STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

STAFF SUMMMARY REPORT (Derek Whitworth)
MEETING DATE: May 10, 2006

ITEM: 8

SUBJECT: Mirant Potrero, LLC, Potrero Power Plant, San Francisco – Reissuance of NPDES Permit

CHRONOLOGY:
May 1994 – Permit reissued
May 1999 – Permit extended until May 2004
July 2003 – Board staff reclassifies this facility as "major" discharger
November 2004 – Tentative Order circulated for public review (not brought forward for Board action)
February 17, 2006 – Existing Tentative Order circulated for public review (now revised)

DISCUSSION: This item is the reissuance of the NPDES permit for the discharge of cooling water into San Francisco Bay from the Mirant Potrero Power Plant, which has operated since 1965. PG&E originally owned and operated the facility until Mirant acquired it in 1999. The plant uses natural gas to fire steam generators; the steam drives turbines that generate a maximum power output of 203 megawatts. Water pumped from the Bay is used to condense the spent steam before being discharged back into the Bay. The discharged cooling water has no contact with the process, but it leaves the site about 10^{o}F warmer than when it was acquired from the Bay. The plant uses up to 226 million gallons of water per day. It was originally classified as a minor discharger, but due to the high volume of water handled and in anticipation of new federal regulations,, we reclassified it as a major discharger in 2003.

In 2004, the U.S.EPA promulgated new regulations requiring existing power plants, such as this one, to develop and implement steps to reduce (although not eliminate) by specific amounts the adverse impacts on aquatic life caused by pumping water through cooling systems. These new regulations are commonly referred to as "316(b)" in reference to that section of the Clean Water Act. The adverse impacts are caused by impingement (marine organisms getting caught on filter screens) and entrainment (marine organisms going through the pumps, pipes and heat exchangers). The attached proposed permit specifies all the steps that Mirant must complete to comply with these new federal regulations. It also includes requirements for additional studies to measure environmental impacts on the Bay caused by the heated cooling water discharge.

This proposed permit is contested by a number of groups, including the City and County of San Francisco, Communities for a Better

Environment, Golden Gate University Environmental Justice Clinic, and Baykeeper. In the two years since starting the permitting process, Board staff have held four evening meetings in the community, to listen to and consider comments from interested stakeholders. We have also met one-on-one with several groups to resolve issue. The comments received on the Tentative Order continue to be directed primarily toward requiring early compliance with the new federal regulations with the ultimate goal of eliminating the discharge altogether.

Some stakeholders claim that the facility is a major source of pollutants to the Bay and that the Basin Plan prohibits the discharge. We disagree that the Basin Plan prohibits the discharge. We believe the Basin Plan's discharge prohibition is nt applicable to this type of facility and, based on sampling data, the facility is not a substantial source of pollutants to the Bay. The pollutants in the outfall come primarily from the intake. The thermal effects from the thermal discharge are in compliance with California's Thermal Plan, but the proposed permit requires an updated thermal effects study.

Some stakeholders also claim that the Board should immediately require measures to reduce the facility's impacts on marine organisms.caused by its intake of Bay water. We recommend completing the detailed investigation of alternatives required by the new federal regulations before implementing any specific actions. We have already required the necessary studies in a December 2005 letter, which are restated in the Tentative Order. A wide range of alternatives could be implemented, ranging from complete replacement of the cooling system to compensatory Bay restoration. We think the ultimate solution should be selected only after sufficient facts are available so as to not misdirect efforts on the wrong type of mitigation.

We received numerous comments (Appendix B) on the Tentative Order, and made some revisions based on responses to these comments (Appendix C). All revisions are reflected in the attached revised Tentative Order (Appendix A). One change was to incorporate the most recent sampling data from the facility. This resulted in tightening the effluent limits for some constituents. Adoption of this revised Tentative Order and issuance of an NPDES permit will require Mirant to comply with all current water quality standards, consistent with the Basin Plan, State Implementation Policy, and federal regulations.

RECOMMEND-ATION Adoption of the Revised Tentative Order

File No. 2169.6025

APPENDICES
A – Revised Tentative Order
B – Correspondence
C – Responses to Comments

APPENDIX A

REVISED TENTATIVE ORDER

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN FRANCISCO BAY REGION

REVISED TENTATIVE ORDER

NPDES PERMIT NO. CA0005657

Order No.: R2-2006-00XX

WASTE DISCHARGE REQUIREMENTS FOR:

MIRANT POTRERO, LLC

POTRERO POWER PLANT

SAN FRANCISCO, SAN FRANCISCO COUNTY

Adopted: [fill in date]

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SELF MONITORING PROGRAM (PART B)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

REVISED TENTATIVE ORDER
NPDES PERMIT NO. CA0005657

REISSUING WASTE DISCHARGE REQUIREMENTS FOR:
MIRANT POTRERO, LLC
POTRERO POWER PLANT
SAN FRANCISCO, SAN FRANCISCO COUNTY

FINDINGS

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

1. *Discharger and Permit Application.* Mirant Potrero, LLC (hereinafter called the Discharger) has applied for reissuance of waste discharge requirements and a permit to discharge treated wastewater to waters of the State and the United States under the National Pollutant Discharge Elimination System (NPDES).

Facility Description

2. *Facility Location.* The Discharger owns and operates the Potrero Power Plant (power plant), located at 1201-A Illinois Street, San Francisco, San Francisco County, California. The facility was previously owned and operated by the Pacific Gas and Electric Company (PG&E). The Discharger took ownership from PG&E on April 19, 1999. A location map of the facility is included as Attachment A of this Order.

3. *Generation Capacity.* The power plant consists of four generating units (Units 3-6). Unit 3 generates 203 net megawatts (MW) and withdraws and discharges cooling water from San Francisco Bay. This withdrawal and discharge is regulated by the Board. Units 4-6 are turbine combustion units that do not withdraw or discharge cooling water and are not regulated by the Board.

4. *Discharge Location.* Wastewater and some stormwater are discharged into Lower San Francisco Bay, a water of the State and United States, via a submerged shoreline outfall. Stormwater is also discharged through other shoreline outfalls, which are permitted under the Statewide General & Industrial Stormwater Permit. The Discharger has not provided evidence to evaluate dilution credits, therefore the Order does not grant dilution credits for these discharges. The discharge points are listed in Table 1:

Table 1. Discharge Locations

Outfall Number	Discharge Description	Latitude	Longitude
E-001	Unit 3 Wastewater Discharge	37° 45' 23.70"	122° 22' 48.90"
E-002	*Discharge Eliminated*		
E-003	Stormwater Runoff[1]	37° 45' 21.80"	122^{O} 22' 48.70"
E-004	*Discharge Eliminated*		
E-005	Stormwater Runoff[1]	37° 45' 27.20"	122^{O} 22' 49.10"
E-006[2]	*Discharge Eliminated*		

5. *Discharge Description and Volume*. The Report of Waste Discharge describes the discharges as depicted by Table 2:

Table 2. Discharge Description and Volume

Outfall Number		Contributory Waste Stream	Treatment Description	Maximum Daily Flow (MGD)	Annual Average Flow (MGD)
E-001		Unit 3 Once-Through Cooling	Screening, Shock Chlorination, Dechlorination	226	203
	A.	Auxiliary Cooling Water System	Screening	2.42	2.18
	B.	Unit 3 Intake Screen Wash (Intermittent)	Screening	0.36	0.108
	C.	Unit 3 Boiler Blowdown and Drains (Intermittent)	No Treatment	0.17	0.017
	D	Stormwater Runoff	Screening, Best Management Practices	0.02	3.5×10^{-4}
	E.	Stormwater Runoff and Heat Exchanger Flushes	Screening, Best Management Practices	0.4	6.6×10^{-3}
	F.	Thermal Demusseling (Intermittent)	Heat Treatment	0.377	0.01
E-002		Discharge Eliminated			
E-003		Stormwater Runoff	Best Management Practices	0.2	3.3×10^{-3}
E-004		Discharge Eliminated			
E-005		Stormwater Runoff	Best Management Practices	0.2	3.3×10^{-3}
E-006		Discharge Eliminated			

[1] Discharges covered under the General Industrial Stormwater Permit. (See Findings 11 and 12).

[2] Outfall E-006, bioassay lab, is now closed as the Discharger has implemented the new acute toxicity requirements of this permit which include testing conducted off-site.

6. Boiler chemical cleaning waste, oil sludge, fireside and waterside washes, and stormwater runoff are treated on-site. Treated wastewater is discharged to a sanitary sewer under an Industrial Pretreatment Permit issued by the City and County of San Francisco. Treatment sludge is disposed of offsite.

7. The U.S. Environmental Protection Agency (U.S. EPA) and the Board originally classified this Discharger as a minor discharger because the flow is predominately non-contact cooling water (more than 90 percent), contains less than 1 MGD of process wastewater, and the maximum generating capacity is less than 500 MW. However, concerns regarding the impacts of discharges from power plants have prompted the Board to re-classify the Discharger as a major discharger. Impacts from (1) the intake of bay water, (2) the discharge of heated wastewater, and (3) the high volume of discharge are expected to be more of a water quality threat than that of a minor discharger.

Process Description

8. *Industrial Process.* The Discharger withdraws water from Lower San Francisco Bay via a shoreline surface water intake structure to cool the condensers. Cooling water passes through a set of traveling screens with a screen opening of 3/8 inches. Sodium hypochlorite is injected periodically into the intake channel to control biofouling on the condenser tubes. A de-chlorinating agent (sodium bisulfite) is added to the waste stream prior to final discharge. A process schematic diagram is included as Attachment B of this Order.

9. *Intake Screen Design Specification.* The intake screen design specification is listed below.

Velocities	Intake Unit 3
Maximum Approach Screen ft/sec	0.7
Maximum Through-Screen ft/sec	1.5

Effluent Characterization

10. Table A in the Fact Sheet presents the quality of the discharge at Outfall E-001 and the intake water quality at Intake I-001, as indicated in the Discharger's Report of Waste Discharge (ROWD) dated November 17, 2003. The data are a compilation of (1) conventional and non-conventional pollutants, from June 2001 through January 2006; (2) mercury, from June 2002 through January 2006; and (3) other inorganic priority pollutants from April 2004 through to January 2006.

Stormwater Discharge

11. *Stormwater Regulations.* U.S. EPA promulgated federal regulations for storm water discharges on November 19, 1990. The regulations (Title 40 Code of Federal Regulations [40 CFR] Parts 122, 123, and 124) require specific categories of industrial activity (industrial storm water) to obtain an NPDES permit and to implement Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to control pollutants in industrial storm water discharges.

12. *Coverage under Statewide Storm Water General Permit.* The State Water Resources Control Board's (the State Board's) statewide NPDES permit for storm water discharges associated with industrial activities (NPDES General Permit CAS000001- the General Permit) was adopted on November 19, 1991, amended on September 17, 1992, and reissued on April 17, 1997. The Discharger has coverage

under the General Permit for storm water discharges from E-003 and E-005, therefore, these two storm water discharges are covered under the General Permit.

Regional Monitoring Program

13. On April 15, 1992, the Board adopted Resolution No. 92-043 directing the Executive Officer to implement the Regional Monitoring Program (RMP) for San Francisco Bay. Subsequent to a public hearing and various meetings, Board staff requested major permit holders in this region, under authority of section 13267 of the 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 (formerly the Aquatic Habitat 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. Annual reports from the RMP are referenced elsewhere in this Order.

Applicable Plans, Policies and Regulations

14. Water quality objectives (WQOs), water quality criteria (WQC), effluent limitations, and calculations contained in this Order are based on the statutes, regulations, policies, documents, and guidance detailed in Section III of the attached Fact Sheet, which is incorporated here by reference.

Beneficial Uses

15. Beneficial uses for Lower San Francisco Bay receiving water, as identified in the Basin Plan and based on known uses of the receiving waters in the vicinity of the discharge, are:

- Industrial Service Supply
- Navigation
- Water Contact Recreation
- Non-contact Water Recreation
- Ocean Commercial and Sport Fishing
- Wildlife Habitat
- Preservation of Rare and Endangered Species
- Fish Migration
- Shellfish Harvesting
- Estuarine Habitat

State Thermal Plan and Clean Water Act Section 316(a)

16. On September 18, 1975, the State Board adopted the *Water Quality Control Plan for Control of Temperature in the Coastal Interstate Waters and Enclosed Bays and Estuaries of California* (Thermal Plan). The Thermal Plan contains WQOs governing cooling water discharges. The Thermal Plan provides specific numeric and narrative WQOs for new discharges of heat. Thermal discharges defined as "existing" discharges are subject to narrative WQOs. Existing discharges of heat to Enclosed Bays (including San Francisco Bay) must "comply with limitations necessary to assure protection of beneficial uses." The Thermal Plan applies to the discharge from Outfall E-001.

17. The Discharger is considered an existing, continuous discharger as defined in the Thermal Plan. PG&E performed two thermal studies for the power plant. These studies were submitted in 1973 and

1991. Effluent limitations for temperature (Effluent Limitations 1.c.) are based on the results of these studies. These studies showed that the discharge did not adversely affect the receiving waters and the beneficial uses were adequately protected in the vicinity of the Potrero Power Plant. Because the studies were performed over a decade ago, updated thermal studies are warranted in order to verify that the temperature requirements in this order continue to protect beneficial uses. This Order contains a provision requiring the Discharger to perform a thermal study to characterize the effects of the thermal plume on the aquatic habitat and aquatic species in the near-field environment. Among other items, the update will include a reassessment of the potential impacts of thermal demusseling.

Clean Water Act Section 316(b) – Entrainment and Impingement Impacts

18. Section 316(b) of the Clean Water Act (33 U.S.C. Section 1326(b)) requires that the location, design, construction, and capacity of cooling water intake structures reflect Best Technology Available (BTA) for minimizing adverse environmental impacts.

19. The impact of the Discharger's intake cooling water system is a function of the number of organisms entrained (drawn into the cooling water system) and impinged (drawn on to the intake screens).

20. On July 9, 2004, U.S. EPA promulgated new requirements to minimize adverse environmental impacts associated with existing cooling water intake structures under Section 316(b) of the Clean Water Act. These requirements became effective on September 7, 2004. This regulation, commonly referred to as "316(b) Phase II Rule," requires existing dischargers to comply with entrainment and impingement mortality reduction performance standards, if certain threshold levels of entrainment and impingement mortality are exceeded, by (1) implementing technologies, operational measures, or restoration measures; (2) demonstrating that currently implemented measures are in compliance with the Phase II Rule; or (3) developing a site-specific compliance alternative.

21. PG&E submitted a 316(b) Demonstration Study report in January 1980 in order to comply with the Clean Water Act. The 1980 study showed that impingement losses of fish were low. They consisted primarily of northern anchovy, which exhibits a large and highly productive population in the Bay system. Entrainment losses were also low and primarily consisted of northern anchovy, pacific herring, and gobies. Mirant submitted an Entrainment Characterization Study in March 2005. This Study has not been finalized, and the data will be reassessed as part of the Comprehensive Demonstration Study as required by the 316(b) Phase II Rule.

22. This Order requires the Discharger to submit technical reports to comply with Code of Federal Regulations, Title 40, Part 125, Subpart J – Requirements Applicable to Cooling Water Intake Structure for Phase II Existing Facilities Under Section 316(b) of the Clean Water Act. These studies have been required pursuant to a December 21, 2005, information requirement letter sent to the Discharger by the Board pursuant to Section 13267 of the California Water Code ("the 13267 letter") (Attachment D). The requirements of the 13267 letter have been incorporated into this Order. Preparing these reports will comply with the 316(b) Phase II Rule. A Comprehensive Demonstration Study, including an assessment of the entrainment and impingement mortality impacts of the facility and a description of the alternative selected for compliance with the Phase II Rule's performance standards, is to be submitted by November 30, 2007 in accordance with the 13267 letter.

Basis for Effluent Limitations

General Basis

Applicable Water Quality Objectives and Criteria

23. The WQOs and WQC applicable to the receiving water of this discharge are from the Basin Plan; the U.S. EPA's May 18, 2000, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California (the California Toxics Rule, or the CTR); and U.S. EPA's National Toxics Rule (the NTR).

24. 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 fresh water, lead, mercury, nickel, silver, zinc, and total polynuclear aromatic hydrocarbons (PAHs) in salt water. The narrative toxicity objective states in part "[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 "[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 to implement these objectives, based on available information.

25. 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 inland surface waters and enclosed bays and estuaries such as San Francisco Bay, except where the Basin Plan's Tables 3-3 and 3-4 specify numeric objectives for certain of these priority toxic pollutants; the Basin Plan's numeric objectives apply over the CTR (except in the South Bay south of the Dumbarton Bridge).

26. The NTR established 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 Sacramento-San Joaquin Delta. This includes the receiving water for this Discharger.

27. 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 U.S. EPA through the NTR and to the priority pollutant objectives established by the Regional Water Boards in their basin plans, with the exception of the provision on alternate test procedures for individual discharges that have been approved by U.S. EPA Regional Administrator. The alternate test procedures provision was effective on May 22, 2000. The SIP became effective on May 18, 2000. The State Water Board subsequently amended the SIP, and the amendments became effective on July 13, 2005. The SIP includes procedures for determining the need for and calculating WQBELs and requires dischargers to submit data sufficient to do so.

28. On January 21, 2004, the Board adopted Resolution No. R2-2004-0003 amending the Basin Plan (1) to update the dissolved water quality objectives for metals identical to the CTR; (2) to change the Basin Plan definitions of marine, estuarine and freshwater to be consistent with the CTR definitions; and (3) to update NPDES implementation provisions to be consistent with the SIP, and other editorial

changes. On October 4, 2004, the Office of Administrative Law (OAL) approved the Board's Basin Plan Amendment, which had been approved by the State Board on July 22, 2004.

29. Where numeric effluent limitations have not been established or updated in the Basin Plan, 40 CFR Part 122.44(d) specifies that water quality-based effluent limitations (WQBELs) may be set based on U.S. EPA criteria, supplemented where necessary by other relevant information, to attain and maintain narrative WQC to fully protect designated beneficial uses. The Fact Sheet for this Order discusses the specific bases and rationales for effluent limitations and is incorporated as part of this Order.

Basin Plan and CTR Receiving Water Salinity Policy

30. The Basin Plan and CTR state 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.

Receiving Water Salinity

31. The receiving waters for the subject discharge are the waters of Lower San Francisco Bay. Board staff evaluated RMP salinity data from the two nearest receiving water stations, Alameda and Yerba Buena Island, for the period February 1993 – August 2003. During that period, the receiving water's minimum salinity was 11.4 parts per thousand (ppt), its maximum salinity was 30.8 ppt, and its average salinity was 23.9 ppt. These data are all well above both the Basin Plan and CTR thresholds for salt water; therefore, the reasonable potential analysis (RPA) and limitations in this Order are based on marine or saltwater WQOs/WQC.

Technology Based Effluent Limitations

32. Technology based effluent limitations for conventional pollutants are established for steam electric power plants at 40 CFR Part 423, including limitations for discharges of boiler blowdown that apply to the Discharger. These limitations are included in the Order for outfall E-001C and are the same as in the previous Order.

Water Quality-Based Effluent Limitations (WQBELs)

33. Toxic substances are regulated by WQBELs derived from Basin Plan Tables 3-3 and 3-4, the CTR, the NTR, and/or best professional judgment (BPJ) as defined in Section IV of the attached Fact Sheet. WQBELs in this Order are revised and updated from the limits in the previous Order, and their presence in this Order is based on the evaluation of the Discharger's data as described below under the Reasonable Potential Analysis (RPA). Numeric WQBELs are required for all constituents that have a reasonable potential to cause or contribute to an excursion above any State water quality standard. Reasonable potential is determined and final WQBELs are developed using the methodology outlined in the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (the State Implementation Plan or the SIP). If the Discharger demonstrates that the final limits will be infeasible to meet and provides justification for a

compliance schedule, then interim limits are established, with a compliance schedule to achieve the final limits. Further details about the effluent limitations are given below and in the associated Fact Sheet.

Receiving Water Ambient Background Data used in RPA

34. Ambient background values are used in the RPA and in the calculation of effluent limitations. For the RPA, ambient background concentrations are the observed maximum 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. Data from the RMP station at Yerba Buena Island, located in the Central Bay, are used to represent ambient background for this discharge. This is because this station has the most long-term monitoring for metals, has a complete database and scientifically peer-reviewed database for other priority pollutants, and is in a location that reasonably represents the quality of the receiving water.

Constituents Identified in the 303(d) List

35. On June 6, 2003, U.S. EPA approved a revised list of impaired waterbodies prepared by the State. The list (hereinafter referred to as the 303(d) list) was prepared in accordance with Section 303(d) of the Federal Clean Water Act to identify specific waterbodies where water quality standards are not expected to 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, PCBs, dioxin-like PCBs, and nickel. Copper, which was previously identified as impairing Lower San Francisco Bay, was not included as an impairing pollutant in the 303(d) list approved in 2003 and has been placed on the new Monitoring List.

Total Maximum Daily Loads (TMDLs) and Waste Load Allocations (WLAs)

36. The Board plans to adopt Total Maximum Daily Loads (TMDLs) for pollutants on the 303(d) list for Lower San Francisco Bay within the next ten years, with the exception of dioxin and furan compounds. For dioxins and furans, the Board intends to consider this matter further after U.S. EPA completes its national health reassessment. Future review of the 303(d) list for Lower San Francisco Bay may result in revision of the schedules and/or provide schedules for other pollutants.

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

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

    a. *Data collection*—The Board has given dischargers 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. This collective effort may include development of sample concentration techniques for approval by U.S. EPA. The Board will require dischargers to characterize the pollutant loads from their facilities into the water quality-limited waterbodies. The results will be used in the development of TMDLs, and may be used to update or revise the

303(d) list and/or change the WQOs for the impaired waterbodies including Lower San Francisco Bay.

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

Interim Limitations and Compliance Schedules

39. Section 2.1.1 of the SIP states:

"the compliance schedule provisions for the development and adoption of a TMDL only apply when: …(b) the Discharger has made appropriate commitments to support and expedite the development of the TMDL. In determining appropriate commitments, the RWQCB should consider the discharge's contribution to current loadings and the Discharger's ability to participate in TMDL development."

The Discharger agrees to assist the Board in TMDL development through active participation in and contribution to the RMP.

40. 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 Board to support a finding of infeasibility:

– Descriptions of diligent efforts the discharger has 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 pollution 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.

41. Until final WQBELs or WLAs are adopted for 303(d)-listed pollutants, State and Federal antibacksliding and antidegradation policies and the SIP require that the Board include interim effluent limitations for them. The interim effluent limitations will be the lower of the current performance or the previous permit's limitations.

42. On July 13, 2004, the Discharger submitted a feasibility study (the 2004 Feasibility Study), asserting it is infeasible to immediately comply with the WQBELs, calculated according to SIP Section 1.4, for copper and mercury. Board staff conducted statistical analysis of recent data for these pollutants, as further detailed in later findings under the heading *Development of Specific Effluent Limitations* and also in Section IV.6, Table D of the attached Fact Sheet. Based on these analyses for copper and

mercury, the Board concurs that it is infeasible to achieve immediate compliance. Therefore, this Order establishes compliance schedules for copper and mercury.

43. For limitations based on CTR or NTR criteria, this Order establishes a compliance schedule as allowed by the CTR, SIP and Basin Plan provides for a 10-year compliance schedule (mercury and copper) to implement measures to comply with new standards as of the effective date of those standards. This provision has been construed as authorizing compliance schedules for new interpretations of existing standards (such as the numeric WQOs specified in the Basin Plan) resulting in more stringent limitations than those in the previous permit. Due to the adoption of the SIP, the Board has newly interpreted these objectives. As a result of applying the SIP methodologies, the effluent limitations for some pollutants are more stringent than those in the prior permit, and compliance schedules may be appropriate for the new limitations for those pollutants. Additionally, in 2004, the Board established new water quality objectives as described in Finding 28. The Board may take appropriate enforcement actions if interim limitations and requirements are not met.

    This Order establishes compliance schedules that extend beyond one year for copper and mercury. Pursuant to the SIP and 40 CFR 122.47, the Board shall establish interim numeric limitations and interim requirements to control the pollutant. This Order establishes interim limitations for these pollutants based on the previous permit limitations or existing plant performance. This Order also establishes interim requirements in a provision for development and/or improvement of a Pollution Prevention and Minimization Program to reduce pollutant loadings to the facility, and for submittal of annual reports on this Program.

    The actual final WQBELs for some pollutants will likely be based on either the site-specific objective (SSO) or TMDLs/WLAs as described in other findings specific to each of the pollutants.

    In other permits, the Board established interim mass limitations for mercury. For this Discharger, however, the Board does not expect that the Discharger is a source of significant mercury loading to Lower San Francisco Bay, as there are no known mercury sources to wastewater at this facility. Therefore, no mass limits are established in this Order. However, since the assumption regarding no known mercury source is based on general knowledge and not actual data, a provision has been included requiring the Discharger to conduct a study to identify any mercury loadings through monitoring of the low volume process wastewater described in Finding 5, e.g. boiler blowdown. The study also requires the Discharger to investigate mercury source control options, as appropriate.

Antibacksliding and Antidegradation

44. The limitations in this Order are in compliance with the Clean Water Act Section 402(o) prohibition against establishment of less stringent WQBELs because the limits from the previous Order have not been relaxed in this Order.

Specific Basis

Reasonable Potential Analysis

45. As specified in 40 CFR 122.44(d) (1) (i), permits are required to include WQBELs for all pollutants "which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard." Using the method prescribed in Section 1.3 of the SIP, Board staff has analyzed the effluent data to determine if the discharges, which are the subject of this Order, have a reasonable potential to cause

or contribute to an excursion above a State water quality standard ("Reasonable Potential Analysis" or "RPA"). For all parameters that have reasonable potential, numeric WQBELs will be established if the data justify it. The RPA compares the effluent data with numeric and narrative WQOs in the Basin Plan and numeric WQC from the NTR and the CTR.

Reasonable Potential Methodology

46. The method for determining reasonable potential involves identifying the observed maximum pollutant concentration in the effluent (MEC) for each constituent based on effluent concentration data. The RPA for all constituents is based on zero dilution, according to section 1.3 of the SIP. There are three triggers in determining reasonable potential.

    a. The first trigger is activated when the maximum effluent concentration (MEC) is greater than or equal to the lowest applicable WQO/WQC, which has been adjusted for pH and translator data, if appropriate. An MEC that is greater than or equal to the (adjusted) WQO/WQC means that there is reasonable potential for that constituent to cause or contribute to an excursion above the WQO/WQC and a WQBEL is required.

    b. The second trigger is activated when observed maximum ambient background concentration (B) is greater than the (adjusted) WQO/WQC, and the pollutant was detected in any of the effluent samples.

    c. The third trigger is activated after a review of other information determines that a WQBEL is required even though the requirements of triggers 1 and 2 are not met. A limitation is only required under certain circumstances to protect beneficial uses.

***RPA Determination*s:**

47. The RPA was based on effluent water data collected from June 2002 to January 2006 for nearly all priority pollutants except for certain metals discussed below. Historic metals effluent data (prior to April 28, 2004) are not valid for certain metals (silver, arsenic, cadmium, chromium, copper, nickel, lead, selenium, thallium, and zinc) because the analyses did not properly account for saline matrix interference. In response, the Discharger conducted an expedited sampling program (10 samples) from April 28, 2004 to May 25, 2004 for the metals in question. The Discharger continued to collect additional data from June 2, 2004 through December 2005 for cadmium, copper, selenium, and silver, and through January 2006 for mercury. The Board discarded a November 2004 sampling event from this data set because it appeared to be anomalously high and would have resulted in artificially inflating the performance based limits for copper and mercury.

48. The MEC, WQOs/WQC, bases for the WQOs/WQC, background concentrations used and reasonable potential conclusions from the RPA are summarized in Table 3. (Further details on the RPA can be found in the Fact Sheet.) Based on the methodology described above and in the SIP, copper and mercury were found to have reasonable potential and the Board is establishing numeric interim limits as further described in Findings 56 and 57. Based on the available data for dioxin and furan compounds ("dioxin TEQ," see Finding 51) and PCBs (see Finding 52), the Board does find reasonable potential for these pollutants.

RPA Results for Impairing Pollutants

49. While TMDLs and WLAs are being developed, interim concentration limitations are established in this Order for 303(d)-listed pollutants that have a reasonable potential to cause or contribute to an excursion above the water quality standard. The only constituents on the 303(d) list for which the RPA determined a need for effluent limitations are mercury, dioxin TEQ, and PCBs. Final determination of reasonable potential for some other constituents could not be performed owing to the lack of an established WQO or WQC.

Table 3. Reasonable Potential Analysis Summary

CTR No.	Constituent[1]	WQO/ WQC (µg/L)	Basis[2]	MEC (µg/L)	Maximum Ambient Background Conc. (µg/L)	Reasonable Potential (Trigger Type)
2	Arsenic	36	BP	4.67	2.46	No
4	Cadmium	9.4	BP	0.7	0.1268	No
5b	Chromium (total)	50	BP	9.1	4.4	No
6	Copper	3.73	BP	7.67	2.45	Yes (Trigger 1)
7	Lead	8.5	BP	4.7	0.8	No
8	Mercury*	0.025	BP	0.0505	0.0086	Yes (Trigger 1)
9	Nickel*	8.3	BP	4.42	3.68	No
10	Selenium	5.0	NTR	3.4	0.39	No
11	Silver	2.2	BP	0.450	0.0516	No
12	Thallium	6.3	CTR, hh	0.7	0.21	No
13	Zinc	86	BP	18.9	4.4	No
14	Cyanide	1.0	NTR	<2.2	<0.4	No
16	2,3,7,8-TCDD	1.4×10^{-8}	BP	$<8.7\times10^{-7}$	8.0×10^{-9}	No
	Dioxin TEQ*	1.4×10^{-8}	BP	1.3×10^{-7}	1.95×10^{-7}	Yes [7]
68	Bis (2-ethylhexyl) Phthalate	5.9	CTR, hh	Undetermined [5]	<0.5	No
109	4,4'-DDE*	0.00059	CTR, hh	<0.045	0.000693	No
111	Dieldrin*	0.00014	CTR, hh	<0.031	0.000264	No
119-125	Total Polychlorinated Biphenyls (PCBs)*	0.00017	CTR, hh	0.00103 [6]	0.00146[6]	Yes (Triggers 1, 2)
	CTR nos. 17–126 except 68, 109 and 111	Various or NA	CTR, hh	Non-detect, less than WQO, or no WQO	Less than WQO or not available	No or undetermined[4]

[1] * Indicates constituents on 303(d) list, dioxin TEQ applies to Toxicity Equivalent (TEQs) of 2,3,7,8-TCDD.

[2] BP = Basin Plan; Basin Plan WQOs are for the protection of saltwater aquatic life; for dioxin TEQ, it is based on the narrative objective for bioaccumulation
CTR = California Toxics Rule, NTR = National Toxics Rule, hh = human health
[3] See Finding 46 for the definition of three trigger types.
[4] RPA was "undetermined" (1) where there was no applicable WQO/WQC; (2) where effluent or ambient background data was either unavailable or insufficient to conduct an analysis; or (3) where all reported detection limits of the pollutant were greater than the applicable WQO/WQC.
[5] See Finding 50 for a discussion of Bis (2-ethylhexyl) Phthalate.
[6] Based on total PCB congeners using non-promulgated low detection level results for MEC, and maximum ambient background concentrations. See Finding 52 for further details.
[7] See Finding 51.

Specific Pollutants

50. *Bis (2-ethylhexyl) Phthalate*

The Discharger collected over three years of effluent data (2002-2006) for bis (2-ethylhexyl) phthalate. Bis (2-ethylhexyl) phthalate was detected in the effluent above the WQO. It is a common laboratory contaminant often found in the sampling collection and analysis process. In 2004, the Discharger conducted an analysis to identify the potential source of the pollutant and submitted the results to the Board on April 14, 2004. The Discharger identified the most likely source of the pollutant to be inappropriate equipment used in the sample collection process. Board staff concurs with the Discharger's evaluation, and this Order requires continued semiannual monitoring for bis (2-ethylhexyl) phthalate to provide data using proper sampling and analysis methods. Should there be no detections of bis (2-ethylhexyl) phthalate in the first four semiannual samples, the Executive Officer may terminate the requirement for continued sampling if the Discharger demonstrates in writing that potential sources of this constituent are still not present at its facility.

51. *Dioxin TEQ*

a. The CTR establishes a numeric human health WQC of 0.014 picogram per liter (pg/L) for 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD) based on consumption of aquatic organisms. The preamble of the CTR states that California NPDES permits should use toxicity equivalents (TEQs) where dioxin-like compounds have a reasonable potential with respect to narrative criteria. In U.S. EPA's National Recommended WQOs, December 2002, U.S. EPA published the 1998 World Health Organization (WHO) Toxicity Equivalence Factor (TEF)[3] scheme. In addition, the CTR preamble states U.S. EPA's intent to adopt revised WQC guidance subsequent to their health reassessment for dioxin-like compounds. The SIP requires a limitation for 2,3,7,8-TCDD, if there is a reasonable potential, and requires monitoring for a minimum of 3 years by all major NPDES dischargers for the other 16 dioxin and furan compounds.

b. The Basin Plan contains a narrative WQO for bioaccumulative substances:

"Many pollutants can accumulate on particulates, in sediments, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in

[3] The 1998 WHO scheme includes TEFs for dioxin-like PCBs. Since dioxin-like PCBs are already included within "Total PCBs," for which the CTR has established a specific standard, dioxin-like PCBs are not included in this Order's version of the TEF scheme.

concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered."

This narrative WQO applies to dioxin and furan compounds, based in part on the consensus of the scientific community that these compounds associate with particulates, accumulate in sediments, and bioaccumulate in the fatty tissue of fish and other organisms.

c. U.S. EPA's 303(d) listing determined that the narrative objective for bioaccumulative pollutants was not met because of the levels of dioxins and furans in fish tissue.

d. The Discharger has monitored for dioxins and furans for 3 years. The results for 2,3,7,8-TCDD are all non-detect, although all detection limits have been above the WQC. Some of the congeners used in calculating dioxin TEQ have been detected. All are near or below the quantification limit for the analysis. There is no known source of dioxins to the discharge, and, for all samples with intake/outfall pairs, the intake dioxin TEQ is calculated as higher than the outfall dioxin TEQ. In addition, Ambient water quality data provided in the May 15, 2003 Bay Area Clean Water Agencies (BACWA) report (including supplemental data in the June 15, 2004 Appendix 3: San Francisco Bay Ambient Water Quality Monitoring: Final CTR Sampling Update) also shows dioxin TEQ levels exceeding the WQC. The Board concludes that although the facility's discharge does not appear to be a source of dioxins, since dioxins were detected in the outfall and the U.S. EPA has determined that the Bay is impaired thus warranting a precautionary approach, then there is a reasonable potential for dioxin TEQ.

e. Although there is reasonable potential, no effluent limits for dioxins TEQ have been set in this permit. This is because the discharge has concentrations above what would be the calculated water quality based effluent limits, so that it is infeasible for the Discharger to immediately comply due to the high concentrations in the intake. However, because of the predominance of non-detect data (e.g., 5 out of the 7 discharge samples were non-detect), it is impossible to calculate an interim performance based limit, or calculate intake credits. Therefore, no limits for dioxin TEQ is established in this permit, but the permit requires the Discharger to conduct semi-annual monitoring in order to collect sufficient data for effluent limit determination in the future.

52. *PCBs.* -

All three triggers were considered in evaluating RPA for PCBs:

Trigger 1 (MEC>WQO): PCB effluent data from January 2005 indicate detectable concentrations when the minimum detection limits are 0.00002 and 0.0002 µg/L. The highest detectable value (0.00103 µg/L) is greater than the WQO (0.00017 µg/L). Therefore, trigger 1 is activated (pursuant to the SIP).

Trigger 2 (B>WQO, and detected in the effluent): Regional Monitoring Program data show a maximum concentration at Yerba Buena Island of 0.00107 µg/L based on total PCB congeners, which is above the criterion of 0.00017 µg/L. Furthermore, data submitted by the Discharger in March 2005 indicate that PCBs were detected in the intake water at levels (0.000262 µg/L) greater than WQO and was detected in the effluent. The intake water is also representative of ambient background. Based on these data, trigger 2 is activated.

Trigger 3 (other information): The Discharger provided data indicating there are no sources of PCBs at the facility (e.g., no transformers). Levels of PCBs have been characterized in soil and groundwater

data at the facility. The facility is paved in the areas of soil contaminated with PCBs, so there is no surface water exposure, and the data show that groundwater is not impaired with PCBs. However, due to specific concerns regarding PCB-contamination from historic activities, this Order requires a PCB Stormwater Sediment Study (see Provision 8). The concern is that historic activities may have created potential sources to stormwater runoff. The study includes a PCB analysis of the sediments in the storm drain system and a requirement for a proposal for future actions to minimize PCB-contaminated sediments, if appropriate. The focus of the study is on the sediments because PCBs are hydrophobic. Analysis of the sediments would yield more useful information than analysis of the stormwater because of limits of detection.

Discharge Prohibition A.3 of this Order prohibits the discharge of PCBs and therefore a water quality based effluent limit based on the RPA may be less stringent and is therefore unnecessary. However, because PCBs have been measured in Bay water and the intake, intake credits allowing for no increase in the discharge as compared to the intake are appropriate (see Finding 58).

53. *Other Organics.*

The Discharger has performed sampling and analysis for most organic constituents listed in the CTR. The data were used to perform the RPA. The full RPA is presented as an attachment to the Fact Sheet. The Discharger will continue to monitor for these constituents in the effluent and the receiving water in accordance with the Board's August 6, 2001 letter and Self-Monitoring Program 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 the Order or to continue monitoring.

54. *Effluent Monitoring.* This Order does not include effluent limitations for constituents that do not show reasonable potential, but continued monitoring for them is required as described in the SMP and a separate letter dated August 6, 2001, from the Executive Officer. 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 a reasonable potential to cause or contribute to an excursion above the applicable WQO/WQC.

55. *Permit Reopener*. This Order includes a reopener provision to allow numeric effluent limitations to be added or deleted in the future for any constituent that exhibits or does not exhibit, respectively, reasonable potential. The Board will make this determination based on monitoring results.

Development of Effluent Limitations

56. *Copper*

a. *Copper WQC*. The saltwater criteria for copper in the CTR are 3.1 µg/L for chronic protection and 4.8 µg/L for acute protection. Included in the CTR are translator values to convert the dissolved criteria to total criteria. Using the CTR translator of 0.83, translated criteria of 3.73 µg/L for chronic protection and 5.8 µg/L for acute protection were used to determine reasonable potential and calculate effluent limitations.

b. *RPA Results.* This Order establishes effluent limitations for copper because the 7.67 µg/L MEC exceeds the governing WQC of 3.73 µg/L, demonstrating reasonable potential by Trigger 1 as defined in a previous finding.

c. *WQBELs for Copper.* The copper WQBELs calculated according to the SIP procedures (prior to the application of any appropriate intake credits) are 2.9 µg/L as the AMEL and 5.8 µg/L as the MDEL.

d. *Immediate Compliance Infeasible.* The July 13, 2004 Feasibility Study asserts the Discharger cannot immediately comply with the copper WQBELs. Based on a statistical analysis of the Discharger's effluent data from April 2004, through December 2005, the assertion of infeasibility is substantiated for copper (see Section IV.A.6 and Table D of the attached Fact Sheet for detailed results of the statistical analysis). As stated in the July 13, 2004, Feasibility Study, it appears likely that most, if not all, of the copper present in Outfall E-001 is derived directly from copper already present in the Bay water obtained from Intake I-001. In addition, an addendum to the Feasibility Study submitted by the Discharger on July 21, 2004 states that because of the lack of information regarding potential temporal variations in Outfall E-001 copper concentrations, the WQBEL calculations are uncertain. However, the Discharger identified the potential for copper to be released from weathering of alloys (corrosion) in its once-through cooling-water system. The monthly copper sampling and the intake water study required by this Order will provide the additional data necessary to evaluate this potential source.

e. *Interim Performance-based Limitation (IPBL).* Because it is infeasible that the Discharger will immediately comply with the copper WQBELs, this order establishes a copper IPBL of 8.6 µg/L. The IPBL is based on the 99.87th percentile of the 23 effluent samples collected from April 2004 through December 2005. The previous order did not include a copper effluent limitation.

f. *Plant Performance and Attainability.* During the period April 2004, through December 2005, the Discharger's effluent concentrations for copper ranged from <0.695 µg/L to 7.67 µg/L (23 samples). All 23 samples were below the interim limitation of 8.6 µg/L. It is therefore expected that the facility can comply with the interim limitation for copper. In accordance with Section 2.2.2 of the SIP, this Order requires that the Discharger collect additional data to allow a more complete assessment of reasonable potential for copper (effluent sampling). In the meantime, the Discharger must comply with the IPBL.

g. *Term of Interim Effluent Limitation.* The copper interim limitation shall remain in effect until May 18, 2010, or until the Board amends the limitations based on additional data or an SSO. However, during the next permit reissuance, the Board may re-evaluate the copper interim limitation.

h. *Antibacksliding/Antidegradation.* There were no WQBELs for copper in the previous permit; therefore, antibacksliding and antidegradation provisions do not apply.

57. *Mercury WQO/WQC.* Both the Basin Plan and the CTR include objectives and criteria that govern mercury in the receiving water. The Basin Plan specifies objectives for the protection of aquatic life of 0.025 µg/L as a 4-day average and 2.1 µg/L as a 1-hour average. The CTR specifies a long-term average criterion for protection of human health of 0.051 µg/L.

a. *RPA results.* This Order establishes effluent limitations for mercury because the 0.0505 µg/L MEC exceeds the governing WQO of 0.025 µg/L, demonstrating reasonable potential by Trigger 1 as defined in a previous finding.

b. *Effluent Concentration Limitation for Mercury.* The mercury WQBELs calculated according to the SIP procedures (prior to the application of any appropriate intake credits) are 0.018 µg/L as the AMEL and 0.046 µg/L as the MDEL.

c. *Immediate Compliance Infeasible.* The July 13, 2004 Feasibility Study asserts that the Discharger cannot immediately comply with the mercury WQBELs. Based on statistical analysis of the Discharger's effluent data from June 2002 through January 2006 the assertion of infeasibility is substantiated for mercury (see Section IV.A.6 and Table D of the attached Fact Sheet for detailed results of the statistical analysis). As stated in the July 13, 2004 Feasibility Study, the Discharger believes that virtually all the mercury discharged from Outfall E-001 originates from mercury already present in the Bay water obtained from Intake I-001. The average intake concentrations are greater than average effluent concentrations. A mercury study provision is required by this Order. This study will provide data for the Discharger to assess any potential source of this pollutant to the Bay.

d. *IPBL.* Because it is infeasible that the Discharger will immediately comply with the mercury WQBELs, this Order establishes a mercury IPBL of 0.032 µg/L. The IPBL is based on the 99.87th percentile of ultra-clean effluent samples collected from June 2002 through January 2006. The previous Order did not include a mercury limitation.

e. *Plant Performance and Attainability.* During the period June 2002 through January 2006, the Discharger's effluent concentrations ranged from 0.00232 µg/L to 0.0505 µg/L (33 samples). All 33 samples, except for one, were below the interim limitation of 0.032 µg/L. The one sample that exceeded the IPBL (0.0505 µg/L, collected on December 19, 2002), corresponded to an even higher concentration at the intake (0.1002 µg/L). It is therefore expected that the facility can comply with the interim limitation of 0.032 µg/L for mercury.

f. *Term of IPBL.* The mercury IPBL shall remain in effect until April 28, 2010 or until the Board amends the limitation based on additional data, SSOs, or the WLA in the TMDL. During the next permit reissuance, Board staff may, however, reevaluate the mercury IPBL.

g. *Mercury Study.* As a prerequisite to being granted the compliance schedule and interim limitations described above, the Discharger is required by a provision of this Order to perform studies to identify mercury loadings in its facility, and to implement mercury source control strategies, as appropriate. The Board may consider reopening the permit to include an interim mass limit if the study shows that the Discharger is contributing mass loading to the Bay.

h. *Expected Final Mercury Limitations.* Final mercury WQBELs will be consistent with the WLA assigned in the adopted mercury TMDL. A mass limitation based on the WLA will be incorporated. While the TMDL is being developed, the Discharger will comply with the performance-based mercury concentration limitation to cooperate in maintaining current ambient receiving water conditions.

i. *Antibacksliding/Antidegradation.* There were no WQBELs for mercury in the previous permit; therefore, antibacksliding and antidegradation provisions do not apply.

