the status of the respective Baseline Monitoring Reports (BMR). The BMR must contain all of the information specified in 40 CFR §403.12(b). For each of the new CIUs, the summary shall indicate when the BMR was due; when the CIU was notified by the POTW of this requirement; when the CIU submitted the report; and/or when the report is due.

13) **Pretreatment Program Changes**

This section shall contain a description of any significant changes in the Pretreatment Program during the past year including, but not limited to, legal authority, local limits, monitoring/ inspection program and frequency, enforcement protocol, program's administrative structure, staffing level, resource requirements and funding mechanism. If the manager of the pretreatment program changes, a revised organizational chart shall be

included. If any element(s) of the program is in the process of being modified, this intention shall also be indicated.

14) **Pretreatment Program Budget**

This section shall present the budget spent on the Pretreatment Program. The budget, either by the calendar or fiscal year, shall show the amounts spent on personnel, equipment, chemical analyses and any other appropriate categories. A brief discussion of the source(s) of funding shall be provided.

15) **Public Participation Summary**

This section shall include a copy of the public notice as required in 40 CFR §403.8(f)(2)(vii). If a notice was not published, the reason shall be stated.

16) **Sludge Storage and Disposal Practice**

This section shall have a description of how the treated sludge is stored and ultimately disposed. The sludge storage area, if one is used, shall be described in detail. Its location, a description of the containment features and the sludge handling procedures shall be included.

17) **PCS Data Entry Form**

The annual report shall include the PCS Data Entry Form. This form shall summarize the enforcement actions taken against SIUs in the past year. This form shall include the following information: the POTW name, NPDES Permit number, period covered by the report, the number of SIUs in significant noncompliance (SNC) that are on a pretreatment compliance schedule, the number of notices of violation and administrative orders issued against SIUs, the number of civil and criminal judicial actions against SIUs, the number of SIUs that have been published as a result of being in SNC, and the number of SIUs from which penalties have been collected.

18) **Other Subjects**

Other information related to the Pretreatment Program that does not fit into one of the above categories should be included in this section.

Signed copies of the reports shall be submitted to the Regional Administrator at U.S. EPA, the State Water Board and the Regional Water Board at the following addresses:

Regional Administrator
United States Environmental Protection Agency
Region 9, Mail Code: WTR-7
Clean Water Act Compliance Office
Water Division
75 Hawthorne Street
San Francisco, CA 94105

Pretreatment Program Manager
Regulatory Unit
State Water Resources Control Board
Division of Water Quality
1001 I Street
Sacramento, CA 95814

Pretreatment Coordinator
NPDES Permits Division
SF Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

APPENDIX B:
REQUIREMENTS FOR SEMIANNUAL PRETREATMENT REPORTS

The semiannual pretreatment reports are due on July 31st (for pretreatment program activities conducted from January through June) and January 31st (for pretreatment activities conducted from July through December) of each year, unless an exception has been granted by the Regional Water Board's Executive Officer. The semiannual reports shall contain, at a minimum, but is not limited to, the following information:

1) **Influent, Effluent and Sludge Monitoring**

The influent, effluent and sludge monitoring results shall be included in the report. The analytical laboratory report shall also be included, with the QA/QC data validation provided upon request. A description of the sampling procedures and a discussion of the results shall be given. (Please see Appendix C for specific detailed requirements.) The contributing source(s) of the parameters that exceed NPDES limits shall be investigated and discussed. In addition, a brief discussion of the contributing source(s) of all organic compounds identified shall be provided.

The Discharger has the option to submit all monitoring results via an electronic reporting format approved by the Executive Officer. The procedures for submitting the data will be similar to the electronic submittal of the NPDES self-monitoring reports as outlined in the December 17, 1999 Regional Water Board letter, Official Implementation of Electronic Reporting System (ERS). The Discharger shall contact the Regional Water Board's ERS Project Manager for specific details in submitting the monitoring data.

If the monitoring results are submitted electronically, the analytical laboratory reports (along with the QA/QC data validation) should be kept at the discharger's facility.

2) **Industrial User Compliance Status**

This section shall contain a list of all Significant Industrial Users (SIUs) that were not in consistent compliance with all pretreatment standards/limits or requirements for the reporting period. The compliance status for the previous reporting period shall also be included. Once the SIU has determined to be out of compliance, the SIU shall be included in the report until consistent compliance has been achieved. A brief description detailing the actions that the SIU undertook to come back into compliance shall be provided.

For each SIU on the list, the following information shall be provided:

a. Indicate if the SIU is subject to Federal categorical standards; if so, specify the category including the subpart that applies.

b. For SIUs subject to Federal Categorical Standards, indicate if the violation is of a categorical or local standard.

c. Indicate the compliance status of the SIU for the two quarters of the reporting period.

d. For violations/noncompliance occurring in the reporting period, provide (1) the date(s) of violation(s); (2) the parameters and corresponding concentrations exceeding the limits and the discharge limits for these parameters and (3) a brief summary of the noncompliant event(s) and the steps that are being taken to achieve compliance.

3) **POTW's Compliance with Pretreatment Program Requirements**

This section shall contain a discussion of the Discharger's compliance status with the Pretreatment Program Requirements as indicated in the latest Pretreatment Compliance Audit (PCA) Report, Pretreatment Compliance Inspection (PCI) Report or Pretreatment Performance Evaluation (PPE) Report. It shall contain a summary of the following information:

a. Date of latest PCA, PCI or PPE and report.

b. Date of the Discharger's response.

c. List of unresolved issues.

d. Plan and schedule for resolving the remaining issues.