58. *Intake Water Credits* The SIP (Section 1.4.4) allows intake water credits provided a discharger meets the following conditions to the satisfaction of the Board:

a. The observed maximum ambient background concentration and the intake water concentration of the pollutant exceed the most stringent applicable WQO/WQC for that pollutant;

b. The intake water credits are consistent with any TMDL applicable to the discharge;

c. The intake water is from the same water body as the receiving water body;

d. The facility does not alter the intake water pollutant chemically or physically in a manner that adversely affects water quality and beneficial uses; and

e. The timing and location of the discharge does not cause adverse effects on water quality and beneficial uses that would not occur if the intake water pollutant had been left in the receiving water body.

For PCBs, the Discharger has met all the criteria described above. The Discharger meets criteria a and c based on the information provided in Finding 52. This Discharge meets criteria d because there is no evidence to suggest that the once through cooling process would alter the PCB compounds. The Discharger meets criteria e because the intake and discharge location is very similar. Finally, the Discharge will meet criteria b once the TMDL is established. For the other pollutants found to have reasonable potential to cause or contribute to an excursion above WQOs/WQC, this Order directs the Discharger to evaluate whether intake water credits are appropriate.

Whole Effluent Acute Toxicity

59. This Order includes monitoring and effluent limitations for whole-effluent acute toxicity that are similar to the previous Order. However, a change was made in that monthly monitoring is required during a one-year screening phase; afterwards, if requested by the Discharger and approved by the Executive Officer, acute toxicity may be reduced to quarterly. Should quarterly monitoring demonstrate toxicity in accordance with Effluent Limitation B.3, the Discharger is required to return to monthly monitoring (see SMP Footnote [4]). Compliance evaluation is based on 96-hour bioassays. All bioassays shall be performed according to the U.S. EPA-approved method in 40 CFR Part 136, currently "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water, 5th Edition," with exceptions granted to the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP). The previous Order required monthly flow-through monitoring for acute toxicity with sticklebacks and sanddabs. The Discharger's self-monitoring data indicate that from 2001 through 2003, with one exception, survival rates ranged from 90 to 100 percent, all of which comply with the effluent limitations. In order to perform the 5th Edition acute toxicity test, the Discharger needs to switch to two new species tested concurrently. These two new species shall be topsmelt (*Atherinops affinis*) and inland silverside (*Menida beryllina*). After one year of testing, upon the approval of the Executive Officer, the Discharger may select the more sensitive species and use that organism for future compliance monitoring. If there is no statistical difference in species survival rates after the year of testing, the Discharger has the option to choose either species for future testing.

Whole Effluent Chronic Toxicity

60. a. Permit Requirements. This permit includes requirements for chronic toxicity monitoring based on the Basin Plan narrative toxicity objective, and in accordance with U.S. EPA and State Board Task Force guidance and BPJ. This permit includes the Basin Plan narrative toxicity objective as the

applicable effluent limitation, 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. *Compliance Species.* From May 26, 2004 to August 30, 2004, the Discharger monitored effluent using critical life stage toxicity tests on red abalone (*Haliotus rufescens*), giant kelp (*Macrocystis pyrifera*), mysid shrimp (*Mysidopsis bahia*), and topsmelt (*Atherinops affinis*) to generate information on toxicity test species sensitivity. The test results indicated that giant kelp (*Macrocystis pyrifera*) was the most sensitive species. Based on the foregoing results, the Discharger selected and the Board approved *Macrocystis pyrifera* as the species to use for bioassay testing.

c. *Permit Reopener.* The Board will consider amending this permit to include numeric toxicity limitations 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.

Pollutant Minimization/Pollution Prevention

61. The Discharger has established a Pollution Prevention Program under the requirements specified by the Board.

    a. Section 2.4.5 of the SIP specifies under what situations and for which priority pollutant(s) (i.e., reportable priority pollutants) the Discharger shall be required to conduct a Pollutant Minimization Program in accordance with Section 2.4.5.1.

    b. There may be some redundancy between the Pollution Prevention Program and the Pollutant Minimization Program requirements.

    c. Where the two programs' requirements overlap, the Discharger is allowed to continue, modify, or expand its existing Pollution Prevention Program to satisfy the Pollutant Minimization Program requirements.

    d. For constituents identified under Effluent Limitations, Section B, the Discharger will conduct appropriate source control or pollutant minimization measures that are consistent with its approved Pollution Prevention Program. For constituents with compliance schedules under this permit, the applicable source control and pollutant minimization requirements of Section 2.1 of the SIP will also apply.

Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy

62. *SIP-Required Dioxin Study.* The SIP states that each Board shall require major and minor publicly owned treatment works (POTWs) and industrial dischargers in its region to conduct effluent monitoring for the 2,3,7,8-TCDD congeners, whether or not an effluent limitation is required for 2,3,7,8-TCDD. The Discharger complied with this requirement by submitting the effluent monitoring results of this study on January 28, 2004.

63. On August 6, 2001, the Board sent a letter to all the permitted dischargers pursuant to Section 13267 of the California Water Code requiring the submittal of effluent and receiving water data on priority

pollutants. This formal request for technical information addresses the insufficient effluent and ambient background data, and the dioxin study. The letter (described above) is referenced throughout the permit as the "August 6, 2001 Letter."

64. Pursuant to the August 6, 2001 Letter from Board Staff, the Discharger was required to submit workplans and sampling results for characterizing the levels of selected constituents in the effluent. The Discharger collected and analyzed 4 effluent samples for the 126 priority pollutants during 2002/2003. With the exception of certain metals (see next finding), these data were used in the RPA and limitation calculations in this Order.

65. As discussed in a previous finding, Board staff's review of effluent monitoring data collected prior to April 28, 2004 for certain metals found that these data may have been affected by salinity and were not valid for use in the RPA. The Discharger conducted an expedited monitoring program for the metals between April 28, 2004 and June 2, 2004 and the data were used in the RPA and effluent limitation calculations. However, the sampling period is too short to characterize potential temporal variations in the influent and the effluent. The SMP includes a requirement to conduct additional monthly monitoring for these inorganic priority pollutants until a total of 24 months of temporally representative data are collected. When more monitoring data are available, the permit may be reopened to include effluent limitations, if reasonable potential is shown.

Monitoring Requirements (Self-Monitoring Program)

66. The SMP includes monitoring at the outfalls for conventional, non-conventional, and toxic pollutants, and acute and chronic toxicity. Monthly monitoring is required for copper and mercury because they have been observed in the influent and effluent. Semiannual monitoring for bis (2-ethylhexyl) phthalate is required for two years to verify no reasonable potential for this pollutant. Sampling requirements for all CTR inorganic priority pollutants until 24 months of temporally representative data are collected are also included. This Order continues the requirement for monthly acute toxicity monitoring and allows for a reduction in sampling frequency should the conditions indicated in Finding 61 be met. Semiannual chronic toxicity sampling has been added to determine compliance with permit requirements. The chlorine monitoring frequency has been changed from daily to hourly when chlorinating.

Basin Plan Discharge Prohibition

67. The Basin Plan (Table 4-1, Item 1) prohibits the discharge of any wastewater that has particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive an initial dilution of at least 10:1. Based on the factors described below, the Board finds that this prohibition does not apply to this discharge, and even if it did, the discharge qualifies for an exception to the prohibition.

    As indicated in the Basin Plan, the Board considers discharges of treated sewage and other discharges where the treatment process is subject to upset to contain particular characteristics of concern. The Basin Plan states: "This prohibition will …. Provide a buffer against the effects of abnormal discharges caused by temporary plant upsets or malfunctions …" The dilution requirement is to provide a contingency in the event of temporary treatment plant malfunction and to minimize public contact with undiluted waste. However this discharge does not contain treated sewage and does not contain wastewater from a treatment process subject to upset. Therefore the prohibition does not apply in this context.

Moreover, virtually all of the once through cooling water discharge consists of Bay water taken from the Bay with minimal characteristics of concern except thermal waste. The water is used for condensing steam through heat exchangers and is returned to the Bay at a temperature higher than that of the intake. The Basin Plan, in addition to requiring that the receiving water temperature not be altered if doing so adversely affect beneficial uses, refers to regulation of thermal waste by the State Thermal Plan (see Finding 16 of this Order). The other characteristics of potential concern are chlorine, pH, and possibly the toxic pollutants copper and mercury. The Discharger has excellent compliance with its permit limits for chlorine and pH, which demonstrates excellent reliability of its treatment system for these parameters. For copper and mercury, this Order requires the Discharger to determine if its processes contribute these pollutants to the discharge. Existing information does not suggest that the discharge is a substantial source of these pollutants. Likewise, data suggest that the plant does not add PCBs or dioxin TEQ to the circulating bay water. If the investigations show that these processes do constitute a substantial source of these pollutants to the Bay and the discharge is effectively wastewater that constitutes a threat to beneficial uses, the Board could consider imposing Prohibition 1, and require an initial 10:1 dilution.

In addition, even if Prohibition 1 did apply, the Basin Plan provides an exception: "Exceptions to Prohibitions 1, ….will be considered where: An inordinate burden would be placed on the discharger relative to beneficial uses protected …." This section further states, "In reviewing requests for exceptions, the Regional Board will consider the reliability of the discharger's system in preventing inadequately treated wastewater from being discharged to the receiving water …." Because the treatment system is extremely reliable, and construction of a deepwater outfall would result in very little benefit, even if Prohibition 1 applied to this discharge, it appropriately qualifies for an exception to the prohibition.

Other Discharge Characteristics and Permit Conditions

68. *O & M Manual.* Operations and Maintenance Manuals and Procedures are maintained by the Discharger for purposes of providing plant and regulatory personnel with a source of information describing all equipment, recommended operation strategies, process control monitoring, and maintenance activities as they pertain to compliance with this permit. In order to remain a useful and relevant document, the manual or procedures shall be kept updated to reflect significant changes in relevant facility equipment and operation practices.

69. *NPDES Permit.* This Order serves as an NPDES Permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code [California Environmental Quality Act (CEQA)] pursuant to Section 13389 of the California Water Code.

70. *Notification.* The Discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided an opportunity to submit their written views and recommendations.

71. *Public Hearing.* The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder, and to the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, that the Discharger shall comply with the following:

A. DISCHARGE PROHIBITIONS

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

2. Discharges of water, materials, or wastes other than storm water, which are not otherwise authorized by an NPDES permit, to a storm drain system or waters of the State are prohibited.

3. There shall be no discharge of polychlorinated biphenyl compounds, such as those commonly used for transformer fluid.

B. EFFLUENT LIMITATIONS

The following effluent limitations apply to effluent discharged to San Francisco Bay:

Conventional Pollutants

1. **Discharge E-001** shall not exceed the following limitations:

   a. The pH of the discharge shall not exceed 8.5 nor be less than 6.5 standard units. If the Discharger employs continuous pH monitoring, the Discharger shall be in compliance with the pH limitation specified herein, provided that both of the following conditions are satisfied:

      (1) The total time during which the pH values are outside the required range shall not exceed 7 hours and 26 minutes in any calendar month.

      (2) No individual excursion from the required range of pH values shall exceed 60 minutes.

   b. Chlorine residual: 0.0 mg/L, as instantaneous maximum.

   c. Temperature Requirement:

      The temperature of the discharge shall not exceed a daily average of 86 degrees F except on days when thermal demusseling occurs. During thermal demusseling, the discharge temperature shall not exceed 100 degrees F for more than four hours or a maximum of 110 degrees F. Thermal demusseling shall not occur more than twice per month for each half condenser.

2. **Discharge E-001C** (Boiler Blowdown) shall not exceed the following limitations:

Constituent	Units	30-Day Average	Maximum Daily
Total Suspended Solids	mg/L	30	100
Oil and Grease	mg/L	10	20

Toxic Pollutants

3. Whole Effluent Acute Toxicity

Representative samples of E-001 shall meet the following limitations for acute toxicity. Compliance with these limitations shall be achieved in accordance with Provision D.10 of this Order.

a. The survival of bioassay test organisms in 96-hour bioassays of undiluted effluent shall be:

(1) an 11-sample median value of not less than 90 percent survival [(b(1))] ; and

(2) an 11-sample 90th percentile value of not less than 70 percent survival [(b(2))] .

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

(1) 11-sample median limit:

Any bioassay test showing survival of 90 percent or greater is not a violation of this limit. 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 fewer bioassay tests also show less than 90 percent survival.

(2) 90th percentile limit:

Any bioassay test showing survival of 70 percent or greater is not a violation of this limit. 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 fewer bioassay tests also show less than 70 percent survival.

(3) If the Discharger demonstrates 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 limit.

c. Bioassays shall be performed using the most up-to-date U.S. EPA 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.

4. Whole Effluent Chronic Toxicity

a. Compliance with the Basin Plan narrative toxicity objective shall be demonstrated according to the following tiered requirements based on results from representative samples of the treated effluent meeting test acceptability criteria and Provision D.11:

(1) Routine monitoring;

(2) Accelerated monitoring after exceeding a three sample median value of 1 chronic toxicity unit (1 TUc)[4] or a single sample maximum of 2 TUc or greater; accelerated monitoring shall be performed on a monthly basis;

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

(4) Initiate approved toxicity identification evaluation/toxicity reduction evaluation (TIE/TRE) work plan if accelerated monitoring confirms consistent toxicity above either "trigger" in "2," above;

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

b. *Test Species and Methods*: The Discharger shall conduct routine monitoring with the most sensitive species determined during the most recent chronic toxicity screening performed by the Discharger and approved by the Executive Officer. Chronic Toxicity Monitoring Screening Phase Requirements, Critical Life Stage Toxicity Tests, and definitions of terms used in the chronic toxicity monitoring are identified in Attachment A of the SMP. The Discharger shall comply with these requirements as applicable to the discharge.

5. Toxic Substances Effluent Limitations

a. The discharge of effluent with constituents at concentrations greater than the limitations shown in Table 4 is prohibited.

Table 4. Effluent Limitations for Toxic Pollutants

	WQBEL		**Interim Limits**			
Constituent	Daily Max	Monthly Average	Daily Maximum	Monthly Average	Units	Notes
Copper	5.8	2.9		8.6	µg/L	(1)(2)(4)
Mercury	0.046	0.018		0.032	µg/L	(1)(3)(4)

Footnotes:

(1) (a) All analyses shall be performed using current USEPA methods, or equivalent methods approved in writing by the Executive Officer.

[4] A TUc equals 100 divided by the no observable effect level (NOEL). The NOEL is determined from IC_{25}, EC_{25}, 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 limitations for chronic toxicity

(b) Limits apply to the average concentration of all samples collected during the averaging period (Daily = 24-hour period; Monthly = calendar month).

(2) Interim limits for copper shall remain in effect until May 18, 2010, or until the Board amends the limits based on site-specific objectives or the Waste Load Allocations in the TMDLs.

(3) Mercury: Effluent mercury monitoring shall be performed by using ultraclean sampling and analysis techniques to the maximum extent practicable, with a minimum level of 0.002 µg/l, or lower. The interim limit for mercury shall remain in effect until April 28, 2010, or until the Board amends the limit based on the Waste Load Allocation in the TMDL for mercury.

(4) As outlined in Section 2.4.5 of the SIP, the following are Minimum Levels that the Discharger shall achieve for pollutants with effluent limits. The table below indicates the highest minimum level that the Discharger's laboratory must achieve for calibration purposes.

Constituent	Minimum Level	Units
Copper	0.5	µg/L
Mercury	0.002	µg/L

b. The discharge of Polychlorinated Biphenyl compounds (PCBs) at concentrations greater than intake concentrations is prohibited.

(1) Intake Water Credit: The Discharger has met the conditions specified in Section 1.4.4, Intake Water Credits, of the SIP. These credits are to offset any concentrations of the pollutant found in the intake water.

(2) Monitoring: The Discharger shall monitor the PCB concentrations in the cooling water at the intake and at the outfall (E-100) on the same day using EPA Method 608. The intake sample shall be collected immediately before the sample from the outfall.

(3) Compliance Evaluation: Compliance shall be evaluated by comparing the sample result from the outfall to the result of the sample taken from the intake on the same day. If the outfall monitoring sample's analytical results indicate that the pollutant concentration is greater that the sample's analytical results at the intake, then the discharge is not in compliance, unless the discharger demonstrates to the satisfaction of the Executive Officer that the difference is within the expected statistical variability of sampling and there is no substantial evidence the discharger's operations have added the pollutant to the effluent.

C. RECEIVING WATER LIMITATIONS

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

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

   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 (except as allowed by this Order), turbidity, or apparent color beyond present natural background levels;

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

   e. Toxic or other deleterious substances present in concentrations or quantities that cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or 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 limitations to be exceeded in waters of the State at any place 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, then the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.

   b. Dissolved Sulfide: 0.1 mg/L, maximum

   c. pH: Variation from normal ambient pH by more than 0.5 pH units

   d. Un-ionized Ammonia: 0.025 mg/L as N, annual median; and

      0.16 mg/L as N, maximum

   e. Nutrients: Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

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

D. PROVISIONS

1. Permit Compliance and Rescission of Previous Waste Discharge Requirements

The Discharger shall comply with all sections of this Order upon the effective date of this Order. At which time the requirements prescribed by this Order supersede the requirements prescribed by Order No. 94-056, and Order No. 94-056 is rescinded.

Special Studies

2. Effluent Characterization for Selected Constituents

The Discharger shall continue to monitor and evaluate the discharge from Outfall E-001 for the constituents listed in Enclosure A of the Board's August 6, 2001 Letter. Compliance with this requirement shall be achieved in accordance with the specifications stated in the Board's August 6, 2001 Letter under Effluent Monitoring for Minor Dischargers. The effluent monitoring (see the SMP) required for specific metals until 24 months of temporally representative data has been taken may be used to fulfill, in part, this effluent characterization requirement.

Reporting: On an annual basis, the Discharger shall summarize the data collected, evaluate the sampling frequency and propose any recommended changes in the SMR annual report submittal. A final report that presents all the data shall be submitted to the Board no later than 180 days prior to the permit expiration date. This final report shall be submitted with the application for permit reissuance.

3. Receiving Water Monitoring

The Discharger shall continue to collect or participate in collecting background ambient receiving water data with other Dischargers and/or through the RMP. This information is required to perform RPA and to calculate effluent limitations. To fulfill this requirement, the Discharger shall submit data sufficient to characterize the concentration of each toxic pollutant listed in the CTR in the ambient receiving water. The data on the conventional water quality parameters (pH, salinity, and hardness) shall also be sufficient to characterize these parameters in the ambient receiving water at a point after the discharge has mixed with the receiving waters. The frequency of the monitoring shall consider the seasonal variability of the receiving water.

Reporting: BACWA submitted a sampling plan dated September 28, 2001, for a collaborative group monitoring program. The Executive Officer conditionally approved this plan in November 2001. An interim report was submitted to the Board on May 15, 2003. The Discharger shall submit a final report that presents all the data to the Board 180 days prior to permit expiration. This final report shall be submitted with the application for permit reissuance. The final report generated from the BACWA study can be used for submission.

4. Mercury Study

The Discharger shall conduct a Mercury Discharge Study to characterize mercury levels in the influent, in internal process waste streams, and in the discharge, and to develop source control measures, if appropriate. A workplan was submitted to the Water Board on February 1, 2006, that included, but is not limited to, mercury levels in the influent (I-001), the effluent (outfall E-001) and boiler blowdown (outfall E-001C). The study shall be

completed no later than May 1, 2007, with quarterly progress reports submitted within the self monitoring reports. If controllable onsite sources of mercury are identified during the course of the study, measures to control releases shall be identified and implemented.

These provisions were described in an Information Requirement Letter (13267 Letter), attached, sent to the discharger in December 2005.

5. Thermal Study and Schedule

The Discharger shall conduct a Thermal Effects Study to characterize the effects of the thermal plume from the discharge on the aquatic habitat and aquatic species and to ensure that the facility is complying with the State Thermal Plan (State Water Board *Water Quality Control Plan for Control of Temperature in the Coastal Interstate Waters and Enclosed Bays and Estuaries of California*, September 18, 1975). Depending on the results of the final study, the Board may amend the permit to modify the temperature requirement.

A draft workplan was submitted to the Water Board on January 13, 2006. A Technical Working Group, including representatives from the National Marine Fisheries Service and the California Department of Fish and Game, will review the workplan and amend it as appropriate. The Discharger will then finalize the Thermal Effects Study workplan. The study will also include a reassessment of the potential impacts from de-musseling operations and shall be completed no later than May 1, 2007, with quarterly progress reports submitted within the self-monitoring reports.

These provisions were described in an Information Requirement Letter (13267 Letter), attached, sent to the Discharger in December 2005.

6. Comprehensive Demonstration Study and Schedule

The Discharger shall conduct studies specified in Code of Federal Regulations, Title 40, Part 125, Subpart J: Requirements Applicable to Cooling Water Intake Structures for Phase II Existing Facilities Under Section 316(b) of the Clean Water Act. Specifically, 40 CFR §125.95: "As an owner or operator of a Phase II existing facility, what must I collect and submit when I apply for my reissued NPDES permit?"

The Discharger submitted a *Proposal for Information Collection* as specified in 40 CFR §125.95(b)(1) to the Board for its review and approval. This Proposal is preliminary to the Comprehensive Demonstration Study (CDS) and it describes what would be gathered for the CDS. The requirements of a CDS are defined in 40 CFR §125.95(b) and further described in the Federal Register Volume 69, No. 131, July 4, 2004.

The CDS shall include an *Impingement Mortality and/or Entrainment Characterization Study*, as described in 40 CFR §125.95(b)(3). The Discharger submitted an Entrainment Characterization Report to the Board on March 21, 2005, which will be reanalyzed, finalized and submitted with the CDS. Impingement studies will commence no later than May 2006, and the studies are estimated to take one year to complete. The results of the Impingement Mortality Study and the results of the 2005 Entrainment Characterization

Study will be submitted in one report by July 30, 2007, pursuant to the 13267 letter. Progress reports shall be submitted to the Board at regular quarterly intervals, within the Self-Monitoring Reports, and at meetings that will be held with the Discharger's technical advisors and Board staff. Draft reports, describing the different elements of the CDS, shall be submitted to the Board between July 30 and September 30, 2007. Board staff may require independent peer review of the findings, particularly in regard to costs and benefits. The complete CDS, incorporating all the appropriate sections of 40 CFR§125.95(b), shall be submitted to the Water Board by November 30, 2007.

These provisions were described in the 13267 letter, attached, sent to the Discharger in December 2005.

7. Intake Water Study and Schedule

The Discharger shall conduct an intake water study to assess the appropriateness of intake water credits. Depending on the results of the final study, the Board may consider intake water credits for the next permit reissuance. An Intake Water Study Plan, shall be submitted to the Executive Officer within three months following the effective date of this Order. The Plan, as approved by the Executive Officer, shall be implemented within sixty days. If within this time period the Executive Officer does not provide comments, the Study Plan shall be deemed approved. Progress reports shall be submitted at least every six months and a final report, acceptable to the Executive Officer and documenting the results of the intake water characterization, shall be submitted not later than December 31, 2008.

8. PCB Stormwater Sediment Study and Schedule

The Discharger shall conduct a Polychlorinated Biphenyl (PCB) Stormwater Study to determine if there is compliance with the prohibition on PCB discharges. Oils containing PCBs were historically used at the facility, and PCB-contaminated soil has been detected and may be in storm drain sediments that could be discharged to the Bay. A workplan was submitted to the Board on February 1, 2006. The study shall be completed no later than May 1, 2007, with quarterly progress reports submitted within the self-monitoring reports.

9. Pollutant Minimization Program (PMP)

a. The Discharger shall develop and conduct, in a manner acceptable to the Executive Officer, a Pollutant Minimization Program in order to reduce pollutant loadings of copper, and mercury to the receiving waters.

b. The Discharger shall submit an annual report, acceptable to the Executive Officer, no later than February 28th of each year. Annual reports shall cover January through December of the preceding year.

Annual report shall include at least the following information:

(i) *A brief description of the facility.*

(ii) *A discussion of the current pollutants of concern.* Periodically, 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.

(iii) *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 water supply and air deposition.

(iv) *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 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.

(v) *Continuation of outreach tasks for employees.* The Discharger shall develop outreach tasks for its employees. The overall goal of this task is to inform employees about the pollutants of concern, potential sources, and how they might be able to help reduce the discharge of pollutants of concern into the facility. The Discharger may provide a forum for employees to provide input to the Program.

(vi) *Discussion of criteria used to measure the Program's and tasks' effectiveness.* The Discharger shall establish criteria to evaluate the effectiveness of its Pollutant 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.(iii), b.(iv), and b.(v).

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

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

(ix) *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 in its effluent.

c. According to Section 2.4.5 of the SIP, when there is evidence that a priority pollutant is present in the effluent above an effluent limitation and either:

(i) A sample result is reported as detected, but not quantified (less than the Minimum Level) and the effluent limitation is less than the reported Minimum Level; or

(ii) A sample result is reported as not detected (less than the Method Detection Limit) and the effluent limitation is less than the Method Detection Limit;

the Discharger shall expand its existing Pollutant Minimization Program to include the reportable priority pollutant.

A priority pollutant becomes a reportable priority pollutant when (1) there is evidence that it is present in the effluent above an effluent limitation and either (c)(i) or (c)(ii) is triggered or (2) the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level.

d. If triggered by the reasons in Provision 9.c. and notified by the Executive Officer, the Discharger's Pollution Minimization Program shall, within 6 months, also include:

(i) 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;

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

(iii) 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;

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

(v) An annual status report that shall be sent to the Board including:

1. All Pollution Prevention monitoring results for the previous year;

2. A list of potential sources of the reportable priority pollutant(s);

3. A summary of all actions undertaken pursuant to the control strategy; and

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

e. To the extent that the requirements of the Pollution Prevention Program and the Pollutant Minimization Program overlap, the Discharger is allowed to continue, modify, or expand its existing Pollution Prevention Program to satisfy the Pollutant Minimization Program requirements.

f. These Pollution Prevention/Pollutant Minimization Program requirements are not intended to fulfill the requirements of the Clean Water Enforcement and Pollution Prevention Act of 1999 (Senate Bill 709).

Toxicity Requirements

10. Whole Effluent Acute Toxicity

Compliance with acute toxicity requirements of this Order shall be achieved in accordance with the following:

a. From permit effective date until not later than June 30, 2007:

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

ii. Test organisms shall be the current testing species.

iii. All bioassays may be performed according to the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms," 5th Edition, with exceptions granted to the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP).

b. As approved by the Board, the Discharger began conducting static renewal instead of flow-through bioassays in June 2005. Since December 2005, the Discharger has concurrently tested topsmelt (*Atherinops affinis*), three-spined stickleback (*Gasterosteus aculeatus*), and speckled sanddab (*Citharichthys stigmaeus*) as part of a sensitivity screening analysis. After sufficient testing, the Discharger shall obtain the approval of the Executive Officer to reduce routine monitoring to one species. If there is no statistical difference in species survival rates, the Discharger has the option to choose either species for future testing.

c. All bioassays shall be performed according to the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms,"(currently 5th Edition), with exceptions granted to the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP).

11. Whole Effluent Chronic Toxicity

The Discharger shall monitor and evaluate the effluent from the plant for chronic toxicity in order to demonstrate compliance with the Basin Plan narrative toxicity objective. Compliance with this requirement shall be achieved in accordance with the following.

a. The Discharger shall conduct routine chronic toxicity monitoring in accordance with the SMP of this Order.

b. If data from routine monitoring exceed either of the following evaluation parameters, then the Discharger shall conduct accelerated chronic toxicity monitoring. Accelerated monitoring shall be performed on a monthly basis.

c. Chronic toxicity evaluation parameters:

(1) A three sample median value of 1 TU_c; and

(2) A single sample maximum value of 2 TU_c.

(3) These parameters are defined as follows:

(a) Three-sample median: A test sample showing chronic toxicity greater than 1 TU_c represents an exceedance of this parameter, if one of the past two or fewer tests also show chronic toxicity greater than 1 TU_c.

(b) TU_c (chronic toxicity unit): A TU_c equals 100/NOEL (e.g., If NOEL = 100, then toxicity = 1 TUc). NOEL is the no observed effect level determined from IC_{25}, EC_{25}, or NOEC values.

(c) The terms IC, EC, NOEL and NOEC and their use are defined in **Attachment A** of the Self-Monitoring Program (SMP).

d. If data from accelerated monitoring tests are found to be in compliance with the evaluation parameters, then routine monitoring shall be resumed.

e. If accelerated monitoring tests continue to exceed either evaluation parameter, then the Discharger shall initiate a chronic toxicity reduction evaluation (TRE).

f. The TRE shall be conducted in accordance with the following:

(1) The Discharger shall prepare and submit to the Board for Executive Officer approval a TRE workplan. An initial generic workplan shall be submitted within 120 days of the date of adoption of this Order. The workplan shall be reviewed and updated as necessary in order to remain current and applicable to the discharge and discharge facilities.

(2) The TRE shall be initiated within 30 days of the date of completion of the accelerated monitoring test observed to exceed either evaluation parameter.

(3) The TRE shall be conducted in accordance with an approved workplan.

(4) The TRE needs to be specific to the discharge and Discharger facility, and may be in accordance with current technical guidance and reference materials including U.S. EPA guidance materials. TRE should be conducted as a tiered evaluation process, such as summarized below:

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

(b) Tier 2 consists of evaluation of optimization of the process including operation practices, and in-plant process chemicals.

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

(d) Tier 4 consists of evaluation of options for additional effluent processes.

(e) Tier 5 consists of evaluation of options for modifications of in-plant processes.

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

(5) The TRE may be ended at any stage if monitoring finds there is no longer consistent toxicity.

(6) 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 should be employed.

(7) 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.

(8) Many recommended TRE elements parallel required or recommended efforts of source control, pollution prevention and stormwater 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.

(9) The 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 Board will be based in part on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.

g. Chronic Toxicity Monitoring Screening Phase Requirements, Critical Life Stage Toxicity Tests and definitions of terms used in the chronic toxicity monitoring are identified in **Attachment A** of the SMP. The Discharger shall comply with these requirements as applicable to the discharge.

12. Optional Mass Offset

The Discharger may submit to the Board for approval a mass offset plan to reduce 303(d)-listed pollutants to the same watershed or drainage basin. The Board may modify this Order to allow an approved mass offset program.

Facilities Status Reports and Permit Administration

13. Operations and Maintenance Manual, Review and Status Reports

The Discharger shall maintain Operations and Maintenance Manuals (O & M Manuals) as described in the findings of this Order for the Discharger's facilities. The O & M Manuals shall be maintained in useable condition, and available for reference and use by all applicable personnel.

a. The Discharger shall regularly review, and revise or update as necessary, the O & M Manual(s) in order for the document(s) to 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 facility equipment or operation practices, applicable revisions shall be completed within 90 days of completion of such changes.

b. The Discharger shall provide the Executive Officer, upon his or her 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 O & M Manual.

14. Contingency Plan, Review and Status Reports.

a. The Discharger shall maintain a Contingency Plan as required by Board Resolution 74-10 (attached), and as prudent in accordance with current 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.

b. The Discharger shall regularly review, and update as necessary, the Contingency Plan in order for the plan to remain useful and relevant to current equipment and operation practices. Reviews shall be conducted annually, and updates shall be completed as necessary.

c. The Discharger shall provide the Executive Officer, upon his or her request, a report describing the current status of its Contingency Plan, 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 Contingency Plan.

15. New Water Quality Objectives

As new or revised water quality objectives come into effect for the Bay and contiguous water bodies (whether statewide, regional or site-specific), effluent limitations in this Order will be modified as necessary to reflect updated water quality objectives. Adoption of effluent limitations contained in this Order are not intended to restrict in any way future modifications based on legally adopted water quality objectives.

16. Self-Monitoring Program

The Discharger shall comply with the Self-Monitoring Program (SMP) for this Order as adopted by the Board. Self-Monitoring Reports (SMRs) shall be received by the Board no later than 45 days after the end of the reporting month. The SMP may be amended by the Executive Officer pursuant to U.S. EPA regulations 40 CFR122.63.

17. Standard Provisions and Reporting Requirements

The Discharger shall comply with all applicable items of the *Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits, August 1993* (attached), or any amendments thereafter. Where provisions or reporting requirements specified in this Order are different from equivalent or related provisions or reporting requirements given in "Standard Provisions," the specifications of this Order shall apply.

18. Permit Reopener

The Board may modify, or revoke and reissue, this Order and Permit if present or future investigations demonstrate that the discharge(s) governed by this Order will or have the potential to cause or contribute to adverse impacts on water quality and/or beneficial uses of the receiving waters.

19. NPDES Permit Effective Date

This Permit is effective starting on July 1, 2006. This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) permit pursuant to Section 402 of the Clean Water Act or amendments thereto provided the U.S. EPA Regional Administrator has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

20. Order Expiration and Reapplication

a. This Order expires on June 30, 2011.

b. In accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code, the Discharger must file a report of waste discharge no later than 180 days before the expiration date of this Order as application for reissue of this permit and waste discharge requirements. The application shall be accompanied by a summary of all available water quality data including conventional pollutant data from no less than the most recent three years, and of toxic pollutant data no less than from the most recent five years, in the discharge and receiving water. Additionally, the Discharger must include with the application the final results of any studies that may have bearing on the limitations and requirements of the next permit. Such studies include dilution studies, translator studies and alternate bacteria indicator studies, and whole effluent toxicity (acute and/or chronic) screening studies.

21. Change in Control or Ownership

a. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Board.

b. To assume responsibility of operations under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order (see Standard Provisions and Reporting Requirements, August 1993, Section E.4). Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on May 10, 2006.

BRUCE H. WOLFE
Executive Officer

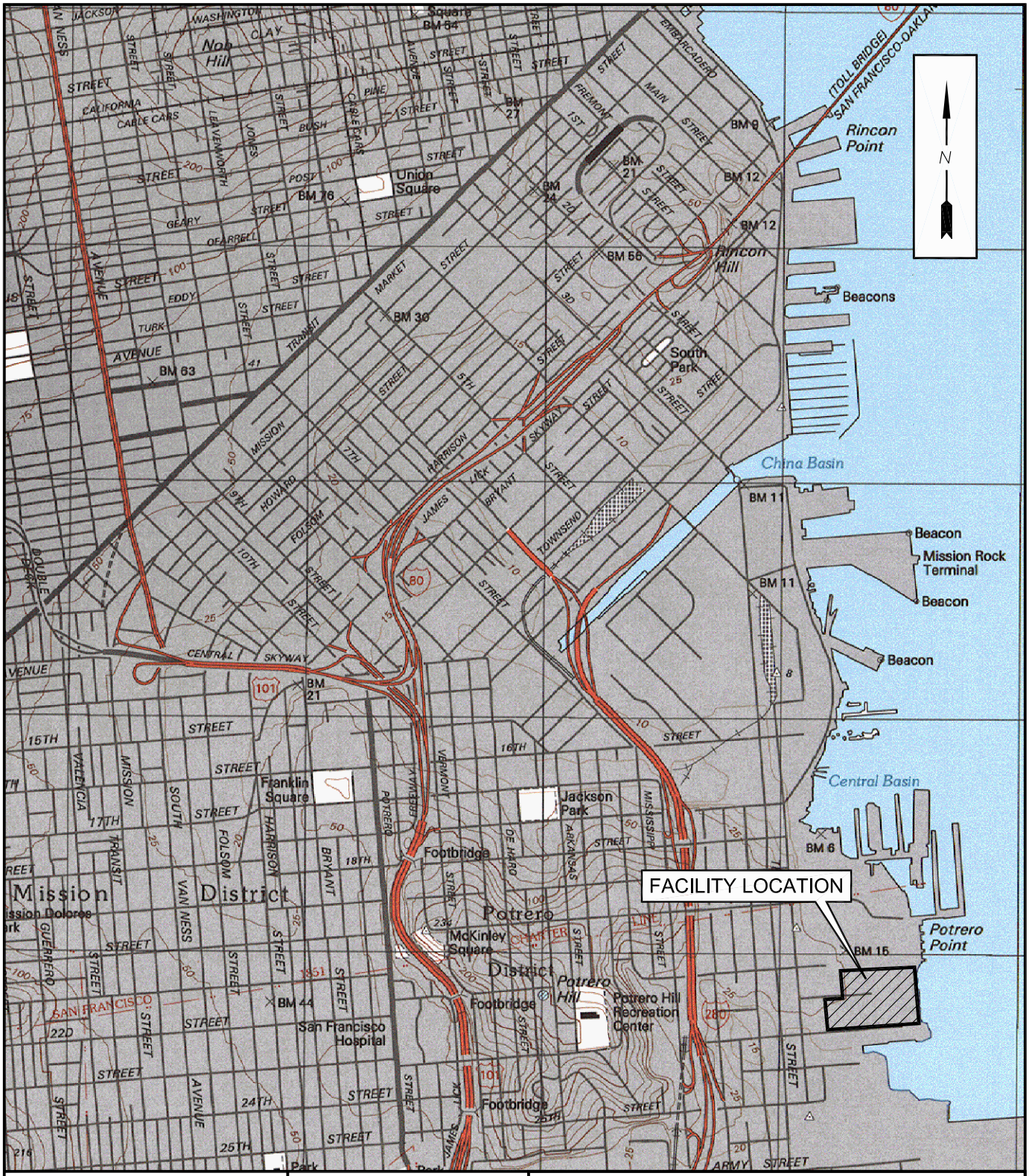
Attachments:

A. Discharge Facility Location Map
B. Discharge Facility Process Diagrams
C. Self Monitoring Program, Part B
D Information Requirement Letter (13267 Letter) December 2005
E. Fact Sheet
F. The following documents are part of this Permit, but are not physically attached due to volume. They are available on the web at: www.waterboards.ca.gov/sanfranciscobay/Download.htm or http://www.geotracker.waterboards.ca.gov/reports/site_documents.asp?global_id=SL18380800&assigned_name=SLICSITE

- Self-Monitoring Program, Part A (August 1993)
- Standard Provisions and Reporting Requirements, August 1993
- Regional Water Board Resolution No. 74-10
- August 6, 2001 Regional Water Board staff letter, "Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy"

Attachment A

Discharge Facility Location Map



SCALE:

0 2000

FEET

SOURCE:

U.S.G.S. QUAD SHEET
SAN FRANCISCO NORTH, CA
PHOTOREVISED 1980

MIRANT

FACILITY LOCATION MAP

Potrero Power Plant

Mirant Potrero, LLC

1201-A Illinois Street, San Francisco, California 94107

November 2003

Figure **1**

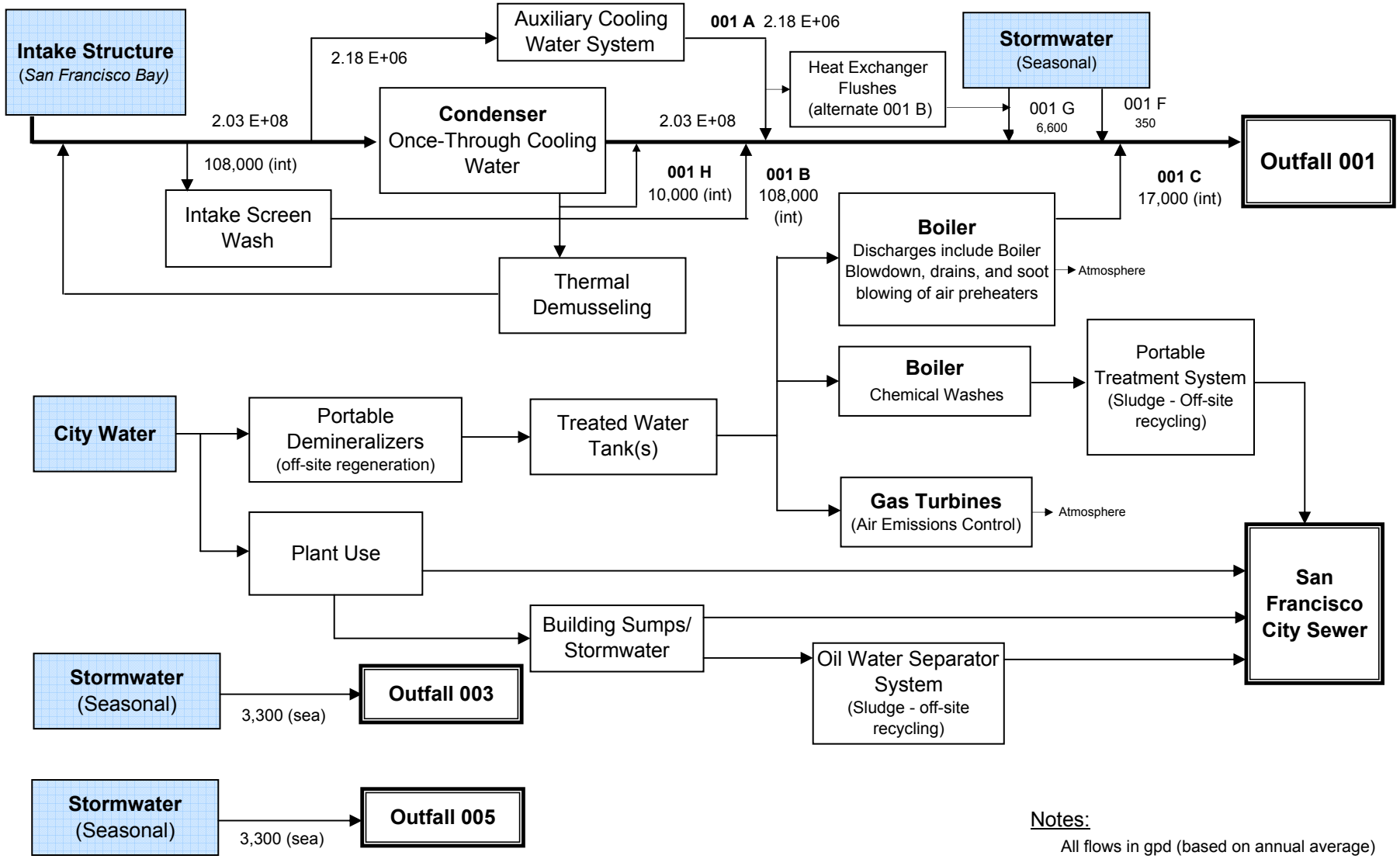
Attachment B

Discharge Facility Process Diagram

Water Flow Schematic

Potrero Power Plant

NPDES Permit CA0005657



Notes:

All flows in gpd (based on annual average)

(int) = intermittent flows

(sea) = seasonal flows

Attachment C

Self-Monitoring Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN FRANCISCO BAY REGION

TENTATIVE SELF-MONITORING PROGRAM

FOR

MIRANT POTRERO, LLC

POTRERO POWER PLANT

SAN FRANCISCO

SAN FRANCISCO COUNTY

NPDES PERMIT NO. CA0005657

ORDER NO. R2-2006-00XX

Consists of:

Part A (not attached)

August 1993

and

Part B (Attached)

Adopted: XXXX

CONTENTS:

I. DESCRIPTION of SAMPLING and OBSERVATION STATIONS

NOTE: A sketch showing the locations of all sampling and observation stations shall be included in the Annual Report, and in the monthly report if stations change.

Station Description

A. INFLUENT

I-001 At any point in the influent stream prior to the condensers and upstream of any treatment where representative samples can be obtained.

B. EFFLUENT

E-001 Combined Discharge From Unit 3

At any point after which once-through cooling water and low volume wastes are combined and the point of discharge to San Francisco Bay

E-001C Boiler Blowdown

At any point in the boiler blowdown waste stream from Unit 3 prior to mixing with once-through cooling water.

II. SCHEDULE of SAMPLING, ANALYSES and OBSERVATIONS

The schedule of sampling, analysis and observation shall be that given in Table 1 below.

Table 1. Schedule Of Sampling, Analyses And Observations [1]

Sampling Station			**I-001**		**E-001**		**E-001C**	
			Influent		**Effluent**		**Boiler Blowdown**	
Type of Sample:			**G**	**C-24**	**G**	**C-24**	**G**	**C-24**
Parameter	**Units**	**Notes**						
Flow Rate	MGD	[2]		Cont/D		Cont/D		
pH	Standard units				W			
Temperature	^{o}C and ^{o}F			Cont/D		Cont/D		
Dissolved Oxygen (D.O.)	mg/L				W			
Total Suspended Solids	mg/L						M	
Oil & Grease	mg/L	[3]					M	
Chlorine Residual	mg/L	[4]			H, when chlorinating			
Chronic Toxicity	% Survival	[5]				2/Y		

Sampling Station			**I-001**		**E-001**		**E-001C**	
			Influent		**Effluent**		**Boiler Blowdown**	
Type of Sample:			**G**	**C-24**	**G**	**C-24**	**G**	**C-24**
Parameter	**Units**	**Notes**						
Acute Toxicity	% Survival	[6]				M		
Copper	µg/L & kg/mo		M		M			
Mercury	µg/L & kg/mo	[7]	M		M		[7]	
Dioxin TEQ	pg/L	[8]	2/Y		2/Y			
Bis(2-ethylhexyl) Phthalate	µg/L	[9]	2/Y		2/Y			
Selected Metal Constituents (except those specified above)	µg/L or ppb	[10]	2/Y		2/Y			
PCBs	µg/L	[11]	2/Y		2/Y			
Selected Constituents (except those listed above)		As specified in Table 1 of August 6, 2001 letter						

LEGEND FOR TABLE 1

Sampling Stations:
I = facility influent
E = facility effluent

Types of Samples:
G = grab
C-24= composite sample, 24 hours (includes continuous sampling, such as for flows)

Frequency of Sampling:
Cont/D = continuous monitoring & daily reporting

H = once each hour (at hourly intervals)
M = once each month
W = once each week
2/Y = twice each calendar year (at about 6-months intervals)

Parameter and Unit Abbreviations:
mgd = million gallons per day
mg/L = milligrams per liter
µg/L = micrograms per liter
ppb = parts per billion
kg/mo = kilograms per month
pg/L = picograms per liter

FOOTNOTES FOR TABLE 1

[1] Additional details regarding sampling, analyses and observations are given in Section VI of this SMP, *Specifications for Sampling, Analyses and Observations* (SMP Section VI).

[2] Flow Monitoring.
Flow monitoring indicated as continuous monitoring in Table 1 shall be conducted by continuous measurement or calculation of flows, and reporting of the following measurements:

Influent (I-001), and Effluent (E-001):

a. Daily: (1) Average Daily Flow (mgd)
(2) Maximum Daily Flow (mgd)
(3) Minimum Daily Flow (mgd).
b. Monthly: The same values as given in a. above, for the calendar month.

[3] Oil & Grease Monitoring
Each Oil & Grease sample 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. The grab samples shall be mixed in proportion to the instantaneous flow rates occurring at the time of each grab sample, within an accuracy of plus or minus 5 %. 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] Chlorine residual: Monitor dechlorinated effluent at a minimum, every hour, when conducting the chlorination. Report, on a daily basis, both maximum and minimum concentrations, for samples taken both prior to, and following dechlorination. Report each non-zero residual event along with the cause and corrective actions taken. Total chlorine dosage (kg/day) shall be recorded on a daily basis.

[5] Critical Life Stage Toxicity Test shall be performed and reported in accordance with the Chronic Toxicity Requirements specified in Sections V and VI of the Self-Monitoring Program contained in this Order.

[6] Acute toxicity shall be measured with flow-through bioassays. Effluent used for fish bioassays must be dechlorinated prior to testing. Monitoring of the bioassay water shall include, on a daily basis, the parameters specified in the U.S. EPA-approved method, such as pH, dissolved oxygen, ammonia nitrogen, and temperature. These results shall be reported. If the fish survival rate in the effluent is less than 70 percent 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 as soon as practicable until compliance is demonstrated. If there are no violations after one year of monthly acute toxicity testing after the Discharger switches to the U.S. EPA 5th Edition, acute toxicity testing frequency may be changed to quarterly, upon approval by the Executive Officer. After any change to quarterly monitoring the monitoring frequency will return to monthly if either: (1) acute toxicity is observed in violation of the permit limitations or (2) changes occur in the volume or characteristics of the effluent that might cause acute toxicity. Monthly monitoring is then required until three consecutive months without violation of the acute toxicity limitations. (See Finding 61 of the permit).

[7] 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 use alternative methods of analysis (such as U.S. EPA 245), if that alternative method has an ML of 2 ng/L or less. Sampling for boiler blowdown should be consistent with the Discharger's Mercury Study as specified in Provision D.4 of the NPDES permit.

[8] Chlorinated dibenzodioxins and chlorinated dibenzofurans shall be analyzed using the latest version of U.S. EPA Method 1613; the analysis shall be capable of achieving one-half of the U.S EPA MLs. In addition, the Discharger shall participate as appropriate the regional collaborative effort to validate the 4-liter sample methodology for lowering the detection limit for dioxins. At a minimum, the Discharger is required to monitor twice a year for the life of this Order. Alternative methods of analysis must be approved by the Executive Officer.

[9] Monitoring for Bis(2ethylhexyl)Phthalate may be terminated by the Executive Officer after 4 monitoring events if it is not observed in the effluent and the Discharger continues to demonstrate that there are no sources of this pollution at the facility.

[10] Semi-annually conduct influent and effluent monitoring for silver, arsenic, beryllium, cadmium, chromium, copper, nickel, lead, antimony, selenium, thallium, and zinc. until a total of 24 months of temporally representative data unimpacted by saline-matrix interference is collected.

[11] EPA Method 608. The Discharger shall collect monthly samples at both the influent and effluent station for PCBs during first year of the effective date of this Self-Monitoring Program, after which the minimum frequency shall be as specified in the Table 1, above.

Table 2 lists the MLs (SIP) of the priority constituents included in Table 1. For compliance monitoring, 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 the MLs given below. All MLs are expressed as µg/L, approximately equal to parts per billion (ppb).

Table 2. Minimum Levels (µg/l or ppb)

CTR #	Constituent [1]	Types of Analytical Methods [2]											
		GC	GC MS	LC	Color	FAA	GF AA	ICP	ICP MS	SPG FAA	HYD RIDE	CV AA	DCP
6.	Copper [3]					25	5	10	0.5	2			1000
8.	Mercury [4]								0.5			0.2	

FOOTNOTES FOR TABLE 2

[1] According to the SIP, method-specific factors (MSFs) can be applied. In such cases, this additional factor must be applied in the computation of the reporting limit. Application of such factors will alter the reported ML (as described in section 2.4.1). Dischargers are to instruct laboratories to establish calibration standards so that the ML value is the lowest calibration standard. At no time is the discharger to use analytical data derived from the extrapolation beyond the lowest point of the calibration curve.

[2] Laboratory techniques are defined as follows: GC = Gas Chromatography; GCMS = Gas Chromatography/Mass Spectrometry; LC = High Pressure Liquid Chromatography; Color = Colorimetric; FAA = Flame Atomic Absorption; GFAA = Graphite Furnace Atomic Absorption; Hydride = Gaseous Hydride Atomic Absorption; CVAA = Cold Vapor Atomic Absorption; ICP = Inductively Coupled Plasma; ICPMS = Inductively Coupled Plasma/Mass Spectrometry; SPGFAA = Stabilized Platform Graphite Furnace Atomic Absorption (i.e. EPA 200.9); DCP = Direct Current Plasma.

[3] For copper, the Discharger may also use the following laboratory techniques with the relevant minimum level: GFAA with a minimum level of 5 µg/L and SPGFAA with a minimum level of 2 µg/L.

[4] Use ultra-clean sampling (EPA 1669) to the maximum extent practicable, and ultra-clean analytical methods (EPA 1631) for mercury monitoring. The Discharger may use alternative methods of analysis (such as EPA 245), if that alternate method has a Minimum Level of 2 ng/l or less.

III. REPORTING REQUIREMENTS

A. If any discrepancies exist between Part A and Part B of the SMP, Part B prevails.

B. Sections C.3. and C.5. are satisfied by participation in the Regional Monitoring Program.

C. Modify Section F.4 as follows:

Self-Monitoring Reports

For each calendar month, a self-monitoring report (SMR) shall be submitted to the Board in accordance with the requirements listed in Self-Monitoring Program, Part A. The purpose of the report is to document performance, effluent quality and compliance with waste discharge requirements prescribed by this Order, as demonstrated by the monitoring program data and the Discharger's operation practices. The report shall be submitted to the Board 45 days after the reporting period ends.

[And add at the end of Section F.4 the following:]

g. The Discharger has the option to submit all monitoring results in an electronic reporting format approved by the Executive Officer. The ERS format includes, but is not limited to, a transmittal letter, summary of violation details and corrective actions, and transmittal receipt. If there are any discrepancies between the ERS requirements and the "hard copy" requirements listed in the SMP, then the approved ERS requirements supercede.

D. Add at the end of Section F.5, Annual Reporting, the following:

d. A plan view drawing or map showing the Discharger's facility, flow routing and sampling and observation station locations.

E. Amend Section E as Follows:

Recording Requirements – Records to be Maintained

Written reports, electronic records, strip charts, equipment calibration and maintenance records, and other records pertinent to demonstrating compliance with waste discharge requirements including SMP requirements, shall be maintained by the Discharger in a manner and at a location (e.g., plant or Discharger offices) such that the records are accessible to Board staff. These records shall be retained by the Discharger for a minimum of 3 years. The minimum period of retention shall be extended during the course of any unresolved litigation regarding the subject discharges, or when requested by the Board or by the Regional Administrator of U.S. EPA, Region IX. More detail on such records is outlined in Part A of the SMP.

IV. ADDITIONS TO PART A OF SELF-MONITORING PROGRAM

Reporting Data in Electronic Format:

The Discharger has the option to submit all monitoring results in electronic reporting format approved by the Executive Officer. If the discharger chooses to submit the SMRs electronically, the following shall apply:

a. *Reporting Method:* The discharger shall submit SMRs electronically via the process approved by the Executive Officer in a letter dated December 17, 1999, Official Implementation of Electronic Reporting System (ERS).

b. *Modification of reporting requirements:* Reporting requirements F.4 in the attached *Self-Monitoring program, Part A*, dated August 1993, shall be modified as follows. In the future, the Board intends to modify Part A to reflect these changes.

c. *Monthly Report Requirements:* For each calendar month, a self-monitoring report (SMR) shall be submitted to the Board in accordance with the following:

i. The report shall be submitted to the Board no later than the first day of the second month after the reporting period ends.

ii. *Letter of Transmittal*: Each report shall be submitted with a letter of transmittal. This letter shall include the following:

(1) Identification of all violations of effluent limits or other discharge requirements found during the monitoring period;

(2) Details of the violations: parameters, magnitude, test results, frequency, and dates;

(3) The cause of the violations;

(4) Discussion of corrective actions taken or planned to resolve violations and prevent recurrence, and dates or time schedule of action implementation. If previous reports have been submitted that address corrective actions, reference to such reports is satisfactory;

(5) Signature: The letter of transmittal shall be signed by the discharger's principal executive officer or ranking elected official, or duly authorized representative, and shall include the following certification statement:

"I certify under penalty of law that this document and all attachments have been prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. 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."

(6) Compliance evaluation summary: Each report shall include a compliance evaluation summary. This summary shall include the number of samples in violation of applicable effluent limits.

(7) Results of analyses and observations.

(8) Tabulations of all required analyses and observations, including parameter, sample date, sample station, and test result.

(9) If any parameter is monitored more frequently than required by this permit and SMP, the results of this additional monitoring shall be included in the monitoring report, and the data shall be included in data calculations and compliance evaluations for the monitoring period.

(10) Calculations for all effluent limits that require averaging of measurements shall utilize an arithmetic mean, unless specified otherwise in this permit or SMP.

V. CHRONIC TOXICITY MONITORING REQUIREMENTS

A. Test Species and Frequency: The Discharger shall collect 24-hour composite samples at E-001 on consecutive days for critical life stage toxicity testing as indicated below:

Test Species	Frequency
Macrocystis pyrifera	twice per year

If the Discharger uses two more species, after at least twelve test rounds, the Discharger may request the Executive Officer to decrease the required frequency of testing, and/or to reduce the number of compliance species to one. Such a request may be made only if toxicity exceeding the TUc values specified in the effluent limitations was never observed using that test species.

B. Conditions for Accelerated Monitoring: The Discharger shall accelerate the frequency of monitoring to monthly, or as otherwise specified by the Executive Officer, after exceeding a three sample median value of 1 TUc[5] or a single sample maximum of 2 TUc.

C. Methodology: Sample collection, handling and preservation shall be in accordance with U.S. EPA protocols. The test methodology used shall be in accordance with the references cited in the Permit, or as approved by the Executive Officer. A concurrent reference toxicant test shall be performed for each test.

D. Dilution Series: The Discharger shall conduct tests at 100%, 50%, 25%, 12.5%, and 6.25%. The "%" represents percent effluent as discharged.

VI. CHRONIC TOXICITY REPORTING REQUIREMENTS

A. Routine Reporting: Toxicity test results for the current reporting period shall include the following, 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] The detection limit (DL) of the chronic toxicity test is determined by the highest percent of effluent to be used. For example, with 100% effluent, the DL is 1 TUc (1/100%).

5. NOEC value(s) in percent effluent
6. IC_{15}, IC_{25}, IC_{40}, and IC_{50} values (or EC_{15}, EC_{25} ... etc.) in percent effluent
7. TUc values (100/NOEC, $100/IC_{25}$, and $100/EC_{25}$)
8. Mean percent mortality ($\pm$ s.d.) after 96 hours in 100% effluent
9. NOEC and LOEC values for reference toxicant test(s)
10. IC_{50} or EC_{50} value(s) for reference toxicant test(s)
11. Available water quality measurements for each test (i.e., pH, D.O., temperature, conductivity, hardness, salinity, ammonia)

B. Compliance Summary: The results of the chronic toxicity testing shall be provided in the most recent 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 the items listed above under VI. A, item numbers 1, 3, 5, 6(IC_{25} or EC_{25}), 7, and 8.

VII. MISCELLANEOUS REPORTING

A. The Discharger shall retain and submit (when required by the Executive Officer) the following information concerning the monitoring program for organic and metallic pollutants:

1. Description of sample stations, times, and procedures.

2. Description of sample containers, storage, and holding time prior to analysis.

3. Quality assurance procedures together with any test results for replicate samples, sample blanks, and any quality assurance tests, and the recovery percentages for the internal surrogate standard.

B. The Discharger shall submit in the monthly SMR the metallic and organic test results together with the detection limits (including unidentified peaks) and MLs. All unidentified (non-Priority Pollutant) peaks detected in the U.S. EPA 624, 625 test methods shall be identified and semi-quantified. Hydrocarbons detected at <10 μg/L based on the nearest internal standard may be appropriately grouped and identified together as aliphatic, aromatic, and unsaturated hydrocarbons. All other hydrocarbons detected at >10 μg/L based on the nearest internal standard shall be identified and semi-quantified.

VIII. SELECTED CONSTITUENTS MONITORING

A. Effluent monitoring shall include evaluation for all constituents listed in Table 1 by sampling and analysis of final effluent.

B. 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 WQOs.

IX. MONITORING METHODS AND MINIMUM DETECTION LEVELS

The Discharger may use the methods listed in Table 2, above, or alternative test procedures that have been approved by the U.S. EPA Regional Administrator pursuant to 40 CFR 136.4 and 40 CFR 136.5 (revised as of May 14, 1999).

X. SELF-MONITORING PROGRAM CERTIFICATION

I, Bruce H. Wolfe, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Board Order No. R2-2006-00XX.

2. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the Discharger, and revisions will be ordered by the Executive Officer.

3. Is effective as of July 1, 2006

_____

BRUCE H. WOLFE
Executive Officer

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 U.S. EPA'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 Tables 1 and 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 Table 3 (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.

C. The Discharger shall submit a screening phase proposal to the Executive Officer for approval. The proposal shall address each of the elements listed above.

Table A. 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	*(Crassostrea gigas)*	Abnormal shell development;	48 hours	2
Mussel	*(Mytilus edulis)*	Percent survival		
Echinoderms				
urchins	*(Strongylocentrotus purpuratus, S. franciscanus)*	Percent fertilization	1 hour	2
sand dollar	*(Dendraster excentricus)*			
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.

Table B. 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.

Table C. 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 D

Information Requirement Letter (13267 Letter) December 2005

California Regional Water Quality Control Board
San Francisco Bay Region

Alan C. Lloyd, Ph.D.
Agency Secretary

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

Arnold Schwarzenegger
Governor

December 21, 2005
File No: 2169.6025 (DW)
38S0038 (DW)

Mirant Potrero, LLC
Attn.: Ron Kino (Ronald.kino@mirant.com)
Director of EH & S
1201-A Illinois Street
San Francisco, CA 94107

SUBJECT: Mirant Potrero Power Plant Permit Reissuance - Requirement for Technical Reports on Intake Studies and Discharge Studies

Dear Mr. Kino:

This letter requires that you submit technical reports on Intake Studies and Discharge Studies for the subject power plant. As explained below, this information is needed to supplement your NPDES Permit Renewal Application.

Background
Electric power has been generated at this site since the early 1900s. Currently the power plant consists of a 206-MW steam turbine unit (known as Unit 3) and three 52-MW combustion turbine units (known as Units 4, 5 and 6). Unit 3, fueled by natural gas, serves intermediate loads and Units 4, 5 and 6, fueled by oil, are used primarily to serve peaking loads.

Up to 226 million gallons per day of water are pumped from the Bay for condensing steam and cooling water through heat exchangers for the Unit 3 generating plant. The water is drawn through an intake structure near the northeast corner of the site. It is discharged through a shoreline outfall located south of the intake and directly east of Unit 3.

An NPDES permit was issued to this facility on May 18, 1994, Order No. 94-056. It specified all the conditions for the intake and discharge of water. Since the conditions for this permit had not significantly changed, this Order was administratively extended via letter on April 20, 1999, to be in effect until May 18, 2004. On November 17, 2003, Mirant Potrero LLC submitted an NPDES Permit Renewal Application for the Potrero Power Plant. Water Board staff acknowledged that the application was complete on December 29, 2003, and subsequently responded with a draft NPDES Permit in July 2004. This letter was followed by a Tentative Order, NPDES Permit No. CA0005657, that was circulated on November 15, 2004. This Tentative Order was significantly more detailed than the 1994 Order.

The Tentative Order was subject to extensive comment from individuals and community groups in the neighborhood of the plant, from organizations concerned with the impacts on the operations on marine life (both from the intake of cooling water and other releases from the plant), and from parties interested in replacing this power plant with a new generation facility.

Interest groups commented on several parts of the Tentative Order, including the potential impacts of discharges from the plant to the Bay. The main concern was that information required under new Clean Water Act regulations [known as Phase II of section 316(b)] that established performance standards for cooling water intake structures had not been adequately addressed. These performance standards were adopted as federal regulations on September 7, 2004. The regulations require that the permit applicant describe how specified reductions in adverse environmental impacts caused by the impingement of marine organisms on cooling water intake structures and the entrainment of marine organisms through the cooling system would be met.

The regulations define the components of a *Comprehensive Demonstration Study* (CDS) that specify how reductions in adverse environmental impact are to be achieved. Without this study and other information on the impacts of discharges to surface water, the NPDES permit for this site would only specify preliminary requirements. Instead:

You are required to submit technical reports containing the following information:
(1) Studies specified in Code of Federal Regulations, Title 40, Part 125, Subpart J: Requirements Applicable to Cooling Water Intake Structures for Phase II Existing Facilities Under Section 316(b) of the Clean Water Act. Specifically, 40 CFR§125.95, "As an owner or operator of a Phase II existing facility, what must I collect and submit when I apply for my reissued NPDES permit?"

Submit a *Proposal for Information Collection* as specified in 40 CFR §125.95(b)(1) to the Water Board by February 17, 2006. This Proposal is preliminary to the CDS and it describes what would be gathered for the CDS. The requirements of a CDS are defined in 40 CFR §125.95(b) and further described in the Federal Register Volume 69, No. 131, July 4, 2004. The Water Board will review and approve, as appropriate, the proposal, within 60 days of receipt.

The CDS shall include an *Impingement Mortality and/or Entrainment Characterization Study*, as described in 40 CFR §125.95(b)(3). An Entrainment Characterization Report was submitted to the Water Board on March 21, 2005. Impingement studies will commence no later than April 2006, and we estimate the studies will take one year to complete. The Impingement Mortality Study, which will incorporate the Entrainment Characterization Report, shall be submitted by July 30, 2007. Progress reports shall be submitted to the Water Board at regular quarterly intervals, within the Self-Monitoring Reports, and at meetings that will be held with your technical advisors and Water Board staff. Draft reports, describing the different elements of the CDS, shall be submitted to the Water Board between July 30 and September 30, 2007. Water Board staff will likely require independent peer review of your findings, particularly in regard to costs and benefits. The complete CDS, incorporating all the appropriate sections of 40 CFR§125.95(b), shall be submitted to the Water Board by November 30, 2007.

(2) A Polychlorinated Biphenyl (PCB) Stormwater Study, to determine if there is compliance with the prohibition on PCB discharges. Oils containing PCBs were historically used at the facility, and PCB contaminated soil has been detected and may be in storm drain sediments that could be discharged to the Bay. A workplan shall be submitted to the Water Board by February 1, 2006, that will include sampling from catch basins leading to outfalls E-001, E-003 and E-005. Analysis of the samples shall include, as appropriate, the low level PCB analysis described by US EPA Method 1668. The study shall be completed within 12 months (but no later than May 1, 2007) from the date of approval of the workplan by the Water Board, with quarterly progress reports submitted to the Water Board at regular intervals.

(3) A Mercury Discharge Study to characterize mercury levels in the influent, in internal process waste streams, in the discharge, and to develop source control measures, if appropriate. A workplan shall be submitted to the Water Board by February 1, 2006, that will include, but not be limited to, mercury levels in the influent (I-001), the effluent (outfall E-001) and in boiler blowdown (outfall E-001C). The study shall be completed within 12 months (but no later than May 1, 2007) from the date of approval of the workplan by the Water Board, with quarterly progress reports submitted at regular intervals. If controllable onsite sources of mercury are identified during the course of the study, measures to control releases shall be identified and implemented.

(4) A Thermal Effects Study, to characterize the effects of the thermal plume from the discharge on the aquatic habitat and aquatic species and to ensure that the facility is complying with the State Thermal Plan (State Water Board *Water Quality Control Plan for Control of Temperature in the Coastal Interstate Waters and Enclosed Bays and Estuaries of California*, September 18, 1975). A draft workplan shall be submitted to the Water Board by January 13, 2006. After Mirant submits its draft workplan, a Technical Working Group, including representatives from the National Marine Fisheries Service and the California Department of Fish and Game, will review the workplan and amend as appropriate. Mirant will then finalize the Thermal Effects Study workplan. The study will also include a reassessment of the potential impacts from de-musseling operations and shall be completed in 12 months (but no later than May 1, 2007) from the date of approval of the workplan by Water Board staff, with quarterly progress reports submitted at regular intervals.

These information requirements were indicated in the Tentative Order circulated on November 15, 2004. The time allowed for the submission of the Sub-part J information is consistent with the Supplementary Information to the regulations (Federal Register, Vol. 69, No.131, Friday July 9, 2004, p. 41631).

This requirement for technical reports is made pursuant to Water Code §13267, which allows the Water Board to require technical reports from persons whose activities may have an impact on water quality. The attachment provides additional information about §13267 requirements.

If you have any questions, please contact Derek Whitworth of my staff at (510) 622 2349 [e-mail dwhitworth@waterboards.ca.gov].

Sincerely,

Bruce H. Wolfe
Executive Officer

Attachment
13267 Fact Sheet
Cc Mailing list

Attachment E

Fact Sheet

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
1515 CLAY STREET, SUITE 1400
OAKLAND, CA 94612
(510) 622-2300 Fax: (510) 622-2460

FACT SHEET
for

NPDES PERMIT AND WASTE DISCHARGE REQUIREMENTS FOR

POTRERO POWER PLANT
MIRANT POTRERO, LLC.
SAN FRANCISCO COUNTY

NPDES PERMIT NO. CA0005657
ORDER NO. R2-2006-00XX

PUBLIC NOTICE:

Written Comments

- Interested persons are invited to submit written comments concerning this draft permit.
- Comments must be submitted to the Regional Board no later than 5:00 p.m. on March 20, 2006.
- Send comments to the Attention of Derek Whitworth.

Public Hearing

- The draft permit will be considered for adoption by the Board at a public hearing during the Board's regular monthly meeting at: Elihu Harris State Office Building, 1515 Clay Street, Oakland, CA; 1st floor Auditorium.
- This meeting will be held on: May 10, 2006 starting at 9:00 am.

Additional Information

- For additional information about this matter, interested persons should contact Water Board staff member: Derek Whitworth, Phone: (510) 622-2349; email: dwhitworth@waterboards.ca.gov

This Fact Sheet contains information regarding a reissuance of waste discharge requirements and National Pollutant Discharge Elimination System (NPDES) permit for the Mirant Potrero, LLC Potrero Power Plant for industrial wastewater discharges. The Fact Sheet describes the factual, legal, and methodological basis for the sections addressed in the proposed permit and provides supporting documentation to explain the rationale and assumptions used in deriving the effluent limitations.

1. INTRODUCTION

The Discharger applied for reissuance of waste discharge requirements and a permit to discharge wastewater to waters of the State and the United States. The application and Report of Waste Discharge are dated November 17, 2003.

1. Facility Description

The Discharger owns and operates the Potrero Power Plant, located at 1201-A Illinois Street, San Francisco, San Francisco County, California. The facility was previously owned and operated by the Pacific Gas and Electric Company (PG&E). The Discharger acquired ownership from PG&E on April 19, 1999.

The Potrero Power Plant is a natural gas-fired steam electric generating station. Unit 3 withdraws and discharges cooling water from San Francisco Bay and has a maximum generating capacity of 203 net megawatts (MW). There are three other generating units, Units 4-6, which are combustion turbine units that do not withdraw or discharge cooling water and are not regulated by this Order.

Wastewater is discharged to Lower San Francisco Bay via surface outfalls located at the shoreline. One wastewater outfall is covered under this Order (Outfall E-001). Outfall E-001 discharges wastewater composed of non-contact cooling water, intake screen wash water, boiler blowdown, storm water, heat exchanger flushes and thermal demusseling discharges. Up to 226 million gallons per day (mgd) of water are discharged through Outfall E-001.

Wastewater discharges via outfalls E-002, E-004 and E-006 have been eliminated. The previous Order for Potrero Power Plant covered discharges from Outfalls E-003, E-005, and E-006. The E-006 outfall discharged wastewater associated with the operation of the bioassay laboratory. The bioassay tests are now conducted off-site. The E-003 and E-005 outfalls are composed entirely of stormwater runoff. The Discharger has applied for coverage of Outfalls E-003 and E-005 under the General Permit for Stormwater Discharges (Industrial, NPDES #CAS000001). These two outfalls are not covered by this Order.

The Discharger had proposed to significantly upgrade the facility in concert with adding a new unit - the Unit 7 project. In addition to installing a new 540 MW combined-cycle generator, the facility proposed to build a new intake structure that would service both Unit 3 and proposed Unit 7 by installing more modern technologies to minimize adverse impacts to aquatic life. Under the Unit 7 project, the outfall, currently a submerged shoreline outfall, would be relocated to a submerged offshore location and incorporate diffuser ports to reduce the signature of the thermal plume. As of the adoption of this Order, the Discharger is no longer actively pursuing the Unit 7 project.

2. Process Description

The Discharger's process consists of intake water screening, heat treatments for mussel control, chlorination and dechlorination for biofouling control and best management practices. Dechlorinated effluent from the facility is discharged into Lower San Francisco Bay. Effluent discharged via Outfall E-001 is discharged from a submerged shoreline outfall at latitude 37° 45' 23.70" and longitude 122° 22' 48.90".

The U.S. Environmental Protection Agency (U.S. EPA) and the Board originally classified this Discharger as a minor discharger because the flow is predominately non-contact cooling water (more than 90 percent), contains less than 1 mgd of process wastewater, and the maximum

generating capacity is less than 500 MW. However, concerns regarding the impacts of discharges from power plants have prompted the Board to re-classify the Discharger as a major discharger. Impacts from (1) the intake of bay water, (2) the discharge of heated wastewater, and (3) the high volume of discharge are expected to be more of a water quality threat than that of a minor discharger.

3. Receiving Water Beneficial Uses

The receiving waters for the subject discharges are the waters of Lower San Francisco Bay. The beneficial uses for Lower San Francisco Bay, as identified in the Regional Board's June 21, 1995 Water Quality Control Plan San Francisco Bay Basin (Region 2) (the Basin Plan) and based on known uses of the receiving waters near the discharge, are:

a. Industrial Service Supply
b. Navigation
c. Water Contact Recreation
d. Noncontact Water Recreation
e. Ocean Commercial and Sport Fishing
f. Wildlife Habitat
g. Preservation of Rare and Endangered Species
h. Fish Migration
i. Shellfish Harvesting
j. Estuarine Habitat

4. Receiving Water Salinity

Salinity data from three Central San Francisco Bay monitoring stations (Yerba Buena, Point Isabel, and Richardson Bay) monitored through the San Francisco Bay Regional Monitoring Program for Trace Substances (the RMP) are all well above both the Basin Plan and California Toxics Rule (CTR) thresholds for salt water; therefore, the reasonable potential analysis (RPA) and effluent limitations specified in this Order for discharges to San Francisco Bay are based on saltwater Basin Plan water quality objectives (WQOs) and saltwater CTR and National Toxics Rule (NTR) water quality criteria (WQC).

I. DESCRIPTION OF EFFLUENT

Table A below presents the quality of the discharge at Outfall E-001 and the intake water quality at Intake I-001, as indicated in the Discharger's Report of Waste Discharge (ROWD) dated November 17, 2003; for conventional and most non-conventional pollutants from June 2001 through June 2004. Mercury sampling data were collected from June 2002 through June 2004, and cyanide from March 2002 through February 2004. The reported values for several metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, nickel, selenium, silver, thallium, and zinc) are the result of a separate monitoring period (April through June 2004) required by the Board to replace improperly analyzed data for these constituents submitted by the Discharger. Further discussion of these replacement data can be found in Section IV.1 of this Fact Sheet.

Table A. Summary of Intake and Discharge Data

	Outfall (E-001)		Intake (I-001)	
Parameter	Average	Range of reported values	Average	Range of reported values
Biochemical oxygen demand (BOD)	<6[1]	--	--	--
Chemical oxygen demand (COD)	850[1]	--	--	--
Total organic carbon, mg/L	2.5[1]	--	8.7[1]	--
Chlorine residual, mg/L	--	0.0 – 0.09	--	--
TSS, mg/L[2]	11	<4 – 22.0	41	<1.0 - 180
Temperature, °F	68.2	48.6 - 95.4	58.1	48.2 – 74.5
Oil and Grease, mg/L[2]	All ND	<1 - <5.1	--	--
pH, standard unit	7.77	7.05 – 8.27	7.75	6.99 – 8.24
Ammonia	<0.20[1]	--	--	--
Acute Toxicity, Percent Survival – stickleback[3]	95.2	75 - 100	--	--
Acute Toxicity, Percent Survival – Sandabb[3]	99.8	90 - 100	--	--
Antimony, µg/L[4]	0.3	< 0.4 – 0.4	0.26	<0.22 - 0.4
Arsenic, µg/L	3.04	2.06 – 4.67	3.11	2.17 – 4.18
Beryllium, µg/L[4]	All ND	<0.5	All ND	<0.34
Cadmium, µg/L[5]	0.18	<0.05 – 0.5	0.24	<0.05 – 0.611
Chromium, Total, µg/L	1.53	0.65 – 2.72	1.72	0.75 – 2.33
Copper, µg/L[5]	3.22	<0.695 – 7.17	2.78	<0.695 – 5.39
Lead, µg/L	1.09	0.6 – 1.94	1.20	0.45 – 2.44
Mercury, µg/L	0.01	0.00303 – 0.0505	0.0094	0.0029 – 0.1002
Nickel, µg/L[5]	2.25	<0.7 – 4.33	2.27	<0.7 – 4.61
Selenium, µg/L[5]	1.16	<0.825 – 3.4	1.87	<0.825 – 5.89
Silver, µg/L[5]	0.18	<0.012 – 0.389	0.21	<0.12 – 0.39
Thallium, µg/L[5]	0.19	<0.111 – 0.5	0.24	<0.105 – 0.35
Zinc, µg/L[5]	5.60	<0.75 –18.9	5.26	<0.75 – 19.8
Cyanide, µg/L	All ND	<5 - <10	All ND	<5 - <10

ND = non-detect
[1] Only one sample is available from the Discharger's ROWD.
[2] Effluent values are for E-001C – boiler blowdown wastewater
[3] These are based on data collected from January 1999 through June 2004.
[4] Only two samples are available.
[5] Average was calculated with the non-detected values being replaced with half detection limit.

II. GENERAL RATIONALE AND REGULATORY BASES

- the Federal *Water Pollution Control Act*, Sections 301 through 305, 307, and 316 and amendments thereto, as applicable (the Clean Water Act – the CWA);

- the Board's *Water Quality Control Plan San Francisco Bay Basin (Region 2)* (the Basin Plan);

- the State Water Resource Control Board's (the State Board's) *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (the State Implementation Policy - the SIP);

- The State Board's *Water Quality Control Plan for Control of Temperature in the Coastal Interstate Waters and Enclosed Bays and Estuaries of California* (Thermal Plan)

- the U.S. EPA's May 18, 2000 *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California* (the California Toxics Rule – the CTR);

- the U.S. EPA's National Toxics Rule as promulgated [Federal Register Volume 57, 22 December 1992, page 60848] and subsequently amended (the NTR);

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

- applicable Federal Regulations [40 CFR Parts 122 and 131];

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

- 40 CFR Part 125 [Federal Register Volume 69, 9 July 2004, pages 41576 et seq. (316(b) Phase II Rule)]

- the U.S. EPA's December 10, 1998 *National Recommended Water Quality Criteria* compilation [Federal Register Vol. 63, No. 237, pp. 68354-68364];

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

- guidance provided with State Board actions remanding permits to the Board for further consideration.

III. SPECIFIC RATIONALE

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

1. Recent Facility Performance

Section 402(o) of Clean Water Act (CWA) and 40 CFR § 122.44(l) require that water quality-based effluent limitations (WQBELs) in re-issued permits be at least as stringent as in the previous permit. The SIP specifies that interim effluent limitations, if required, must be based on current

facility performance or on previous permit limitations, whichever is more stringent (unless anti-backsliding requirements are met). In determining what constitutes "recent plant performance," best professional judgment (BPJ) was used. Effluent data collected from June 2001 through December 2005 for conventional and most non-conventional pollutants, except as noted below, are considered representative of recent plant performance. Mercury sampling data collected from June 2002 through January 2006 and cyanide data collected from March 2002 through January 2006 are considered representative of recent plant performance.

The Board did not use sample data collected for several inorganic constituents (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, nickel, selenium, silver, thallium, and zinc) from June 2001 through June 2003 to assess the recent plant performance with regard to effluent composition. Analyses for these constituents during this time period were flawed for one or more of the following reasons: (1) improper or untimely filtration and preservation of dissolved metal samples; (2) improper dilution of samples such that the adjusted reporting limit exceeded regulatory standards; and (3) failure to adjust sample results for some metals (e.g. copper) to account for saline matrix interference. After reviewing the data and attempting to identify valid sample results, Board staff concluded that all samples for these constituents collected during this time period were unreliable and therefore discarded. The Discharger conducted an expedited sampling program from April 28 through May 25, 2004 and regular monthly monitoring until January 2006 to provide additional valid sample results for use in determining reasonable potential or setting WQBELs.s.[

2. Impaired Water Bodies on 303(d) List

On June 6, 2003, the U.S. EPA approved a revised list of impaired water bodies prepared by the State (hereinafter referred to as the 2002 303(d) list), prepared pursuant to provisions of Section 303(d) of the federal CWA requiring 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. The pollutants impairing Lower San Francisco Bay include chlordane, DDT, diazinon, dieldrin, dioxin compounds, exotic species, furan compounds, mercury, nickel, PCBs, and dioxin-like PCBs. Copper, which was previously identified as impairing Lower San Francisco Bay, was not included as an impairing pollutant in the 2002 303(d) list and has been placed on the new Monitoring List.

The SIP requires final effluent limitations for all 303(d)-listed pollutants to be based on total maximum daily loads (TMDLs) and associated wasteload allocations (WLAs). The SIP and U.S. EPA regulations also require that final concentration-based WQBELs be included for all pollutants having reasonable potential to cause or contribute to an exceedance of applicable water quality standards (having reasonable potential or RP). The SIP requires that where the discharger has demonstrated infeasibility to meet the final WQBELs, interim performance-based limitations (IPBLs) or previous permit limitations (whichever is more stringent) be established in the permit, together with a compliance schedule that shall remain in effect until final effluent limitations are adopted. The SIP also requires the inclusion of appropriate provisions for waste minimization and source control where interim limitations are established.

3. State Thermal Plan and Clean Water Act Section 316(a)

On September 18, 1975, the State Board adopted the Water Quality Control Plan for Control of Temperature in the Coastal Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan). The Thermal Plan contains WQOs governing cooling water discharges. The Thermal Plan provides specific numeric and narrative WQOs for new discharges of heat. Thermal discharges defined as "existing" discharges are subject to narrative WQOs. Existing discharges of

heat to Enclosed Bays (including San Francisco Bay) must "comply with limitations necessary to assure protection of beneficial uses."

The Discharger is considered an existing, continuous discharger as defined in the Thermal Plan. The most recent studies of the effects associated with thermal discharges were submitted in 1991 for both Potrero and Hunters Point Power Plants by PG&E. An updated study is required to characterize the effects of the thermal plume on the aquatic habitat and aquatic species in the near-field environment. Among other items, the update will include a reassessment of the potential impacts of thermal demusseling.

4. Entrainment and Impingement Impacts—Clean Water Act Section 316(b)

On July 23, 2004, U.S. EPA promulgated new requirements to minimize adverse environmental impacts associated with existing cooling water intake structures under Section 316(b) of the Clean Water Act. This regulation, commonly referred to as "316(b) Phase II," became effective on September 7, 2004, 60 days after its publication in the Federal Register on July 9, 2004. The 316(b) regulations require existing facilities to either demonstrate a current ability to meet the performance standards outlined in the rule, or select one of four other compliance alternatives to minimize adverse environmental impacts associated with cooling water intake structure operations. If unable to demonstrate immediate compliance with the performance standards, the facility must undertake a multi-step process, which, together with input from the permitting authority (e.g., the Board), will determine the most economically and technologically feasible alternatives when making an assessment of Best Technology Available (BTA).

The Phase II Rule establishes performance standards for the reduction of impingement mortality and/or entrainment when compared to a baseline assessment. Impingement mortality of fish and shellfish must be reduced by 80 to 95 percent of the baseline number, while entrainment must be reduced by 60 to 90 percent. As an estuarine facility defined in 40 CFR Part 125.93, the Discharger is required to meet the performance standards for both impingement mortality and entrainment.

The Phase II Rule requires that under ordinary circumstances, a facility submit the appropriate study components (certification of compliance, Comprehensive Demonstration Study, etc.) as part of its NPDES renewal application; however, because most of the study requirements involve substantial effort on the part of the facility and significant input from the permitting authority, U.S. EPA incorporated submission schedule flexibility for facilities whose permits expire within the time period of July 9, 2004 and January 8, 2008. Such facilities must submit a completed 316(b) Phase II package *no later* than three years and 180 days after publication in the Federal Register, or January 8, 2008.

The current permit for the Discharger was due to expire in 1999, and was administratively extended to 2004. The permit is listed as backlogged by US EPA Region 9. Situations such as these, i.e. long expired permits, were not discussed in the Phase II regulation. It is appropriate to establish a program to comply with these regulations within the permit. An information requirement letter (Attachment F to the Order) sent pursuant to Water Code §13267 specifies a schedule for compliance with these regulations (dated December 21, 2005). The schedule imposes a more stringent timeline for the Discharger to submit the final CDS than the EPA rule dictates. The due date is as soon as could reasonably be expected given that the Discharger must first complete a one-year impingement study.

A 2001 study prepared by the Discharger, *Construction and Thermal Impacts and First Quarter Larval Fish Assessment,* a subsequent *6-month report on larval fish surveys*, and a March 2005

Entrainment Characterization Report based on the 2001 data may be usable components of an eventual Comprehensive Demonstration Study. These studies seek to identify the species composition and abundance of larval fishes and cancer crabs in the vicinity of the facility as well as estimate potential losses due to entrainment through the facility intake structure. In 1978 and 1979, Potrero Power Plant, then owned by PG&E, conducted a field study (*316(b) Demonstration Study*) of the both the entrainment and impingement of fishes and shellfishes resulting from the operation of the cooling water intake structure. That study is insufficient for the purposes of the Phase II Rule. Data collected at that time are 27 to 28 years old and may not sufficiently represent the near-field environment around Potrero due to changing waterbody conditions and operations at the facility itself. In addition, sampling and analysis methods have improved considerably as the scope of knowledge concerning 316(b)-related issues has expanded. The 2001 study, on the other hand, may be considered acceptable, *in part*, for inclusion in the overall 316(b) Phase II submission package. Sampling and analysis methodologies are more consistent with the accepted protocols for entrainment studies conducted today.

5. Basis for Prohibitions

a). Prohibition A.1 (no discharges other than as described in the permit): This prohibition is based on the California Water Code section 13260 that requires filing of a report of waste discharge before a permit to discharge can be granted and the discharge commences. The Discharger's application addresses only those discharges addressed in this permit, thus another other discharge would not be permitted and must be prohibited.

b). Prohibition A.2 (no discharges other than storm water to storm drains or waters of the State other than as described in the permit): This prohibition is based on similar rationale as for 5 a).

c). Prohibition A.3 (no discharge of polychlorinated biphenyl compounds (PCBs), such as those commonly used for transformer fluid. This prohibition is based on 40CFR423.12(2) and 40CFR423.13(a).