The reports shall be signed by a principal executive officer, ranking elected official, or other duly authorized employee who is responsible for the overall operation of the Publicly Owned Treatment Works (POTW) (40 CFR §403.12(j)). Signed copies of the reports shall be submitted to the Regional Administrator at U.S. EPA, the State Water Resources Control Board and the Regional Water Board at the following addresses:

Regional Administrator
United States Environmental Protection Agency
Region 9, Mail Code: WTR-7
Clean Water Act Compliance Office
Water Division
75 Hawthorne Street
San Francisco, CA 94105

Pretreatment Program Manager
Regulatory Unit
State Water Resources Control Board
Division of Water Quality
1001 I Street
Sacramento, CA 95814

Pretreatment Coordinator
NPDES Permits Division
SF Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

APPENDIX C

REQUIREMENTS FOR INFLUENT, EFFLUENT AND SLUDGE MONITORING

The Discharger shall conduct sampling of its treatment plant's influent, effluent and sludge at the frequency as shown in Table E-6 of the Monitoring and Reporting Program.

The monitoring and reporting requirements of the POTW's Pretreatment Program are in addition to those specified in Table 1 of the SMP. Any subsequent modifications of the requirements specified in Table 1 shall be adhered to and shall not affect the requirements described in this Appendix unless written notice from the Regional Water Board is received. When sampling periods coincide, one set of test results, reported separately, may be used for those parameters that are required to be monitored by both Table 1 and the Pretreatment Program. The Pretreatment Program monitoring reports shall be sent to the Pretreatment Program Coordinator.

1. Influent and Effluent Monitoring

The Discharger shall monitor for the parameters using the required test methods listed in Table E-6 of the MRP. Any test method substitutions must have received prior written Regional Water Board approval. Influent and effluent sampling locations shall be the same as those sites specified in the Self-Monitoring Program.

The influent and effluent sampled should be taken during the same 24-hour period. All samples must be representative of daily operations. A grab sample shall be used for volatile organic compounds, cyanide and phenol. In addition, any samples for oil and grease, polychlorinated biphenyls, dioxins/furans, and polynuclear aromatic hydrocarbons shall be grab samples. For all other pollutants, 24-hour composite samples must be obtained through flow-proportioned composite sampling. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR §136 and amendments thereto. For effluent monitoring, the reporting limits for the individual parameters shall be at or below the minimum levels (MLs) as stated in the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (2000) [also known as the State Implementation Policy (SIP)]; any revisions to the MLs shall be adhered to. If a parameter does not have a stated minimum level, then the Discharger shall conduct the analysis using a commercially available method with reasonably achievable detections limits that has been approved by the USEPA or by the SFBRWQCB Executive Officer. .

The following standardized report format should be used for submittal of the influent and effluent monitoring report. A similar structured format may be used but will be subject to Regional Water Board approval. The monitoring reports shall be submitted with the Semiannual Reports.

A. Sampling Procedures – This section shall include a brief discussion of the sample locations, collection times, how the sample was collected (i.e., direct collection using vials or bottles, or other types of collection using devices such as automatic samplers,

buckets, or beakers), types of containers used, storage procedures and holding times. Include description of prechlorination and chlorination/dechlorination practices during the sampling periods.

B. Method of Sampling Dechlorination – A brief description of the sample dechlorination method prior to analysis shall be provided.

C. Sample Compositing – The manner in which samples are composited shall be described. If the compositing procedure is different from the test method specifications, a reason for the variation shall be provided.

D. Data Validation – All quality assurance/quality control (QA/QC) methods to be used shall be discussed and summarized. These methods include, but are not limited to, spike samples, split samples, blanks and standards. Ways in which the QA/QC data will be used to qualify the analytical test results shall be identified. A certification statement shall be submitted with this discussion stating that the laboratory QA/QC validation data has been reviewed and has met the laboratory acceptance criteria. The QA/QC validation data shall be submitted to the Regional Water Board upon request.

E. A tabulation of the test results shall be provided.

F. Discussion of Results – The report shall include a complete discussion of the test results. If any pollutants are detected in sufficient concentration to upset, interfere or pass through plant operations, the type of pollutant(s) and potential source(s) shall be noted, along with a plan of action to control, eliminate, and/or monitor the pollutant(s). Any apparent generation and/or destruction of pollutants attributable to chlorination/dechlorination sampling and analysis practices shall be noted.

2. **Sludge Monitoring**

Sludge should be sampled in the same 24-hour period during which the influent and effluent are sampled except as noted in (C) below. The same parameters required for influent and effluent analysis shall be included in the sludge analysis. The sludge analyzed shall be a composite sample of the sludge for final disposal consisting of:

A. Sludge lagoons – 20 grab samples collected at representative equidistant intervals (grid pattern) and composited as a single grab, or

B. Dried stockpile – 20 grab samples collected at various representative locations and depths and composited as a single grab, or

C. Dewatered sludge- daily composite of 4 representative grab samples each day for 5 days taken at equal intervals during the daily operating shift taken from a) the dewatering units or b) from each truckload, and shall be combined into a single 5-day composite.

The U.S. EPA manual, POTW Sludge Sampling and Analysis Guidance Document, August 1989, containing detailed sampling protocols specific to sludge is recommended as a guidance for

sampling procedures. The U.S. EPA manual Analytical Methods of the National Sewage Sludge Survey, September 1990, containing detailed analytical protocols specific to sludge, is recommended as a guidance for analytical methods.

In determining if the sludge is a hazardous waste, the Dischargers shall adhere to Article 2, "Criteria for Identifying the Characteristics of Hazardous Waste," and Article 3, "Characteristics of Hazardous Waste," of Title 22, California Code of Regulations, Sections 66261.10 to 66261.24 and all amendments thereto.

Sludge monitoring reports shall be submitted with the appropriate Semiannual Report. The following standardized report format should be used for submittal of the report. A similarly structured form may be used but will be subject to Regional Water Board approval.

A. Sampling procedures – Include sample locations, collection procedures, types of containers used, storage/refrigeration methods, compositing techniques and holding times. Enclose a map of sample locations if sludge lagoons or stockpiled sludge is sampled.