6. Basis for Effluent Limitations

a) Effluent Limitations B.1 (Outfall E-001) and B.2 (Outfall E-001C): The effluent limits for conventional pollutants are as follows:

	Constituent	Units	Monthly Average	Daily Average	Daily Maximum	Instantaneous Maximum
B.1.a.	pH	standard	(not to exceed 8.5 nor be less than 6.5)			
B.1.b.	Total Chlorine Residual	mg/L	--	--	--	0.0
B.1.c.	Temperature	degrees F	--	86	--	--
	(temperature of discharge not to exceed 100 degrees F for more than four hours, or 110 degrees F maximum during thermal demusseling)					
B.2.a	Total Suspended Solids	mg/L	30	--	100	--
B.2.b	Oil and Grease	mg/L	10	--	20	--

b) Effluent Limitation B.1.a (pH, minimum 6.5, maximum 8.5): This effluent limitation is unchanged from the previous permit. The limitation is based on the Basin Plan (Chapter 4, Table 4-2), which is derived from federal requirements (40 CFR 133.102) for shallow water discharges. Compliance with this previous permit effluent limitation has been demonstrated by existing plant performance.

c) Effluent Limitation B.1.b (Total Chlorine Residual): This effluent limitation is unchanged from the previous permit. The limitation is based on the Basin Plan (Chapter 4, Table 4-2), which is derived from federal requirements (40 CFR 133.102). Compliance has been demonstrated by existing plant performance.

d) Effluent Limitation B.1.c (Temperature): This effluent limitation is unchanged from the previous permit. The limitation is based on the California Thermal Plan. This is a previous permit effluent limitation and compliance has been demonstrated by existing plant performance.

e) Effluent Limitation B.2.a (Total Suspended Solids): This effluent limitation is unchanged from the previous permit and is based on the effluent limitation guidelines at 40 CFR Part 423. Compliance has been demonstrated by existing plant performance.

f) Effluent Limitation B.2.b (Oil and Grease): This effluent limitation is unchanged from the previous permit and is based on the effluent limitation guidelines at 40 CFR Part 423. Compliance has been demonstrated by existing plant performance.

g) Effluent Limitation B.3 (Whole Effluent Acute Toxicity): The Basin Plan specifies a narrative objective for toxicity, requiring that all waters be maintained free of toxic substances in concentrations that are lethal to or produce other detrimental response on aquatic organisms. Detrimental response includes but is not limited to decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alternations in population, community ecology, or receiving water biota. These effluent toxicity limitations are necessary to ensure that this objective is protected. The whole effluent acute toxicity limitations for an eleven-sample median and an eleven-sample 90th percentile value are consistent with the previous permit and are based on the Basin Plan (Table 4-4, pg. 4–70). The previous Order required testing of two species (sanddab and three-spine stickleback). This Order requires the Discharger to use the U.S. EPA's most recently promulgated testing method, currently the 5th edition with two testing species, topsmelt *(Atherinops affinis)* and inland silverside *(Menidia beryllina)* tested concurrently, until a more sensitive species can be identified.

h) Effluent Limitation B.4 (Whole Effluent Chronic Toxicity): The chronic toxicity limitation is based on the Basin Plan's narrative toxicity objective on page 3-4. Chronic toxicity requirements were not included in the previous Order, but have been added in this Order consistent with a case by case determination provided by the Basin Plan. The main factors considered include: this is a major discharger; the volume of flow is significant; and the Board intends to ensure that the discharge does not exhibit consistent chronic toxicity.

i) Effluent Limitation B.5 (Toxic Substances):

1) Reasonable Potential Analysis (RPA)

Code of Federal Regulations Title 40, Part 122.44(d)(1)(i) (40 CFR 122.44(d)(1)(i)) specifies that permits must include WQBELs for all pollutants "which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard" (have Reasonable Potential or RP). Thus, assessing whether a pollutant has RP is the fundamental step in determining whether or not a WQBEL is required. The following sections describe the RPA and the results of such an analysis for the pollutants identified in the Basin Plan and the CTR.

i) *WQOs and WQC*: The RPA uses Basin Plan WQOs, including narrative toxicity objectives in the Basin Plan and applicable WQC in the CTR/NTR, or site-specific objectives (SSOs) if available, after adjusting for site-specific hardness and translators, if applicable. The governing WQOs/WQC are shown in Attachment 1 of this Fact Sheet.

ii) *Methodology*: The RPA uses the methods and procedures prescribed in Section 1.3 of the SIP. Board staff has analyzed the effluent and background data and the nature of facility operations to determine if the discharge shows reasonable potential with respect to the governing WQOs or WQC. Attachment 1 of this Fact Sheet shows the results of the multi-step process described in Section 1.3 of the SIP.

iii) *Effluent and background data*: The RPA is based on effluent data collected by the Discharger from April through December 2005 for most inorganic priority pollutants except for mercury (June 2002- January 2006) and cyanide (March 2002 – January 2006) and from June 2002 though January 2006 for certain organic priority pollutants. Water quality data collected from San Francisco Bay at the Yerba Buena Island monitoring station through the RMP in 1993 to 2003 were reviewed to determine the maximum observed background values. The RMP station at Yerba Buena Island, located in the Central Bay, has been sampled for most of the inorganic and some of the organic toxic pollutants; however, not all the constituents listed in the CTR were analyzed by the RMP during this time. 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*. The study was supplemented in June 2004 with Appendix 3: San Francisco Bay Ambient Water Quality Monitoring: Final CTR Update. This study summarizes the monitoring results from sampling events from January 2002 to August 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, and additional data from the BACWA *Ambient Water Monitoring Interim Report* for the Yerba Buena Island RMP station from 2002 and 2003.

iv) *RPA determination*: The RPA results are shown below in Table B and Attachment 1 of this Fact Sheet. The pollutants that exhibit reasonable potential are copper, mercury, PCBs, and dioxins TEQ. A detected effluent value for bis (2-ethylhexyl) phthalate, which exceeded the applicable WQC, was not included in the analysis as noted in Footnote 4 of Table B.

Table B. Summary of Reasonable Potential Analysis

# in CTR	PRIORITY POLLUTANTS	MEC or Minimum DL[1] (µg/L)	Governing WQO/WQC (ug/L)	Maximum Background or Minimum DL[1] (µg/L)	RPA Results[2]
1	Antimony	**0.6**	4300	**1.8**	N
2	Arsenic	**4.67**	36	**2.46**	N
3	Beryllium	1.16	NA	**<0.01**	N
4	Cadmium	**0.7**	9.4	**0.1268**	N
5b	Chromium (VI)	NA	50	**4.4**	N
6	Copper	**7.67**	3.73	**2.45**	Y

# in CTR	PRIORITY POLLUTANTS	MEC or Minimum DL[1] (µg/L)	Governing WQO/WQC (ug/L)	Maximum Background or Minimum DL[1] (µg/L)	RPA Results[2]
7	Lead	**4.7**	8.5	**0.8**	N
8	Mercury	**0.0505**	0.025	**0.0086**	Y
9	Nickel	**4.42**	8.3	**3.68**	N
10	Selenium	**3.4**	5.0	**0.39**	N
11	Silver	**0.45**	2.2	**0.0516**	N
12	Thallium	**0.7**	6.3	**0.21**	N
13	Zinc	**18.9**	86	**4.4**	N
14	Cyanide	<2.2	1	<0.4	N
16	2,3,7,8-TCDD	<0.00000087	0.000000014	**0.000000008**	Ud
	Dioxin TEQ	**0.00000013**	0.000000014	**0.000000195**	Y [3]
17	Acrolein	<2.5	780	<0.5	N
18	Acrylonitrile	<0.21	0.66	**0.03**	N
19	Benzene	<0.11	71	<0.05	N
20	Bromoform	<0.34	360	<0.5	N
21	Carbon Tetrachloride	<0.15	4.4	**0.06**	N
22	Chlorobenzene	<0.12	21000	<0.5	N
23	Chlorodibromomethane	<0.25	34	<0.05	N
24	Chloroethane	<0.29	NA	<0.5	Uo
25	2-Chloroethylvinyl Ether	<5	NA	<0.5	Uo
26	Chloroform	<0.15	NA	<0.5	Uo
27	Dichlorobromomethane	<0.15	46	<0.05	N
28	1,1-Dichloroethane	<0.13	NA	<0.05	Uo
29	1,2-Dichloroethane	<0.24	99	**0.04**	N
30	1,1-Dichloroethylene	<0.22	3.2	<0.5	N
31	1,2-Dichloropropane	<0.39	39	<0.05	N
32	1,3-Dichloropropylene	NA	1,700	NA	N
33	Ethylbenzene	<0.09	29,000	<0.5	N
34	Methyl Bromide	<0.66	4,000	<0.5	N
35	Methyl Chloride	<0.34	NA	<0.5	Uo
36	Methylene Chloride	**0.43**	1,600	**22**	N
37	1,1,2,2-Tetrachloroethane	<0.17	11	<0.05	N
38	Tetrachloroethylene	<0.2	8.85	<0.05	N
39	Toluene	<0.15	200,000	<0.3	N
40	1,2-Trans-Dichloroethylene	<0.24	140,000	<0.5	N
41	1,1,1-Trichloroethane	<0.15	NA	<0.5	N
42	1,1,2-Trichloroethane	<0.15	42	<0.05	N
43	Trichloroethylene	<0.14	81	<0.5	N
44	Vinyl Chloride	<0.13	525	<0.5	N
45	2-Chlorophenol	<0.101	400	<1.2	N
46	2,4-Dichlorophenol	<0.101	790	<1.3	N

# in CTR	PRIORITY POLLUTANTS	MEC or Minimum DL[1] (µg/L)	Governing WQO/WQC (ug/L)	Maximum Background or Minimum DL[1] (µg/L)	RPA Results[2]
47	2,4-Dimethylphenol	<0.505	2,300	<1.3	N
48	2-Methyl-4,6-Dinitrophenol	<0.505	765	<1.2	N
49	2,4-Dinitrophenol	<0.505	14,000	<0.7	N
50	2-Nitrophenol	<0.101	NA	<1.3	Uo
51	4-Nitrophenol	<0.505	NA	<1.6	Uo
52	3-Methyl-4-Chlorophenol	<0.101	NA	<1.1	Uo
53	Pentachlorophenol	<0.328	7.9	<1	N
54	Phenol	<0.101	4,600,000	<1.3	N
55	2,4,6-Trichlorophenol	<0.101	6.5	<1.3	N
56	Acenaphthene	<0.0101	2,700	**0.0015**	N
57	Acenaphthylene	<0.0101	NA	**0.00053**	N
58	Anthracene	<0.0101	110,000	**0.0005**	N
59	Benzidine	<0.505	0.00054	<0.0015	N
60	Benzo(a)Anthracene	<0.0101	0.049	**0.0053**	N
61	Benzo(a)Pyrene	<0.0101	0.049	**0.00029**	N
62	Benzo(b)Fluoranthene	<0.0202	0.049	**0.0046**	N
63	Benzo(ghi)Perylene	<0.0101	NA	**0.0027**	Uo
64	Benzo(k)Fluoranthene	<0.0202	0.049	**0.0015**	N
65	Bis(2-Chloroethoxy)Methane	<0.101	NA	<0.3	Uo
66	Bis(2-Chloroethyl)Ether	<0.101	1.4	<0.3	N
67	Bis(2-Chloroisopropyl)Ether	<0.101	170,000	NA	N
68	Bis(2-Ethylhexyl)Phthalate	Un-determined	5.9	<0.5	N[4]
69	4-Bromophenyl Phenyl Ether	<0.101	NA	**0.23**	Uo
70	Butylbenzyl Phthalate	<0.152	5,200	<0.5	N
71	2-Chloronaphthalene	<0.0101	4,300	<0.3	N
72	4-Chlorophenyl Phenyl Ether	<0.101	NA	<0.3	Uo
73	Chrysene	<0.0126	0.049	**0.0024**	N
74	Dibenzo(a,h)Anthracene	<0.0101	0.049	**0.00064**	N
75	1,2 Dichlorobenzene	<0.101	17,000	<0.3	N
76	1,3 Dichlorobenzene	<0.1	2,600	<0.3	N
77	1,4 Dichlorobenzene	<0.9	2,600	<0.3	N
78	3,3-Dichlorobenzidine	<0.505	0.077	<0.001	N
79	Diethyl Phthalate	<0.101	120,000	<0.21	N
80	Dimethyl Phthalate	<0.101	2,900,000	<0.21	N
81	Di-n-Butyl Phthalate	<0.253	12,000	<0.5	N
82	2,4-Dinitrotoluene	<0.101	9.1	<0.27	N
83	2,6-Dinitrotoluene	<0.101	NA	<0.29	Uo

# in CTR	PRIORITY POLLUTANTS	MEC or Minimum DL[1] (µg/L)	Governing WQO/WQC (ug/L)	Maximum Background or Minimum DL[1] (µg/L)	RPA Results[2]
84	Di-n-Octyl Phthalate	<0.101	NA	<0.38	Uo
85	1,2-Diphenylhydrazine	<0.101	0.54	**0.0037**	N
86	Fluoranthene	<0.0101	370	**0.011**	N
87	Fluorene	<0.0101	14,000	**0.939**	N
88	Hexachlorobenzene	<0.101	0.00077	**0.0000202**	N
89	Hexachlorobutadiene	<0.101	50	<0.3	N
90	Hexachlorocyclopentadiene	<0.5	17,000	<0.31	N
91	Hexachloroethane	<0.101	8.9	<0.2	N
92	Indeno(1,2,3-cd) Pyrene	<0.0101	0.049	**0.004**	N
93	Isophorone	<0.101	600	<0.3	N
94	Naphthalene	**0.898**	NA	**0.0023**	Uo
95	Nitrobenzene	<0.101	1,900	<0.25	N
96	N-Nitrosodimethylamine	<0.505	8.1	<0.3	N
97	N-Nitrosodi-n-Propylamine	<0.101	1.4	<0.001	N
98	N-Nitrosodiphenylamine	<0.101	16	<0.001	N
99	Phenanthrene	**0.0243**	NA	**0.0061**	Uo
100	Pyrene	<0.0101	11,000	**0.0051**	N
101	1,2,4-Trichlorobenzene	<0.101	NA	<0.3	Uo
102	Aldrin	<0.0095	0.00014	NA	N
103	alpha-BHC	<0.0076	0.013	**0.000496**	N
104	beta-BHC	<0.0095	0.046	**0.000413**	N
105	gamma-BHC	<0.0085	0.063	**0.0007034**	N
106	delta-BHC	<0.012	NA	**0.000042**	N
107	Chlordane	<0.47	0.00059	**0.00018**	N
108	4,4'-DDT	<0.06	0.00059	**0.000066**	N
109	4,4'-DDE	<0.045	0.00059	**0.000693**	Ud
110	4,4'-DDD	<0.06	0.00084	**0.000313**	N
111	Dieldrin	<0.031	0.00014	**0.000264**	Ud
112	alpha-Endosulfan	<0.029	0.0087	**0.000031**	N
113	beta-Endosulfan	<0.041	0.0087	**0.000069**	N
114	Endosulfan Sulfate	<0.06	240	**0.0000819**	N
115	Endrin	<0.027	0.0023	**0.000036**	N
116	Endrin Aldehyde	<0.06	0.81	NA	N
117	Heptachlor	<0.0095	0.00021	**0.000019**	N
118	Heptachlor Epoxide	<0.015	0.00011	**0.000094**	N
119-125	PCBs	**0.00103**	0.00017	**0.00146**	Y
126	Toxaphene	<1	0.0002	NA	N
	Tributyltin	NA	0.01	<0.001	Ud
	Total PAHs	NA	15	**0.052**	N

[1] Values for MEC or maximum background in bold are the actual detected concentrations, otherwise the values shown are the minimum detection levels.
NA = Not Available (there is no monitoring data or WQO/WQC for this constituent).

[2] RP =Yes, if either MEC or Background > WQO/WQC.
RP = No, if both MEC or background < WQO/WQC or all effluent concentrations non-detect and background <WQO/WQC or no background available.
RP = Uo (undetermined if no objective promulgated)
RP = Ud if effluent data non-detect above the WQO/WQC.

[3] Using the updated, recent monitoring data (through 2006), there is no reasonable potential for 2,3,7,8-TCDD, as it remains undetected at the facility Outfall, and therefore, there is no reasonable potential for 2,3,7,8-TCDD under the SIP. With respect to dioxin TEQ, the most recent data contain some detections of various congeners, but those detections were all near or below the quantification limit for the analysis, and for all samples with intake/outfall pairs, the intake dioxin TEQ is calculated as higher than the outfall dioxin TEQ, suggesting that the facility is not, in fact, adding dioxins to the water. This is consistent with other information, since there are no sources of dioxins to the discharge. However since dioxin TEQ was detected in the outfall, and the Bay was listed by the U.S. EPA as impaired by dioxin TEQ, the Board concludes that the facility could be a potential source of dioxin TEQ and there is reasonable potential for Dioxin TEQ.

Although there is reasonable potential, no effluent limits for dioxins TEQ have been set in this permit. This is because the discharge has concentrations above what would be the calculated water quality based effluent limits, so that it is infeasible for the Discharger to immediately comply due to the high concentrations in the intake. However, because of the predominance of non-detect data (e.g., 5 out of the 7 discharge samples were non-detect), it is impossible to calculate an interim performance based limit, or calculate intake credits. Therefore, no limits for dioxin TEQ is established in this permit, but the permit requires the Discharger to conduct semi-annual monitoring in order to collect sufficient data for effluent limit determination in the future.

[4] The Discharger identified inappropriate collection equipment (now removed) as the source of bis (2-ethylhexyl) phthalate. The Board agrees with the Discharger's assertion and has not established an effluent limitation. Four additional semiannual samples will be required at which time the Board will re-evaluate RP, the need for continued sampling and the possible establishment of an effluent limitation.

v) *Constituents with limited data*: Reasonable potential could not be determined for some of the organic priority pollutants due to the absence of effluent data or applicable WQOs/WQC. As required by the Board's August 6, 2001 Letter from Board staff to all permittees, the Discharger is required to continue to monitor for those pollutants in this category using analytical methods that provide the best detection limits reasonably feasible. These pollutants' RP will be reevaluated in the future to determine whether there is a need to add numeric effluent limitations to the permit or to continue monitoring.

vi) *Pollutants with no reasonable potential*: WQBELs are not included in the Order for constituents that do not have reasonable potential to cause or contribute to exceedance of applicable WQOs or WQC. However, monitoring for those pollutants is still required, under the provisions of the Board's August 6, 2001 Letter. If concentrations of these constituents are found to increase significantly, the Discharger 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.

vii) *Permit reopener:* The permit includes a reopener provision to allow numeric effluent limitations to be added for any constituent that in the future exhibits reasonable potential to cause or contribute to exceedance of a WQO or WQC. This determination, based on monitoring results, will be made by the Board.

2) Dilution

The Basin Plan (Table 4-1, Item 1) prohibits the discharge of any wastewater that has particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive an initial dilution of at least 10:1. In part, the Basin Plan states:

> "This prohibition will (a) provide an added degree of protection from the continuous effects of waste discharge, (b) provide a buffer against the effects of abnormal discharges caused by temporary plant upsets or malfunctions, (c) minimize public contact with undiluted wastes, and (d) reduce the visual (aesthetic) impact of waste discharges."

Based on the factors described below, this prohibition does not apply to this discharge, and even if it did, the discharge qualifies for an exception to the prohibition.

As indicated in the Basin Plan, discharges of treated sewage and other discharges where the treatment process is subject to upset to contain particular characteristics of concern. The Basin Plan states, "This prohibition will …. Provide a buffer against the effects of abnormal discharges caused by temporary plant upsets or malfunctions …" The dilution requirement is to provide a contingency in the event of temporary treatment plant malfunction and to minimize public contact with undiluted waste. However this discharge does not contain treated sewage and does not contain wastewater from a treatment process subject to upset. Therefore, the prohibition does not apply in this context.

Moreover, virtually all of the once through cooling water discharge consists of Bay water taken from the Bay with minimal characteristics of concern except thermal waste. The water is used for condensing steam through heat exchangers and is returned to the Bay at a temperature higher than that of the intake. The Basin Plan, in addition to requiring that the receiving water temperature not be altered if doing so adversely affect beneficial uses, refers to regulation of thermal waste by the State Thermal Plan (see Finding 16 of this Order). The other characteristics of potential concern are chlorine, pH, and possibly the toxic pollutants copper and mercury. The Discharger has excellent compliance with its permit limits for chlorine and pH, which demonstrates excellent reliability of its treatment system for these parameters. For copper and mercury, this Order requires the Discharger to determine if its processes contribute these pollutants to the discharge. Existing information does not suggest that the discharge is a substantial source of these pollutants. Likewise, data suggest that the plant does not add PCBs or dioxin TEQ to the circulating bay water. If the investigations show that these processes do constitute a substantial source of these pollutants to the Bay and the discharge is effectively wastewater that constitutes a threat to beneficial uses, the Board could consider imposing Prohibition 1, and require an initial 10:1 dilution.

In addition, even if Prohibition 1 did apply, the Basin Plan provides an exception: "Exceptions to Prohibitions 1, ….will be considered where: An inordinate burden would be placed on the discharger relative to beneficial uses protected …." This section further states, "In reviewing requests for exceptions, the Regional Board will consider the reliability of the discharger's system in preventing inadequately treated wastewater from being discharged to the receiving water …." Because the treatment system is extremely reliable, and construction of a deepwater outfall would result in very little benefit, even if Prohibition 1 applied to this discharge, it appropriately qualifies for an exception to the prohibition.

3) Final Water Quality-Based Effluent Limitations

Toxic substances are regulated by WQBELs derived from the Basin Plan, Tables 3-3 and 3-4, the CTR, the NTR, and/or best professional judgment (BPJ) as defined in Section IV of the attached Fact Sheet. WQBELs in this Order are revised and updated from the limits in the previous Order, and their presence in this Order is based on the evaluation of the Discharger's data as described below under the RPA. Numeric WQBELs are required for all constituents that have a reasonable potential to cause or contribute to an excursion above any State water quality standard. Reasonable potential is determined and final WQBELs are developed using the methodology outlined in the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (the State Implementation Plan or the SIP). If the Discharger demonstrates that the final limits will be infeasible to meet and provides justification for a compliance schedule, then interim limits are established, with a compliance schedule to achieve the final limits. The WQOs or WQC used for each pollutant with Reasonable Potential is indicated in Table C below as well as in Attachment 2. Although reasonable potential for pollutants PCBs and dioxins TEQs has been found, effluent limits for these two classess of pollutants have not been set. For PCBs there is a discharge prohibition, so there is no limit, and for dioxins TEQs, there is insufficient data showing that there concentrations in the outfall is greater than the intake.

Table C. Water Quality Objectives/Criteria for Pollutants with RP

Pollutant	Chronic WQO/WQC (µg/L)	Acute WQO/WQC (µg/L)	Human Health WQC (µg/L)	Basis of Lowest WQO /WQC Used in RPA
Copper	3.73	5.78	--	BP
Mercury	0.025	2.1	0.051	BP

4) Interim Limitations

Interim effluent limitations were derived for those constituents (copper and mercury) for which the Discharger has shown infeasibility of complying with the respective 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 interim effluent concentration limitations for copper and mercury are based on statistical analyses of data submitted by the discharger. The interim limitation analysis for mercury used only ultraclean data. The interim limitations are also discussed in more detail below.

5) Feasibility Evaluation

The discharger submitted an infeasibility study on July 13, 2004 for copper and mercury. For constituents from which Board staff could perform a meaningful statistical analysis (i.e., copper and mercury), it used self-monitoring data from 2004 -2005 for copper and 2002 – 2006 for mercury and compared the mean, 95th percentile, and 99th percentile with the long-term average (LTA), AMEL, and MDEL to confirm if it is feasible for the Discharger to comply with interim WQBELs. If the LTA, AMEL, and MDEL all exceed the mean, 95th percentile, and 99th percentile, respectively, it is infeasible for the Discharger to comply with interim WQBELs. Table D below shows these comparisons in µg/L:

Table D: Summary of Feasibility Analysis

Constituent	Mean vs. LTA	95th vs. AMEL	99th vs. MDEL	Feasible to Comply
Copper (based on Weibull distribution fit)	3.1 > 1.88	6.8 > 2.9	8.6 > 5.8	**No**
Mercury (based log-logistic distribution fit)	0.007 < 0.010	0.023 > 0.018	0.032 < 0.046	**No**

This permit establishes a compliance schedule until May 18, 2010 for copper and April 28, 2010 for mercury. These compliance schedules exceed the length of the permit; therefore, the calculated final limitations are intended for point of reference for the feasibility demonstration.

During the compliance schedules, interim limitations are included based on current treatment facility performance or on previous permit limitations, whichever is more stringent, to maintain existing water quality. **Attachment 5** details the general basis for final compliance dates. The Board may take appropriate enforcement actions if interim limitations and requirements are not met.

i. Copper – Further Discussion and Rationale for Interim Effluent Limitation: Interim effluent limitations are required for copper since the Discharger has demonstrated and the Board verified that the final effluent limitations calculated according to the SIP (AMEL of 2.9 µg/L and MDEL of 5.8 µg/L) will be infeasible to meet. The SIP requires the interim numeric effluent limitation for the pollutant be based on either current treatment facility performance or on the previous Order's limitation, whichever is more stringent. Self-monitoring data from 2004 to 2005 indicate that effluent copper concentrations ranged from < 0.695 µg/L to 7.67 µg/L (23 samples). Board staff calculated an interim performance-based limitation (IPBL) of 8.6 µg/L (3 standard deviations above the mean). The previous permit did not contain an effluent limitation for copper. Therefore, 8.6 µg/L is established in this Order as the interim limitation and will remain effect until December 30, 2009, or until the Board amends the limitation based on additional data.

ii. Mercury – Further Discussion and Rationale for Interim Effluent Limitation: Interim effluent limitations are required for mercury since the Discharger has demonstrated and the Board verified that the final effluent limitations calculated according to the SIP (AMEL of 0.018 µg/L and MDEL of 0.046 µg/L) will be infeasible to meet. The SIP requires the interim numeric effluent limitation for the pollutant be based on either current treatment facility performance or on the previous Order's limitation, whichever is more stringent. The previous permit did not contain and effluent limitation for mercury. Effluent concentrations from 2002 through 2006 ranged from < 0.004 to 0.0505 µg/L (33 samples). Board staff calculated an IPBL of 0.032 µg/L (3 standard deviations above the mean). This IPBL shall remain in effect until April 28, 2010, or until the Board amends the limitation based on a WLA in the TMDL for mercury. However, during the next permit reissuance, the Board may reevaluate the interim mercury limitation.

6. Attainability of Interim Performance-Based Limitations

i. Copper

During the period April 2004, through December 2005, the Discharger's effluent concentrations for copper ranged from <0.70 µg/L to 7.67 µg/L (23 samples). All 23 samples were below the interim limitation of 8.6 µg/L. It is therefore expected that the facility can comply with the interim limitation for copper.

ii. Mercury

During the period June 2002 through January 2006, the Discharger's effluent concentrations ranged from 0.0023 µg/L to 0.0505 µg/L (33 samples). All 33 samples, except for one, were below the interim limitation of 0.032 µg/L.

7. Basis for Receiving Water Limitations

1). Receiving water limitations C.1 and C.2 (conditions to be avoided): These limitations are based on the previous permit and the narrative/numerical objectives contained in Chapter 3 of the Basin Plan, pages 3-2 – 3-5.

2). Receiving water limitation C.3 (compliance with State Law): This requirement is in the previous permit, requires compliance with Federal and State law, and is self-explanatory.

8. Basis for Self-Monitoring Requirements

The SMP includes monitoring at the outfall for conventional, non-conventional, and toxic pollutants, and acute and chronic toxicity. For copper and mercury, the Discharger will perform monthly monitoring to demonstrate compliance with interim limitations. In lieu of near field discharge-specific ambient monitoring, it is generally acceptable that the Discharger participate in collaborative receiving water monitoring with other dischargers under the provisions of the Board's August 6, 2001 Letter and the RMP.

9. Basis for Provisions

a) Provision D.1. (Permit Compliance and Rescission of Previous Permit): Time of compliance is based on 40 CFR 122. The basis of this Order superceding and rescinding the previous permit is 40 CFR 122.46.

b) Provision D.2 (Effluent Characterization Study): This provision is based on the Basin Plan and the SIP.

c) Provision D.3 (Receiving Water Study): This provision is based on the Basin Plan and the SIP.

d) Provision D.4 (Mercury Compliance Study): This provision, based on BPJ, requires the Discharger to assess contributions of mercury in the bay from their process water. These data will facilitate a mass limit or support a finding indicating there is minimum contribution of

mercury into the bay from the facility. This study was required in the December 21, 2005 13267 letter.

e) Provision D.5 (Thermal Study): This provision, based on the Thermal Plan and Section 316(a) of the Clean Water Act, requires the Discharger to characterize the extent of impacts associated with the thermal discharge. The Discharger submitted the most recent thermal plume characterization study relevant to Unit 3 in 1991. Completion of an updated thermal study will provide the Board with more definitive data to assess adverse impacts, if any, associated with the discharge of heated water during the next reissuance process. This study was required in the December 21, 2005 13267 letter.

f) Provision D.6 (Impingement/Entrainment Study): This provision is based on revised regulations under Clean Water Act Section 316(b) for existing facilities to determine BTA for minimizing adverse environmental impacts associated with impingement and/or entrainment. The Phase II Rule for cooling water intake structures effective September 7, 2004 require all existing steam electric facilities that meet certain requirements to either adopt a pre-approved technology to minimize adverse environmental impacts or conduct a Comprehensive Demonstration Study to identify the most cost-effective compliance strategy. The Discharger submitted an Entrainment Characterization Report to the Board on March 21, 2005. That report was peer reviewed, but has not been finalized. As noted in the Proposal for Information Collection submitted on February 17, 2006, the Discharger will further revise its analysis of this data in the context of the complete Comprehensive Demonstration Study. Impingement studies will commence no later than April 2006, pursuant to the December 21, 2005 13267 letter.

g) Provision D.7 (Intake Water Study): This provision, based on the SIP and Basin Plan, requires the Discharger to assess the appropriateness, if any, of intake water credits for pollutants for which a reasonable potential has been determined. Current influent and ambient background data indicate the presence of some pollutants in the intake. At this time, data are insufficient to determine the validity of granting intake credits as defined in section 1.4 of the SIP. Collection of additional intake data will ensure sufficient data to make an accurate determination of intake credits, if requested by the Discharger, during the next permit reissuance.

h) Provision D.8 (PCB Stormwater Sediment Study): This provision is based BPJ. Although PCBs were not detected in the effluent, the detection limits are above the WQO. The storm drain sediments have not been analyzed for PCBs. PCBs are more likely to be found in sediments than in the water. This study is required in order to verify that there is no presence of PCBs in storm drain sediment that could contribute to PCBs in the stormwater discharged. This study was required by the December 21, 2005 13267 letter.

i) Provision D.9 (Pollutant Minimization Program): This provision is based on the Basin Plan, pages 4-25 – 4-28, and the SIP, Section 2.1.

j) Provision D.10 (Whole Effluent Acute Toxicity): This provision establishes conditions by which compliance with permit effluent limitations for acute toxicity will be demonstrated. The Discharger is currently conducting a sensitivity screening on topsmelt (*Atherinops affinis*), three-spined stickleback (*Gasterosteus aculeatus*), and speckled sanddab (*Citharichthys stigmaeus*). All acute toxicity testing is in accordance with 5th Edition U.S. EPA protocol.

k) Provision D.11. (Whole Effluent Chronic Toxicity): This provision establishes conditions and protocol by which compliance with the Basin Plan narrative WQO for toxicity will be demonstrated. Conditions include required monitoring and evaluation of the effluent for chronic toxicity and numerical values for chronic toxicity evaluation to be used as "triggers" for initiating accelerated monitoring and toxicity reduction evaluation(s). This provision also requires the Discharger to conduct screening phase monitoring and implement toxicity identification and reduction evaluations when there is consistent chronic toxicity in the discharge. New testing species and/or test methodology may be available before the next permit renewal. Characteristics, and thus toxicity, of the process wastewater may also have changed during the life of the permit. This screening phase monitoring is important to help determine which test species is most sensitive to the toxicity of the effluent for future compliance monitoring. The proposed conditions in the draft permit for chronic toxicity are based on the Basin Plan narrative WQO for toxicity, Basin Plan effluent limitations for chronic toxicity (Basin Plan, Chapter 4), U.S. EPA and State Board Task Force guidance, applicable federal regulations [40 CFR 122.44(d)(1)(v)], and BPJ.

l) Provision D.12 (Optional Mass Offset): This option is provided to encourage the Discharger to further implement aggressive reduction of mass loads to San Francisco Bay.

m) Provision D.13 (Operations and Maintenance Manual and Reliability Report) and D.14 (Contingency Plan Update and Status Report): These provisions are based on the Basin Plan, the requirements of 40 CFR 122, and the previous permit.

n) Provision D.15 (New Water Quality Objectives): This provision allows future modification of the permit and permit effluent limitations as necessary in response to updated WQOs that may be established in the future. This provision is based on 40 CFR 123.

o) Provision D.16 (Self-Monitoring Program): 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 Self Monitoring Program (SMP) of the Permit. This provision requires compliance with the SMP and is based on 40 CFR 122.63. The SMP is a standard requirement in almost all NPDES permits issued by the 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 Board's policies. The SMP also 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.

p) Provision D.17 (Standard Provisions and Reporting Requirements): The purpose of this provision is to require compliance with the standard provisions and reporting requirements given in this Board's document titled *Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits, August 1993* (the Standard Provisions), or any amendments thereafter. That document is incorporated in the Order as an attachment to it. Where provisions or reporting requirements specified in the Order are different from equivalent or related provisions or reporting requirements given in the Standard Provisions, the permit specifications shall apply. The standard provisions and reporting requirements

given in the above document are based on various state and federal regulations with specific references cited therein.

q) Provision D.18 (Permit Reopener): This provision is based on 40 CFR 123.

r) Provision D.19 (NPDES Permit): This provision is based on 40 CFR 123.

s) Provisions D.20 (Order Expiration and Reapplication): This provision is based on 40 CFR 122.46(a).

t) Provisions D.21 (Change in Control or Ownership): This provision is based on 40 CFR 122.61.

V. WASTE DISCHARGE REQUIREMENT APPEALS

Any person may petition the State Water Resources Control Board to review the decision of the Board regarding the Waste Discharge Requirements. A petition must be made within 30 days of the Board public hearing.

VI. ATTACHMENTS

Attachment 1: RPA Results for Priority Pollutants
Attachment 2: Calculation of Final WQBELs
Attachment 3: Intake and Effluent Data
Attachment 4: RMP Data
Attachment 5: General Basis for Final Compliance Dates

Attachment 1

RPA Results for Priority Pollutants

Mirant Potrero Power Plant
NPDES Permit Reissuance
Reasonable Potential Analysis

Beginning			Step 2	Step 3					Step 4	Step 2	Step 3		Step 5	Step 6	Steps 7 & 8	Final Result	
		C (µg/L)						Maximum Pollutant Concentration from the effluent (MEC) (ug/L)	MEC vs. C					B vs. C	7) Review other information in the SIP page 4. If information is unavailable or insufficient: 8) the RWQCB shall establish interim monitoring requirements.		
	Constituent name	Lowest (most stringent) Criteria (Enter "No Criteria" for no criteria)	Effluent Data Available (Y/N)?	Are all data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant effluent detected max conc (ug/L)	If all data points are ND and MinDL>C, interim monitoring may be required	(MEC= deteted max value; if all ND & MDL<C then MEC = MDL)	1. If MEC> or =C, effluent limitation is required; 2. If MEC<C, go to Step 5	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant B detected max conc (ug/L)	If B>C and pollutant detected in effluent, effluent limitation is required; otherwise effluent monitoring is required.		RPA Result	Reason
1	Antimony	4,300	Y	N		0.6		0.6	MEC<C, go to Step 5	Y	N		1.8	B<C, Step 7		No	MEC<C & B<C
2	Arsenic	36	Y	N		4.67		4.67	MEC<C, go to Step 5	Y	N		2.46	B<C, Step 7		No	MEC<C & B<C
3	Beryllium	No Criteria	Y	N		1.16	No Criteria	No Criteria	No Criteria	Y	Y	0.01		No Criteria	No Criteria	Uo	No Criteria
4	Cadmium	9.4	Y	N		0.7		0.7	MEC<C, go to Step 5	Y	N		0.1268	B<C, Step 7		No	MEC<C & B<C
5a	Chromium (III)	No Criteria	N				No effluent data			N				No detected value of B, Step 7		Ud	no effluent data & no B
5b	Chromium (VI)	50.0	N				No effluent data			Y	N		4.4	B<C, Step 7		Ud	no effluent data & B<C
5	Total Chromium	50.0	Y	N		9.1		9.1	MEC<C, go to Step 5	Y	N		4.4	B<C, Step 7		No	MEC<C & B<C
6	Copper	3.73	Y	N		7.67		7.67	MEC>=C, Effluent Limit Required	Y	N		2.45	B<C, Step 7		Yes	MEC>C
7	Lead	8.5	Y	N		4.7		4.7	MEC<C, go to Step 5	Y	N		0.8	B<C, Step 7		No	MEC<C & B<C
8	Mercury (303d listed)	0.025	Y	N		0.0505		0.0505	MEC>=C, Effluent Limit Required	Y	N		0.0086	B<C, Step 7		Yes	MEC>C
9	Nickel	8.3	Y	N		4.42		4.42	MEC<C, go to Step 5	Y	N		3.68	B<C, Step 7		No	MEC<C & B<C
10	Selenium (303d listed)	5.0	Y	N		3.4		3.4	MEC<C, go to Step 5	Y	N		0.39	B<C, Step 7		No	MEC<C & B<C
11	Silver	2.2	Y	N		0.45		0.45	MEC<C, go to Step 5	Y	N		0.0516	B<C, Step 7		No	MEC<C & B<C
12	Thallium	6.3	Y	N		0.7		0.7	MEC<C, go to Step 5	Y	N		0.21	B<C, Step 7		No	MEC<C & B<C
13	Zinc	86	Y	N		18.9		18.9	MEC<C, go to Step 5	Y	N		4.4	B<C, Step 7		No	MEC<C & B<C
14	Cyanide	1.00	Y	Y	2.2		All ND, MinDL>C			Y	Y	0.4		No detected value of B, Step 7		No	Ud; effluent data and B are ND
15	Asbestos	No Criteria	Y	N		72.6	No Criteria	No Criteria	No Criteria	N				No Criteria	No Criteria	Uo	No Criteria
16	2,3,7,8 TCDD (303d listed)	0.000000014	Y	Y	0.00000087		All ND, MinDL>C			Y	N		8E-09	B<C, Step 7		No	Ud; effluent data ND, MDL>C & B<C
	Dioxin TEQ (303d listed)	0.000000014	Y	N		0.00000013		0.00000013	MEC>=C, Effluent Limit Required	Y	N		1.945E-07	B>C Effluent Limit Required		Yes	MEC>C
17	Acrolein	780	Y	Y	2.5		All ND, MDL<C, MEC=MDL	2.5	MEC<C, go to Step 5	Y	Y	0.5		No detected value of B, Step 7		No	MEC<C & B is ND
18	Acrylonitrile	0.66	Y	Y	0.21		All ND, MDL<C, MEC=MDL	0.21	MEC<C, go to Step 5	Y	N		0.03	B<C, Step 7		No	MEC<C & B<C
19	Benzene	71	Y	Y	0.11		All ND, MDL<C, MEC=MDL	0.11	MEC<C, go to Step 5	Y	Y	0.05		No detected value of B, Step 7		No	MEC<C & B is ND
20	Bromoform	360	Y	Y	0.34		All ND, MDL<C, MEC=MDL	0.34	MEC<C, go to Step 5	Y	Y	0.5		No detected value of B, Step 7		No	MEC<C & B is ND
21	Carbon Tetrachloride	4.4	Y	Y	0.15		All ND, MDL<C, MEC=MDL	0.15	MEC<C, go to Step 5	Y	N		0.06	B<C, Step 7		No	MEC<C & B<C
22	Chlorobenzene	21,000	Y	Y	0.12		All ND, MDL<C, MEC=MDL	0.12	MEC<C, go to Step 5	Y	Y	0.5		No detected value of B, Step 7		No	MEC<C & B is ND
23	Chlorodibromomethane	34	Y	Y	0.25		All ND, MDL<C, MEC=MDL	0.25	MEC<C, go to Step 5	Y	Y	0.05		No detected value of B, Step 7		No	MEC<C & B is ND
24	Chloroethane	No Criteria	Y	Y	0.29		No Criteria	No Criteria	No Criteria	Y	Y	0.5		No Criteria	No Criteria	Uo	No Criteria
25	2-Chloroethylvinyl ether	No Criteria	Y	Y	5		No Criteria	No Criteria	No Criteria	Y	Y	0.5		No Criteria	No Criteria	Uo	No Criteria
26	Chloroform	No Criteria	Y	Y	0.15		No Criteria	No Criteria	No Criteria	Y	Y	0.5		No Criteria	No Criteria	Uo	No Criteria
27	Dichlorobromomethane	46	Y	Y	0.15		All ND, MDL<C, MEC=MDL	0.15	MEC<C, go to Step 5	Y	Y	0.05		No detected value of B, Step 7		No	MEC<C & B is ND
28	1,1-Dichloroethane	No Criteria	Y	Y	0.13		No Criteria	No Criteria	No Criteria	Y	Y	0.05		No Criteria	No Criteria	Uo	No Criteria
29	1,2-Dichloroethane	99	Y	Y	0.24		All ND, MDL<C, MEC=MDL	0.24	MEC<C, go to Step 5	Y	N		0.04	B<C, Step 7		No	MEC<C & B<C
30	1,1-Dichloroethylene	3.2	Y	Y	0.22		All ND, MDL<C, MEC=MDL	0.22	MEC<C, go to Step 5	Y	Y	0.5		No detected value of B, Step 7		No	MEC<C & B is ND
31	1,2-Dichloropropane	39	Y	Y	0.39		All ND, MDL<C, MEC=MDL	0.39	MEC<C, go to Step 5	Y	Y	0.05		No detected value of B, Step 7		No	MEC<C & B is ND
32	1,3-Dichloropropylene	1,700	N				No effluent data			N				No detected value of B, Step 7		Ud	no effluent data & no B
33	Ethylbenzene	29,000	Y	Y	0.09		All ND, MDL<C, MEC=MDL	0.09	MEC<C, go to Step 5	Y	Y	0.5		No detected value of B, Step 7		No	MEC<C & B is ND
34	Methyl Bromide	4,000	Y	Y	0.66		All ND, MDL<C, MEC=MDL	0.66	MEC<C, go to Step 5	Y	Y	0.5		No detected value of B, Step 7		No	MEC<C & B is ND
35	Methyl Chloride	No Criteria	Y	Y	0.34		No Criteria	No Criteria	No Criteria	Y	Y	0.5		No Criteria	No Criteria	Uo	No Criteria
36	Methylene Chloride	1,600	Y	N		0.43		0.43	MEC<C, go to Step 5	Y	N		22	B<C, Step 7		No	MEC<C & B<C
37	1,1,2,2-Tetrachloroethane	11	Y	Y	0.17		All ND, MDL<C, MEC=MDL	0.17	MEC<C, go to Step 5	Y	Y	0.05		No detected value of B, Step 7		No	MEC<C & B is ND
38	Tetrachloroethylene	8.85	Y	Y	0.2		All ND, MDL<C, MEC=MDL	0.2	MEC<C, go to Step 5	Y	Y	0.05		No detected value of B, Step 7		No	MEC<C & B is ND
39	Toluene	200,000	Y	Y	0.15		All ND, MDL<C, MEC=MDL	0.15	MEC<C, go to Step 5	Y	Y	0.3		No detected value of B, Step 7		No	MEC<C & B is ND
40	1,2-Trans-Dichloroethylene	140,000	Y	Y	0.24		All ND, MDL<C, MEC=MDL	0.24	MEC<C, go to Step 5	Y	Y	0.5		No detected value of B, Step 7		No	MEC<C & B is ND
41	1,1,1-Trichloroethane	No Criteria	Y	Y	0.15		No Criteria	No Criteria	No Criteria	Y	Y	0.5		No Criteria	No Criteria	Uo	No Criteria
42	1,1,2-Trichloroethane	42	Y	Y	0.15		All ND, MDL<C, MEC=MDL	0.15	MEC<C, go to Step 5	Y	Y	0.05		No detected value of B, Step 7		No	MEC<C & B is ND
43	Trichloroethylene	81	Y	Y	0.14		All ND, MDL<C, MEC=MDL	0.14	MEC<C, go to Step 5	Y	Y	0.5		No detected value of B, Step 7		No	MEC<C & B is ND
44	Vinyl Chloride	525	Y	Y	0.13		All ND, MDL<C, MEC=MDL	0.13	MEC<C, go to Step 5	Y	Y	0.5		No detected value of B, Step 7		No	MEC<C & B is ND
45	2-Chlorophenol	400	Y	Y	0.101		All ND, MDL<C, MEC=MDL	0.101	MEC<C, go to Step 5	Y	Y	1.2		No detected value of B, Step 7		No	MEC<C & B is ND
46	2,4-Dichlorophenol	790	Y	Y	0.101		All ND, MDL<C, MEC=MDL	0.101	MEC<C, go to Step 5	Y	Y	1.3		No detected value of B, Step 7		No	MEC<C & B is ND
47	2,4-Dimethylphenol	2,300	Y	Y	0.505		All ND, MDL<C, MEC=MDL	0.505	MEC<C, go to Step 5	Y	Y	1.3		No detected value of B, Step 7		No	MEC<C & B is ND
48	2-Methyl- 4,6-Dinitrophenol	765	Y	Y	0.505		All ND, MDL<C, MEC=MDL	0.505	MEC<C, go to Step 5	Y	Y	1.2		No detected value of B, Step 7		No	MEC<C & B is ND
49	2,4-Dinitrophenol	14,000	Y	Y	0.505		All ND, MDL<C, MEC=MDL	0.505	MEC<C, go to Step 5	Y	Y	0.7		No detected value of B, Step 7		No	MEC<C & B is ND
50	2-Nitrophenol	No Criteria	Y	Y	0.101		No Criteria	No Criteria	No Criteria	Y	Y	1.3		No Criteria	No Criteria	Uo	No Criteria
51	4-Nitrophenol	No Criteria	Y	Y	0.505		No Criteria	No Criteria	No Criteria	Y	Y	1.6		No Criteria	No Criteria	Uo	No Criteria
52	3-Methyl 4-Chlorophenol	No Criteria	Y	Y	0.101		No Criteria	No Criteria	No Criteria	Y	Y	1.1		No Criteria	No Criteria	Uo	No Criteria
53	Pentachlorophenol	7.90	Y	Y	0.328		All ND, MDL<C, MEC=MDL	0.328	MEC<C, go to Step 5	Y	Y	1		No detected value of B, Step 7		No	MEC<C & B is ND
54	Phenol	4,600,000	Y	Y	0.101		All ND, MDL<C, MEC=MDL	0.101	MEC<C, go to Step 5	Y	Y	1.3		No detected value of B, Step 7		No	MEC<C & B is ND
55	2,4,6-Trichlorophenol	6.5	Y	Y	0.101		All ND, MDL<C, MEC=MDL	0.101	MEC<C, go to Step 5	Y	Y	1.3		No detected value of B, Step 7		No	MEC<C & B is ND
56	Acenaphthene	2,700	Y	Y	0.0101		All ND, MDL<C, MEC=MDL	0.0101	MEC<C, go to Step 5	Y	N		0.0015	B<C, Step 7		No	MEC<C & B<C
57	Acenaphthylene	No Criteria	Y	Y	0.0101		No Criteria	No Criteria	No Criteria	Y	N		0.00053	No Criteria	No Criteria	Uo	No Criteria
58	Anthracene	110,000	Y	Y	0.0101		All ND, MDL<C, MEC=MDL	0.0101	MEC<C, go to Step 5	Y	N		0.0005	B<C, Step 7		No	MEC<C & B<C
59	Benzidine	0.00054	Y	Y	0.505		All ND, MinDL>C			Y	Y	0.0015		No detected value of B, Step 7		No	Ud; effluent data and B are ND
60	Benzo(a)Anthracene	0.049	Y	Y	0.0101		All ND, MDL<C, MEC=MDL	0.0101	MEC<C, go to Step 5	Y	N		0.0053	B<C, Step 7		No	MEC<C & B<C
61	Benzo(a)Pyrene	0.049	Y	Y	0.0101		All ND, MDL<C, MEC=MDL	0.0101	MEC<C, go to Step 5	Y	N		0.00029	B<C, Step 7		No	MEC<C & B<C
62	Benzo(b)Fluoranthene	0.049	Y	Y	0.0202		All ND, MDL<C, MEC=MDL	0.0202	MEC<C, go to Step 5	Y	N		0.0046	B<C, Step 7		No	MEC<C & B<C
63	Benzo(ghi)Perylene	No Criteria	Y	Y	0.0101		No Criteria	No Criteria	No Criteria	Y	N		0.0027	No Criteria	No Criteria	Uo	No Criteria
64	Benzo(k)Fluoranthene	0.049	Y	Y	0.0202		All ND, MDL<C, MEC=MDL	0.0202	MEC<C, go to Step 5	Y	N		0.0015	B<C, Step 7		No	MEC<C & B<C
65	Bis(2-Chloroethoxy)Methane	No Criteria	Y	Y	0.101		No Criteria	No Criteria	No Criteria	Y	Y	0.3		No Criteria	No Criteria	Uo	No Criteria
66	Bis(2-Chloroethyl)Ether	1.40	Y	Y	0.101		All ND, MDL<C, MEC=MDL	0.101	MEC<C, go to Step 5	Y	Y	0.3		No detected value of B, Step 7		No	MEC<C & B is ND
67	Bis(2-Chloroisopropyl)Ether	170,000	Y	Y	0.101		All ND, MDL<C, MEC=MDL	0.101	MEC<C, go to Step 5	N				No detected value of B, Step 7		No	MEC<C & B is ND
68	Bis(2-Ethylhexyl)Phthalate	5.90	Y	Y	2.5		All ND, MDL<C, MEC=MDL	2.5	MEC<C, go to Step 5	Y	Y	0.5		No detected value of B, Step 7		No	MEC<C & B is ND
69	4-Bromophenyl Phenyl Ether	No Criteria	Y	Y	0.101		No Criteria	No Criteria	No Criteria	Y	Y	0.23		No Criteria	No Criteria	Uo	No Criteria