B. Data Validation – All quality assurance/quality control (QA/QC) methods to be used shall be discussed and summarized. These methods include, but are not limited to, spike samples, split samples, blanks and standards. Ways in which the QA/QC data will be used to qualify the analytical test results shall be identified. A certification statement shall be submitted with this discussion stating that the laboratory QA/QC validation data has been reviewed and has met the laboratory acceptance criteria. The QA/QC validation data shall be submitted to the Regional Water Board upon request.

C. Test Results – Tabulate the test results and include the percent solids.

D. Discussion of Results – The report shall include a complete discussion of test results. If the detected pollutant(s) is reasonably deemed to have an adverse effect on sludge disposal, a plan of action to control, eliminate, and/or monitor the pollutant(s) and the known or potential source(s) shall be included. Any apparent generation and/or destruction of pollutants attributable to chlorination/ dechlorination sampling and analysis practices shall be noted.

The Discharger shall also provide any influent, effluent or sludge monitoring data for non-priority pollutants that the permittee believes may be causing or contributing to Interference, Pass Through or adversely impacting sludge quality.

Attachment B

BAYKEEPER®
Defending Our Waters—from the High Sierra to the Golden Gate

December 18, 2006

Ms. Lila Tang
Chief, NPDES Division
SF Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94590

Via electronic mail to ltang@waterboards.ca.gov and jmadigan@waterboards.ca.gov

Re: Tentative Order for South Bayside System Authority, NPDES Permit. No. CA0038367

Dear Ms. Tang:

Thank you for the opportunity to review and comment on the tentative order ("T.O.") for the South Bayside System Authority ("SBSA"), NPDES Permit. No. CA0038367. With these comments, we ask that the following changes be made to the draft permit: (1) remove the compliance schedules for dioxin-TEQ and cyanide; (2) keep the previous permits' limits for copper, nickel and cyanide; (3) require monthly monitoring for dioxin; (4) provide a numeric Minimum Level ("ML") for dioxin-TEQ; (5) require monitoring of bypasses and delete the exception to the prohibition on bypasses; (6) incorporate the State Water Resources Control Board's requirements for sanitary sewer collection systems; (7) require removal of 85% BOD from October 1 through April 30; (8) require actual receiving water monitoring; (9) include effluent limits for chronic toxicity; (10) clarify whether the mass emission mercury limit is final or interim; and (11) include appropriate fecal coliform and enterococcus limits.

A. The Compliance Schedule Provisions are Inconsistent with Federal and State Law.

1. <u>No legal basis exists for the granting of compliance schedules for dioxin-TEQ and cyanide.</u>

The T.O.'s compliance schedules and interim limits for dioxin-TEQ and cyanide are not authorized by law. The federal Clean Water Act allows states to provide permitees time to comply with permit limitations based upon new or revised water quality standards as

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San Francisco, CA 94103
Tel (415) 856-0444
Fax (415) 856-0443
Deltakeeper® Chapter of Baykeeper®
445 West Weber Avenue, Suite 137B
Stockton, CA 95203
Tel (209) 464-5090
Fax (209) 464-5174

long as applicable laws or standards clearly provide for such compliance schedules. 33 U.S.C. § 1313(e)(3)(A), (F); 40 C.F.R. § 130.5(b)(1), (6). Compliance schedules in permits issued by the San Francisco Regional Water Board ("Regional Board") may be based on (1) the California Toxics Rule, 40 C.F.R. § 131.38(e); (2) the State's implementation plan for the control of toxic pollutants ("SIP"), *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California,* Section 2, p. 20 (2005); or (3) the San Francisco Basin Plan. Neither the CTR, the SIP nor the Basin Plan, however, provides a basis for the compliance schedules contained in the draft permit.

The draft permit contains a compliance schedule and final effluent limit for dioxin-TEQ based on the CTR and the CTR criteria of 1.4×10^{-8} µg/L. The CTR provision authorizing compliance schedules, however, expired on May 18, 2005. 40 C.F.R. § 131.38(e)(8). The federal rule provides that compliance schedules can only be issued after May 2005, if (1) the State Board adopts and EPA approves a policy authorizing compliance schedules, and (2) EPA acts to "stay the authorizing compliance schedule provisions in [the CTR]." 65 Fed. Reg. 31704 (May 18, 2000). While EPA has approved the some portions of the SIP, the agency has not acted to stay the sunset of the CTR compliance schedule provisions. Therefore, no permit issued after May 18, 2005, including this one, can contain compliance schedules for water quality based effluent limits ("WQBELs") based on CTR-criteria.

The T.O.'s compliance schedules for dioxin-TEQ and cyanide are also inconsistent with the Basin Plan. The San Francisco Bay Basin Plan provides that the Board may consider compliance schedules for "newly adopted objectives or standards as NPDES permit conditions." The numeric criteria relied upon in the permit for dioxin-TEQ was published in the CTR in 2000, and the cyanide criteria was published in the National Toxics Rule ("NTR") in 1996. 40 C.F.R. § 131.38(b)(1); 40 C.F.R. § 131.36(b)(1). Clearly, the bases for the dioxin-TEQ and cyanide WQBELs are not new. Therefore, the Basin Plan does not authorize compliance schedules for these limits.

2. <u>The compliance schedules and interim limits lack enforceable interim requirements likely to lead to compliance.</u>

Even if the use of compliance schedules is lawful, the permit's schedules and interim limitations are inadequate to meet federal and state requirements. The Clean Water Act defines compliance schedules as "an enforceable series of actions or operations leading to compliance with an effluent limitation, other limitation, prohibition, or standard." 33 U.S.C. §1362(a). Similarly, the SIP directs the Regional Board to "establish interim requirements and dates for their achievement in the NPDES permit." SIP at 22. Both regulations clearly contemplate that a compliance schedule contains specific, enforceable milestones that will eventually lead to attainment of applicable standards. *See also* letter to Tom Howard, Acting Executive Director, SWRCB from Alexis Strauss, Water Division Director, EPA, dated November 29, 2006 ("the Regional Board, when it issues permits, must nevertheless establish enforceable requirements leading to compliance with the final effluent limitation").

No provision of the current T.O. requires SBSA to undertake actions that are designed or otherwise intended to lead to compliance with the final effluent limitations. Rather, the permit merely requires the discharger (1) provide status reports on their efforts in support of SSOs or TMDLs, (2) continue to implement and improve their existing Pollutant Minimization Programs, and (3) submit, by July 1, 2009, a schedule of how it will reduce cyanide, copper and dioxin-TEQ to ensure compliance with the final limits. None of these actions are likely to result in compliance within the timeframe required by the permit. In fact, the required study is not even required until ten months before the final cyanide limits become effective. We ask that, if compliance schedules are included in the permit, that they consist of concrete, required actions that, if implemented in a timely manner, will lead to attainment of WQBELs.

3. Inadequate information exists to determine infeasibility.

Demonstration of infeasibility to immediately comply with final effluent limitations is a perquisite to the issuance of compliance schedules. The Regional Board's infeasibility analyses for cyanide and dioxin-TEQ are impermissibly based solely on the discharger's past discharge monitoring data, which showed concentrations in the effluent that exceed the WQBELs. The fact sheet recites no evidence and provides no analysis of whether SBSA could feasibly comply with WQBELs by changing operations and maintenance practices, installing equipment, changing administration of its pretreatment program, improving staff training, or taking other available measures. It is insufficient to assume, without any evidence or analysis, that a history of discharging pollutant levels exceeding a WQBEL means compliance with a WQBEL is infeasible.

Moreover, the fact sheet lacks any evidence or analysis concerning what measures SBSA should or could employ to comply with the WQBELs and the minimum time SBSA could reasonably be required to employ these measures. Rather than limiting the compliance schedule to the time SBSA could reasonably be expected to come into compliance with WQBELs, the draft permit allows SBSA's compliance schedule to last until the last possible date. In so doing, the Regional Board has failed to comply with 40 C.F.R. §§ 122.47(a)(1) and 131.38(e)(4) which require that compliance schedules "require compliance *as soon as possible.*"

Additionally, the fact sheet improperly concludes that upgrades to reduce dioxins and furans would be "overly burdensome and [] not cost effective for the benefits received." The record, however, lacks any evidence supporting this assertion. The fact sheet does not identify any consideration of changes to operation and maintenance or capital infrastructure that might reduce the level of dioxins discharged. The fact sheet also lacks any analysis of the costs of meeting the dioxins limit or the value of reductions. Finally, under the Clean Water Act, it is impermissible for the Regional Board to evaluate the costs of complying with water quality standards as a basis for setting WQBELs. The latter are to be set at the level needed to attain applicable standards, regardless of cost.

B. Relaxation of limits for copper, nickel, and cyanide violates the CWA's prohibition on backsliding.

The Clean Water Act's antibacksliding policy was adopted in order to implement the Act's "national goal that the discharge of pollutants into the navigable waters be eliminated by 1985." 33 U.S.C. § 1251; 49 Fed. Reg. 37,898, 38,019 (September 26, 1984). It states that a permit may not be renewed or reissued with less stringent effluent limitations than those contained in the previous permit. 33 U.S.C. § 13429(o), 40 C.F.R. § 122.4(l)(1). The draft permit violates the antibacksliding policy by relaxing the limits for copper, nickel, and cyanide. The sole justification offered for the higher limits—that the previous ones were interim limits—is unpersuasive. Implicit in the notion of interim limits is the understanding that subsequent limits will be more, not less stringent. Increasing the amount of a pollutant that a facility can discharge based solely on the fact that the permit lacked a final limit runs counter to the purpose of the antibacksliding policy and the goals of the Clean Water Act.

C. The permit fails to demonstrate how compliance with the dioxin-TEQ limit will be determined.

Based on the permit and accompanying monitoring provisions, it is unclear how compliance with the dioxin-TEQ effluent limit will be determined for two reasons. First, the numeric limit for dioxin is expressed as a monthly mass limit, yet effluent monitoring is required only twice a year. Nothing in the monitoring provisions or the fact sheet indicates how compliance with monthly mass limit can be determined through yearly monitoring and whether this frequency of monitoring will produce representative results. The permit should be amended to require monthly monitoring and a demonstration that monthly grab samples will generate data that is representative of the discharge.

Second, the ML for dioxin TEQ is unclear and not reflected in Table E-1 of the monitoring provisions on page E-3 of the T.O. Although the permit states that the ML is one half of that specified for EPA Method 1613, it should contain an actual numeric ML. EPA regulations approving Method 1613 support an ML of 10×10^{-15}. 62 Fed. Reg. 48395, 48399 (September 15, 1997). Therefore, the ML for dioxin-TEQ should be 5×10^{-15} and should be included in Table E-1.

D. The Bypass/Blending provisions are contrary to applicable regulations.

1. <u>The draft permit must specify under what conditions no feasible alternatives exist for anticipated bypasses.</u>

The draft permit authorizes anticipated bypasses but fails to include the required feasibility determination. Anticipated bypasses may be allowed provided that they meet

all the requirements of 40 C.F.R. § 122.41(m)(4), which requires, in part, that no feasible alternatives exist. As the EPA pointed out in their comments on the recently-approved East Bay Dischargers Authority permit, anticipated bypasses may only be approved in the permit after analysis and implementation of all feasible alternatives. Letter to Lila Tang from EPA regarding NPDES Permit No. CA 0037699, July 12, 2006. Furthermore, the conclusions of the feasibility analysis must be stated in the permit findings and the permit must include the specific conditions under which the discharge may occur, including minimum wet weather flow rates. *Id.* In order to comply with federal regulations, the draft permit must be amended to include a thorough feasibility analysis if it is to authorize anticipated bypasses.