Mirant Potrero Power Plant
NPDES Permit Reissuance
Reasonable Potential Analysis

Beginning			Step 2	Step 3					Step 4	Step 2	Step 3		Step 5	Step 6	Steps 7 & 8	Final Result	
		C (µg/L)						Maximum Pollutant Concentration from the effluent (MEC) (ug/L)	MEC vs. C					B vs. C	7) Review other information in the SIP page 4. If information is unavailable or insufficient: 8) the RWQCB shall establish interim monitoring requirements.		
	Constituent name	Lowest (most stringent) Criteria (Enter "No Criteria" for no criteria)	Effluent Data Available (Y/N)?	Are all data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant effluent detected max conc (ug/L)	If all data points are ND and MinDL>C, interim monitoring may be required	(MEC= deteted max value; if all ND & MDL<C then MEC = MDL)	1. If MEC> or =C, effluent limitation is required; 2. If MEC<C, go to Step 5	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant B detected max conc (ug/L)	If B>C and pollutant detected in effluent, effluent limitation is required; otherwise effluent monitoring is required.		RPA Result	Reason
70	Butylbenzyl Phthalate	5,200	Y	Y	0.152		All ND, MDL<C, MEC=MDL	0.152	MEC<C, go to Step 5	Y	Y	0.5		No detected value of B, Step 7		**No**	**MEC<C & B is ND**
71	2-Chloronaphthalene	4,300	Y	Y	0.0101		All ND, MDL<C, MEC=MDL	0.0101	MEC<C, go to Step 5	Y	Y	0.3		No detected value of B, Step 7		**No**	**MEC<C & B is ND**
72	4-Chlorophenyl Phenyl Ether	No Criteria	Y	Y	0.101		No Criteria	No Criteria	No Criteria	Y	Y	0.3		No Criteria	No Criteria	**Uo**	**No Criteria**
73	Chrysene	0.049	Y	Y	0.0126		All ND, MDL<C, MEC=MDL	0.0126	MEC<C, go to Step 5	Y	N		0.0024	B<C, Step 7		**No**	**MEC<C & B<C**
74	Dibenzo(a,h)Anthracene	0.049	Y	Y	0.0101		All ND, MDL<C, MEC=MDL	0.0101	MEC<C, go to Step 5	Y	N		0.00064	B<C, Step 7		**No**	**MEC<C & B<C**
75	1,2-Dichlorobenzene	17,000	Y	Y	0.101		All ND, MDL<C, MEC=MDL	0.101	MEC<C, go to Step 5	Y	Y	0.3		No detected value of B, Step 7		**No**	**MEC<C & B is ND**
76	1,3-Dichlorobenzene	2,600	Y	Y	0.1		All ND, MDL<C, MEC=MDL	0.1	MEC<C, go to Step 5	Y	Y	0.3		No detected value of B, Step 7		**No**	**MEC<C & B is ND**
77	1,4-Dichlorobenzene	2,600	Y	Y	0.9		All ND, MDL<C, MEC=MDL	0.9	MEC<C, go to Step 5	Y	Y	0.3		No detected value of B, Step 7		**No**	**MEC<C & B is ND**
78	3,3 Dichlorobenzidine	0.077	Y	Y	0.505		All ND, MinDL>C			Y	Y	0.001		No detected value of B, Step 7		**No**	**Ud; effluent data and B are ND**
79	Diethyl Phthalate	120,000	Y	Y	0.101		All ND, MDL<C, MEC=MDL	0.101	MEC<C, go to Step 5	Y	Y	0.21		No detected value of B, Step 7		**No**	**MEC<C & B is ND**
80	Dimethyl Phthalate	2,900,000	Y	Y	0.101		All ND, MDL<C, MEC=MDL	0.101	MEC<C, go to Step 5	Y	Y	0.21		No detected value of B, Step 7		**No**	**MEC<C & B is ND**
81	Di-n-Butyl Phthalate	12,000	Y	Y	0.253		All ND, MDL<C, MEC=MDL	0.253	MEC<C, go to Step 5	Y	Y	0.5		No detected value of B, Step 7		**No**	**MEC<C & B is ND**
82	2,4-Dinitrotoluene	9.10	Y	Y	0.101		All ND, MDL<C, MEC=MDL	0.101	MEC<C, go to Step 5	Y	Y	0.27		No detected value of B, Step 7		**No**	**MEC<C & B is ND**
83	2,6-Dinitrotoluene	No Criteria	Y	Y	0.101		No Criteria	No Criteria	No Criteria	Y	Y	0.29		No Criteria	No Criteria	**Uo**	**No Criteria**
84	Di-n-Octyl Phthalate	No Criteria	Y	Y	0.101		No Criteria	No Criteria	No Criteria	Y	Y	0.38		No Criteria	No Criteria	**Uo**	**No Criteria**
85	1,2-Diphenylhydrazine	0.54	Y	Y	0.101		All ND, MDL<C, MEC=MDL	0.101	MEC<C, go to Step 5	Y	N		0.0037	B<C, Step 7		**No**	**MEC<C & B<C**
86	Fluoranthene	370	Y	Y	0.0101		All ND, MDL<C, MEC=MDL	0.0101	MEC<C, go to Step 5	Y	N		0.011	B<C, Step 7		**No**	**MEC<C & B<C**
87	Fluorene	14,000	Y	Y	0.0101		All ND, MDL<C, MEC=MDL	0.0101	MEC<C, go to Step 5	Y	N		0.939	B<C, Step 7		**No**	**MEC<C & B<C**
88	Hexachlorobenzene	0.00077	Y	Y	0.101		All ND, MinDL>C			Y	N		0.0000202	B<C, Step 7		**No**	**Ud; effluent data ND, MDL>C & B<C**
89	Hexachlorobutadiene	50	Y	Y	0.101		All ND, MDL<C, MEC=MDL	0.101	MEC<C, go to Step 5	Y	Y	0.3		No detected value of B, Step 7		**No**	**MEC<C & B is ND**
90	Hexachlorocyclopentadiene	17,000	Y	Y	0.5		All ND, MDL<C, MEC=MDL	0.5	MEC<C, go to Step 5	Y	Y	0.31		No detected value of B, Step 7		**No**	**MEC<C & B is ND**
91	Hexachloroethane	8.90	Y	Y	0.101		All ND, MDL<C, MEC=MDL	0.101	MEC<C, go to Step 5	Y	Y	0.2		No detected value of B, Step 7		**No**	**MEC<C & B is ND**
92	Indeno(1,2,3-cd)Pyrene	0.049	Y	Y	0.0101		All ND, MDL<C, MEC=MDL	0.0101	MEC<C, go to Step 5	Y	N		0.004	B<C, Step 7		**No**	**MEC<C & B<C**
93	Isophorone	600	Y	Y	0.101		All ND, MDL<C, MEC=MDL	0.101	MEC<C, go to Step 5	Y	Y	0.3		No detected value of B, Step 7		**No**	**MEC<C & B is ND**
94	Naphthalene	No Criteria	Y	N		0.898	No Criteria	No Criteria	No Criteria	Y	N		0.0023	No Criteria	No Criteria	**Uo**	**No Criteria**
95	Nitrobenzene	1,900	Y	Y	0.101		All ND, MDL<C, MEC=MDL	0.101	MEC<C, go to Step 5	Y	Y	0.25		No detected value of B, Step 7		**No**	**MEC<C & B is ND**
96	N-Nitrosodimethylamine	8.10	Y	Y	0.505		All ND, MDL<C, MEC=MDL	0.505	MEC<C, go to Step 5	Y	Y	0.3		No detected value of B, Step 7		**No**	**MEC<C & B is ND**
97	N-Nitrosodi-n-Propylamine	1.40	Y	Y	0.101		All ND, MDL<C, MEC=MDL	0.101	MEC<C, go to Step 5	Y	Y	0.001		No detected value of B, Step 7		**No**	**MEC<C & B is ND**
98	N-Nitrosodiphenylamine	16	Y	Y	0.101		All ND, MDL<C, MEC=MDL	0.101	MEC<C, go to Step 5	Y	Y	0.001		No detected value of B, Step 7		**No**	**MEC<C & B is ND**
99	Phenanthrene	No Criteria	Y	N		0.0243	No Criteria	No Criteria	No Criteria	Y	N		0.0061	No Criteria	No Criteria	**Uo**	**No Criteria**
100	Pyrene	11,000	Y	Y	0.0101		All ND, MDL<C, MEC=MDL	0.0101	MEC<C, go to Step 5	Y	N		0.0051	B<C, Step 7		**No**	**MEC<C & B<C**
101	1,2,4-Trichlorobenzene	No Criteria	Y	Y	0.101		No Criteria	No Criteria	No Criteria	Y	Y	0.3		No Criteria	No Criteria	**Uo**	**No Criteria**
102	Aldrin	0.00014	Y	Y	0.0095		All ND, MinDL>C			N				No detected value of B, Step 7		**No**	**MDL>C & No B**
103	alpha-BHC	0.013	Y	Y	0.0076		All ND, MDL<C, MEC=MDL	0.0076	MEC<C, go to Step 5	Y	N		0.000496	B<C, Step 7		**No**	**MEC<C & B<C**
104	beta-BHC	0.046	Y	Y	0.0095		All ND, MDL<C, MEC=MDL	0.0095	MEC<C, go to Step 5	Y	N		0.000413	B<C, Step 7		**No**	**MEC<C & B<C**
105	gamma-BHC	0.063	Y	Y	0.0085		All ND, MDL<C, MEC=MDL	0.0085	MEC<C, go to Step 5	Y	N		0.0007034	B<C, Step 7		**No**	**MEC<C & B<C**
106	delta-BHC	No Criteria	Y	Y	0.012		No Criteria	No Criteria	No Criteria	Y	N		0.000042	No Criteria	No Criteria	**Uo**	**No Criteria**
107	Chlordane (303d listed)	0.00059	Y	Y	0.47		All ND, MinDL>C			Y	N		0.00018	B<C, Step 7		**No**	**Ud; effluent data ND, MDL>C & B<C**
108	4,4'-DDT (303d listed)	0.00059	Y	Y	0.06		All ND, MinDL>C			Y	N		0.000066	B<C, Step 7		**No**	**Ud; effluent data ND, MDL>C & B<C**
109	4,4'-DDE (linked to DDT)	0.00059	Y	Y	0.045		All ND, MinDL>C			Y	N		0.000693	B>C but Effluent ND		**Ud**	**Ud; B>C, effluent data ND & MDL>C**
110	4,4'-DDD	0.00084	Y	Y	0.06		All ND, MinDL>C			Y	N		0.000313	B<C, Step 7		**No**	**Ud; effluent data ND, MDL>C & B<C**
111	Dieldrin (303d listed)	0.00014	Y	Y	0.031		All ND, MinDL>C			Y	N		0.000264	B>C but Effluent ND		**Ud**	**Ud; B>C, effluent data ND & MDL>C**
112	alpha-Endosulfan	0.0087	Y	Y	0.029		All ND, MinDL>C			Y	N		0.000031	B<C, Step 7		**No**	**Ud; effluent data ND, MDL>C & B<C**
113	beta-Endolsulfan	0.0087	Y	Y	0.041		All ND, MinDL>C			Y	N		0.000069	B<C, Step 7		**No**	**Ud; effluent data ND, MDL>C & B<C**
114	Endosulfan Sulfate	240	Y	Y	0.06		All ND, MDL<C, MEC=MDL	0.06	MEC<C, go to Step 5	Y	N		0.0000819	B<C, Step 7		**No**	**MEC<C & B<C**
115	Endrin	0.0023	Y	Y	0.027		All ND, MinDL>C			Y	N		0.000036	B<C, Step 7		**No**	**Ud; effluent data ND, MDL>C & B<C**
116	Endrin Aldehyde	0.81	Y	Y	0.06		All ND, MDL<C, MEC=MDL	0.06	MEC<C, go to Step 5	N				No detected value of B, Step 7		**No**	**MEC<C & B is ND**
117	Heptachlor	0.00021	Y	Y	0.0095		All ND, MinDL>C			Y	N		0.000019	B<C, Step 7		**No**	**Ud; effluent data ND, MDL>C & B<C**
118	Heptachlor Epoxide	0.00011	Y	Y	0.015		All ND, MinDL>C			Y	N		0.000094	B<C, Step 7		**No**	**Ud; effluent data ND, MDL>C & B<C**
119-125	PCBs sum (2)	0.00017	Y	N	0.00002	0.00094		0.00094	MEC>=C, Effluent Limit Required	Y	N		0.001462	B>C Effluent Limit Required		**Yes**	**MEC>C**
126	Toxaphene	0.0002	Y	Y	1		All ND, MinDL>C			N				No detected value of B, Step 7		**No**	**MDL>C & No B**
	Tributylin	0.01	N				No effluent data			Y	Y	0.001		No detected value of B, Step 7		**No**	**Ud, no effluent data & B is ND**
	Total PAHs	15.0	N				No effluent data			Y	N		0.052	B<C, Step 7		**Ud**	**no effluent data & B<C**

Attachment 2

Intake and Effluent Data

Mirant Potrero Power Plant
NPDES Permit Reissuance

Effluent Limitation Calculations (Per Section 1.4 of the SIP)

PRIORITY POLLUTANTS	Copper	Mercury
Units	**ug/L**	**ug/L**
Basis and Criteria type	BP, SW	BP, SW
Lowest WQO	3.73	0.025
Translators		
Dilution Factor (D) (if applicable)	0	0
no. of samples per month	4	4
Aquatic life criteria analysis required? (Y/N)	Y	Y
HH criteria analysis required? (Y/N)	N	Y
Applicable Acute WQO	5.78	2.1
Applicable Chronic WQO	3.73	0.025
HH criteria		0.051
Background (max conc for Aquatic Life calc)	2.549	0.0086
Background (avg conc for HH calc)		0.0035
Is the pollutant Bioaccumulative(Y/N)? (e.g., Hg)	N	Y
ECA acute	5.78	2.1
ECA chronic	3.73	0.025
ECA HH		0.051
No. of data points <10 or at least 80% of data reported non detect? (Y/N)	N	N
avg of data points	3.113	0.0074
SD	1.84	0.0083
CV calculated	0.592	1.122
CV (Selected) - Final	0.592	1.122
ECA acute mult99	0.32	0.18
ECA chronic mult99	0.53	0.34
LTA acute	1.88	0.39
LTA chronic	1.98	0.01
minimum of LTAs	1.88	0.01
AMEL mult95	1.54	2.06
MDEL mult99	3.08	5.43
AMEL (aq life)	2.90	0.02
MDEL(aq life)	5.78	0.05
MDEL/AMEL Multiplier	1.99	2.63
AMEL (human hlth)		0.051
MDEL (human hlth)		0.134
minimum of AMEL for Aq. life vs HH	2.90	0.018
minimum of MDEL for Aq. Life vs HH	5.78	0.046
Current limit in permit (30-d avg)	N/A	N/A
Current limits in permit (daily)	N/A	N/A
Final limit - Calculated AMEL	2.9	0.018
Final limit - Calculated MDEL	5.8	0.046
Max Effl Conc (MEC)	7.7	0.0505
Feasible for immediate compliance?	**No**	**No**
Interim Limits for those where TMDL is final limit	8.6	0.032

Attachment 3

RMP Data

Table 1
Intake Water Quality Data
Inorganics
Mirant Potrero Power Plant

Intake I-001

Date	<	Antimony (ug/L)	<	Arsenic (ug/L)	<	Beryllium (ug/L)	<	Cadmium (ug/L)	<	Chromium (ug/L)	<	Copper (ug/L)	<	Lead (ug/L)	<	Mercury (ug/L)	<	Nickel (ug/L)	<	Selenium (ug/L)	<	Silver (ug/L)	<	Thallium (ug/L)	<	Zinc (ug/L)	<	Cyanide (ug/L)
6/23/1999															<	0.2												
12/8/1999															<	0.2												
7/5/2000															<	0.1												
12/13/2000															<	0.2												
7/12/2001															<	0.2												
10/24/2001															<	0.2												
3/21/2002																											<	10
4/26/2002																											<	10
5/28/2002																											<	10
6/25/2002																0.0172											<	10
7/23/2002																0.00498											<	10
8/14/2002																0.00862											<	10
9/18/2002																0.00288											<	10
10/2/2002																0.00337											<	10
11/21/2002																0.00438											<	10
12/19/2002																0.1002											<	10
1/23/2003																0.00895											<	10
2/7/2003																0.00589											<	10
3/28/2003																											<	10
4/30/2003																											<	10
5/7/2003																											<	10
6/30/2003																												
8/25/2003																												
9/25/2003																												
10/22/2003															<	0.03												
10/31/2003																0.0088											<	10
11/7/2003																											<	10
12/4/2003																0.0091											<	10
1/31/2004																0.0115											<	5
2/9/2004																0.00533											<	5
3/3/2004																0.0196											<	5
4/2/2004																0.00621											<	5
4/28/2004		0.4		2.55	<	0.34		0.45		1.7		2.7		0.75				1.75		5.85		0.3		0.3	<	0.75		
4/29/2004	<	0.22		2.7	<	0.34		0.35		0.75		2.7		0.45			<	0.7		2.7		0.25		0.2	<	0.75		
5/4/2004				2.17				0.389		1.61		5.39		1.17				4.61	<	0.825	<	0.12		0.333		11.7		
5/5/2004				2.39				0.333		1.61		4.67		1.28		0.00944		2.61	<	0.825	<	0.12		0.333		7.56	<	5
5/11/2004				2.83				0.167		2.28		3.78		1.33				1.61	<	0.825		0.167		0.222		19.8		
5/13/2004				3.39			<	0.05		1.44		3.17		1				0.722	<	0.825	<	0.12		0.111	<	0.75		
5/18/2004				3.2			<	0.05		2.3		1.8		1				3.75	<	0.825		0.25		0.35	<	0.75		
5/19/2004				3.0				0.25		1.2		2.8		0.6				2.35	<	0.825		0.2		0.2		6.85		
5/24/2004				4.78				0.611		2.33		2.83		2.44				4.17		5.89		0.389		0.278	<	0.75		
5/25/2004				4.11				0.0556		1.94	<	0.695		1.94				3.06		1.78		0.389	<	0.105		4.83		
6/2/2004				2.95			<	0.05	<	3.6	<	0.695	<	1.12		0.00521	<	1.88	<	0.825		0.35	<	0.154	<	0.75	<	5
7/7/2004				3.85			<	0.05		0.75	<	0.695		0.9		0.0116		3.25		1.1	<	0.12		0.15	<	0.75	<	5
8/4/2004	<	0.96		2.55	<	1.88	<	0.69	<	3.6	<	3.94	<	1.12		0.00209	<	1.88	<	4.38	<	0.283		0.2	<	7.5	<	5
9/8/2004		0.444		2.39	<	0.378	<	0.0556		1.06		3.44		1.28	<	0.004		2.28	<	0.917		0.167	<	0.117	<	0.83	<	5
10/1/2004	<	0.22		1.7	<	0.34	<	0.05		0.6		1.95		0.15		0.001		1.95	<	0.825	<	0.12	<	0.105	<	0.75	<	5
11/3/2004	<	0.22		4.1	<	0.34		1.15		1.3		3.05		2.2		0.00253		2.9		1.6		0.6		0.55		4.1	<	5
12/2/2004		0.45		2.7	<	0.34		0.1		1.4		1.95		0.7		0.00468		2.2	<	0.825	<	0.12		0.75		2.15	<	5
1/11/2005		0.32		2.34		0.22		0.2		4.2		7.96		1.84		0.0145		6.46		0.9		0.18	<	0.042		44.1	<	17
6/30/2005	<	0.084		1.4	<	0.02	<	0.1	<	2		3.59		0.98		0.0071	<	1.8		0.7	<	0.02	<	0.01	<	3.8	<	2.2
7/27/2005	<	0.084		5.6		0.21	<	0.1		39.3		21.8		11.28		0.0083		30.9		0.6		0.13		0.07		49.6	<	2.2
8/23/2005		0.183		2.2	<	0.02	<	0.1		15.9		2.05		0.51		0.028		7.04		0.7		0.09		0.02	<	3.8	<	2.2
9/27/2005	<	0.42		1.956	<	0.1	<	0.1	<	2		1.69	<	0.5		0.00368	<	1.8	<	1.0	<	0.01	<	0.04	<	3.8	<	2.2
10/30/2005	<	1.02	<	6.64	<	1.28	<	0.714	<	1.21		1.8	<	0.553		0.00477	<	1.8	<	2.84	<	1.21	<	0.181		9.1	<	2.2
11/2/2005	<	1.02	<	6.64	<	1.28			<	1.21			<	0.553		0.00278	<	1.8	<	2.84			<	0.181	<	4.69	<	2.2
12/21/2005	<	1.02	<	6.64	<	1.28	<	0.714		4		2.8		0.8		0.00425		2.9	<	2.84				0.2	<	4.69	<	5
1/27/2006																0.00328											<	5

Notes:
Analytical results are summarized without qualifiers. Please refer to Mirant Potrero Power Plant's State Implementation Policy Report for detailed analytical results.

Table 2
Effluent Water Quality Data
Inorganics
Mirant Potrero Power Plant

Outfall E-001

Date	<	Antimony (ug/L)	<	Arsenic (ug/L)	<	Beryllium (ug/L)	<	Cadmium (ug/L)	<	Chromium (ug/L)	<	Copper (ug/L)	<	Lead (ug/L)	<	Mercury (ug/L)	<	Nickel (ug/L)	<	Selenium (ug/L)	<	Silver (ug/L)	<	Thallium (ug/L)	<	Zinc (ug/L)	<	Cyanide (ug/L)
3/21/2002																											<	10
4/26/2002																											<	10
5/28/2002																											<	10
6/25/2002																0.00923											<	10
7/23/2002																0.00448											<	10
8/14/2002																0.00778											<	10
9/18/2002																0.00303											<	10
10/2/2002																0.00322											<	10
11/21/2002																0.00464											<	10
12/19/2002																0.0505											<	10
1/23/2003																0.0138											<	10
2/7/2003																0.00617											<	10
3/28/2003																0.0107											<	10
4/30/2003																											<	10
5/7/2003																											<	10
6/30/2003																												
8/25/2003																												
9/25/2003																												
10/22/2003																												
10/31/2003																0.00640											<	10
11/7/2003																											<	10
12/4/2003																0.00400											<	10
1/31/2004																0.00506											<	5
2/9/2004																0.00526											<	5
3/3/2004																0.00403											<	5
4/2/2004																0.00679											<	5
4/28/2004		0.4		2.65	<	0.34		0.5		0.8		2.25		0.6			<	0.7		3.4		0.25		0.5	<	0.75		
4/29/2004		0.4		2.55	<	0.34		0.4		0.65		4.7		0.75			<	0.7		2.55		0.25		0.15	<	0.75		
5/4/2004				2.06				0.222		1.72		5		1				4.28	<	0.825	<	0.12	<	0.105		3.06		
5/5/2004				2.67				0.444		1.06		3.61		1.39		0.0101		1.56	<	0.825	<	0.12	<	0.105		18.9	<	5
5/11/2004				3.17			<	0.05		1.44		7.17		0.889				1.72	<	0.825	<	0.121		0.278		1.13		
5/13/2004				3.5			<	0.05		1.11		2.28		0.722			<	0.7	<	0.825	<	0.12	<	0.105		5.89		
5/18/2004				2.55				0.1		1.65		2.4		0.85				3.2	<	0.825		0.2		0.4		6.2		
5/19/2004				2.55				0.05		1.8		3		0.95				3.2	<	0.825		0.25		0.15		8.65		
5/24/2004				4				0.167		2.39		3.33		1.94				3.17		1.94		0.389		0.222		2.72		
5/25/2004				4.67				0.0556		2.72		1.28		1.78				4.33		2		0.389	<	0.105		8.72		
6/2/2004				3.05			<	0.05	<	3.6	<	0.695	<	1.12		0.00864	<	1.88	<	0.825		0.200		0.3	<	0.75	<	5
7/7/2004				3.55			<	0.05		0.6		2.55		1.55		0.0106		4.35		1.8	<	0.12	<	0.105	<	0.75	<	5
8/4/2004	<	0.96		2.3	<	1.88	<	0.69	<	3.6	<	3.94	<	1.12		0.00232	<	1.88	<	4.38		0.4		0.35	<	7.5	<	5
9/8/2004		0.278		3.33		0.667		0.111		1.56		7.67		0.611	<	0.004	<	2.09	<	0.917	<	0.133	<	0.117	<	0.833	<	5
10/1/2004		0.6		2.3		0.5		0.05	<	0.31		0.9		0.45		0.00286		2.1	<	0.825		0.45		0.7	<	0.75	<	5
11/3/2004		0.35			<	0.34		0.7						4.7		0.00415			<	0.825		0.4	<	0.105		10.2	<	5
12/2/2004	<	0.22		2.85	<	0.34		0.3		1.25		2.9		0.95		0.00532		2.5	<	0.825		0.35	<	0.105		3.4	<	5
1/11/2005		0.36		2.14		1.16		0.22		3.76		4.84		1.56		0.0099		4.42		0.94		0.06	<	0.042		10.1	<	17
6/30/2005		0.105		1.6	<	0.02	<	0.1	<	2		1.28	<	0.5		0.0081	<	1.8		0.4		0.02	<	0.01	<	3.8	<	2.2
7/27/2005		0.097		1.5	<	0.02	<	0.1	<	2		4.16	<	0.5		0.0062	<	1.8		0.3		0.03		0.02		4.07	<	2.2
8/23/2005	<	0.084		1.8	<	0.02	<	0.1	<	11.8		3.33		2.25		0.012		4.17		0.6	<	0.02	<	0.01	<	3.8	<	2.2
9/27/2005	<	0.42		2.0	<	0.1	<	0.12	<	2		1.33	<	0.5		0.0026	<	1.8		1.36	<	0.01	<	0.04	<	3.8	<	2.2
10/30/2005	<	1.02	<	6.64	<	1.28	<	0.714	<	1.21		2.2	<	0.553		0.004		1.9	<	2.84	<	1.21		0.2		5.4	<	2.2
11/2/2005	<	1.02	<	6.64	<	1.28			<	1.21			<	0.553		0.00339	<	1.8	<	2.84			<	0.181	<	4.69	<	2.2
12/21/2005			<	6.64	<	1.28	<	0.714		9.1		3.1	<	0.553		0.00453		2.8	<	2.84				0.5	<	4.69	<	5
1/27/2006																0.00307											<	5

Notes:
Analytical results are summarized without qualifiers. Please refer to Mirant Potrero Power Plant's State Implementation Policy Report for detailed analytical results.

Table 3
Effluent Water Quality Data
Organics
Mirant Potrero Power Plant

	CAS Number	Constituent name	6/25/02	11/21/02	10/22/03	12/4/03	5/5/04	11/3/04	1/11/05	7/27/05	1/27/06	Minimum MDL (RL)	MEC
15	1332-21-4	**Asbestos (millions of fibers per liter, MFL)**	6.4	72.6	-	-	< 0.2	< 0.2	-	-	-		72.6
16	1746-01-6	**2,3,7,8 TCDD**	< 2E-06	< 0.000005	-	< 2.5E-06	< 6.3E-06	< 8.7E-07	< 1.7E-05	< 0.00001	-	0.00000087	
17	107-02-8	**Acrolein**	-	-	< 2.5	< 2.5	-	-	-	-	-	2.5	
18	107-13-1	**Acrylonitrile**	-	-	< 2.5	< 2.5	< 0.26	< 0.26	< 0.26	-	< 0.21	0.21	
19	71-43-2	**Benzene**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	< 0.5	< 0.11	0.11	
20	75-25-2	**Bromoform**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	< 0.5	< 0.34	0.34	
21	56-23-5	**Carbon Tetrachloride**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.37	< 0.37	< 0.37	< 0.5	< 0.15	0.15	
22	108-90-7	**Chlorobenzene**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	< 0.5	< 0.12	0.12	
23	124-48-1	**Chlorodibromomethane**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	< 0.25	0.25	
24	75-00-3	**Chloroethane**	< 1	< 1	< 0.5	< 0.5	-	-	-	< 0.5	< 0.29	0.29	
25	110-75-8	**2-Chloroethyl vinyl ether**	< 5	< 5	-	-	-	-	-	-	-	5	
26	67-66-3	**Chloroform**	< 1	< 1	< 0.5	< 0.5	-	-	-	< 0.5	< 0.15	0.15	
27	75-27-4	**BromoDichloromethane**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	< 0.5	< 0.15	0.15	
28	75-34-3	**1,1-Dichloroethane**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	< 0.5	< 0.13	0.13	
29	107-06-2	**1,2-Dichloroethane**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.42	< 0.42	< 0.42	< 0.5	< 0.24	0.24	
30	75-35-4	**1,1-Dichloroethylene**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	< 0.5	< 0.22	0.22	
31	78-87-5	**1,2-Dichloropropane**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	< 0.5	< 0.39	0.39	
32	542-75-6	**1,3-Dichloropropylene**	-	-	-	-	-	-	-	-	-	-	-
33	100-41-4	**Ethylbenzene**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	< 0.5	< 0.09	0.09	
34	74-83-9	**Methyl Bromide (Bromomethane)**	< 1	< 1	< 1.25	< 1.25	-	-	-	-	< 0.66	0.66	
35	74-87-3	**Methyl Chloride (Chloromethane)**	< 1	< 1	< 1	< 1	-	-	-	-	< 0.34	0.34	
36	75-09-2	**Methylene Chloride**	< 5	< 5	< 1	< 1	< 0.23	0.43	< 0.23	< 0.5	< 0.91		0.43
37	79-34-5	**1,1,2,2-Tetrachloroethane**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	< 0.17	0.17	
38	127-18-4	**Tetrachloroethylene**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	< 0.2	0.2	
39	108-88-3	**Toluene**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	< 0.15	0.15	
40	156-60-5	**1,2-trans-Dichloroethylene**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	< 0.24	0.24	
41	71-55-6	**1,1,1-Trichloroethane**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	< 0.15	0.15	
42	79-00-5	**1,1,2-Trichloroethane**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	< 0.15	0.15	
43	79-01-6	**Trichloroethylene**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	< 0.14	0.14	
44	75-01-4	**Vinyl Chloride**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	< 0.13	0.13	
45	95-57-8	**2-Chlorophenol**	-	-	< 0.991	< 0.101	-	-	-	< 2.1	< 5.3	0.101	
46	120-83-2	**2,4-Dichlorophenol**	-	-	< 0.991	< 0.101	-	-	-	< 2.3	< 6	0.101	
47	105-67-9	**2,4-Dimethylphenol**	-	-	< 4.96	< 0.505	-	-	-	< 2.2	< 4.2	0.505	
48	534-52-1	**2-Methyl- 4,6-Dinitrophenol**	-	-	< 4.96	< 0.505	-	-	-	< 1.1	< 4.5	0.505	
49	51-28-5	**2,4-Dinitrophenol**	-	-	< 4.96	< 0.505	-	-	-	< 5.3	< 6.4	0.505	
50	88-75-5	**2-Nitrophenol**	-	-	< 0.991	< 0.101	-	-	-	< 2	< 3.4	0.101	
51	100-02-7	**4-Nitrophenol**	-	-	< 4.96	< 0.505	-	-	-	< 5.5	< 3.7	0.505	
52	59-50-7	**4-Chloro-3-methylphenol**	-	-	< 0.991	< 0.101	-	-	-	< 1.5	< 4.7	0.101	
53	87-86-5	**Pentachlorophenol**	-	-	< 3.22	< 0.328	-	-	-	< 1.4	< 4.4	0.328	
54	108-95-2	**Phenol**	-	-	< 0.991	< 0.101	-	-	-	< 1.9	< 3	0.101	
55	88-06-2	**2,4,6-Trichlorophenol**	-	-	< 0.991	< 0.101	-	-	-	< 2.7	< 6.1	0.101	
56	83-32-9	**Acenaphthene**	-	-	< 0.248	< 0.0101	-	-	-	< 0.88	< 2.7	0.0101	
57	208-96-8	**Acenaphthylene**	-	-	< 0.248	< 0.0101	-	-	-	< 1.2	< 3	0.0101	
58	120-12-7	**Anthracene**	-	-	< 0.248	< 0.0101	-	-	-	< 0.84	< 2.5	0.0101	
59	92-87-5	**Benzidine**	-	-	< 4.96	< 0.505	< 50	< 50	< 50	< 26	< 5.0	0.505	
60	56-55-3	**Benzo(a)Anthracene**	< 2	< 2	< 0.248	< 0.0101	< 2.4	< 2.4	< 2.4	< 1.2	< 2.4	0.0101	
61	50-32-8	**Benzo(a)Pyrene**	< 2	< 2	< 0.248	< 0.0101	< 2.7	< 2.7	< 2.7	< 0.64	< 2.7	0.0101	
62	205-99-2	**Benzo(b)Fluoranthene**	< 2	< 2	< 0.496	< 0.0202	-	< 5	< 5	< 3.6	< 5	0.0202	
63	191-24-2	**Benzo(ghi)Perylene**	-	-	< 0.248	< 0.0101	-	-	-	< 0.99	< 4.5	0.0101	
64	207-08-9	**Benzo(k)Fluoranthene**	< 2	< 2	< 0.496	< 0.0202	-	< 5	< 5	< 1.9	< 5	0.0202	
65	111-91-1	**Bis(2-Chloroethoxy)Methane**	-	-	< 0.991	< 0.101	-	-	-	< 2	< 4.4	0.101	
66	111-44-4	**Bis(2-Chloroethyl)Ether**	-	-	< 0.991	< 0.101	-	-	-	< 1.5	< 4.2	0.101	
67	108-60-1	**Bis(2-Chloroisopropyl)Ether**	-	-	< 0.991	< 0.101	-	-	-	< 1.6	< 4.6	0.101	
68	117-81-7	**Bis(2-Ethylhexyl)Phthalate**		< 10	< 7.43			< 2.5	< 2.5	< 7.0	< 2.5	2.5	
69	101-55-3	**4-Bromophenyl Phenyl Ether**	-	-	< 0.991	< 0.101	-	-	-	< 0.92	< 2.4	0.101	
70	85-68-7	**Butylbenzyl Phthalate**	-	-	< 1.49	< 0.152	-	-	-	< 1.7	< 2.6	0.152	
71	91-58-7	**2-Chloronaphthalene**	-	-	< 0.248	< 0.0101	-	-	-	< 1.5	< 3.5	0.0101	
72	7005-72-3	**4-Chlorophenyl Phenyl Ether**	-	-	< 0.991	< 0.101	-	-	-	< 0.96	< 2.1	0.101	
73	218-01-9	**Chrysene**	< 2	< 2	< 0.248	< 0.0126	< 2.3	< 2.3	< 2.3	< 0.52	< 2.3	0.0126	
74	53-70-3	**Dibenzo(a,h)Anthracene**	< 2	< 2	< 0.248	< 0.0101	< 4.6	< 4.6	< 4.6	< 2.7	< 4.6	0.0101	
75	95-50-1	**1,2-Dichlorobenzene**	< 0.5	< 0.5	< 0.5	< 0.101	-	-	-	< 1.2	< 0.14	0.101	
		1,2-Dichlorobenzene	-	-	< 0.991	< 0.5	-	-	-	< 0.5	-	-	
76	541-73-1	**1,3-Dichlorobenzene**	< 0.5	< 0.5	< 0.5	< 0.101	-	-	-	< 5.6	< 0.1	0.1	
		1,3-Dichlorobenzene	-	-	< 0.991	< 0.5	-	-	-	-	-	-	-
77	106-46-7	**1,4-Dichlorobenzene**	< 0.5	< 0.5	< 0.5	< 0.101	-	-	-	< 1.1	< 0.09	0.09	
		1,4-Dichlorobenzene	-	-	< 0.991	< 0.5	-	-	-	-	-	-	-
78	91-94-1	**3,3 Dichlorobenzidine**	< 5	< 5	< 4.96	< 0.505	< 8.7	< 8.7	< 8.7	< 5.6	< 8.7	0.505	
79	84-66-2	**Diethyl Phthalate**	-	-	< 0.991	< 0.101	-	-	-	< 1.1	< 2.3	0.101	
80	131-11-3	**Dimethyl Phthalate**	-	-	< 0.991	< 0.101	-	-	-	< 1.1	< 2.2	0.101	
81	84-74-2	**Di-n-Butyl Phthalate**	-	-	< 0.991	< 0.253	-	-	-	< 0.66	< 2.7	0.253	
82	121-14-2	**2,4-Dinitrotoluene**	-	-	< 0.991	< 0.101	-	-	-	< 1.1	< 2.9	0.101	
83	606-20-2	**2,6-Dinitrotoluene**	-	-	< 0.991	< 0.101	-	-	-	< 1.2	< 2.7	0.101	
84	117-84-0	**Di-n-Octyl Phthalate**	-	-	< 0.991	< 0.101	-	-	-	< 1.7	< 3	0.101	
85	122-66-7	**1,2-Diphenylhydrazine**	-	-	< 2.48	< 0.101	-	< 5	-	-	< 5	0.101	
86	206-44-0	**Fluoranthene**	-	-	< 0.248	< 0.0101	-	-	-	< 0.6	< 2.4	0.0101	
87	86-73-7	**Fluorene**	-	-	< 0.248	< 0.0101	-	-	-	< 0.88	< 2.2	0.0101	
88	118-74-1	**Hexachlorobenzene**	< 2	< 2	< 0.991	< 0.101	< 2.2	< 2.2	< 2.2	< 0.89	< 2.2	0.101	
89	87-68-3	**Hexachlorobutadiene**	< 1	< 1	< 0.5	< 0.101	-	-	-	< 1.5	< 0.3	0.101	
		Hexachlorobutadiene	-	-	< 0.991	< 0.5	-	-	-	< 2	-	-	-
90	77-47-4	**Hexachlorocyclopentadiene**	-	-	< 0.991	< 0.505	-	-	-	< 1.4	< 6	0.5	
		Hexachlorocyclopentadiene	-	-	< 4.96	< 0.5	-	-	-	-	-	-	-
91	67-72-1	**Hexachloroethane**	-	-	< 0.991	< 0.101	-	-	-	< 1.3	-	0.101	
92	193-39-5	**Indeno(1,2,3-cd)Pyrene**	< 2	< 2	< 0.248	< 0.0101	< 4.2	< 4.2	< 4.2	< 0.69	< 4.2	0.0101	
93	78-59-1	**Isophorone**	< 2	< 2	< 0.991	< 0.101	< 3.2	< 3.2	< 3.2	< 1.2	< 3.2	0.101	
94	91-20-3	**Naphthalene**	< 1	< 1	< 1	0.898	-	-	-	< 0.86	< 0.17		0.898
		Naphthalene	-	-	< 0.297	< 1	-	-	-	< 5	-	-	-
95	98-95-3	**Nitrobenzene**	-	-	< 0.991	< 0.101	-	-	-	< 1.1	< 4.5	0.101	
96	62-75-9	**N-Nitrosodimethylamine**	-	-	< 4.96	< 0.505	-	-	-	-	< 3.8	0.505	
97	621-64-7	**N-Nitroso-di-n-Propylamine**	< 2	< 2	< 0.991	< 0.101	< 3.8	< 3.8	< 3.8	< 1.8	< 3.8	0.101	
98	86-30-6	**N-Nitrosodiphenylamine**	< 2	< 1	< 0.991	< 0.101	< 3.1	< 3.1	< 3.1	< 3.3	< 3.1	0.101	
99	85-01-8	**Phenanthrene**	-	-	< 2.48	0.0243	-	-	-	< 0.58	< 2.4		0.0243
100	129-00-0	**Pyrene**	-	-	< 0.248	< 0.0101	-	-	-	< 0.77	< 2.8	0.0101	
101	120-82-1	**1,2,4-Trichlorobenzene**	< 1	< 1	< 0.5	< 0.101	-	-	-	< 0.5	< 0.37	0.101	
		1,2,4-Trichlorobenzene	-	-	< 0.991	< 0.5	-	-	-	-	-	-	-
102	309-00-2	**Aldrin**	< 0.06	< 0.06	-	< 0.06	< 0.0095	< 0.0095	< 0.0096	< 0.024	-	0.0095	
103	319-84-6	**alpha-BHC**	< 0.06	< 0.06	-	< 0.06	< 0.0076	< 0.0076	< 0.0077	< 0.024	-	0.0076	
104	319-85-7	**beta-BHC**	< 0.06	< 0.06	-	< 0.06	< 0.0095	< 0.0095	< 0.0096	< 0.024	-	0.0095	
105	58-89-9	**gamma-BHC**	< 0.06	< 0.06	-	< 0.06	< 0.0085	< 0.0085	< 0.0087	< 0.024	-	0.0085	
106	319-86-8	**delta-BHC**	< 0.06	< 0.06	-	< 0.06	< 0.012	< 0.012	< 0.012	< 0.024	-	0.012	
107	57-74-9	**Chlordane**	< 1	< 1	-	< 1	< 0.47	< 0.47	< 0.48	< 0.47	-	0.47	
108	50-29-3	**4,4'-DDT**	< 0.06	< 0.06	-	< 0.06	< 0.12	< 0.12	< 0.12	< 0.14	-	0.06	
109	72-55-9	**4,4'-DDE (linked to DDT)**	< 0.06	< 0.06	-	< 0.06	< 0.045	< 0.045	< 0.045	< 0.047	-	0.045	
110	72-54-8	**4,4'-DDD**	< 0.06	< 0.06	-	< 0.06	< 0.11	< 0.11	< 0.11	< 0.14	-	0.06	
111	60-57-1	**Dieldrin**	< 0.06	< 0.06	-	< 0.06	< 0.031	< 0.031	< 0.032	< 0.047	-	0.031	
112	959-98-8	**alpha-Endosulfan**	< 0.06	< 0.06	-	< 0.06	< 0.029	< 0.029	< 0.03	< 0.047	-	0.029	
113	33213-65-9	**beta-Endolsulfan**	< 0.06	< 0.06	-	< 0.06	< 0.041	< 0.041	< 0.041	< 0.047	-	0.041	
114	1031-07-8	**Endosulfan Sulfate**	< 0.06	< 0.06	-	< 0.06	< 0.12	< 0.12	< 0.12	< 0.14	-	0.06	
115	72-20-8	**Endrin**	< 0.06	< 0.06	-	< 0.06	< 0.027	< 0.027	< 0.027	< 0.047	-	0.027	
116	7421-93-4	**Endrin Aldehyde**	< 0.06	< 0.06	-	< 0.06	< 0.12	< 0.12	< 0.12	< 0.14	-	0.06	
117	76-44-8	**Heptachlor**	< 0.06	< 0.06	-	< 0.06	< 0.0095	< 0.0095	< 0.0096	< 0.024	-	0.0095	
118	1024-57-3	**Heptachlor Epoxide**	< 0.06	< 0.06	-	< 0.06	< 0.015	< 0.015	< 0.015	< 0.024	-	0.015	
119	12674-11-2	**Aroclor-1016**	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	-	< 0.5	-	0.5	