2. Monitoring of bypasses should be required for all pollutants for which the permit contains effluent limits.

The draft permit allows bypasses in certain situations provided that discharge and receiving water limitations are achieved, yet the permit appear to not require any chemical monitoring. Dischargers must monitor bypasses for all parameters in order to demonstrate compliance. Section X.B.1.2 of the Monitoring and Reporting Program should be amended to either require monitoring for all effluent constituents for which there are permit effluent limitations.

3. The Operational Plan exemption for bypasses is illegal.

The following provision in the draft permit is illegal, objectionable and should be deleted: "taking portions of process units out of service and partial bypassing of dual- or mono-media filters performed in accordance with provisions of an Operational Plan submitted by the Discharger and approved by the Executive Officer shall not be considered "bypasses" or violations of this Order." Discharge Prohibitions, ¶ III.C. First, this clause authorizes the Executive Officer unilaterally, without public notice or comment, to amend the permit to authorize certain discharges that the permit, as currently framed, does not authorize. The Executive Officer will receive and approve the Operational Plan, thus amending the Permit, without giving the public an opportunity to comment on the Plan and perhaps persuade the Executive Officer to reject or require modification to the Plan. This violates 40 C.F.R. §§ 124.5(c), 124.6(d) and 124.10 and 23 Cal. Code of Reg. § 2235.2 ("Waste discharge requirements for discharge from point sources to navigable waters shall be issued and administered in accordance with the currently applicable federal regulations for the . . . NPDES program") which mandate that the Regional Board issue public notice and take and respond to public comment before modifying an NPDES permit. *Envtl. Def. Ctr., Inc. v. EPA*, 344 F.3d 832 (9th Cir. 2003). Two, this clause fails to limit the Executive Officer to approving only such Operational Plans as would allow bypasses that comport with 40 C.F.R. § 122.41(m).

E. The T.O. should incorporate the State Board's Waste Discharge Requirements for Sanitary Sewer Systems.

All permits issued to wastewater collection facilities should thoroughly address and incorporate the requirements of the State Water Resource Control Board's Statewide General WDR for Wastewater Collection Agencies ("General Order"). Order No. 2006-0003-DWQ (May 2, 2006). The primary goal of the General Order is to provide a basis for a consistent statewide approach to regulation of sanitary sewer overflows ("SSOs"). Because the draft permit also regulates SSOs, it should be explicitly reconciled with the terms of the General Order. Incorporating the applicable General Order requirements into the permit will ensure consistency and reduce confusion. For example, the SSO reporting requirements of Region 2 differ from those laid out in the General Order. To minimize uncertainty, the permit should specifically explain how those two reporting requirements are to be reconciled.

In order to ensure consistency and reduce confusion, Baykeeper recommends the following changes as a starting point to reconciling the permit with the General Order. These changes are not intended to be exhaustive.

1. Amend Section III– Discharge Prohibitions– to incorporate the General Order's two prohibitions on the discharge of waste as the result of SSOs.
2. Change Section VI.7.c– Sanitary Sewer System Overflow and Sewer System Management Plan– to state that the Discharger's collection system is subject to the General Order.
3. Remove the sentence in Section VI.7.c that states that compliance with the General Order constitutes compliance with the permit's federal NPDES requirements.
4. Amend the Monitoring and Reporting Program to incorporate the General Order requirements and reconcile any applicable Region 2 requirements.

F. The permit should require 85% BOD removal from October 1 through April 30.

The draft permit requires 85% percent removal of carbonanceous biological oxygen demand (CBOD) during the timeframe, May 1 to September 30, when the permit imposes a CBOD limit. While the permit is ambiguous, it appear to impose no CBOD or biochemical oxygen demand (BOD) percent removal requirement from October 1 to April 30. Deletion of the maximum daily limitations for CBOD and total suspended solids (TSS) that the Regional Board included in the prior permit violates the CWA's anti-backsliding prohibition. The permit should be amended to specify an 85% BOD removal requirement from October 1 to April 30. Additionally, please clarify why the permit uses CBOD rather than BOD for effluent limits in summer months.

G. Actual receiving water monitoring should be required.

In this permit, as with previous permits, the discharger is allowed to participate in the Regional Monitoring Program ("RMP") in order to fulfill receiving water monitoring requirements. Baykeeper is concerned that the RMP may not be an adequate surrogate for gathering site specific data related to individual dischargers' impacts. In addition to participating in the RMP, all dischargers should be required to study the receiving water impacts of their own discharge.

H. The permit should include an effluent limit for chronic toxicity.

The T.O. inappropriately omits a chronic toxicity limit. EPA regulations mandate the inclusion of whole effluent toxicity limits in NPDES permits whenever a discharge "causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative criterion within an applicable State water quality standard." 40 C.F.R. § 122.44(d)(1)(v). The record supports that SBSA's discharge has such reasonable potential. It has been EPA policy for over a decade that whole effluent toxicity includes both acute toxicity <u>and</u> chronic toxicity and that the latter be measured using EPA-identified protocols that employ appropriately sensitive species from a suite of three or more tested species.

I. Clarify whether the mass limit for mercury is a performance-based interim limit.

The permit and the fact sheet contain inconsistent provisions relating to the mass emission limit for mercury. Subparagraph (c) on page F-30 states that the order establishes a new mass emissions limit for mercury that reflects SBSA's mass emissions allowance in the mercury TMDL. Subparagraph (f), however suggests that the limit is a performance-based interim mass loading effluent limit. EPA recently disapproved TMDL-based compliance schedules and, therefore, any mercury mass emission limit must be final and water quality based. Please clarify whether the mercury limit is a final water quality based effluent limit or an interim limit.

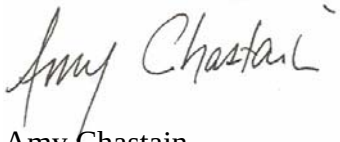
J. The permit must include more stringent fecal coliform limits and a single sample enterococci limit.

As noted in the permit's findings, designated beneficial uses of applicable receiving waters include shellfish harvesting, water contact recreation (REC1) and non-contact water recreation (REC2). Accordingly, Basin Plan water quality objectives for shellfish harvesting, water contact recreation (REC1) and non-contact water recreation (REC2) apply to SBSA's discharge. The most stringent of these water quality objectives is for shellfish harvesting: five consecutive samples equally spaced over a 30-day period must have fecal coliform values that are less than 14 MPN/100 ml and the 90th percentile fecal coliform value of this five sample array must be less than 43 MPN/100 ml. The permit as

drafted violates the Basin Plan by providing for much more lenient limits, that five day geometric mean fecal coliform density shall not exceed 500 MPN/100 ml and that the 90th percentile value of the last ten values shall not exceed 1100 MPN/100 ml. In addition, the Basin Plan and/or federally promulgated applicable water quality standards known as the Beach Act Rule establish an enterococci water quality objective in heavily used recreational waters, which includes lower San Francisco Bay, a single sample maximum enterococci value not to exceed 104 MPN/100ml. 40 C.F.R. § 131.41. Thus, the permit as drafted violates this Basin Plan requirement by only including a monthly geometric mean enterococci limit.

Thank you for consideration of these comments.

Sincerely,



Amy Chastain

Attachment C

SAN FRANCISCO BAY BASIN (REGION 2)

JUNE 21, 1995

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

2101 Webster Street, Suite 500
Oakland, CA 94612
(510) 286-1255

Approved by

California State Water Resources Control Board on July 20, 1995.
California State Office of Administrative Law on November 13, 1995.

WATER QUALITY CONTROL PLAN

TABLE 3-3 WATER QUALITY OBJECTIVES FOR TOXIC POLLUTANTS FOR SURFACE WATERS WITH SALINITIES GREATER THAN 5 PPT [a,b]

(ALL VALUES IN UG/L)

COMPOUND	4-DAY AVERAGE [c]	1-HR AVERAGE [c]	24-HR AVERAGED	INSTANTANEOUS MAXIMUM [d]
Arsenic	36.0	69.0		
Cadmium	9.3	43.0		
Chromium (VI)[e]	50.0	1100.0		
Copper		f		
Cyanide		5.0		
Lead	5.6	140.0		
Mercury	0.025	2.1		
Nickel[g]			7.1	140.0
Selenium				
Silver				2.3
Tributyltin[h]				
Zinc			58.0	170.0
PAHs[i]			15.0	

NOTES:

a. These objectives shall apply to all estuarine waters within the region, according to the salinity threshold, except for the South Bay below Dumbarton Bridge.

b. The values reported in this table are derived from the 1980 and 1984 U.S. EPA Ambient Water Quality Criteria for salt water and fresh water (unless otherwise specified) and were adopted by the Board in 1986. In 1992, the Regional Board adopted a more inclusive set of objectives reflecting more recent technical information; this set of objectives had been developed and adopted as part of the statewide Inland Surface Waters and Enclosed Bays and Estuaries Plan and was ruled invalid by a court decision in 1993. The U.S. EPA is expected to promulgate final water quality standards for California in late 1995. The national standards will then apply to all planning, monitoring, NPDES permitting, enforcement, and compliance programs conducted under the Clean Water Act within the state.

c. Source: U.S. EPA 1984.

d. Source: U.S. EPA 1980.

e. This objective may be met as total chromium.

f. The current U.S. EPA criterion is 2.9 ug/l. However, copper toxicity varies with the complexing capacity of specific receiving waters, and background concentrations in the Bay typically vary from 1 to 4 ug/l. The Regional Board conducted scientific studies on Bay waters between 1986 and 1992 and determined that 4.9 ug/l was a more appropriate value for a site-specific objective, given U.S. EPA's derivation method. U.S. EPA is reviewing that method as part of its national rulemaking for California water quality standards. A site-specific criterion for copper is urgently needed.

g. The current U.S. EPA criterion is 8.3 ug/l (4-day average).

h. Tributyltin is a compound used as an antifouling ingredient in marine paints and toxic to aquatic life in low concentrations (<1 ppb). Based on technical information, a value of 0.005 ug/l (30-day average) would be protective of human health.

i. U.S. EPA water quality criteria indicate that 0.031 ug/l in both fresh water and salt water is protective of human health, based on setting the acceptable lifetime risk for cancer at the 10-6 risk level. PAHs are those compounds identified by EPA Method 610.

Excerpt from Chapter 3, Current San Francisco Bay Basin Plan
as available at
http://www.waterboards.ca.gov/sanfranciscobay/basinplan/web/tab/tab_3-03.pdf

TABLE 3-3 MARINE[a] WATER QUALITY OBJECTIVES FOR TOXIC POLLUTANTS FOR SURFACE WATERS (ALL VALUES IN UG/L)

COMPOUND	4-DAY AVERAGE	1-HR AVERAGE	24-HR AVERAGE
Arsenic [b, c, d]	36	69	
Cadmium [b, c, d]	9.3	42	
Chromium VI [b, c, d, e]	50	1100	
Copper [c, d, f]			
Cyanide [g]			
Lead [b, c, d]	8.1	220	
Mercury [h]	0.025	2.1	
Nickel [b, c, d]	8.2	74	
Selenium [i]			
Silver [b, c, d]		1.9	
Tributyltin [j]			
Zinc [b, c, d]	81	90	
PAHs [k]			15