Table 3
Effluent Water Quality Data
Organics
Mirant Potrero Power Plant

	CAS Number	Constituent name	6/25/02	11/21/02	10/22/03	12/4/03	5/5/04	11/3/04	1/11/05	7/27/05	1/27/06	Minimum MDL (RL)	MEC
120	11104-28-2	**Aroclor-1221**	< 0.5	< 0.5	-	< 0.5	< 1.0	< 0.5	-	< 0.5	-	0.5	
121	11141-16-5	**Aroclor-1232**	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	-	< 0.5	-	0.5	
122	53469-21-9	**Aroclor-1242**	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	-	< 0.5	-	0.5	
123	12672-29-6	**Aroclor-1248**	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	-	< 0.5	-	0.5	
124	11097-69-1	**Aroclor-1254**	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	-	< 0.5	-	0.5	
125	11096-82-5	**Aroclor-1260**	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	-	< 0.5	-	0.5	
126	8001-35-2	**Toxaphene**	< 1.0	< 1.0	-	< 1.0	< 1.9	< 1.9	< 1.9	< 1.9	-	1.0	
		Other Organics (not included in the 126 Priority Pollutant list)											
	1634-04-4	**Methyl tert-Butyl Ether (MTBE)**	< 5	< 5	-	-	-	-	-	-	< 0.15		
	67-64-1	**Acetone**	< 50	< 50	-	-	-	-	-	-	-		
	108-86-1	**Bromobenzene**	< 1	< 1	< 0.5	< 0.5	-	-	-	< 0.5	< 0.4		
	74-97-5	**Bromochloromethane**	< 1	< 1	< 0.5	< 0.5	-	-	-	< 0.5	< 0.63		
	78-93-3	**2-Butanone**	< 5	< 5	-	-	-	-	-	-	-		
	104-51-8	**n-Butylbenzene**	< 1	< 1	< 0.5	< 0.5	-	-	-	< 0.5	< 0.13		
	135-98-8	**sec-Butylbenzene**	< 1	< 1	< 0.5	< 0.5	-	-	-	< 0.5	< 0.09		
	98-06-6	**tert-Butylbenzene**	< 1	< 1	< 0.5	< 0.5	-	-	-	< 0.5	< 0.13		
	75-15-0	**Carbon Disulfide**	< 5	< 5	-	-	-	-	-	-	-		
	95-49-8	**2-Chlorotoluene**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	< 0.5	< 0.49		
	106-43-4	**4-Chlorotoluene**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	< 0.5	< 0.33		
	142-28-9	**1,3-Dichloropropane**	< 1	< 1	< 0.5	< 0.5	-	-	-	< 0.5	< 0.24		
	594-20-7	**2,2-Dichloropropane**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	< 2	< 0.26		
	563-58-6	**1,1-Dichloropropene**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	< 0.5	< 0.24		
	96-12-8	**1,2-Dibromo-3-chloropropane**	< 1	< 1	< 0.5	< 0.5	-	-	-	< 1	< 0.83		
	106-93-4	**1,2-Dibromoethane**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	< 0.5	< 0.27		
	74-95-3	**Dibromomethane**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	< 0.5	< 0.25		
	75-71-8	**Dichlorodifluoromethane (Freon 12)**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	< 0.5	< 0.27		
	156-59-2	**1,2-cis-Dichloroethylene**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	< 0.26		
	10061-01-5	**cis-1,3-Dichloropropylene**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	-		
	10061-02-6	**trans-1,3-Dichloropropylene**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	-		
	591-78-6	**2-Hexanone**	< 50	< 50	-	-	-	-	-	-	-		
	98-82-8	**Isopropylbenzene**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	< 0.5	< 0.14		
	99-87-6	**p-Isopropyltoluene**	< 1	< 1	< 0.5	< 0.5	-	-	-	< 0.5	< 0.1		
	108-10-1	**4-Methyl-2-pentanone**	< 50	< 50	-	-	-	-	-	-	-		
	103-65-1	**Propylbenzene**	< 1	< 1	< 0.5	< 0.5	-	-	-	< 0.5	< 0.12		
	100-42-5	**Styrene**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	< 0.5	< 0.12		
	630-20-6	**1,1,1,2-Tetrachloroethane**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	< 0.5	< 0.28		
	87-61-6	**1,2,3-Trichlorobenzene**	< 1	< 1	< 0.5	< 0.5	-	-	-	< 0.5	< 0.71		
	75-69-4	**Trichlorofluromethane**	< 1	< 1	< 0.5	< 0.5	-	-	-	< 0.5	< 0.2		
	96-18-4	**1,2,3-Trichloropropane**	-	-	< 0.5	< 0.5	-	-	-	< 0.5	< 0.32		
	76-13-1	**1,1,1-Trichlorotrifluoroethane (Freon 113)**	< 0.5	0.5	-	-	-	-	-	-	-		
	95-63-6	**1,2,4-Trimethylbenzene**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-	< 0.18		
	108-67-8	**1,3,5-Trimethylbenzene**	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	< 0.5	< 0.14		
	108-05-4	**Vinyl Acetate**	< 25	< 25	-	-	-	-	-	-	-		
	OER-100-48	**m,p-Xylenes**	-	-	< 1	< 1	-	-	-	-	-		
	95-47-6	**o-Xylene**	-	-	< 0.5	< 0.5	-	-	-	-	-		
	1330-20-7	**Total Xylenes**	< 1	< 1	-	-	-	-	-	< 0.5	< 0.66		
	53494-70-5	**Endrin ketone**	< 0.06	< 0.06	-	< 0.06	< 0.12	< 0.12	< 0.12	-			
	72-43-5	**Methoxychlor**	< 0.06	< 0.06	-	< 0.06	< 0.095	< 0.095	< 0.096	-			
	5103-71-9	**alpha-Chlordane**	< 0.06	< 0.06	-	< 0.06	-	-	-	-			
	5103-74-2	**gamma-Chlordane**	< 0.06	< 0.06	-	< 0.06	-	-	-	-			
	GIS-210-008	**Total Residue**	-	-	-	3400	-	-	-	-			
	95-95-4	**2,4,5-Trichlorophenol**	-	-	< 0.991	-	-	-	-	-			
	91-57-6	**2-Methylnaphthalene**	-	-	< 0.248	-	-	-	-	< 0.85			
	95-48-7	**2-Methylphenol**	-	-	< 0.991	-	-	-	-	< 0.93			
	88-74-4	**2-Nitroaniline**	-	-	< 0.991	-	-	-	-	< 0.87			
	OER-101-66	**3-methylphenol/4-methylphenol**	-	-	< 1.98	-	-	-	-	< 1.2			
	99-09-2	**3-Nitroaniline**	-	-	< 0.991	-	-	-	-	< 2.1			
	106-47-8	**4-Chloroaniline**	-	-	< 1.49	-	-	-	-	< 2.1			
	106-44-5	**4-Methylphenol**	-	-	-	-	-	-	-	< 1.2			
	100-01-6	**4-Nitroaniline**	-	-	< 0.991	0.505	-	-	-	< 1.5			
	103-33-3	**Azobenzene**	-	-	-	-	-	< 2.8	< 2.8	< 5	< 2.8		
	65-85-0	**Benzoic Acid**	-	-	< 4.96	-	-	-	-	< 19			
	100-51-6	**Benzyl Alcohol**	-	-	< 0.991	-	-	-	-	< 1.7			
		Benzofluoranthenes	-	-	< 0.496	< 0.0202	-	-	-	-			
	86-74-8	**Carbazole**	-	-	-	< 0.101	-	-	-	-			
	132-64-9	**Dibenzofuran**	-	-	< 0.991		-	-	-	< 1.1			
		Dioxins and Furans (pg/L)										**Minimum MDL (RL)**	**MEC**
	51207-31-9	**2,3,7,8-TCDF**	< 1.4	3.3	-	< 2	< 4.1	< 0.99	< 8.5	< 10	-	NA	NA
	57117-41-6	**1,2,3,7,8-PeCDF**	< 2.4	< 9.5	-	< 2.8	< 6.5	< 0.91	< 4.8	< 50	-	NA	NA
	57117-31-4	**2,3,4,7,8-PeCDF**	< 2.4	< 9.4	-	< 2.8	< 3.5	< 0.53	< 3.4	< 50	-	NA	NA
	70648-26-9	**1,2,3,4,7,8-HxCDF**	< 2.4	< 6.1	-	< 3.7	< 4	< 0.58	< 4.6	< 50	-	NA	NA
	60851-34-5	**2,3,4,6,7,8-HxCDF**	< 2.4	< 6.8	-	< 3.6	< 3.8	< 0.75	< 4.9	< 50	-	NA	NA
	72918-21-9	**1,2,3,7,8,9-HxCDF**	< 2.6	< 7.9	-	< 3.9	< 5.2	< 0.65	< 6.5	< 50	-	NA	NA
	67562-39-4	**1,2,3,4,6,7,8-HpCDF**	< 1.8	< 7	-	< 2	< 3.9	< 0.58	< 4.9	< 50	-	NA	NA
	39001-01-0	**OCDF**	< 4	< 11	-	< 5.6	e 9.1	< 1.61	< 7.5	< 100	-	NA	NA
	40321-76-4	**1,2,3,7,8-PeCDD**	< 3.9	< 18	-	< 4.4	< 4.7	< 1.4	< 8.5	< 50	-	NA	NA
	19408-74-3	**1,2,3,7,8,9-HxCDD**	< 2.3	< 10	-	< 3.4	< 5.5	< 0.47	< 5.9	< 50	-	NA	NA
	35822-46-9	**1,2,3,4,6,7,8-HpCDD**	< 1.4	< 11	-	< 3.2	< 16	< 2.4	< 11	< 50	-	NA	NA
	3268-87-9	**OCDD**	< 6.2	< 12	-	< 4.5	99	< 11	< 14	< 100	-	NA	NA
	57117-44-9	**1,2,3,6,7,8-HxCDF**	< 2.3	< 5	-	< 3.4	< 4.1	< 0.41	< 3.7	< 50	-	NA	NA
	55673-89-7	**1,2,3,4,7,8,9-HpCDF**	< 2.2	< 7.7	-	< 2.4	12	< 0.82	< 6	< 50	-	NA	NA
	39227-28-6	**1,2,3,4,7,8-HxCDD**	< 2.4	< 10	-	< 3.7	< 6.4	< 0.57	< 7.2	< 50	-	NA	NA
	57683-85-7	**1,2,3,6,7,8-HxCDD**	< 2.7	< 11	-	< 3.6	< 4.4	< 0.53	< 5.4	< 50	-	NA	NA
		Total TCDF	< 1.4	< 3.3	-	< 2	< 4.1	< 0.99	< 8.5	14.4	-	NA	NA
		Total PeCDF	< 2.4	< 11	-	< 2.8	< 5	< 0.77	< 4.1	< 50	-	NA	NA
		Total HxCDF	< 2.6	< 7.9	-	< 3.9	< 4.3	< 0.6	< 4.9	< 50	-	NA	NA
		Total HpCDF	< 2.2	< 7.7	-	< 2.4	20	< 0.7	< 5.4	< 50	-	NA	NA
		Total TCDD	< 1.5	< 5	-	< 2.5	< 6.3	< 0.87	< 17	< 10	-	NA	NA
		Total PeCDD	< 3.9	< 18	-	< 4.4	< 4.7	< 1.4	< 8.5	< 50	-	NA	NA
		Total HxCDD	< 2.7	< 11	-	< 3.7	< 5.4	< 0.52	< 6.2	< 50	-	NA	NA
		Total HpCDD	< 1.4	< 11	-	< 3.2	< 8	e 2.4	< 11	< 50	-	NA	NA
	1746-01-6	**2,3,7,8-TCDD**	< 1.5	< 5	-	< 2.5	< 6.3	< 0.87	< 17	< 10	-	0.87	-
		Dioxin TEQ	0	0	-	0	0.13	0.025	0.00	0.00	-	-	0.13

Notes:

Analytical results are summarized without qualifiers. Please refer to Mirant Potrero Power Plant's State Implementation Policy Report for detailed analytical results.

NA = not applicable

Attachment 4

Calculation of Final WQBELs

Table 1
Total Metals
Regional Monitor Program
Yerba Buena Station
San Francisco Estuary Institute

Station Code	Station	Date	Ag*	As	Cd*	Co	Cr	Cu*	Fe	Hg	MeHg	Mn*	Ni*	Pb*	Se	Zn*
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	ng/L	µg/L	µg/L	µg/L	µg/L	µg/L
BC10	**Yerba Buena Island**	**3/3/1993**	0.0037	1.82	0.03	NA	0.86	2.45	NA	0.004	NA	NA	2.74	0.24	0.132	1.86
BC10	**Yerba Buena Island**	**5/24/1993**	0.0516	1.78	0.0685	NA	1.42	1.61	NA	0.0035	NA	NA	1.79	0.24	0.234	1.87
BC10	**Yerba Buena Island**	**9/13/1993**	0.0093	2.3	0.0641	NA	0.9	1.66	NA	0.0039	NA	NA	1.46	0.27	0.275	1.76
BC10	**Yerba Buena Island**	**2/3/1994**	0.013	2.18	0.0628	NA	1.07	1.68	NA	0.0042	NA	NA	2.13	0.28	0.39	3.26
BC10	**Yerba Buena Island**	**4/20/1994**	0.0165	2.02	0.0951	NA	1.78	2.34	NA	0.0064	NA	NA	3.21	0.8	0.27	3.22
BC10	**Yerba Buena Island**	**8/17/1994**	0.009	2.46	0.1268	NA	1.17	2.02	NA	0.0029	NA	NA	2.06	0.19	0.27	1.77
BC10	**Yerba Buena Island**	**2/8/1995**	0.0026	1.55	0.032	NA	0.85	2.27	NA	0.0025	NA	NA	2.81	0.15	Q	2.01
BC10	**Yerba Buena Island**	**4/27/1995**	0.003	1.63	0.048	NA	1.64	1.8	NA	0.0034	NA	NA	2.63	0.35	0.181	2.23
BC10	**Yerba Buena Island**	**8/16/1995**	0.01	2.02	0.09	NA	0.6	1.33	NA	0.0022	NA	NA	1.43	0.18	Q,e	1.48
BC10	**Yerba Buena Island**	**2/7/1996**	0.004	1.75	0.07	NA	1.2	2.1	NA	0.005	NA	NA	2.3	0.34	0.3	4.4
BC10	**Yerba Buena Island**	**4/30/1996**	0.004	1.61	0.05	NA	0.7	1.2	NA	0.002	NA	NA	1.2	0.1	Q	1.2
BC10	**Yerba Buena Island**	**7/26/1996**	0.007	2.13	0.1	NA	4.4	1.8	NA	0.004	NA	NA	2.5	0.3	0.09	2.4
BC10	**Yerba Buena Island**	**1/23/1997**	NA	1.47	0.03	NA	3.28	1.8	NA	0.0001	NA	NA	2.4	0.3117	0.11	2.4
BC10	**Yerba Buena Island**	**4/14/1997**	NA	2.11	0.07	NA	1.41	1.8	NA	0.0038	NA	NA	1.9	0.28	Q	2.8
BC10	**Yerba Buena Island**	**7/30/1997**	NA	2.22	0.1	NA	1.39	1.5	NA	0.0026	NA	NA	2.3	0.25	0.14	1.7
BC10	**Yerba Buena Island**	**1/29/1998**	0.01	1.98	0.04	NA	3.05	2.2	NA	0.0055	NA	NA	3.5	0.67	0.15	4.2
BC10	**Yerba Buena Island**	**4/20/1998**	0.004	1.52	0.02	NA	2.69	2.1	NA	0.003	NA	NA	2.4	0.35	0.19	2.6
BC10	**Yerba Buena Island**	**7/22/1998**	0.004	2.02	0.07	NA	0.71	1.3	NA	0.0023	NA	NA	1.6	0.16	0.12	2
BC10	**Yerba Buena Island**	**2/4/1999**	0.005	1.68	0.04	NA	0.65	1.803	NA	b 0.0035	NA	NA	2.32	0.29	0.11	2.3
BC10	**Yerba Buena Island**	**4/14/1999**	0.006	1.11	0.068	NA	2.09	1.6	NA	b 0.0068	q 0.06	NA	2.2	0.35	ND,e	2.5
BC10	**Yerba Buena Island**	**7/16/1999**	0.012	2.14	0.126	NA	3.33	2.3	NA	b 0.007	q b 0.04	NA	3.7	0.63	0.11	3.9
BC10	**Yerba Buena Island**	**2/4/2000**	0.011	1.4	0.09	0.386	NA	2.01	752.7	b 0.0069	p 0.025	18.27	3.01	0.7482	ND	2.996
BC10	**Yerba Buena Island**	**7/14/2000**	0.007	1.71	0.09	r 0.266	NA	0.815	425.2	Q,b	ND, p	16.45	1.09	0.2381	e 0.039	1.266
BC10	**Yerba Buena Island**	**2/8/2001**	0.012	2.16	b 0.07	0.578	NA	b 2.549	1,182.90	b 0.0009	B	28.81	3.68	r 0.7773	e 0.076	b 5.092
BC10	**Yerba Buena Island**	**8/3/2001**	0.007	b 2.08	b 0.08	b 0.241	NA	b 1.48	348.8	0.0086	0.197	16.48	1.72	r 0.2567	e 0.08	b 1.632
BC10	**Yerba Buena Island**	**8/11/2003**	0.014	b 1.87	0.07	0.205	NA	b 1.585	243.6	0.0022	0.0363	r 15.25	1.51	b 0.2213	e 0.049	r 1.269
	Maximum		**0.0516**	**2.46**	**0.127**	**0.578**	**4.40**	**2.45**	**1182.9**	**0.0086**	**0.197**	**28.81**	**3.70**	**0.8**	**0.39**	**4.4**

Notes:

	Qualifier Definition
b	Blank contamination <30% of measured concentration. Prior to 1999, the cutoff was 10%.
B	Blank contamination >30% of measured concentration. Prior to 1999, the cutoff was 10%.
e	Estimated value
NA	Not Available
ND	Not detected
p	Poor precision, but <2x outside target %
r	Poor recovery, but <2x outside target %
q	Only a minimum level of QA was able to be performed.
Q	Outside QA limits

Table 2
Total PAHs
Regional Monitoring Program
Yerba Buena Station
San Francisco Estuary Institute

Station Code	Station	Date	2-Methylphenanthrene	Methylanthracene	Total Alkanes	SUM PAHS (SFEI)	SUM LPAHS (SFEI)	Biphenyl	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	2,6-Dimethylnaphthalene	2,3,5-Trimethylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Dibenzothiophene	Fluorene	Phenanthrene	1-Methylphenanthrene	SUM HPAHS (SFEI)	Benz(a)anthracene
			ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L
BC10	Yerba Buena Island	3/3/1993	0.627			11	3.27	NA	NA	NA	NA	NA	NA	NA	NA	0.01	NA	NA	2.86	0.41	8	0.09
BC10	Yerba Buena Island	2/3/1994	NA	ND	2983	13	2.11	NA	NA	0.26	0.41	NA	NA	NA	NA	0.02	NA	NA	1.42	NA	11	0.33
BC10	Yerba Buena Island	4/20/1994	NA	NA	793	29	2.74	NA	NA	0.27	NA	NA	NA	NA	NA	0.17	NA	NA	2.3	NA	26	1.18
BC10	Yerba Buena Island	8/17/1994	NA	NA	136	10	1.2	NA	NA	NA	NA	NA	NA	NA	NA	0.08	NA	NA	1.12	ND	9	NA
BC10	Yerba Buena Island	2/8/1995	NA	NA	208	9	1.56	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	1.43	0.13	7	0.06
BC10	Yerba Buena Island	4/27/1995	NA	NA	96	14	1.97	NA	NA	NA	NA	NA	NA	NA	NA	Q	NA	NA	1.97	Q	12	Q
BC10	Yerba Buena Island	8/16/1995	NA	NA	105	14	2.97	NA	NA	NA	NA	NA	NA	NA	NA	Q	NA	NA	2.27	0.7	11	0.39
BC10	Yerba Buena Island	2/7/1996	NA	NA	NA	37	17.08	1.4	2.3	0.88	2.56	0.26	0.24	0.69	0.53	0.09	0.22	1.75	5.1	1.12	20	1.12
BC10	Yerba Buena Island	4/30/1996	NA	NA	NA	25	12.14	0.6	1.1	1.24	Q	0.39	0.19	1.3	0.22	ND	0.09	2.08	4.65	0.28	12	0.79
BC10	Yerba Buena Island	7/26/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC10	Yerba Buena Island	1/23/1997	NA	NA	NA	26	11.93	0.3	0.4	0.56	0.87	ND	ND	0.97	ND	ND	ND	1.85	6	0.95	14	1.14
BC10	Yerba Buena Island	4/14/1997	NA	NA	NA	24	4.67	0.2	0.2	0.19	0.32	ND	ND	0.77	ND	ND	0.15	0.65	2.25	ND	19	1.9
BC10	Yerba Buena Island	7/30/1997	NA	NA	NA	24	7.27	0.2	0.4	0.18	0.21	0.13	0.12	1.5	0.17	0.44	0.2	1.1	2.39	0.23	17	1.34
BC10	Yerba Buena Island	1/29/1998	NA	NA	NA	52	10.3	ND	ND	ND	ND	ND	ND	1.4	0.3	0.5	0.3	1.8	6.1	B	41	5.3
BC10	Yerba Buena Island	4/20/1998	NA	NA	NA	S	S	b 0.43	ND	ND	ND	B	B	B	ND	B	ND	B	CE	b 6.6	26	CE
BC10	Yerba Buena Island	7/22/1998	NA	NA	NA	S	S	ND	ND	ND	0.44	ND	ND	1.4	ND	ND	ND	1.4	CE	ND	9	CE
BC10	Yerba Buena Island	2/4/1999	NA	NA	NA	17	0.8	ND	ND	ND	0.23	ND	ND	0.13	ND	ND	ND	0.24	NA	0.2	16	2.6
BC10	Yerba Buena Island	4/14/1999	NA	NA	NA	20	4.7	0.2	0.29	ND	0.44	ND	ND	0.24	ND	ND	ND	0.6	2.5	0.5	15	0.2
BC10	Yerba Buena Island	7/16/1999	NA	NA	NA	34	6.8	B	0.24	0.4	B	0.47	ND	0.88	0.11	0.35	0.37	1.1	b 2.8	B	27	1.7
BC10	Yerba Buena Island	7/14/2000	NA	NA	NA	13.28	1.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.38	1.42	ND	11.48	1.3
BC10	Yerba Buena Island	8/3/2001	NA	NA	NA	19	4.4	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.62	2.6	ND	14	1.8
BC10	Yerba Buena Island	8/11/2003	NA	NA	NA	26.422	5.809	B,e	B,p	B	B	ND	0.428	e 1.404	B	B	r,B,e	939	b 2.765	ND	20.613	b,e 0.893
	Maximum		**0.627**		**2983**	**52**	**17.08**	**1.4**	**2.3**	**1.24**	**2.56**	**0.47**	**0.428**	**1.5**	**0.53**	**0.5**	**0.37**	**939**	**6.1**	**1.12**	**41**	**5.3**

Notes:

	Qualifier Definition
b	Blank contamination <30% of measured concentration. Prior to 1999, the cutoff was 10%.
B	Blank contamination >30% of measured
CE	Coelution (concentration not available)
e	Estimated value
E	Estimated value (concentration not available)
m	Matrix interference
M	Matrix interference (concentration not available)
NA	Not Available
ND	Not detected
p	Poor precision, but <2x outside target %
r	Poor recovery, but <2x outside target %
q	Only a minimum level of QA was able to be performed.
Q	Outside QA limits
S	Compounds generally comprising a significant portion of the sum are not quantifiable; therefore, the sum is not calculated. Analytes are missing that typically account for 30% of the mass, based on a five-year average.

Table 2
Total PAHs
Regional Monitoring Program
Yerba Buena Station
San Francisco Estuary Institute

Station Code	Station	Date	Chrysene	Pyrene	Benzo(a)pyrene	Benzo(e)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Dibenz(a,h)anthracene	Perylene	Benzo(ghi)perylene	Fluoranthene	Indeno(1,2,3-cd)pyrene
			ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L
BC10	**Yerba Buena Island**	**3/3/1993**	0.59	0.84	0.02	0.65	1.09	0.33	0.04	NA	ND	4.03	0.21
BC10	**Yerba Buena Island**	**2/3/1994**	0.98	1.6	0.04	0.89	1.41	0.59	0.03	NA	ND	4.91	0.52
BC10	**Yerba Buena Island**	**4/20/1994**	e 1.41	5.1	e 0.02	e 2.65	e 3.96	e 1.22	0.35	NA	NA	6.6	e 3.31
BC10	**Yerba Buena Island**	**8/17/1994**	0.42	1.6	ND	0.64	1	0.31	0.25	NA	0.1	3.8	0.7
BC10	**Yerba Buena Island**	**2/8/1995**	0.67	1.76	ND	0.66	0.97	0.47	0.1	NA	NA	2.52	0.22
BC10	**Yerba Buena Island**	**4/27/1995**	1.14	1.1	Q	1.6	2.2	0.62	0.39	NA	NA	2.7	2
BC10	**Yerba Buena Island**	**8/16/1995**	1.07	1.03	0.29	1.02	1.13	0.78	0.4	NA	NA	3.93	0.65
BC10	**Yerba Buena Island**	**2/7/1996**	1.48	4.1	0.04	2.5	1.86	1.48	0.64	ND	ND	4.7	2.5
BC10	**Yerba Buena Island**	**4/30/1996**	0.72	1.3	ND	0.97	1.44	0.52	0.14	ND	ND	6	0.6
BC10	**Yerba Buena Island**	**7/26/1996**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC10	**Yerba Buena Island**	**1/23/1997**	0.45	4	ND	0.81	0.96	0.35	ND	ND	ND	6.71	ND
BC10	**Yerba Buena Island**	**4/14/1997**	0.99	3.29	ND	1.8	2.4	0.81	0.25	ND	2.7	2.8	2.4
BC10	**Yerba Buena Island**	**7/30/1997**	0.79	3.9	ND	0.96	1.4	0.44	0.12	ND	ND	7	0.68
BC10	**Yerba Buena Island**	**1/29/1998**	2.4	b 8.3	ND	3.2	4.6	1.5	0.6	ND	0.38	11	4
BC10	**Yerba Buena Island**	**4/20/1998**	0.65	b 19	ND	1.2	2.1	0.57	ND	ND	0.93	B	1.6
BC10	**Yerba Buena Island**	**7/22/1998**	0.41	B	ND	0.48	0.8	ND	ND	ND	ND	b 7.8	ND
BC10	**Yerba Buena Island**	**2/4/1999**	1.1	3.4	ND	1.4	1.8	0.7	0.2	ND	0.2	3.9	0.9
BC10	**Yerba Buena Island**	**4/14/1999**	1.1	3.4	ND	1.8	2.7	0.9	0.2	ND	ND	3.4	1.6
BC10	**Yerba Buena Island**	**7/16/1999**	1.8	b 5.3	ND	2.9	4.2	1.4	0.4	ND	ND	6.3	3.1
BC10	**Yerba Buena Island**	**7/14/2000**	0.67	2.18	ND	1.2	1.9	0.57	ND	ND	ND	3	0.66
BC10	**Yerba Buena Island**	**8/3/2001**	0.81	2.9	ND	1.3	2.1	0.62	ND	ND	ND	3.5	1.4
BC10	**Yerba Buena Island**	**8/11/2003**	b 1.566	b 4.281	e 1.469	e 1.297	1.383	b 1.340	B,e	e 1.3984	e 1.418	b 4.240	b,e 1.327
	Maximum		**2.4**	**5.1**	**0.29**	**3.2**	**4.6**	**1.5**	**0.64**		**2.7**	**11**	**4**

Notes:

	Qualifier Definition
b	Blank contamination <30% of measured concentration. Prior to 1999, the cutoff was 10%.
B	Blank contamination >30% of measured
CE	Coelution (concentration not available)
e	Estimated value
E	Estimated value (concentration not ava
m	Matrix interference
M	Matrix interference (concentration not a
NA	Not Available
ND	Not detected
p	Poor precision, but <2x outside target '
r	Poor recovery, but <2x outside target %
q	Only a minimum level of QA was able to be performed.
Q	Outside QA limits
S	Compounds generally comprising a significant portion of the sum are not quantifiable; therefore, the sum is not calculated. Analytes are missing that typically account for 30% of the mass, based on a five-year average.

Table 3
Total Pesticides
Regional Monitoring Program
Yerba Buena Station
San Francisco Estuary Institute

Station Code	Station	Date	Methylchlor pyrifos	p,p^-DDMU	Toxaphene	Trifluralin	Chlorpyrifos	Dacthal	Diazinon	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Oxadiazon	SUM DDTs (SFEI)	o,p^-DDD	o,p^-DDE	o,p^-DDT	p,p^-DDD	p,p^-DDE	p,p^-DDT	SUM Chlordanes (SFEI)	alpha-Chlordane	gamma-Chlordane	cis-Nonachlor	trans-Nonachlor
			pg/L	pg/L	pg/L		pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
BC10	Yerba Buena Island	3/3/1993					1210	1161	NA	23.268	Q	Q	1317	196	18	ND	T	100	50	28	75	25	24	Q	25
BC10	Yerba Buena Island	2/3/1994	ND	35.8	ND	ND	2185	1515	NA	ND	ND	ND	3244	222	21.1	e 2.4	ND	121.5	51.8	e 24.9	84	36	20.2	10.5	17.4
BC10	Yerba Buena Island	4/20/1994	NA	NA	NA	NA	142	178	2800	ND	ND	ND	3	354	32	4.8	ND	229	88	ND	103	33	28	12.2	21.3
BC10	Yerba Buena Island	8/17/1994	NA	NA	NA	NA	206	80	540	ND	ND	ND	180	142	9.5	1.7	ND	88	43	ND	101	28	32.3	8.3	12.9
BC10	Yerba Buena Island	2/8/1995	NA	NA	NA	NA	134	661	8100	ND	ND	ND	132	106	2	4	ND	12	88	ND	165	18	24	5	22
BC10	Yerba Buena Island	4/27/1995	NA	NA	NA	NA	137	294	2400	ND	ND	ND	ND	376	38	5	4	170	151	8	110	25	27	14	24
BC10	Yerba Buena Island	8/16/1995	NA	NA	NA	NA	4	39	460	ND	ND	ND	9	151	16	4	2	68	32	29	65	17	14	5	12
BC10	Yerba Buena Island	2/7/1996	NA	NA	NA	NA	ND	165	13000	ND	ND	ND	2	341	27	6	Q	126	127	55	180	46	27	10	29
BC10	Yerba Buena Island	4/30/1996	NA	NA	NA	NA	151	172	1700	31	69	11	50	249	33	16	Q	95	74	32	119	29	25	CE	13
BC10	Yerba Buena Island	7/26/1996	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC10	Yerba Buena Island	1/23/1997	NA	NA	NA	NA	194	11	4522	ND	ND	81.9	13	546	20	17	M	313	133	63	155	35	27	4	14
BC10	Yerba Buena Island	4/14/1997	NA	NA	NA	NA	66	79	1300	ND	ND	26	ND	439	64	7	M	197	105	66	144	27	14	8	21
BC10	Yerba Buena Island	7/30/1997	NA	NA	NA	NA	231	ND	640	ND	ND	ND	ND	260	15	17	M	144	84	ND	161	30	20	6	29
BC10	Yerba Buena Island	1/29/1998	NA	NA	NA	NA	B	b 280	3455	ND	ND	39.7	b 2017	S	52	T	T	B	T	b 167	116.4	b 51	36	5.4	T
BC10	Yerba Buena Island	4/20/1998	NA	NA	NA	NA	B	ND	M	ND	ND	11.5	ND	S	b 23	B	Q	B	693	B	S	b 39	B	b 4.2	25
BC10	Yerba Buena Island	7/22/1998	NA	NA	NA	NA	B	b 54	400	ND	ND	21	175	S	B	B	B	B	b 73	7	S	B	B	B	B
BC10	Yerba Buena Island	2/4/1999	NA	NA	NA	NA	B	152	5200	20	19	41	491	221	34	b 8.4	Q	84	82	13	49	13	15	B	13
BC10	Yerba Buena Island	4/14/1999	NA	NA	NA	NA	b 80	3	1500	ND	39	28	4002	182	b 25	5.1	Q	50	76	26	46	13	13	Q	10
BC10	Yerba Buena Island	7/16/1999	NA	NA	NA	NA	4	7	3040	2	ND	39	ND	150	13	3.5	Q	58	74	1.6	38	5	7	2.9	6.8
BC10	Yerba Buena Island	7/14/2000	NA	NA	NA	NA	22	10	370	3.6	ND	12	49	164	21	13	3.3	83	44	B	48	7.3	2.4	2.7	15
BC10	Yerba Buena Island	8/3/2001	NA	NA	NA	NA	44	8.6	ND	ND	ND	7	196	161	Q	Q	Q	62	68.5	b 31	53	4.6	4.9	2.4	5.9
BC10	Yerba Buena Island	8/11/2003	NA	NA	NA	NA	NA	b,e 11.09	ND	B,e	B,e	b,e 14.20	b 70.80	105.66	16.38	2.88	Q,e	55.1	31.3	Q,e	23.54	b 7.18	b,e 6.34	b,e 3.62	b 2.96
	Maximum			35.8			2185	1515	13000	31	69	81.9	4002	546	64	17	4	313	693	66	180	46	36	14	29

Notes:

	Qualifier Definition
b	Blank contamination <30% of measured concentration. Prior to 1999, the cutoff was 10%.
B	Blank contamination >30% of measured concentration. Prior to 1999, the cutoff was 10%.
bi	Blank signal >30% of the field sample
ce	Coelution (result is for two or more coeluting congeners)
CE	Coelution (concentration not available)
e	Estimated value
E	Estimated value (concentration not
M	Matrix interference (concentration not
NA	Not Available
ND	Not detected
P	Poor precision, >2x outside target %
r	Poor recovery, but <2x outside target %
R	Poor recovery (accuracy), >2x outside target %
Q	Outside QA limits
S	Compounds generally comprising a significant portion of the sum are not quantifiable; therefore, the sum is not calculated. Analytes are missing that typically account for 30% of the mass, based on a five-year average.
T	Either the dissolved or particulate fraction is not available; therefore, a total value cannot be calculated.

Table 3
Total Pesticides
Regional Monitoring Program
Yerba Buena Station
San Francisco Estuary Institute

Station Code	Station	Date	Heptachlor	Heptachlor Epoxide	Oxychlordane	Sum HCHs (SFEI)	alpha-HCH	beta-HCH	delta-HCH	gamma-HCH	Aldrin	Dieldrin	Endrin	Hexachlorobenzene	Mirex
			pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
BC10	**Yerba Buena Island**	**3/3/1993**	NA	NA	NA	348	148	93	NA	107	NA	264	NA	16	NA
BC10	**Yerba Buena Island**	**2/3/1994**	NA	ND	ND	1284	424	157	NA	703.4	NA	171.1	NA	ND	NA
BC10	**Yerba Buena Island**	**4/20/1994**	ND	9.3	ND	1197.7	389	413	ND	396	NA	93	CE	8.8	ND
BC10	**Yerba Buena Island**	**8/17/1994**	19	ND	ND	847.4	295	349	ND	203.6	NA	16	ND	8.9	ND
BC10	**Yerba Buena Island**	**2/8/1995**	ND	94	2	540	190	86	34	230	NA	ND	9	16	ND
BC10	**Yerba Buena Island**	**4/27/1995**	ND	16	4	771	373	155	7	237	NA	ND	ND	4	ND
BC10	**Yerba Buena Island**	**8/16/1995**	2	11	3	640	312	160	6	162	NA	53	2	2	ND
BC10	**Yerba Buena Island**	**2/7/1996**	2	63	4	835	346	171	7	310	NA	64	ND	12	ND
BC10	**Yerba Buena Island**	**4/30/1996**	8	38	6	1095	496	322	7	270	NA	4	16	5	ND
BC10	**Yerba Buena Island**	**7/26/1996**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC10	**Yerba Buena Island**	**1/23/1997**	ND	16	60	408	190	71	7	140	NA	184	ND	13.2	ND
BC10	**Yerba Buena Island**	**4/14/1997**	ND	32	43	501	250	111	ND	140	NA	78	ND	20.2	ND
BC10	**Yerba Buena Island**	**7/30/1997**	ND	34	41	484	223	130	ND	131	NA	75	ND	8.6	ND
BC10	**Yerba Buena Island**	**1/29/1998**	ND	24	ND	385	114	131	ND	140	NA	110	ND	T	T
BC10	**Yerba Buena Island**	**4/20/1998**	ND	B	ND	S	B	B	b 53	B	NA	ND	B	bi 2.2	ND
BC10	**Yerba Buena Island**	**7/22/1998**	B	B	2.1	553	b 250	150	B	153	NA	39	B	bi 8.5	ND
BC10	**Yerba Buena Island**	**2/4/1999**	ND	6.3	2.2	388	124	82	6.9	175	NA	55	14	B	ND
BC10	**Yerba Buena Island**	**4/14/1999**	ND	10	ND	220	81	80	6.5	53	NA	28	ND	14	ND
BC10	**Yerba Buena Island**	**7/16/1999**	13	2.8	ND	323	160	99	3.5	60	NA	24	1.6	10	ND
BC10	**Yerba Buena Island**	**7/14/2000**	3.3	8.8	8.6	155	85	28	42	ND	NA	22	36	B	ND
BC10	**Yerba Buena Island**	**8/3/2001**	ND	25	b 10	215	145	16	ND	54	NA	19.2	ND	b 22	ND
BC10	**Yerba Buena Island**	**8/11/2003**	B,e	b,e 3.45	B,e	S	P,b	b 141.67	b 1.81	b,e 58.38	NA	b,e 30.53	b 2.38	B 0.03	B,e
	Maximum		**19**	**94**	**60**	**1284**	**496**	**413**	**42**	**703.4**		**264**	**36**	**20.2**	

Notes:

	Qualifier Definition
b	Blank contamination <30% of measured concentration. Prior to 1999, the cutoff was 10%.
B	Blank contamination >30% of measured concentration. Prior to 1999, the cutoff was 10%.
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ce	Coelution (result is for two or more coeluting congeners)
CE	Coelution (concentration not available)
e	Estimated value
E	Estimated value (concentration not
M	Matrix interference (concentration not
NA	Not Available
ND	Not detected
P	Poor precision, >2x outside target %
r	Poor recovery, but <2x outside target %
R	Poor recovery (accuracy), >2x outside target %
Q	Outside QA limits
S	Compounds generally comprising a significant portion of the sum are not quantifiable; therefore, the sum is not calculated. Analytes are missing that typically account for 30% of the mass, based on a five-year average.
T	Either the dissolved or particulate fraction is not available; therefore, a total value cannot be calculated.