NOTES:

a. Marine waters are those in which the salinity is equal to or greater than 10 parts per thousand 95% of the time, as set forth in Chapter 4 of the Basin Plan. Unless a site-specific objective has been adopted, these objectives shall apply to all marine waters except for the South Bay south of Dumbarton Bridge, where the California Toxics Rule (CTR) applies. For waters in which the salinity is between 1 and 10 parts per thousand, the applicable objectives are the more stringent of the freshwater (Table 3-4) or marine objectives.

b. Source: 40 CFR Part 131.38 (California Toxics Rule or CTR), May 18, 2000.

c. These objectives for metals are expressed in terms of the dissolved fraction of the metal in the water column.

d. According to the CTR, these objectives are expressed as a function of the water-effect ratio (WER), which is a measure of the toxicity of a pollutant in site water divided by the same measure of the toxicity of the same pollutant in laboratory dilution water. The 1-hr. and 4-day objectives = table value X WER. The table values assume a WER equal to one.

e. This objective may be met as total chromium.

f. Water quality objectives for copper were promulgated by the CTR and may be updated by U.S. EPA without amending the Basin Plan. Note: at the time of writing, the values are 3.1 ug/l (4-day average) and 4.8 ug/l (1-hr. average). The most recent version of the CTR should be consulted before applying these values.

g. Cyanide criteria were promulgated in the National Toxics Rule (NTR). The NTR criteria specifically apply to San Francisco Bay upstream to and including Suisun Bay and Sacramento-San Joaquin Delta. Note: at the time of writing, the values are 1.0 ug/l (4-day average) and 1.0 ug/l (1-hr. average).

h. Source: U.S. EPA Ambient Water Quality Criteria for Mercury (1984).
i. Selenium criteria were promulgated for all San Francisco Bay/Delta waters in the National Toxics Rule (NTR). The NTR criteria specifically apply to San Francisco Bay upstream to and including Suisun Bay and Sacramento-San Joaquin Delta. Note: at the time of writing, the values are 5.0 ug/l (4-day average) and 20 ug/l (1-hr. average).
j. Tributyltin is a compound used as an antifouling ingredient in marine paints and toxic to aquatic life in low concentrations. U.S. EPA has published draft criteria for protection of aquatic life (Federal Register: December 27, 2002, Vol. 67, No. 249, Page 79090-79091). These criteria are cited for advisory purposes. The draft criteria may be revised.
k. The 24-hour average aquatic life protection objective for total PAHs is retained from the 1995 Basin Plan. Source: U.S. EPA 1980.

Attachment D

Excerpt from SBSA Tentative Order,
Fact Sheet, Section IV C.4.d.(5)(g).

(e) *Interim Effluent Limitation.* Because it is infeasible for the Discharger to immediately comply with the final WQBELs for cyanide, an interim effluent limitation is required. Regional Water Board staff considered the Discharger's effluent data from April 2003 through March 2006 and established the 99.87th percentile of the data set (21 µg/L) as a maximum daily interim effluent limitation, replacing the interim limitation of 18 µg/L from Order No. 01-012.

(f) *Term of Interim Effluent Limitation.* The cyanide interim effluent limitation shall remain in effect through April 28, 2010, or until the Regional Water Board amends the limitation based on additional data or SSOs.

(g) *Alternative Limit for Cyanide.* As described in *Draft Staff Report on Proposed Site-Specific Water Quality Objectives and Effluent Limit Policy for Cyanide for San Francisco Bay*, dated November 10, 2005, the Regional Water Board is proposing to develop site-specific criteria for cyanide. In this report, the proposed site-specific criteria for marine waters are 2.9 µg/L as a four-day average, and 9.4 µg/L as a one-hour average. Based on these assumptions, and the Dischargers current cyanide data (coefficient of variation = 0.40), final WQBELs for cyanide will be 37 µg/L as a MDEL, and 22 µg/L as an AMEL. These alternative limits will become effective only if the site-specific objectives adopted for cyanide are based on the same assumptions as stated in the Staff report of November 10, 2005.

(h) *Antibacksliding/Antidegradation.* Antibacksliding and antidegradation requirements are satisfied, as Order No. 01-012 did not include final effluent limitations for cyanide.

(5) Dioxin-TEQ

(a) *WQC.* The most stringent applicable water quality criterion for dioxin-TEQ is 1.4×10^{-8} µg/L, which is translated from the narrative bioaccumulation objective established by the Regional Water Board through the Basin Plan. The Basin Plan's narrative bioaccumulation objective is applicable to dioxins and furans, since these constituents accumulate in sediments and bioaccumulate in the fatty tissue of fish and other organisms. The narrative objective is translated into a numeric objective expressed in 2,3,7,8-TCDD equivalents (or dioxin-TEQ) based on the CTR criterion for 2,3,7,8-TCDD and the application of the Toxic Equivalence Factors (TEFs) for dioxins and furans adopted by the World Health Organization in 1998.

(b) *RPA Results.* Because the receiving water is currently listed on the CWA 303(d) list as impaired due to dioxins and furans, and the maximum observed effluent concentration of Dioxin–TEQ is 1.20×10^{-7} µg/L, which exceeds the translated water quality objective of 1.4×10^{-8} µg/L, dioxin-TEQ in the discharge has a reasonable potential to contribute to exceedances of the narrative bioaccumulation objective.

(c) *WQBELs.* Concentration-based WQBELs for Dioxin–TEQ, using SIP procedures as guidance, are 2.8×10^{-8} and 1.4×10^{-8} µg/L as the maximum daily effluent limit (MDEL) and the average monthly effluent limit (AMEL), respectively. Because dioxin-TEQ is a bioaccumulative pollutant, these limitations are calculated without credit for dilution.

(d) *Immediate Compliance Infeasible.* The Discharger's Feasibility Study asserts the Discharger cannot immediately comply with final concentration-based WQBELs for dioxin-TEQ. The Regional Water Board concurs with the Discharger's assertion of infeasibility to comply, as effluent concentrations of dioxin-TEQ measured during the term of Order No. 01-012 exceed the WQBEL (above).

(e) *Interim Effluent Limits.* Both the CTR and the SIP require a numeric interim limit when the compliance schedule exceeds 1 year. The SIP allows for the interim limit to be based on facility performance or existing permit limitations, which ever is more stringent. The interim *limit in* Order No. 01-012 was based on facility performance. The SIP also suggests that mass limits should be established for bioaccumulative pollutants where the receiving water body has been included on the 303(d) list. Because dioxin-TEQ compounds are bioaccumulative and Lower San Francisco Bay is included on the 303(d) list, Order No. 01-012 established a mass emission limit for dioxin-TEQ of 0.44 milligrams per month. This Order retains the mass emission limitation for dioxin-TEQ of 0.44 mg/month from Order No. 01-012.

(f) *Term of Interim Limits.* The interim limit is effective until January 31, 2012, as provided in the previous permit. Since this compliance schedule is within the term of the permit, this Order includes final WQBELs in addition to this interim limitation.

(g) *General Sources of Dioxins and Furans.* The Regional Water Board recognizes that the primary source of dioxins and furans in the Bay Area is air emissions from combustion sources. Based on staff report "Dioxin in Bay Environment – A Review of the Environmental Concerns, Regulatory History, Current Status, and Possible Regulatory Options" dated February 1998, and the USEPA report "Status of Dioxin Reassessment and Policy Response" of 2000. Dioxins and furans in waste water are mainly attributed to domestic waste and storm water runoff. The latter is especially significant as the storm water carries particles on which the deposited pollutants have become attached. The main source of dioxins and furans in the domestic waste stream is beyond the Discharger's control as it already operates a well-maintained advanced secondary treatment plant. Because of this, dioxins and furans concentrations cannot be further reduced without significant upgrades to the facility which could be overly burdensome and would not be cost effective for the benefits received. Therefore, other strategies should be explored to address the impairment by dioxin-TEQ. These strategies include potential

mass offsets which are included in provisions relating to compliance schedule interim requirements for dioxin-TEQ at VI.C.2.d and VI.C.4.

(h) *Antibacksliding/Antidegradation.* Antibacksliding and antidegradation requirements are satisfied, as Order No. 01-012 did not include concentration-based limitations for dioxin-TEQ, and the mass-based limit from the previous permit are retained.

e. Effluent Limit Calculations

Table F-16 shows how the effluent limits were calculated.

Table F-16. Effluent Limit Calculations

Priority Pollutants	Copper		Mercury	Nickel	Cyanide		Dioxin TEQ
Units	µg/L		µg/L	µg/L	µg/L	µg/L	µg/L
Basis and Criteria Type	BP & CTR, SW Aq LF	Alternate Limits Using SSOs (December 2004 WER)	BP SW Aq Life	BP & CTR SW Aq Life	NTR Criterion for the Bay	Proposed SSO (Nov. 10, 2005)	BP HH
CTR Criteria – Acute	5.5	—	2.1	87	1.0	9.4	
CTR Criteria – Chronic	4.2	—	0.025	13	1.0	2.9	
SSO Criteria – Acute (Dissolved)	—	3.9					
SSO Criteria – Chronic (December 2004) (dissolved)	—	2.5					
Water Effects Ratio (WER)	2.4	2.4					
Lowest WQO			0.025	12.6	1.0	2.9	1.40E-08
CTR Conversion Factor for Saltwater (Acute and Chronic)	0.83	0.83					
Site-Specific Translator – MDEL	0.88	0.88		0.85			
Site-Specific Translator – AMEL	0.74	0.74		0.65			
Dilution Factor (D) (if applicable)	9	9	0	9	9	9	0
No. of samples per month	4	4	4	4	4	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y	Y	Y	Y	Y	N
HH criteria analysis required? (Y/N)	N	N	Y	N	Y	Y	Y
Applicable Acute WQO	13	11	2.10	87	1.0	9.4	
Applicable Chronic WQO	10	8.1	0.025	13	1.0	2.9	
HH criteria	—	—	0.051	4600	220,000	220,000	1.40E-08
Background (Maximum Conc for Aquatic Life calc)	2.45	2.45	0.0086	3.73	0.4	0.4	7.10E-08
Background (Average Conc for Human Health calc)			0.0022				5.00E-08
Is the pollutant Bioaccumulative (Y/N)? (e.g. Hg)	N	N	Y	N	N	N	Y
ECA acute	109	84	2.10	837	6.4	90.4	
ECA chronic	78	59	0.025	93	6.4	25.4	
ECA HH			0.051		220000	220000	1.40E-08
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N	N	N	N	N	Y
Avg of effluent data points	9.0	9.0	0.011	6.3	3.9	3.9	
Std Dev of effluent data points	3.3	3.3	0.003	1.8	1.6	1.6	
CV calculated	0.37	0.37	0.29	0.29	0.40	0.40	N/A
CV (selected) – Final	0.37	0.37	0.29	0.29	0.40	0.40	0.60
ECA acute mult99	0.46	0.46	0.54	0.53	0.44	0.44	
ECA chronic mult99	0.66	0.66	0.72	0.72	0.64	0.64	
LTA acute	50.20	38.88	1.13	446.22	2.82	39.78	
LTA chronic	51.95	39.07	0.02	66.57	4.12	16.35	
Minimum of LTAs	50.20	38.88	0.02	66.57	2.82	16.35	
AMEL mult95	1.33	1.33	1.25	1.26	1.36	1.36	1.55
MDEL mult99	2.17	2.17	1.86	1.88	2.27	2.27	3.11
AMEL (aq life)	66.89	51.81	0.023	83.80	3.82	22.20	