Table 4
Total PCBs
Regional Monitoring Program
Yerba Buena Station
San Francisco Estuary Institute

Station Code	Station	Date	PCB 008	PCB 018	PCB 028	PCB 031	PCB 033	PCB 044	PCB 049	PCB 052	PCB 056	PCB 060	PCB 066	PCB 070	PCB 074	PCB 087	PCB 095	PCB 097	PCB 099	PCB 101	PCB 105	PCB 110	PCB 118	PCB 128	PCB 132	PCB 138	PCB 141	PCB 149
			pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
BC10	Yerba Buena Island	03/03/1993	ND,ce	ND	2.70	2.36		5.80	ND	ND	C060	ce 2.26	C095	8.32	4.65	ce 12.03	ce 26.93	35.21	20.09	ce 25.75	C132	ce 38.34	27.69	7.17	ce 27.7	47.87	ND,ce	35.12
BC10	Yerba Buena Island	02/03/1994	ND,ce	13.84	ND,ce	ce 87.35	ND	e 24.49	e 24.89	42.79	C060	ce,e 7.98	C095	33.02	15.41	22.07	ce 64.76	20.26	19.74	ce 79.57	C132	ce 63.22	41.95	10.36	ce 41.35	70.95	ce 6.36	e 33.58
BC10	Yerba Buena Island	04/20/1994	2.00	25.00	27.00	34.70	NA	29.50	29.10	M	NA	ND	38.00	29.00	11.80	7.50	69.00	16.20	31.00	83.00	25.50	84.00	68.00	11.00	49.70	131.00	NA	92.00
BC10	Yerba Buena Island	08/17/1994	6.60	12.10	9.50	6.30	NA	12.00	12.20	19.50	NA	ND	12.90	12.40	8.20	5.70	21.60	5.50	14.20	29.00	3.60	26.60	20.70	2.70	14.20	38.30	NA	36.00
BC10	Yerba Buena Island	02/08/1995	19.00	15.00	32.60	33.60	NA	13.60	23.90	14.20	NA	ND	7.00	18.60	8.10	16.50	8.60	4.80	7.20	13.40	3.70	17.00	16.20	4.20	4.50	20.20	NA	16.00
BC10	Yerba Buena Island	04/27/1995	4.58	7.79	9.50	9.20	NA	7.50	6.80	12.50	NA	4.50	12.80	8.00	4.80	5.30	17.10	5.20	8.00	16.60	ND	18.70	12.10	2.66	5.40	23.40	NA	21.70
BC10	Yerba Buena Island	08/16/1995	2.40	4.90	8.30	12.80	NA	5.10	3.50	M	NA	3.30	5.40	4.10	3.10	3.20	9.50	3.50	5.80	10.50	2.90	9.90	13.90	0.80	5.80	18.80	1.90	14.80
BC10	Yerba Buena Island	02/07/1996	8.50	15.50	10.50	12.50	NA	7.90	9.80	CE	NA	6.10	13.90	9.40	3.70	6.80	17.10	5.00	9.20	15.40	4.00	19.20	18.20	3.10	10.70	18.00	1.80	23.50
BC10	Yerba Buena Island	04/30/1996	2.40	6.40	9.90	7.80	NA	10.80	9.60	CE	NA	6.50	14.80	11.50	2.70	6.40	19.40	7.20	10.90	19.50	4.70	20.10	19.70	2.70	2.10	18.30	2.40	22.60
BC10	Yerba Buena Island	07/26/1996		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC10	Yerba Buena Island	01/23/1997	1.90	7.10	6.70	10.10	NA	5.00	3.30	14.60	NA	9.10	7.20	5.60	1.70	4.70	16.50	3.70	6.10	13.80	ND	11.70	9.20	ND	2.70	8.70	ND	10.30
BC10	Yerba Buena Island	04/14/1997	5.80	8.90	M	11.30	NA	6.00	6.20	21.00	NA	6.30	8.70	9.70	3.80	5.50	19.40	5.70	9.60	18.80	4.40	17.50	16.50	1.90	2.60	13.10	1.30	14.30
BC10	Yerba Buena Island	07/30/1997	3.40	4.70	M	8.80	NA	7.30	7.20	21.40	NA	5.60	9.00	9.30	3.30	5.80	20.70	5.20	9.40	18.10	5.00	18.80	16.60	2.40	8.10	17.00	2.20	19.80
BC10	Yerba Buena Island	01/29/1998	T	T	T	T	NA	T	T	T	NA	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
BC10	Yerba Buena Island	04/20/1998	M	M	M	M	NA	bi 41.7	42.30	bi 75.5	NA	b 3.5	b 67.1	bi 55.3	ND	bi 54	B	bi 19	B	Q	B	bi 49	b 49	29.00	b 44.7	93.00	b 26	b 62
BC10	Yerba Buena Island	07/22/1998	6.60	5.60	10.40	bi 14	NA	bi 7.6	bi 7.8	bi 15.5	NA	ND	bi 8.5	bi 9.7	bi 3.1	bi 5.5	bi 15.5	bi 4.6	bi 8.1	Q	4.40	bi 13.1	bi 12.2	4.10	bi 5.2	16.60	ND	bi 14.1
BC10	Yerba Buena Island	02/04/1999	ce 18.00	Q	9.10	b 12.3	NA	7.10	10.40		NA	5.00	8.90	11.70	3.00	4.60	Q	5.70	10.80	b 23.2	5.10	17.30	17.00	2.60	6.30	19.70	4.00	19.90
BC10	Yerba Buena Island	04/14/1999		5.40	10.10	B	NA	8.50	8.90	b 13.3	NA	3.50	b 9.8	b 12.8	4.80	6.50	16.40	7.80	10.30	b 21.1	6.00	20.60	21.30	3.70	7.70	28.20	4.00	24.10
BC10	Yerba Buena Island	07/16/1999	ce 3.8	4.40	b 10.5	b 8.8	NA	5.50	B	9.70	NA	ND	4.80	12.40	M	2.00	14.10	5.50	8.50	13.40	2.70	12.70	12.20	2.80	3.70	17.70	2.70	17.10
BC10	Yerba Buena Island	07/14/2000	b 7.4	B	5.50	3.60	NA	5.30	6.40	B	NA	3.40	5.80	5.10	2.60	3.90	7.10	3.80	7.50	14.30	B	12.60	10.00	ND	4.70	12.70	1.60	13.60
BC10	Yerba Buena Island	08/03/2001	ce 9.8	12.45	B	5.85	NA	5.80	8.25	10.90	NA	5.95	7.15	4.90	1.60	4.65	15.00	5.25	8.70	19.10	5.35	19.10	14.80	2.80	6.25	18.70	3.00	20.70
BC10	Yerba Buena Island	08/11/2003	b 6.35	ce,b 4.03	ce,b 8.36	b 5.1	ce,b 2.92	ce,b 8.95	ce,b 6.58	b 12.39	b,e 2.33	b,p 1.11	b,e 6.41	ce,b 10.69	C070	ce,b,e 8.33	ce,b,e 13.76	C087	ce,b 10.91	ce,b 17.37	b,p,e 3.85	ce,b 16.59	b 10.52	ce,b 2.36	b 4.93	ce,b 16.74	b,e 2.18	ce,b 15
	Maximum		19	25	32.6	34.7		29.50	42.3	42.79		9.1	38	33.02	15.41	22.07	69	35.21	31	83	25.5	84	68	29	49.7	131	4	92

Notes:

	Qualifier Definition
b	Blank contamination <30% of measured concentration. Prior to 1999, the cutoff was 10%.
B	Blank contamination >30% of measured concentration. Prior to 1999, the cutoff was 10%.
bi	Blank signal >30% of the field sample (1998). Blanks were contaminated, but field sample did not show similar pattern of compounds, so results used with extra caution.
ce	Coelution (result is for two or more coeluting congeners)
CE	Coelution (concentration not available)
CXXX	Coelution, where XXX is the number of the dominant coeluting congener where the value is stored
e	Estimated value
E	Estimated value (concentration not available)
m	Matrix interference
M	Matrix interference (concentration not
NA	Not Available
ND	Not detected
p	Poor precision, but <2x outside target %
P	Poor precision, >2x outside target %
r	Poor recovery, but <2x outside target %
R	Poor recovery (accuracy), >2x outside target %
q	Only a minimum level of QA was able to be performed.
Q	Outside QA limits
S	Compounds generally comprising a significant portion of the sum are not quantifiable; therefore, the sum is not calculated. Analytes are missing that typically account for 30% of the mass, based on a five-year average.
T	Either the dissolved or particulate fraction is not available; therefore, a total value cannot be calculated.

Table 4
Total PCBs
Regional Monitoring Program
Yerba Buena Station
San Francisco Estuary Institute

Station Code	Station	Date	PCB 151	PCB 153	PCB 156	PCB 158	PCB 170	PCB 174	PCB 177	PCB 180	PCB 183	PCB 187	PCB 194	PCB 195	PCB 201	PCB 203
			pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L	pg/L
BC10	**Yerba Buena Island**	**03/03/1993**	ce 10.1	41.90	ce 9.68	2.16	13.49	8.54	5.58	17.37	6.31	13.98	7.51	ce 3.06	ce 0.95	ce 1.7
BC10	**Yerba Buena Island**	**02/03/1994**	ce 12.35	79.70	ce 13.44	e 3.68	ce 15.87	e 17.43	e 9.26	M	15.56	27.99	M	ce,e 6.28	ce,e 2.75	ce,e 10.1
BC10	**Yerba Buena Island**	**04/20/1994**	29.80	126.00	23.60	18.80	33.40	70.20	64.00	61.40	27.70	75.00		6.70	NA	31.30
BC10	**Yerba Buena Island**	**08/17/1994**	11.30	38.90	4.90	3.10	8.40	22.20	15.90	14.90	ND	15.40		ND	NA	6.10
BC10	**Yerba Buena Island**	**02/08/1995**	6.40	18.30	5.00	3.60	2.30	4.80	6.50	9.10	2.20	5.10		0.67	NA	4.40
BC10	**Yerba Buena Island**	**04/27/1995**	0.90	30.50	0.97	2.87	9.27	16.80	13.60	13.40	4.05	11.90		0.66	NA	2.61
BC10	**Yerba Buena Island**	**08/16/1995**	5.00	17.80	0.90	2.10	4.40	3.10	3.50	11.30	2.80	6.40	2.00	0.50	NA	0.60
BC10	**Yerba Buena Island**	**02/07/1996**	7.60	28.00	1.20	1.70	6.70	5.80	4.50	15.00	3.50	12.60	3.80	1.30	NA	1.90
BC10	**Yerba Buena Island**	**04/30/1996**	8.30	31.20	1.60	1.90	5.30	5.20	3.60	13.90	3.70	12.20	2.90	ND	2.50	2.30
BC10	**Yerba Buena Island**	**07/26/1996**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BC10	**Yerba Buena Island**	**01/23/1997**	5.20	13.80	ND	1.00	2.60	1.90	1.70	7.50	1.30	5.00	1.70	ND	ND	1.20
BC10	**Yerba Buena Island**	**04/14/1997**	6.40	22.00	ND	1.10	4.50	3.00	2.40	10.50	2.50	6.80	2.20	ND	1.20	1.10
BC10	**Yerba Buena Island**	**07/30/1997**	6.90	26.80	1.30	2.00	5.60	4.10	3.50	13.00	3.10	10.00	3.50	ND	ND	1.80
BC10	**Yerba Buena Island**	**01/29/1998**	T	T	T	T	T	T	T	T	T	T	T	T	T	T
BC10	**Yerba Buena Island**	**04/20/1998**	32.00	b 100	ND	ND	26.00	ND	18.00	50.00	19.00	29.00	21.00	ND	25.00	ce 16
BC10	**Yerba Buena Island**	**07/22/1998**	bi 5.4	b 21.5	2.80	ND	3.30	2.80	2.80	8.80	2.40	8.40	2.60	ND	ND	ce 2.1
BC10	**Yerba Buena Island**	**02/04/1999**	7.10	24.10	2.20	ND	6.00	5.80	4.10	12.60	3.30	11.30	3.70	1.60	B	3.30
BC10	**Yerba Buena Island**	**04/14/1999**	9.20	38.00	4.40	4.20	9.63	6.60	6.90	19.00	5.40	15.10	5.10	1.80	2.70	3.00
BC10	**Yerba Buena Island**	**07/16/1999**	6.40	23.60	ce 4.00	2.00	7.00	5.00	B	13.00	3.10	11.00	4.40	ND	0.00	2.00
BC10	**Yerba Buena Island**	**07/14/2000**	5.20	18.90	ND	1.50	5.50	3.90	3.70	11.00	2.70	7.50	4.00	1.70	B	B
BC10	**Yerba Buena Island**	**08/03/2001**	8.80	27.30	1.30	2.10	7.80	5.50	5.60	16.45	6.30	13.00	4.00	1.40	3.35	1.40
BC10	**Yerba Buena Island**	**08/11/2003**	ce,b 7.83	ce,b 17.32	ce,b,p 1.3	b 1.31	b 2.88	b 3.15	b 2.59	ce,b 6.54	ce,b 2.6	b 6.31	b 1.34	b 0.47	b,e 0.31	b 0.85
	Maximum		**32**	**126**	**23.6**	**18.8**	**33.4**	**70.2**	**64**	**61.4**	**27.7**	**75**	**21**	**6.7**	**25**	**31.3**

Notes:

	Qualifier Definition
b	Blank contamination <30% of measured concentration. Prior to 1999, the cutoff was 10%.
B	Blank contamination >30% of measured concentration. Prior to 1999, the cutoff was 10%.
bi	Blank signal >30% of the field sample (1998). Blanks were contaminated, but field sample did not show similar pattern of compounds, so results used with extra caution.
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CE	Coelution (concentration not available)
CXXX	Coelution, where XXX is the number of the dominant coeluting congener where the value is stored
e	Estimated value
E	Estimated value (concentration not available
m	Matrix interference
M	Matrix interference (concentration not
NA	Not Available
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P	Poor precision, >2x outside target %
r	Poor recovery, but <2x outside target %
R	Poor recovery (accuracy), >2x outside target %
q	Only a minimum level of QA was able to be performed.
Q	Outside QA limits
S	Compounds generally comprising a significant portion of the sum are not quantifiable; therefore, the sum is not calculated. Analytes are missing that typically account for 30% of the mass, based on a five-year average.
T	Either the dissolved or particulate fraction is not available; therefore, a total value cannot be calculated.

Attachment 5

General Basis for Final Compliance Dates

General Basis for Final Compliance Dates [1]
for Discharges North of the Dumbarton Bridge

Revised February 1, 2006

Constituent	Reference for applicable standard	Maximum compliance schedule allowed	Compliance date and Basis
Cyanide Selenium	NTR	10 years	**April 28, 2010** (10 years from effective date of SIP). Basis is the SIP.
Copper (salt)	CTR	5 years	**May 18, 2010** (this is 10 years from effective date of CTR/SIP). Bases are CTR and SIP.
Mercury PAH EPA 610	Numeric Basin Plan (BP)	10 years	**April 28, 2010,** which is 10 years from effective date of SIP (April 28, 2000). Basis is the Basin Plan, See note [2a].
Arsenic Cadmium Chromium (VI) Copper (fresh) Lead Nickel Silver (CMC) Zinc	Numeric BP	10 years	**January 1, 2015.** This is 10 years (using full months) from effective date of 2004 BP amendment (January 5, 2005). Basis is the Basin Plan section 4.3.5.6. See note [2b]. Also, see note [3] for permits issued prior to effective date of 2004 BP amendment.
Dioxins/Furans Tributyltin Other toxic pollutants not in CTR	Narrative BP using SIP methodology	10 years	**10-yr from effective date of permit** (which is when new standard is adopted; no sunset date). Basis is the Basin Plan, see note [2c].
Other priority pollutants on CTR and not listed above	CTR	5 years	**May 18, 2010** (this is 10 years from effective date of CTR/SIP). Basis is the CTR and SIP.

[1] These dates are maximum allowable compliance dates applicable. As required by the Basin Plan, CTR, SIP, and 40CFR122.47, compliance should be as short as possible. These are only applicable for discharges north of the Dumbarton Bridge because applicable criteria for the south bay are different than those cited above.

- For pollutants where there are planned TMDLs or SSOs, and final WQBELs may be affected by those TMDLs and SSOs, maximum timeframes may be appropriate due the uncertain length of time it takes to develop the TMDL/SSO.
- However, for pollutants without planned TMDLs or SSOs, the State Board in the EBMUD remand order (WQO 2002-0012), directs the Regional Board to establish schedules that are as short as feasible in accordance with requirements.

[2] The Basin Plan provides for a 10-year compliance schedule for implementation of measures to comply with new standards as of the effective date of those standards. This provision has been construed to authorize compliance schedules for new interpretations of existing standards, such as the numeric and narrative water quality objectives specified in the Basin Plan, if the new interpretations result in more stringent limits than in the previous permit.

a. For the numeric objectives in place since the 1995 Basin Plan, due to the adoption of the SIP, the Water Board has newly interpreted these objectives. The effective date of this new interpretation is the effective date of the SIP (April 28, 2000) for implementation of these numeric Basin Plan objectives.

b. For numeric objectives for the seven pollutants adopted in the 2004 Basin Plan (amendments), the Water Board has newly adopted these objectives. The effective date of these new objectives is the approval date of the 2004 Basin Plan by U.S. EPA (January 5, 2005) for implementation of these numeric Basin Plan objectives. December is the last full month directly preceding the sunset date. Compliance should be set on the first day of the month to ease determination of monthly average limits. Therefore, compliance must begin on January 1, 2015.

c. For narrative objectives, the Board must interpret these objectives using best professional judgment as defined in the Basin Plan for each permit. Therefore, the effective date of this new interpretation will be the effective date of the permit.

[3] The schedules established in permits effective prior to the 2004 Basin Plan (amendments) should be continued into subsequent permits reissued after the 2004 Basin Plan. For example, Permit XX, adopted Nov 2004 became effective Feb 1, 2005. Permit XX establishes a compliance schedule for copper to end April 1, 2010. When next reissued in 2010, the compliance deadline for the same copper limit should remain April 1, 2010. However, if in applying the 2004 BP objective results in a more stringent limit for copper, then a new compliance schedule may extend to the new date in 2015, provided discharger XX justifies the need for the longer compliance schedule.

APPENDIX B

COMMENTS

APPENDIX B

COMMENTS

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
1515 CLAY STREET, SUITE 1400
OAKLAND, CA 94612

COMMENT LETTERS
ON THE TENTAIVE ORDER

for

NPDES PERMIT AND WASTE DISCHARGE REQUIREMENTS FOR

POTRERO POWER PLANT
MIRANT POTRERO, LLC.
SAN FRANCISCO COUNTY

LETTERS RECEIVED BY MARCH 20, 2006

BAYKEEPER.
Defending Our Waters–from the High Sierra to the Golden Gate

March 20, 2006

Attention: Derek Witworth
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Submitted via electronic mail to dwitwirth@waterbaords.ca.gov

RE: February 16, 2006 Draft Permit for Mirant LLC Potrero Power Plant (NPDES Permit No. CA0005657)

Dear Regional Water Board Staff:

I am writing on behalf of Baykeeper and our members with regard to the draft permit for United 3 of the Mirant Potrero Power Plan, made publicly available on February 16, 2006. These comments supplement those we submitted on January 10, 2005 and December 19, 2005. Please note that Baykeeper also supports and incorporates by reference all comments submitted by Bayview Hunters Point Community Advocates and Communities for a Better Environment.

As we have repeatedly stated in our previous comments, we believe that the Water Board has allowed the antiquated Potrero Plant to operate as-is for too long. With the adoption of a new permit, the Water Board must require Mirant to update the Potrero facility and bring it into compliance with all applicable state and federal laws.

R-1 COMMENT

1. The permit still fails to prohibit PCB discharges as required by law.

Despite staff's response to comments, the draft permit still effectively allows for PCB discharges. The permit's toxic substances effluent limitation for PCBs fails to prohibit discharges as required by law because the permit contains a loophole that must be removed. Discharge of PCBs by the Potrero plant is prohibited by EPA regulations, 40 C.F.R. 423.12(b)(2), and section 402 of the Clean Water Act. Section 402, the Clean Water Act's anti-backsliding provision, prohibits the Water Board from issuing permits that "contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit." 33 U.S.C. § 1342(o). The Plant's previous permit, issued in 1994, contained a blanket prohibition on the discharge of PCBs. Therefore, any subsequently issue permit must also prohibit all PCB discharges.

B-2 COMMENT

The draft permit violates the anti-backsliding provision of the Clean Water Act because it creates a loophole that would enable Mirant to discharge PCBs without technically violating the permit. Under the permit's definition of compliance, Mirant could legally discharge PCBs as long as the single day effluent concentration is lower than the 12-day moving average of the intake effluent. Additionally, because the permit appears to require PCB monitoring only twice a year, no compliance determination could be made for six years, thereby allowing discharges of PCBs during that timeframe. To make the permit consistent with section 402, the compliance provision of the PCB prohibition must be removed so that the prohibition stands alone.

B-2 Comment 11

We also strongly recommend that the Water Board require Mirant to provide a detailed study design in addition to the vague work plan submitted on February 1, 2006. The study design should contain specifics regarding study objectives, sampling locations, sampling frequency, and quality assurance and control measures. To ensure the study's effectiveness, the Water Board should require Mirant to have it reviewed by independent technical experts prior to implementation. Moreover, as with all plans related to the Potrero facility, Mirant should make the study plan available to the public for comment. These requirements will ensure that Mirant's sampling efforts will provide useful information about the presence and potential sources of PCBs at the facility.

B-3 Comment 12

2. <u>The permit must require reduction of the Plant's impingement/entrainment impacts.</u>

Compliance with the 316(b) regulations requires the permit to specify actions Mirant will take to reduce demonstrated entrainment impacts. Section 316(b) requires large existing power plants to achieve rule-specified performance standards relating to entrainment and impingement. 40 C.F.R. §125.91. "Section 316(b) requirements are implemented for a facility through an NPDES permit." *Id.* at §125.98(b)(1). When an existing permit has expired but the Water Board is not able to issue a permit containing the impingement and entrainment requirements then the permit should specify "the best technology available to minimize adverse environmental impact...based on the [Water Board's] best professional judgment *Id.* at §125.95(a)(2((ii). The permit issued by the Water Board must specify what BTA Mirant must implement immediately – between now and Mirant's selection of the compliance alternatives described in 40 C.F.R. § 125.94.

B-4 Comment 4

We disagree with the Water Board's position that "[a]ny meaningful steps to mitigate the effects due to entrainment...would take significant time to implement and may not be consistent with the findings of the [Comprehensive Demonstration Study]." *Responses to Comments on the November 14, 2004 Tentative Order*, pg. 17 (march 6, 2006). It is clear from the entrainment report that the Plant's entrainment impacts are significant. *Mirant Potrero 316B review by Pete Raimondi*, pg. 14-15 (September 2, 2005). Every effort should be made by Mirant and the Water Board to determine what technologies can be implemented now to mitigate those impacts as required by federal law. The Potrero Plant has been allowed to operate at the expense of the health of the Bay for too long; Mirant should not be allowed to delay addressing known impacts for another two or more years. We urge the Water Board

to incorporate into the permit technologies or operational measures necessary to reduce the Plant's known entrainment impacts.

We are concerned that Mirant may be using the Phase II study requirements to delay selecting and implementing entrainment and impingement-reducing technologies. Mirant has clearly stated that it intends to "evaluate the full range of compliance alternatives and options available in the Phase II rule for potential use in the CDS." *Clean Water Act 316(b) Proposal for Information Collection for Mirant's Potrero Power Plant*, pg. 3-1 (February 2006). We believe that this broad scope is inconsistent with the purpose of the CDS and unnecessary. According to the regulations, the purpose of the CDS is to "*confirm* that the technologies, operational measures, and/or restoration measures...selected and installed...meet the applicable requirements. 40 C.F.R. §125.95(b) (emphasis added). Additionally, it is premature to prepare a CDS before the alternative(s) are selected because the components of the CDS vary depending on the alternative chosen. For example, a Proposal for Information Collection is not even necessary if Mirant chooses to implement a previously approved technology. Considering that many believe the plant to be nearing the end of its useful life and the fact that Mirant refuses to indicate when whether it intends to close the plant, we are concerned that the company is using the 316(b) requirements to avoid the expense of installing technology necessary to protect Bay habitat. We urge the Water Board to require Mirant to narrow the scope of its proposed CDS to the alternative(s) that are most appropriate. This will ensure that valuable time is not wasted while Mirant exhaustively considers every alternative regardless of it suitability to this plant.

B-5 COMMENT

3. <u>The permit must incorporate the San Francisco Bay Basin Plan's prohibition on undiluted discharges.</u>

The draft permit incorrectly asserts that Mirant's discharge complies with the Basin Plan's prohibition on undiluted discharges. *Draft Permit* at 19. The San Francisco Bay Basin Plan prohibits discharges that contain "characteristics of concern to beneficial uses" unless those discharges receive a minimum initial dilution of 10:1. *Water Quality Control Plan for the San Francisco Bay Basin*, Table 4-1. The discussion accompanying the prohibition further elaborates that the purpose is to protect against two things: effects of abnormal discharges and the continuous effects of waste discharge. The Water Board's assertion that the prohibition applies only to sewage or discharges from treatment processes subject to upset is incorrect. *Draft Permit* at 19. Rather, the prohibition applies to all discharges that, because of their constituents, are likely to affect beneficial uses.

B-6 COMMENT

The Basin Plan prohibition applies to Mirant's discharge because the discharge results from a process subject to upset and because the discharge contains constituents of concern. As the draft permit acknowledges, Mirant chlorinates and dechlorinates its cooling water. If an upset occurs in the dechlorination process, the resulting undiluted chlorinated discharge to shallow Bay waters would be devastating. The permit's assertion that dilution is unnecessary because the "discharger has excellent compliance with its permit limits for chlorine and pH, which demonstrates excellent reliability of its treatment system for these parameters" is flawed. The dilution requirement exists to protect against upsets, which by their nature, are unreliable.

Application of the prohibition is consistent with the Water Board's own interpretation and cannot be avoided simply because an upset has not yet occurred.

In addition to presenting the possibility of an upset, discharges from the Plant contain many "constituents of concern." Even the draft permit acknowledges that the plant's discharges of heat, mercury, and copper constitute "constituents of concern." *Draft Permit* at 20. The permit then cursorily concludes that the Basin Plan prohibition does not apply to heat because the Basin Plan "defers its regulation of thermal waste to the State Thermal Plan," and that it is not likely to apply to copper and mercury because "existing information does not suggest that the discharge is a substantial source of these pollutants." *Id.* Both conclusions are incorrect.

B-6 COMMENT 27

The Basin Plan does not *defer* regulation to the State Thermal Plan, rather it incorporates it by reference. Furthermore, nothing in the State Thermal Plan prevents the Regional Water Boards from imposing more restrictive limitations, such as the 10:1 dilution requirement, if necessary to protect beneficial uses. Continuous thermal discharges have demonstrated harmful effects on aquatic life and these effects are clearly of the type contemplated by the Basin Plan Prohibition.

In terms of copper and mercury, the draft permit concedes that copper and mercury may be "constituents of concern" if the Plant is a "substantial source." *Draft permit* at 20. This position is misguided for several reasons. First, the prohibition makes no reference, explicitly or implicitly, to mass or concentration as relevant factors in determining whether a pollutant is a "constituent of concern." Therefore, the amount being discharged is irrelevant in determining whether the prohibition applies. Second, the Bay is already impaired for both mercury and copper and lacks the capacity to assimilate more of either. Any amount mercury or copper discharged by Mirant will cause or contribute to a violation of water quality standards. Therefore, these pollutants are clearly constituents of concern and the Basin Plan's prohibition on undiluted discharges applies. The final permit must therefore prohibit any discharges that do not receive an initial dilution of at least 10:1.

4. <u>The permit must incorporate thermal waste limitations that are protective of beneficial uses.</u>

We disagree with the draft permit's conclusion that the Mirant thermal discharges are not harming beneficial uses. The State Thermal Plan, which is incorporated into the San Francisco Bay Basin Plan by reference, requires that existing discharges of thermal waste to enclosed bays comply with limitations necessary to assure protection of beneficial uses. *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California*, pg. 4; *San Francisco Bay Basin Plan*, Chapter 3, Water Quality Objective for Temperature.

B-7 COMMENT 29

The permit's cursory reliance on the PG&E thermal study is inadequate to support a finding that the proposed limitations are protective of beneficial uses. The only study relied upon in establishing the limitation was PG&E's outdated study; we find this study's conclusion (that large volume discharges into shallow wasters does not affect beneficial uses) specious. At a

minimum, the Water Board should consider other studies on the effects of thermal waste aquatic organisms before establishing the permit's thermal limitations. Furthermore, the permit should contain a detailed explanation of the applicability and/or inapplicability of the previous study.

5. The Water Board should establish Water Quality Based Effluent Limitations for nickel and selenium.

Baykeeper recommends amending the permit to include numeric water quality based effluent limitations (WQBELs) for nickel and selenium. WQBELs must be established for all pollutants that have reasonable potential to cause or contribute to an excursion above any State water quality standard. 40 CFR §122.44(d)(1)(i). The State Implementation Plan ("SIP") describes the process to determine whether reasonable potential exists. *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, pg. 4 (March 2000). Reasonable potential exists and a water quality based effluent limitation is required if it is deemed necessary to protect beneficial uses. *Id.* The SIP describes the steps to be taken by the Water Board in determining whether reasonable potential exists. If, however, insufficient information exists for the Board to complete the analysis, then it must establish an interim requirement that also requires additional monitoring. *Id.* at 5.

At a minimum, the permit should include an interim limitation for nickel and selenium. The San Francisco Bay is currently listed as impaired for both pollutants and power plant cooling water is known to be a source of metals, especially nickel. Although the data provided by Mirant and relied upon by the Water Board in completing the reasonable potential analyses did not show that the plant is discharging nickel or selenium, these results only represent ten days of data. It is unclear whether the data is representative of the facility's discharges and more data will need to be assessed to complete the reasonable potential analysis. Therefore, the permit must incorporate an interim limitation for these two pollutants and require additional monitoring to be completed.

B-8 COMMENT 14

6. Incorporate the EPA's recommendation that the permit require opportunity for public participation.

In its comments, the EPA specifically recommended that the permit be revised to require the Mirant to hold a series of public meetings relating to the CDS results. The results of the CDS and all of the studies Mirant must complete will have significant impacts on Bay water quality and be of great interest to members of both environmental and local communities. In order to foster transparency around this very contentious issue, we strongly urge the Water Board to insert into the permit the public participation requirements recommended by the EPA.

B-9 COMMENT 8

For more than 40 years, the Potrero Hill Power Plant has been allowed to operate to the detriment of its environment. It employs incredibly outdated technologies known to have significant impacts on aquatic life. It is time that Mirant invest in the upgrades necessary to protect the Bay and to bring the Plant into compliance with federal and state laws. At a

B-10 COMMENT 12

B-10 COMMENT 12

minimum, the permit must require Mirant to immediately remove the shallow water discharge and to reduce known entrainment impacts. Unless and until Mirant commits substantial resources to improving the Plant and bringing it into compliance, it should not be allowed to profit at the expense of the Bay environment and community.

Thank you for consideration of these comments; please do not hesitate to contact us with any questions.

Sincerely,

Amy Chastain
Program Associate

Sejal Choksi
Baykeeper and Program Director

cc: Bruce Wolfe, Executive Officer, San Francisco Regional Water Board
Bill Johnson, Staff, SF Regional Water Board
Lila Tang, Staff, SF Regional Water Board
Alan Ramo, Esq. Bayview Hunters Point Community Advocates
Greg Karras, Communities for a Better Environment
Joe Como, Deputy City Attorney City of San Francisco

GOLDEN GATE UNIVERSITY

ENVIRONMENTAL LAW AND JUSTICE CLINIC • SCHOOL OF LAW

By Personal Delivery

March 20, 2006

Lila Tang, NPDES Division Chief
Derek Whitworth, Regional Board Staff
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

RE: Comments on Reissuance of NPDES Permit, Mirant Potrero Power Plant, San Francisco Tentative Permit Order dated 2/14/06.

Dear Ms. Tang and Mr. Witworth:

Please find enclosed the comments of Communities for a Better Environment and the Bayview Hunters Point Community Advocates on the above-described tentative order.

These organizations continue to be concerned with the failure to require that an upland cooling system be designed and implemented, and in the meantime, that technology available now is not implemented to minimize well documented entrainment, toxic and thermal effects. They are also concerned with the failure to properly implement a PCB prohibition. They contend these failures violate federal 316(b) and PCB prohibition requirements, the State Thermal Plan and Basin Plan Prohibition 1.

If you have any questions regarding these comments, please contact me at 415-442-6654 or by email at aramo@ggu.edu. You may also contact CBE's attorney Shana Lazerow or CBE's staff scientist at 510-302-0430.

Sincerely,

Alan Ramo, Director, Environmental Law and Justice Clinic
Attorney for CBE and BVHPCA

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I. INTRODUCTION

Communities for a Better Environment (CBE) and Bayview Hunters Point Community Advocates (BVHPCA) submit the following comment on the revised tentative order issuing an NPDES permit for the Potrero Power Plant. This joint comment supplements the comments CBE and BVHPCA submitted regarding the prior version of the permit. Unfortunately, the new revision makes only cosmetic changes to the prior tentative order, with the sole exception that a PCB prohibition has been restored to the permit, though with qualifications that practically undermine it. Therefore the prior comments remain applicable and are incorporated herein by reference.[1] The staff, however, has provided new rationales, failed to respond to many of our prior comments, and refused to accept or respond to supplemental comments submitted more than a year ago, necessitating our submitting additional comments.

C-1 COMMENT 11

In the latest proposed permit, the Water Board staff has again placed preservation of Mirant's antiquated once-through cooling system ahead of Bay protection. Rather than begin the process of removing the power plant's discharge from the Bay, and in the meantime require interim upgrades to minimize harm to the Bay, the staff leaves the cooling system operating as it has for decades. Staff ignores mandates from state and federal law to improve this technology. It ignores data from its own consultant and the discharger that demonstrates ongoing harm to the Bay from the existing technology. It ignores reams of regulatory documents describing feasible better cooling technologies. It calls this sad state of regulatory incompetence its best professional judgment.

C-2 COMMENT 4

[1] BVHPCA submitted comments on December 29, 2004. CBE submitted comments on January 10, 2005. These comments are incorporated herein by reference, as is prior correspondence submitted to the Board regarding this permit.

Federal law requires the staff to use its best professional judgment for this permit and require the best technology available for minimizing adverse environmental impacts. 40 C.F.R. 125.95(ii). Federal law also encourages the States to impose more stringent requirements where appropriate. 40 C.F.R. 125.94(c). See In re Dominion Energy Brayton Point, L.L.C., E.P.A. Environmental Appeals Board, NPDES Appeal No. 03-12, p. 19 (Feb. 1, 2006).

Staff's permit review process illustrates its single-minded attempt to avoid requiring new technology and instead protect ancient technology at all costs. It first delayed reviewing the expired permit for at least 5 years (review should have begun at least 6 months before expiration of the 1999 permit). Initial tentative orders released in 2001 and 2004 were rescinded without public hearings. Embarrassed by the revelation it had ignored existing data on entrainment, the staff pulled the 2004 draft permit and spent at least six months getting an analysis of the data. It then seemed intent as recently as December, 2005, in delaying the permit entirely, calling that a serious option.[2]

The staff's outside consultant, UC Santa Cruz Professor Dr. Peter Raimondi, determined that aquatic life was destroyed by the facility's once-through cooling system to an extent equivalent to impairing 393-939 acres of habitat. See Attachment 1, (where CBE's expert concludes entrainment impacts may actually be worse). [3] Yet, after delaying this process for more than a year to determine whether this data reveals ongoing damage caused by this discharge, the staff has chosen to leave the original proposed

C-3. COMMENT 4.

[2] Staff announced this at a "stakeholder" meeting convened by San Francisco after the staff failed to follow through on its prior commitment to convene this meeting. Staff considered as a serious option not issuing a permit at all until studies lasting years would be completed.

[3] Although additional sampling and analysis that could document this is not needed to demonstrate significant impacts, as shown in Attachment 1.

permit largely untouched, allowing continued once-through cooling water utilization of Bay water without any interim improvements or long term solution.

Staff's response to comments is indicative of its approach to this permit. Staff's response specifically ignores past comments suggesting that until the discharge is removed from the Bay, existing technology should be upgraded using variable speed control pumps, a technique addressed by US EPA in its new federal regulations for existing power plant cooling water systems. See BVHPCA's December 29, 2004 comments. Staff's response also ignores its own consultant's advice announced at the December, 2005, stakeholder meeting, that interim measures may be deployed without interfering with more aggressive upgrades if further studies deemed them warranted.

C-3 COMMENT 7, 14

There is more than enough data now to determine that the cooling system is harming the Bay. The data now available supports the contention that the existing discharge violates the State Water Resources Control Board's Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California ("Thermal Plan"). Influent and effluent sampling at the site also demonstrates that pollutants of concern including toxic metals, PCBs and dioxins are present in the effluent and mobilized by the cooling system's impact on nearby sediments. There is data which provide a basis for concluding that the facility remains a source of these pollutants. See Attachment 2.

C-4 COMMENT 15

Staff's unwillingness to restrict pollution resulting from this cooling system, and its failure to address the data documenting that the cooling system mobilizes pollutants buried in nearby sediment, is demonstrated by the staff's introduction of pollutant credits for PCBs in the intake. Just as removing the PCB discharge prohibition constituted

C-5. COMMENT 11.

backsliding from the 1994 Potrero permit,[4] staff's new intake credits for PCBs are prohibited backsliding. Allowing credits for PCBs stirred up by the outfall and intake of this cooling system and deposited into the Bay makes a mockery of any prohibition of PCBs in the discharge. Unless and until the discharger demonstrates that the PCBs in the intake are not from the effect of the flow through the cooling system sucking up the facility's sediment pollution, pollution credits should be denied.

C-4 COMMENT 15.

The TO literally exempts the discharge from compliance with the PCB discharge prohibition for the life of the permit. After the staff told the community for a year it was restoring the PCB prohibition to the permit, its TO's compliance requirements seem to only require sampling twice a year, and require at least 12 samples before compliance will be determined. Simple math suggests PCB violations could continue for six years before the staff would deem enforcement appropriate.[5]

C-6 COMMENT 11

Further, as a result of the presence of pollutants of concern in the cooling water, Basin Plan Prohibition 1 applies to this discharge. This Prohibition wisely prohibits discharges with characteristics of concern in shallow water with inadequate dilution. The discharge has characteristics of concern. It receives inadequate dilution. Yet staff refuses to apply Prohibition 1.

C-7 COMMENT 28

This region has had a checkered history of enforcing its Discharge Prohibition 1, repeatedly being chastised by the State Board. See In the Matter of the Petition of Citizens for a Better Environment, et al., State Water Resources Control Board, Order No. WQ 90-5, October 4, 1990; In the Matter of the Petition of Citizens for a Better Environment, State Water Resources Control Board, Order No. WQ 86-4, February 20,

[4] See BVHPCA 2004 Comments.

1986. Once again, the staff is trying to protect a facility's discharge into shallow water even in the absence of any shadow of a claim of qualification for an exception. There is no fundamental difference between Chevron's cooling water discharge that had to be taken out of shallow water, in the case cited above, and Mirant's discharge.

In fact, staff proposed to apply Prohibition 1 to Potrero's existing shoreline discharge, in a 2001 draft revision of the permit, before staff reversed its position in the 2004 and 2005 permit drafts. There has been no change in the plant's antiquated cooling technology or shoreline outfall conditions since 2001. The evidence demonstrating this discharge has characteristics of concern to beneficial uses of the Bay has only grown stronger since 2001. The only difference is that the plant owner proposed to remove the shoreline discharge in 2001 and has now reversed its position on this issue. The only consistency in staff's position on this issue is that it proposes what the discharger wants.

The staff seems to have spent more time evolving a convoluted explanation of why Discharge Prohibition 1 does not apply than determine what technology would protect the Bay. It works very hard to discount the very data it required the discharger to provide and ignores its own consultant's entrainment data. It does this for a facility that the California Independent System Operator anticipates will no longer be required for electrical reliability and may then simply be looking for opportunities to make a profit at a significant cost to the environment.

The staff's position is also unreasonable in light of the availability of alternatives that would protect the Bay. The California Energy Commission staff found that dry cooling was a technically feasible alternative, as did the San Francisco Bay Conservation

C-7 COMMENT 30

C-8 COMMENT 27

C-9

[5] Staff has indicated, by email to council for CBE and BVHPCA received the day comments were due, that it intends to clarify that sampling for PCBs should be more frequent.

and Development Commission. This alternative avoids air and water pollution from the cooling system. Hybrid cooling is another alternative that has been deemed cost effective for the proposed Unit 7 facility at this same site. In addition, there is no reason that has been provided why variable speed control pumps cannot be implemented on a timely basis to reduce the flow of water into the cooling system. Doing so would reduce ongoing impacts while an upland cooling system is designed and constructed.

C-9. COMMENT 6

In lieu of actually protecting the Bay, the staff commissions additional studies. These lengthy studies alone are not harmful and if done properly may add still more confirming information. The permit language could be improved to assure the staff obtains the data it needs. The staff, however, has more than adequate data to protect the Bay now and determine what will be needed over the long run to protect the Bay. Studies are no substitute for action when the Bay is undisputedly being harmed now.

This Board's obligation is to enforce environmental laws and protect the Bay, not to give Mirant an unfair competitive edge by allowing it to use a decades-old cooling system while others comply with environmental laws. CBE, BVHPCA, and the City and County of San Francisco presented the staff with a proposed permit which provided ample time for the facility to design a long term solution to cooling while employing upgraded technology to minimize harm to the Bay. See CBE and BVHPCA letter to the Regional Board requesting issuance of a permit for this facility, mailed December 6, 2005, incorporated herein by reference. The staff has completely rejected that proposal without compromise or equivalent protection to the Bay. CBE and BVHPCA urge the Regional Board to reject the staff's proposal and require removal of the discharge and interim technology upgrades while removal is designed and implemented.

C-10 COMMENT 10

II. THE TENTATIVE ORDER BY FAILING TO IMPOSE MEASURES AVAILABLE NOW THAT WOULD MINIMIZE ENTRAINMENT UNTIL UPLAND COOLING WAS DESIGNED AND IMPLEMENTED VIOLATES THE BEST TECHNOLOGY AVAILABLE REQUIREMENT OF CLEAN WATER ACT SECTION 316(b).

The Tentative Order (TO) does not comply with the requirement that the plant implement the best technology available based on the staff's best professional judgment ("BPJ") to minimize the adverse impacts of entrainment and impingement of aquatic organisms in the Bay. 33 U.S.C. § 1326(b), 40 C.F.R. § 401.10. A technology cannot be BPJ and also violate the requirements of any applicable laws. See Riverkeeper, Inc. v. U.S.E.P.A., 358 F.3d 174, 186 (2nd Cir. 2005) (observing that best professional judgment under 316(b) could not require a restorative measure that conflicted with 316(b) itself), 358 F.3d at 200 (emphasizing that any permit under the CWA is contingent on compliance with all state law requirements). By failing to recognize available technology for mitigation of adverse environmental impacts, the current TO is not in compliance with federal law.

Section 316(b) of the CWA requires the decision-maker to rely on a suite of studies when drafting NPDES permits for power plant cooling systems. See 33 U.S.C. 1326(b); 40 C.F.R. § 125.95(a), (b); 40 C.F.R. § 122.21(r). For the first few years after the adoption of the Phase II regulations for existing power plants, a permit writer, in lieu of studies not yet being completed, must use best professional judgment to demand the best technology available for minimizing adverse environmental impacts when issuing permits for cooling water intake structures. 40 C.F.R. 125.95(ii), 33 USCA 1326(b). The TO does not comply with 316(b) because the staff failed to exercise its professional

C-11 COMMENT 4

judgment regarding available cooling water technology and require technologies now known to be available to minimize the intake's known significant adverse impacts.

A. The staff's own report and other evidence documents that the power plant's existing cooling water technology causes significant environmental impact due to entrainment.

The TO requires no new technology. The Regional Board staff admits that Mirant has not submitted the new comprehensive federal studies, satisfying the first prong of 40 C.F.R. 125.95(ii). Yet the staff has refused to use its best professional judgment as required under this federal regulation to determine the required technology to minimize impacts or analyze existing information about available technology.

Staff, prior to the issuance of the TO, recognized that its own outside consultant, Dr. Peter Raimondi, determined that the Potrero intake causes significant adverse impacts. See Analysis of Potrero Unit 3 Entrainment Impact Evidence, Communities for a Better Environment, March. 2006, appended hereto as Attachment 1. Entrainment of aquatic life in the existing Potrero Unit 3 cooling system causes significant adverse impacts on the beneficial uses of San Francisco Bay. Id. Independent analyses of substantial recent data by several expert reviewers strongly support this conclusion. Id. Hundreds of millions of larval fish are entrained and killed in the plant each year. Id. Total entrainment including fish, fish eggs and invertebrates is much greater and could be in the billions of organisms annually. Id. The entrainment impacts can be characterized as destroying the equivalent of 390-940 acres of habitat spread throughout this uniquely important, already-impacted ecosystem. Id.

The TO, however, does not mention this evidence. It does not mention the Regional Board's expert advice that impacts are significant. It calls for more study

C-11 COMMENT 4

without analyzing studies providing evidence showing there are entrainment impacts now that ought to be minimized with available technology.

B. Technology options exist that can be implemented now in order to minimize adverse environmental impacts of the Potrero intake on the Bay, but the TO ignores them.

There exists a full spectrum of technological options that the Potrero plant can use to minimize the adverse impacts of impingement and entrainment while the required studies are being completed. These technologies include variable speed control pumps and dry-cooling and closed-cycle cooling options. See Technical Development Document for the Proposed § 316(b) Phase II Existing Facilities Rule, Attachment A to Chap. 3, United State Environmental Protection Agency (Apr. 2002). See http://www.epa.gov/waterscience/316b/devdoc/.

Intake impacts of the Potrero plant can be minimized by installing variable-speed drive pumps now and replacing the old once-through cooling system with dry cooling as soon as practicable thereafter. These modern cooling technologies are established and widely used elsewhere. All recent government reviews at Potrero have found that alternatives to once-through cooling are available. In 2003, Mirant Corp. specifically proposed and deemed feasible a cooling tower at Potrero. Dry cooling or a cooling tower could eliminate intake impacts of the Potrero plant. These alternatives could also eliminate all thermal and toxic discharges from shoreline outfall E-001. Alarmingly, the TO and fact sheet fail to mention any of the evidence for this readily available solution, even though BVHPCA and CBE submitted comments describing these technologies and proposed them with the City of San Francisco in its own alternative permit. More

C-11 Comment 4

C-12. Comment 1

specific discussion regarding these technologies is provided below as the staff seems to have ignored the earlier comments.

1. Upland cooling is established, widely used technology.

Upland cooling technology—in this case, dry or wet/dry cooling—dissipates waste heat to the atmosphere, in contrast to once-through cooling technology, which dissipates heat to the water body providing the cooling water. Two different upland cooling designs can be applied to the Potrero plant. The first is a "dry" air-cooled design with no visible plume or new particulate matter (PM_{10}) or any other kind of air emission. The second is a "hybrid" wet/dry design that could use reclaimed municipal water. Wet/dry towers reduce visible plumes, and PM_{10} emissions associated with traditional cooling towers. Either design could eliminate the intake of Bay water for cooling Unit 3.

Upland cooling is a common technology throughout the world for removing waste heat. Appendix 17 to CBE's 2005 Comments at pages 9-13. Wet/dry cooling has been proven technology since the 1970s. Id. Dry cooling was first used in 1938; 14 power plants worldwide used dry cooling by 1971; about 40 plants greater than 100 MW used it by 1991, and an estimated 15-20 Gigawatts of generation[6] used dry cooling by 2002. Id. Examples of dry-cooled plants include the 240-MW Crockett Cogen plant in Contra Costa County, the 540-MW Sutter Power Plant and the 480-MW El Dorado Energy Project in Nevada. Id. Eight operating power plants used dry cooling in California as of June 2005. CEC, 2005 at 41.[7] The 540-MW Otay Mesa Project was under construction with dry cooling at that time. Id. In 2003, Mirant proposed a wet/dry cooling tower using

C-12. COMMENT 6.

[6] 15 GW of generation is equivalent to 71 power plants the size of 210-MW Potrero Unit 3.

reclaimed water, as an alternative to once-through cooling using Bay water, for its proposed new Potrero Unit 7. Attachment 25 to CBE's 2005 Comments.

Cooling towers are in widespread use in the oil refining industry as well. The Chevron Richmond Refinery replaced its once-through cooling system with cooling towers after the Regional and State boards applied Basin Plan Discharge Prohibition 1, and thus prohibited Chevron's cooling water discharge from continuing at the shoreline, in 1986. See e.g., Attachment 2.

2. All recent government reviews of Potrero cooling technology have concluded that a cooling tower is an available technology at this site.

Four government agencies and one major city reported reviews of upland cooling at the Potrero plant since 2001. In 2002, the California Energy Commission (CEC) staff concluded that a wet/dry cooling tower is feasible at the Potrero site, can fit into the site without causing significant environmental impacts, and is an available alternative to once-through cooling there. Attachment 17 to CBE's 2005 Comments. Also in 2002, the Bay Conservation and Development Commission (BCDC) found that both dry and wet/dry cooling are available alternatives to once-through cooling at Potrero. Attachment 23 to CBE's 2005 Comments. The City and County of San Francisco (CCSF) showed that dry cooling could be physically and logistically accommodated on the site to cool effectively at a reasonable cost. Id. In 2003 the National Marine Fisheries Service (NMFS) recommended a cooling tower as a feasible and available alternative at Potrero. Attachment 7 to CBE's 2005 Comments. The Regional Board concurred in the CEC staff's conclusion that a cooling tower is available technology for this site in 2002,

C-12 COMMENT 4

[7] CEC, 2005. Issues and Environmental Impacts Associated With Once-through Cooling at California's Coastal Power Plants. California Energy Commission. June 2005 Staff Report, See:

and—at that time—supported a cooling tower as the right approach to reduce intake *and* discharge impacts.[8]

The CEC, BCDC, CCSF, NMFS and Regional Board findings above, made in reviews of proposed Potrero Unit 7, are relevant to Unit 3. The two units' cooling flows are equivalent. Attachment 1 at 17. A similarly sized cooling tower could replace the Unit 3 flow. The engineering and logistical analyses were done at the same site.

NMFS and CCSF explicitly applied their cooling alternatives analyses to Unit 3. In its Essential Fish Habitat Consultation for proposed Unit 7, NMFS recommended a cooling tower for Unit 3. Attachment 7 to CBE's 2005 Comments at 16. In a November 2005 meeting with Board staff scheduled by the City and held at City Hall, CCSF joined CBE and Advocates in proposing permit findings that a cooling tower is BTA for Unit 3.

3. A dry cooling tower can fit into the Potrero site footprint.

The evidence that dry cooling is feasible is stronger for Unit 3 than for Unit 7. First, the cooling tower can be located closer to the steam generator than in either of the configurations CEC staff analyzed for Unit 7. Attachment 17 to CBE's 2005 Comments. This is important because one of the CEC configurations might place the tower too far from the Unit 7 steam turbine, and the other configuration relied on use of adjacent PG&E property. Id. It resolves the final outstanding question about the technical feasibility of dry cooling at the site that was raised by the CEC staff's 2002 analysis.

C-12. COMMENT 6

http://www.energy.ca.gov/2005publications/CEC-700-2005-013/CEC-700-2005-013.PDF

[8] "By using an alternative technology that does not withdraw from and discharge to San Francisco Bay, Mirant can eliminate most of the impacts to biological resources." May 1, 2002 letter from Loretta K. Barsamian, Executive Officer, RWQCB, to the CEC regarding support for CEC staff's Final Staff Assessment for proposed Potrero Unit 7.

Second, in 2002 large areas of the site were needed for Fuel Oil tanks 3 and 4 or reserved for Unit 7. Id. Now, these areas are available. Licensing proceedings for Unit 7 have terminated as of March 1, 2006.[9] Tanks 3 and 4 were dedicated to Unit 3, which can no longer burn fuel oil due to its SCR emission controls installed in 2005. The additional on-site space greatly increases flexibility to build the least-impact cooling tower configuration.

C-12. COMMENT 6

4. Immediately available Variable Speed Drive pumps are part of BTA at Potrero.

The old single-speed intake pumps at Potrero are either "on" or "off" and pump full speed when on. Attachment 1 at 7-8. They are on and pumping at full impact nearly all the time, due to other constraints of the old cooling technology and grid reliability requirements. Id. Modern pump technology, however, includes the industrial equivalent of a "dimmer switch." Variable-speed drive (VSD) pumps are proven technology. Mirant uses them elsewhere. Mirant, 2006 at 3-8.[10] VSD might cut intake flow by as much as half at times when power requirements allow (Id.) such as late at night when the plant runs at idle. VSD conversion can occur more quickly than conversion to a cooling tower, as it is a smaller, more easily scheduled project. Use of both technologies in series will result in the minimum intake impact from ongoing operation of the plant.

C-13

The TO does not mention this evidence. It does not disclose that the staff gave one second of thought, or performed one second of research, concerning what technology was available now to address the proven entrainment impacts. The staff thus appears to have failed to evaluate substantial evidence that the best technology available to

[9] CEC Docket 00-AFC-4. Order Denying Continued Suspension and Terminating Proceeding.
[10] Mirant's proposal for 316(b) information collection submitted to RWQCB in February 2006.

minimize significant adverse impacts of the intake can be determined and deployed now. Therefore, it completely failed to exercise its duty to use its best professional judgment to employ technology to minimize impacts. Adoption of the TO without this judgment would be improper and contrary to law.

C-13.

III. THE TENTATIVE ORDER IMPROPERLY FAILS TO REQUIRE THAT THE DISCHARGE OCCUR IN WATER WITH A 10:1 DILUTION PURSUANT TO BASIN PLAN PROHIBITION 1.

A

Federal regulations for existing power plant discharges encourages the states to impose more stringent requirements where appropriate:

> More stringent standards. The Director may establish more stringent requirements as best technology available for minimizing adverse environmental impact if the Director determines that your compliance with the applicable requirements of this section would not meet the requirements of applicable State and Tribal law, or other Federal law. 40 C.F.R. 125.94(e). See PUD No. 1 of Jefferson Cty. Washington Dept. of Ecology, 511 U.S. 700, 705 (1994).

Even where analysis under federal law would not necessarily mandate an end to once through cooling, where a state water quality requirement would, NPDES permits for dischargers should require a technology that achieves the state water quality requirement. See In re Dominion Energy Brayton Point, L.L.C., E.P.A. Environmental Appeals Board, NPDES Appeal No. 03-12, p. 19 (Feb. 1, 2006).

C-14. COMMENT 27

In the recent Brayton Point decision, an EPA appeals board affirmed that an NPDES permit could effectively mandate conversion from once through cooling to closed-cycle cooling. Brayton Point, E.P.A. Environmental Appeals Board, NPDES Appeal No. 03-12 (Feb. 1, 2006). There, the final NPDES permit significantly curtailed the amount of water the power plant, BPS, could withdraw and discharge. To comply with the new restrictions, BPS would have to change all of its four units from once-

through, open-cycle cooling systems, to closed-cycle cooling systems that recycle the cooling water. Id. at 19. The Appeals Board denied the power company's appeal of the permit decision, holding that under CWA 316(b), permits must not only require best technology available, but also whatever else "is necessary to meet state water quality standards. Thus, in certain cases, even if the technology standard does not require closed-cycle cooling, a state's water quality standard may." Id. at 8. In essence, the Brayton Point decision held that an NPDES permit could properly require a facility to comply with the state's more stringent water quality standards by mandating an end to once through cooling. See id. The Regional Board has the authority and the responsibility to issue a permit that restricts Potrero's options to a non-Bay cooling alternative where applicable laws require that result.

The State of California does have laws that do require cooling system upgrade. The Regional Board's Basin Plan, under Table 4-1 entitled Discharge Prohibitions, at section one prohibits the discharge of "[a]ny wastewater which has particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive a minimum initial dilution of at least 10:1, or into any non-tidal water, dead-end slough, similar confined waters, or any immediate tributaries thereof." ("Prohibition 1.")

Prohibition 1 was upheld for existing facilities by the State Water Resources Control Board (State Board) in In the Matter of Petition of Citizens for a Better Environment, Order No. WQ 86-4. Feb. 20, 1986, 1986 WL 25504 (Cal.St.Wat.Res.Bd.), appended hereto as Exhibit C of Attachment 2. The State Board found that Prohibition 1 applies to once-through cooling water that was drawn from the Bay and discharged at the shoreline with toxic pollutant and toxicity characteristics of concern. Prohibition 1 was

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again upheld in In the Matter of the Petition of Citizens for a Better Environment, et al., State Water Resources Control Board, Order No. WQ 90-5, October 4, 1990, appended hereto as Exhibit D of Attachment 2. Order 90-5 also found that toxic pollutants are constituents of concern to which Prohibition 1 applies.

The Regional Board proposed to apply Prohibition 1 to Potrero discharge E-001 in a draft of this permit issued in 2001. The 2001 draft permit is appended hereto as Exhibit F of Attachment 2. The TO reverses this proposal.[11] The Board's 2001 proposal to apply Prohibition 1 was correct. The TO's proposal to allow a massive discharge flow with potentially toxic concentrations of known pollutants to continue without the minimum initial dilution required by the Basin Plan has no valid basis; it is arbitrary, harmful and contrary to law.

C-15. COMMENT 30

A. The Board's 2001 draft permit correctly applied Basin Plan Discharge Prohibition 1 to the Potrero Unit 3 discharge E-001.

Potrero Power Plant Unit 3 discharges approximately 226 MGD of once-through cooling water mixed with smaller amounts of process water and storm water from outfall E-001 which is located at the shoreline. See Order 94-056. Effluent E-001 receives little or no initial dilution. CBE's 2005 Comments at 35-38. The Regional Board staff acknowledges that "the discharge does not receive initial dilution." TO Finding 67.

Toxic pollutants and toxicity are found in this discharge, as detailed in the second part of this section. Among other problems with this discharge, certain toxic pollutants in Potrero effluent E-001 have the potential to cause or contribute to violations of applicable water quality standards as a result of this discharge. Regional Board staff itself makes

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[11] The 2001 draft permit included a requirement stating: "Discharge of Wastes E-001 and E-002 at any point where it does not receive an initial dilution of at least 10:1 is prohibited. See Attachment 2, Exhibit F, Discharge Prohibitions. No such requirement appears in the current TO.

this finding for specific toxic pollutants including copper and mercury. TO Finding 48. The applicable water quality standards are established to protect beneficial uses. Water Code § 13241. Thus, these pollutants that threaten to cause or contribute to violations of the standards are characteristics of concern for beneficial uses. Therefore, Prohibition 1 applies to Potrero effluent E-001.

C-16

B. Regional Board staff's rationale for reversing the Board's 2001 proposal to apply Basin Plan Discharge Prohibition 1 to this discharge due to the presence of toxic chemicals in the effluent is contrary to the Basin Plan, inconsistent with State Board actions and factually wrong.

The TO claims that although the discharge at E-001 at the Potrero plant "does not receive initial dilution, it complies with the discharge prohibition because it is not wastewater with particular characteristics of concern to beneficial uses." Finding 67. This claim is bogus on its face. The discharge is waste water; thus the reissuance of waste discharge requirements. The TO itself names specific pollutants in it as "characteristics of concern." Id. The TO names at least two of these pollutants—copper and mercury—as having the potential to cause or contribute to violations of water quality standards set to protect beneficial uses. Finding 48. The plain language of Prohibition 1 applies to "any" waste water with such characteristics, and it applies at Potrero.

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The Regional Board applied this prohibition against discharge receiving less than 10:1 initial dilution to the Crockett Cogeneration plant in Order R2-2004-0026.

However, instead of following the plain language of the prohibition, the TO fundamentally misinterprets its purpose, ignores relevant State Board decisions, grossly mischaracterizes the discharge, and ignores the role of Prohibition 1 in relation to the Thermal Plan.

1. **The TO's claim that Prohibition 1 does not apply to E-001 because it does not contain a treatment system subject to upset misinterprets the purpose of the Prohibition, ignores relevant State Board decisions, and is factually inaccurate.**

The TO claims the dilution requirement only protects against treatment malfunctions and minimizes public contact with undiluted waste. It states, "This discharge does not contain treated sewage and does not contain wastewater from a treatment process subject to upset. Therefore the prohibition does not apply in this context." Finding 67, second paragraph. This attempt to limit the applicability of Basin Plan Prohibition 1 is incorrect.

First, the explicit language of Prohibition 1 provides no such limitation. Instead, the Basin Plan has made clear that Prohibition 1 is intended to protect against harm from continuous discharge. The Plan states that one of the purposes of Prohibition 1 is to: "provide an added degree of protection from the *continuous* effects of waste discharge." Basin Plan Table 4-1, emphasis added. TO Finding 67 simply omits this requirement for protection against continuous discharges (as well as treatment upsets) by ensuring minimal dilution requirements.

In addition, whatever staff lore may exist regarding the sewage plant origins of the Prohibition, this attempt to limit Basin Plan Prohibition 1 has already been rejected by the State Board in the Chevron matter. In that case the State Board applied the Prohibition to the once-through cooling water discharged by an oil refinery. The Board never amended the Basin Plan Prohibition after that decision, though the staff seeks to implicitly do so through the TO. See Chevron, discussion in Attachment 2 page 8.

Further, the TO's statement in Finding 67 that the discharge "does not contain wastewater from a treatment process subject to upset" is factually incorrect. The Potrero

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Unit 3 cooling system includes a system to detoxify the chlorine added to the system before discharge. CBE's 2005 Comments at 42. The potential for malfunction of this treatment to cause acute toxicity is discussed below. The Basin Plan makes clear that an additional purpose of Prohibition 1 is "to provide a buffer against the effects of abnormal discharge caused by temporary plant upsets or malfunctions." Basin Plan, Table 4-1

2. The TO's claim that E-001 has "minimal characteristics of concern" mischaracterizes the discharge and ignores serious toxic pollution.

Any suggestion that Potrero effluent E-001 is as clean as a new power plants' non-contact cooling water discharge, such as the claim in TO Finding 67 that it has only "minimal characteristics of concern except thermal waste," is a gross mischaracterization. Evidence shows the Potrero plant's continued use of 40-year-old cooling technology causes toxic pollution that contributes significantly to impacts on beneficial uses of the Bay and to violations of water quality standards. This evidence is downplayed—or, in many cases, ignored completely—by the TO.

a. The TO ignores evidence that the old plant causes substantial pollution. The TO ignores evidence of pollutant sources within the Potrero cooling system. The cooling system is 40 years old. Pipes under the property may be disintegrating. Corrosion of approximately 13,000 condenser tubes in the cooling system, which must be replaced often due to corrosion, is a likely source of copper and other toxic metals in the discharge. CBE's 2005 Comments at 42; Attachment 2 at 3. CBE, Mirant, and PG&E reported this evidence. Id. Nowhere in the TO is this evidence mentioned.

The TO improperly discounts storm runoff contamination of effluent E-001. The runoff is of concern because it has the potential to collect toxins already present in the soil. Contamination of the site and adjacent Bay sediment with PAHs, PCBs and other

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toxic pollutants indicate a potential for significant runoff pollution of E-001. CBE's 2005 Comments at 43; Attachment 2 at 3, 5, 6. TO Finding 67 suggests this discharge is of "minimal concern" but cites no evidence demonstrating such a finding.

C-19

The TO ignores evidence that the outfall design itself causes toxic pollution. Evidence from site-specific bathymetric, sediment, temperature, intake, effluent, Bay water and tide measurements demonstrates that the shoreline discharge re-mobilizes buried sediment contamination which is sucked into the adjacent cooling intake, causing the discharge of mercury, PCBs, and other toxic pollutants from outfall E-001. See Attachment 2 at 3-7. Analysis for PCBs in 2005 adds to this already-substantial evidence. These PCBs data are appended hereto as Attachment 3. See Table 1 below.

Table 1. Polychlorinated biphenyls (PCBs) measured at Potrero Unit 3 intake I-001 and outfall E-001: grab samples taken on two days in January 2005. In picograms per liter (pg/L).

Data in picograms/liter	High tide sample			Low tide sample		
	I-001	E-001	Change	I-001	E-001	Change
PCB 105	< 20	32	+ 12	41	31	– 10
PCB 118	32	54	+ 22	42	34	– 8
PCB 138	< 200	260	+ 60	< 200	< 200	—
PCB 149	< 200	220	+ 20	< 200	< 200	—
PCB 170	97	150	+ 53	79	67	– 12
PCB 180	200	310	+ 110	100	93	– 7
Sum of these PCBs	**< 749**	**1,026**	**+ 277**	**< 662**	**< 625**	**– 37**

Analysis of grab samples taken 11:20-11:25 am 1/11/05 and 8:10-8:15 am 1/13/05 reported by Mirant to the Regional Board on 3/23/05. See Attachment 3. Shows all PCBs detected (undetected values shown as < x where x = detection limit). PCBs 105 and 118 also detected in the method blank. Co-eluting isomer flag for all PCBs detected except PCB 180.

C-20. Comment 15

Review of Table 1 reveals higher effluent levels at high tide, and higher influent levels at low tide. This is consistent with the greater discharge-driven mobilization of pollutants from sediment at lower tides, when there is less Bay water to cushion the impact of the discharge on the bottom, which is documented in Attachment 2.

The Regional Board's own consultant suggested this impact of the cooling system. Attachment 2 at 6. The TO ignores this evidence. It claims there is no known source of mercury at this facility (TO Finding 43) without noting this evidence showing the opposite is true. It grants a PCBs "intake credit" prohibited by State Board policy given this impact of the outfall location. TO Eff. Lim. B.5.b, note 1; SIP §1.4.4.

C-20. COMMENT 15

The TO ignores the potential for an acutely toxic catastrophic chlorine spill. Potrero's once-through cooling design requires twice-daily chlorine shocks, has no failsafe to avoid discharge if its batch-treatment dechlorination system malfunctions, and discharges with little or no dilution at the shoreline. CBE's 2005 Comments at 42. The TO ignores the engineering data revealing this vulnerability.

Staff's claim that "excellent compliance with effluent limits for chlorine ... demonstrates excellent reliability of its treatment system" (Finding 67) is beside the point. This claim is also contradicted by suggestions elsewhere in the TO[12] that compliance monitoring was inadequate and chlorine compliance is questionable. The Staff cites no exception to the Prohibition 1 nor relies on any that states that if an accident has not occurred yet, a facility can continue to discharge into shallow water. One of the purposes of Prohibition 1 is to avoid the impacts from that first catastrophic accident.

C-21. COMMENT 27

b. *The TO does not identify discharges of highly toxic pollutants and toxicity.* The TO finds many toxic metals detected in effluent E-001, but it finds, wrongly, that dioxins[13] were not detected: "The data set is all non-detect." TO Finding 51.d. Dioxins were detected in discharge E-001. CBE's 2005 Comments at 41 and Attachment 21 thereto. It wrongly states "PCBs were not detected in the effluent." Fact Sheet, Basis

C-22. COMMENT 16

[12] Increased monitoring frequency (Finding 66) suggests inadequate existing monitoring. A 0.09 mg/L chlorine residual value (Finding 10, Table A) approaches the 0.0 mg/L effluent limit B.1.b.

9.h. PCBs were detected in E-001[13]. Attachment 3. It reports PAHs and DDD were not detected by poor effluent analysis, then ignores evidence showing PAHs and DDD are re-mobilized from nearby sediment, sucked into the intake, and thus discharged. Attachment 2 at 5, 6.

It even omits mentioning chronic toxicity in the discharge—though the previous TO made this finding. Chronic toxicity has been observed in effluent E-001. CBE's 2005 Comments at 43 and Attachment 22 thereto. The TO's conclusion that there are no pollutants of concern is easily made if one ignores the relevant data.

c. *The TO fails to evaluate the amounts of pollutants discharged adequately.* The maximum concentration of dioxins detected in effluent E-001 that was reported during July 2001 was 0.195 picograms per liter (pg/L), expressed as TCDD TEQ. See CBE's 2005 Comments at 41 and Attachment 21 thereto. PCBs were measured in E-001 at 1,026 pg/L, expressed as the sum of PCBs detected. See Table 1 above; Attachment 3. Mass discharges of copper, mercury, lead, selenium and zinc may be within an order of magnitude of the maximum discharge allowed from the Chevron Richmond Refinery, and the dioxins loading *may be higher than allowed from Chevron.* This preliminary estimate is based on the difference between effluent and Yerba Buena Island "background" concentrations as of January 2005. Attachment 2. The TO, however, does not quantify maximum effluent concentrations for dioxins or PCBs detected, and does not even attempt to quantify the toxic mass loading.

d. *The TO fails to evaluate available evidence of toxic discharge impacts.* The TO's analysis of dioxin and PCB discharge compliance with water quality standards is not accurate. It finds that "pursuant to the SIP there is no reasonable potential for TCDD

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[13] Chlorinated dibenzo-*p*-dioxin and dibenzofuran congeners with additive toxicity.

TEQ." TO Finding 51. This is wrong. The TCDD TEQ of dioxins detected in the effluent cited above (0.195 pg/L) exceeds the applicable water quality criterion set forth in Finding 51 (0.014 pg/L as TCDD TEQ). Thus there is a reasonable potential that the discharge of dioxins may cause or contribute to violations of water quality standards. Similarly, the sum of PCBs detected in the effluent that is cited above (1,026 pg/L) exceeds the applicable water quality criterion (170 pg/L). Again, there is a reasonable potential that the discharge may cause or contribute to water quality violations. Again, at least parts of the TO[14] wrongly indicate no "Reasonable Potential" for PCBs.

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Potrero discharge threats to human health are understated as a result of the TO's incomplete analysis. TO Finding 35 says that dioxins, PCBs and mercury violate Bay water quality standards, but fails to say why this is so. In fact, contamination of Bay fish with dioxins, PCBs and mercury was found to pose disproportionately elevated risks of cancer and developmental neurotoxicity in subsistence anglers and their children. See e.g., Karras, 2001, cited in CBE's 2005 Comments. Mass loading of these pollutants, caused by Potrero's high discharge flow coupled with pollutant concentrations exceeding water quality criteria, indicates cause for concern about human health. The TO fails to articulate this concern.

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COMMENT 20

The TO also fails to evaluate evidence the discharge may be toxic to aquatic life. First it fails to evaluate the chronic toxicity observed in the discharge in light of the potential for toxicity in Bay aquatic life exposed to the inadequately diluted shoreline discharge. Second, combinations of the same toxic pollutants detected in the effluent may cause additive or synergistic toxicity to aquatic life at concentrations below the

C-27

COMMENT 18

[14] Table B of the Fact Sheet and the text of Finding 47 suggest no PCBs "Reasonable Potential." Other parts of the TO appear to contradict this finding but the analysis remains unclear.

pollutants' respective water quality criteria. Spehar and Fiandt, 1986, appended hereto at Attachment 4. Yet the TO dismisses toxicity concerns for some of these pollutants[15] simply because they were below their chemical-specific water quality criteria.

Further, the TO does not evaluate the potential extent of aquatic toxicity impacts from a possible chlorine spill resulting from a catastrophic dechlorination system failure. This could be done based on the well-known acute toxicity of chlorine to aquatic life and a worst case estimate of habitat vulnerability. By not performing this straightforward screening, the TO again further downplays the toxic discharge threat.

e. The staff errs in assuming that the cooling water has no contact with process water. In responses to comments on the 2004 T.O. and in the current T.O., the Regional Board states that the Basin Plan Prohibition 1 refers to discharges of wastewater that have been processed through a treatment plant and does not regulate non-process cooling water. T.O. at 19-20. This characterization implies that the Potrero plant does not cause any pollution with its cooling water; this implication is simply not true.

By ignoring condenser corrosion, storm runoff contamination, shoreline discharge sediment remobilization, and the potential for an acutely toxic chlorine spill, the Regional Board is frustrating the purpose of this discharge prohibition. CBE's 2005 Comments at 42. Prohibition 1 is meant to provide added protection for the Bay regarding any permitting discharge, address cumulative impacts from continuous discharges, and guard against the most severe impacts when there is an upset or other abnormal discharge resulting from an accident. In short, Basin Plan Prohibition 1 is a precautionary measure meant to guard against pollutants being discharged to the Bay.

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[15] Arsenic, cadmium, chromium and lead. See TO Table 3. Spehar and Fiandt measured additive and synergistic toxicity of arsenic, cadmium, chromium, lead, mercury and copper.

The TO states that "if the [studies ordered for Copper and Mercury] show that these processes do constitute a substantial source of these pollutants to the Bay, the Board my consider imposing an initial 10:1 dilution." Finding 67. By delaying action until studies for Mercury and Copper, two hazardous metals, the Board is turning the Basin Plan from a precautionary law into a reactionary remedy and thus ignoring its purpose. There is no "study exception" to the Basin Plan. The permit issued should require 10:1 dilution without waiting for further study of already-known pollution threats.

C. Basin Plan Prohibition 1's applicability to heated water is not preempted by the State Thermal Plan.

The TO states that the discharge at E-001 at the Potrero plant "complies with the discharge prohibition because it is not wastewater with particular characteristics of concern to beneficial uses." It adds, however, that the cooling water outflow contains minimal characteristics of concern, except for thermal waste.

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As discussed below, the TO fails to acknowledge that the Potrero power plant's discharge violates the Thermal Plan. However, even if it complied, the discharge remains heated, heat is a pollutant of concern, and therefore should not be discharged in shallow water in violation of Basin Prohibition 1.

The staff ignores heat under its analysis of the Prohibition by simply assuming that the Thermal Plan preempts Prohibition 1. It states, the "Basin Plan, aside from requiring that the receiving water temperature not be altered if doing so adversely affect beneficial uses, defers its regulation of thermal waste to the State Thermal Plan." Finding 67. That is legally incorrect.

First, nothing in the Basin Plan states that it preempts Prohibition 1. Secondly, the text of the Thermal Plan only explicitly preempts regulations for interstate and coastal

waters (not enclosed bays like San Francisco Bay). Water Quality Control Plan For Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California, State Water Recourses Control Board, Implementation, Para 2, p. 7. Policies for enclosed bays such as San Francisco were thus specifically excluded from this rescission. See definition for "coastal waters" and "enclosed bays." *Id.*, p. 1.

The State Thermal Plan may create a floor for protection of the Bay, but by its terms more stringent requirements may be required. *Id.*, Water Quality Objectives, para. 1, p. 6. Thus the Regional Board has included both the Thermal Plan and Prohibition 1 in its Basin Plan without any language suggesting that one modified the other. In addition, both the Basin Plan and the Thermal Plan have been approved by the State Board and there has been no suggestion by the State Board that the Thermal Plan preempts Basin Plan Prohibition 1.

Further there is indeed no conflict between the two. The Thermal Plan generally addresses routine discharges. Prohibition 1 addresses upsets as well as the cumulative continuous impacts associated with shallow water discharges.

Finally, both in this case achieve the same purposes. As discussed below, the Thermal Plan's proper application to this permit would require the discharge to be relocated, as indeed Prohibition 1 also requires. Therefore the Thermal Plan neither by express language, implication or its application preempts Discharge Prohibition 1.

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IV. THE TO FAILS TO PROPERLY ADDRESS THERMAL IMPACTS AND REQUIRE THE ONLY APPROPRIATE MEASURE THAT WOULD ELIMINATE THOSE IMPACTS – ONCE THROUGH COOLING.

The Thermal Plan requires that when cooling water discharges have temperatures higher than the natural temperature of the receiving water, permits impose "limitations necessary to assure protection of beneficial uses." Thermal Plan, Specific Water Quality Objectives, 4A. "Additional limitations shall be imposed in individual cases if necessary for the protection of specific beneficial uses and areas of special biological significance." Thermal Plan, General Water Quality Provision 1. Such additional limitations can include limitations on the location of discharge. Thermal Plan, Definition 13. Further:

> When additional limitations are established, the extent of surface heat dispersion will be delineated by a calculated 1 1/2°F isotherm which encloses an appropriate dispersion area. The extent of the dispersion area shall be: A. Minimized to achieve dispersion through the vertical water column rather than at the surface or in shallow water.
> General Water Quality Provision 1.

The TO does state that the thermal plan applies at Finding 16. Thermal discharge triggers such additional limitations on the location of the discharge.

The Unit 3 discharge threatens specific beneficial uses of water in critically important Bay habitat. Mirant itself found that the Unit 3 thermal discharge impacts the Bay. Mirant's consultant identified impacts on animal communities near the discharge and predicted that these impacts would be reversed by abandonment of the shoreline outfall. Attachment 16 to CBE's 2005 Comments at 5-8, 5-9. Mirant and CEC staff concluded that the thermal discharge is linked to noticeable changes in aquatic plant communities near the discharge. CBE's 2005 comments at 38-40 and Attachment 17 thereto at 44. CEC staff concluded that the thermal waste may adversely impact the

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development of herring eggs deposited near the discharge. Id. Among other impacts on herring hatched from these eggs, NMFS found that this could further exacerbate the plant intake's impacts by prolonging the period when larval herring are subject to entrainment. CBE's 2005 comments at 40 and Attachment 7 thereto.

The Department of Fish and Game has reported evidence that the shoreline at Potrero is crucially important spawning habitat for Pacific herring in the Bay. CBE's 2005 Comments at 40. Pacific herring support the Bay's major remaining commercial fishery. Id. The National Marine Fisheries Service ("NMFS") concluded that the "facility, Unit 3, is impacting the ecosystem of the San Francisco Bay due to the ... discharge of heated effluent." Attachment 7 to CBE's 2005 comments at 16.

Thus, substantial evidence including evidence provided by the plant owner and other agencies shows that the Potrero Unit 3 thermal discharge E-001 causes adverse impacts on estuarine habitat and fish spawning and threatens commercial fishing. "Additional limitations shall be imposed" on the discharge because this is "necessary for the protection of specific beneficial uses." Thermal Plan, General Water Quality Provision 1. Further, when these additional limitations are established, "[t]he extent of the dispersion area shall be: A. Minimized to achieve dispersion through the vertical water column rather than at the surface or in shallow water." Id.

However, the shoreline discharge cannot achieve such dispersion. Mirant concluded that the discharge fails to achieve dispersion through the vertical water column rather than at the surface or in shallow water. "The existing Unit 3 surface plume creates an extensive area of surface water and shoreline contact where heated discharge water exceeds the ambient intake water temperature by greater than 4° F." See Cooling Water

System Improvements and Thermal Impacts Evaluation at 16, Mirant, 2001, attached to CBE's 2005 Comments as Attachment 10. Evidence from Mirant and PG&E studies demonstrates this conclusion. See CBE's 2005 comments at 35-38. Therefore, the Thermal Plan requires removal of the discharge from the shoreline.

V. UNTIL THE COOLING WATER DISCHARGE IS REMOVED FROM THE BAY THE TO FAILS TO IMPLEMENT THE FEDERAL REQUIREMENTS FOR A TRUE PCB PROHIBITION OR TO ADDRESS THROUGH A PROPER STUDY THE ACTUAL PCB PROBLEM AT THE SITE.

As the TO states, federal regulations require a PCB prohibition in this permit. 40 CFR 423.13(a). The TO mimics this rule with its language of prohibition at Discharge Prohibition A(3): "There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid." If the TO had stopped at this point, at least this permit would have been consistent with minimum federal requirements.

However the staff appears to have undermined its prohibition on PCB discharges by inventing a compliance standard and authorizing intake credits that significantly undermines the prohibition. It is bad enough that the staff has chosen to be cute and run around a federal regulation. However the staff repeatedly stated in public and to BVHPCA that the PCB prohibition was being restored by using the language in the federal regulation, without reference to a compliance standard, betraying the affected community and undermining this agency's credibility.

C-31

A. Intake Credits are inappropriate where the intake mobilizes chemicals from nearby sediment.

In the TO at section #5(b), addressing toxic substances effluent limitations, the TO states as to PCBs: "The discharge of Polychlorinated Biphenyl compounds (PCBs) at concentrations greater than intake concentrations is prohibited." The language is very

different than the previously stated discharge prohibition. Which applies, the prohibition or the effluent limitation? The TO is confusing if not intentionally misleading. The staff only explains that the facility is entitled to use an "Intake Water Credit" pursuant to the State Board's SIP.

As discussed above and in prior comments, the cooling system intake mobilizes pollutants from sediment, sucks these pollutants into the facility's intake, and discharges these pollutants into the Bay. See attachments 2 and 3. The PCB data report documents PCBs in both intake I-001 and outfall E-001, and provides further evidence of unusual remobilization effects in the near-shore areas adjacent to the plant. Thus, in addition to likely land-based sources to the discharge, the facility pollutes its discharge by polluting its intake with its past sediment pollution.

In these circumstances, the SIP does not allow intake credits as indeed the cooling system is causing the release of these chemicals. Intake credits are only allowed if certain conditions are demonstrated. One such condition is that the "facility does not alter the intake water pollutant chemically or physically in a manner that adversely affects water quality and beneficial uses." SIP at §1.4.4 (4). Another such condition is that the "timing and location of the discharge does not cause adverse effects on water quality and beneficial uses that would not occur if the intake water pollutant had been left in the receiving water body." SIP at §1.4.4 (5). These conditions are not met.

C-31

B. PCB Compliance evaluation is a recipe for permitting violations of the discharge prohibition for years to come.

The TO's seemingly most aggressive trick comes with its definition of compliance with the PCB prohibition. Under section 5(b)(3) of the toxic substances effluent limits, the TO states that compliance shall be evaluated by comparing effluent

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samples using a 12-sample moving average of the pollutant concentrations in the intake water samples. Intake samples are taken the same day as the effluent samples.

How often is this sampling conducted? According to the Self Monitoring Program at Table 1, attached to the TO, sampling is to occur as specified in Table 1 of the August 6, 2001, letter referenced in the TO. That letter specifies that PCBs are to be sampled once in the summer and once in the winter.

Amazingly, the impact of the compliance section would be that until there is a moving average of 12 samples, which would take 6 years to achieve, there is no basis for compliance with the discharge prohibition. The TO in effect appears to have exempted the discharger from any compliance with the prohibition for one year longer than the actual 5 year permit and yet, claims this complies with federal law requiring a prohibition on discharge.

If the TO indeed is attempting to nullify a federal required prohibition by making it impossible to enforce, it is preempted by federal law because it frustrates its application in this case. It is also a violation of the federal Clean Water Act's prohibition on backsliding for all of the reasons discussed in BVHPCA 2004 comments, as it replaces a real prohibition with a phony. If it is a mistake, then the TO needs to be modified to clarify its requirements, and if CBE and BVHPCA have misinterpreted it, the staff should state clearly exactly how it can evaluate compliance within the term of the permit because it is not clear.[16]

C. <u>The PCB study needs to be refined as the study description is too vague.</u>

BVHPCA presented in its prior comments and correspondence evidence that PCBs contaminate the Potrero plant site and that these pollutants may be washed by

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C-33.

storm water into the effluent. In recognition of this evidence, the Regional Board's Tentative Permit for the Potrero Power Plant calls for a PCB storm water study and schedule. Section D(8) of the Tentative Order is vague and ambiguous. It states in whole:

> The Discharger shall conduct a Polychlorinated Biphenyl (PCB) Stormwater Study to determine if there is compliance with the prohibition on PCB discharges. Oils containing PCBs were historically used at the facility, and PCB-contaminated soil has been detected and may be in storm drain sediments that could be discharged to the Bay. A work plan was submitted to the Water Board on February 1, 2006. The study shall be completed no later than May 1, 2007 with quarterly progress reports submitted within the self-monitoring reports
>
> Section 8. SFBRWQCB Tentative Order (2006) Pg. 28.

The tentative order calls for a stormwater sediment study of PCBs without adequately articulating what is to be studied. CBE and BVHCA object to this ambiguity on the grounds that the Section D(8) study seems to be limited in scope to the stormwater system, yet the PCB discharge prohibition contained in section A(3) of the TO is not limited to the stormwater system but applies to all discharges to the Bay.

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Mirant, pursuant to a letter from the California Regional Water Quality Control Board, San Francisco Region, and State Water Code § 13267 has submitted a "work plan" which focuses on the stormwater drainage system and outfall E-003. Mirant's work plan fails to adequately articulate or define an appropriate scope of the PCB study in compliance with Section A(3). The plan fails to address all possible sources of PCB contamination, and the TO fails to specify requirements that address all potential sources.

First, Mirant and the TO assume that the area in which historic PCB contamination occurred has been paved over, thus preventing migration of PCBs into stormwater. BVHPCA have presented evidence that significant PCB sites were a few

[16] See footnote 5 above.

years ago not paved over in the drainage area leading to the cooling system. There is no evidence that Regional Board staff have inspected these sites or obtained photographic evidence that sites that were once not paved over are now paved over. This issue needs to be resolved. An unsworn denial by Mirant is insufficient to rebut this evidence.

Secondly, in order to determine to what extent land or bay sources of PCB are in the influent, the Board should redraft section D(8) to require Mirant to conduct a PCB sediment sample study of the near shore area along the entire length of the Potrero Power Plant shoreline to study the effects of PCB remobilization effectuated by outfall E-001. (See the proposed permit attached to BVHPCA's and CBE's December 6, 2005 letter.) By doing so, the study can measure the PCBs re-mobilized from sediment by the cooling system, and distinguish the contribution from this source from any contribution of PCBs from potential soil contamination and runoff sources.

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Further, there are no specifics about the land-based study. BVHPCA and CBE are aware the staff sent out a letter requesting a study, however that letter and any promise to study is unenforceable by the public. Its specific terms should be incorporated into the permit as a minimum. It is also unlikely that the staff, whose inability to review studies is documented in reports presented to the Board earlier this year and online at its website, have actually reviewed seriously the studies proposed by the dischargers. As Lila Tang, the supervisor handling the TO, stated in January in her report to the Board:

> [W]e have often deferred review and comment on study proposals and reports. To avoid being a regulatory bottleneck, we will start allowing the permittee to proceed with any necessary studies if we do not comment within a set timeframe. We believe this is an acceptable approach so long as the permit provisions are clearly spelled out, which we endeavor to do. (Emphasis added). See http://www.waterboards.ca.gov/sanfranciscobay/Agenda/01-11-06/1-11-06-9ssr.doc.

The TO's provisions are not clearly spelled out, to use the words of the staff. It is critical that sediment in all relevant storm drains be tested before the first rains, before these drains are cleaned, and later, as sediment build up again during the rainy season. In this way, it can be determined if PCBs continue to be mobilized from the facility's soils before they go into the Bay.

Finally, the TO should clearly require specific steps to be taken for compliance with the PCB discharge prohibition. These steps should include analysis of each source the PCBs found in the discharge, the isolation of that source from stormwater, and ultimately, remediation of any source of contamination by a date certain. These steps should be required for known sediment re-mobilization of PCBs now, and should be required if and when any additional source of PCB discharge, such as runoff scouring of contaminated soil, is identified. None of these requirements are in the permit.

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COMMENT 12

VI. CONCLUSION

The TO seeks to avoid the one remedy, upland cooling, that will address the real environmental impacts of this facility. It does so by violating federal, state and regional laws. It ignores entrainment, toxic and thermal impacts and refuses to make a reasonable effort to identify technology available to minimize impacts while upland cooling is designed and implemented. The TO deceptively seems to allow continued discharges of PCBs into the Bay in violation of federal law and staff's promises to the local community.

C-34 COMMENT 1

BVHPCA and CBE urge the staff to rewrite the TO and protect the Bay. They urge the staff to give fair consideration to the proposed permit offered by the City, BVHPCA and CBE and finally address the environmental impacts of this facility.

Dated: March 20, 2006

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On behalf of Bayview Hunters Point Community Advocates and Communities for a Better Environment

Shana Lazerow, Attorney
Greg Karras, Senior Scientist
Communities for a Better Environment

List of Attachments

Attachment 1. Analysis of Potrero Unit 3 entrainment impact evidence. Communities for a Better Environment (CBE). March 2006.

APPENDICES THERETO:

Appendix i. Mirant, 2005. 316(b) Entrainment Characterization Report for Potrero Unit 3, March 2005; and 2001-2002 Entrainment Source Water Data used to Prepare the 316(b) Entrainment Characterization Report for Potrero Unit 3. Two documents submitted in March and July, 2005, by Mirant Potrero LLC. Prepared by TENERA.

Appendix ii. Raimondi, 2005. Review of Mirant-Potrero 316B Determination. September 2, 2005 draft report to the Water Quality Control Board, San Francisco Bay Region.

Attachment 2. Supplemental Technical Comments of Advocates and CBE. Originally submitted January 2005. Resubmitted March 2006.

ATTACHMENTS THERETO:

Exhibit A. Regional Board 1974 Internal Memorandum
Exhibit B. Regional Board 1986 Internal Memoranda
Exhibit C. State Board Order WQ 86-4
Exhibit D. State Board Order WQ 90-5 and Final Staff Report
Exhibit E. Regional Board Correspondence Documents
Exhibit F. 2001 Tentative Order and Fact Sheet, Permit CA0005657

Attachment 3. Low Level PCB Analysis Required Under 13267 Letter. Mirant Potrero LLC. Results of analysis. March 23, 2005.

Attachment 4. Spehar and Fiandt, 1986. Acute and Chronic Effects of Water Quality Criteria-based Metal Mixtures on Three Aquatic Species. Environmental Toxicology and Chemistry, Vol. 5 pp. 917-931.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

MAR 21 2006

Lila Tang, Chief
NPDES Permits Division
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

Dear Ms. Tang:

Thank you for the opportunity to comment on the tentative order for the proposed NPDES permit reissuance for the Mirant Potrero Power Plant (permit number CA0005657). EPA appreciates Regional Water Board staff efforts to update and reissue this permit. The purpose of this letter is to present EPA's comments on the draft permit for your consideration.

In the recent discussions between EPA and the Regional Board regarding NPDES backlog reduction, the Regional Board has recognized that timely reissuances necessitate that permits with unresolved policy issues be taken before the Board for the purpose of decision making. EPA supports Regional Board staff efforts to bring forward a Potrero permit at this time; the permit expired in 1999, and it has not been possible for Regional Board staff to bring an uncontested permit before the Board.

In order to facilitate this permit reissuance, we recommend that Board staff present Board members with several feasible policy options. While the 316(b) phase II rule does contain specific performance standards and study requirements, the CWA 316(b) requirement has been implemented through best professional judgement in NPDES permits for decades. The Board may determine that implementation of 316(b) warrants additional measures to minimize adverse impacts prior to completion of the comprehensive demonstration study (e.g., variable frequency pumps, cooling towers). Although the 316(b) Phase II rule represents the minimum Federal requirements under the CWA, the Board may wish to impose requirements beyond those included in the 316(b) rule.

E-1 Comm

The language in the permit (finding 20) and the fact sheet (page 7) describing the 316(b) Phase II regulations, while not technically incorrect, is somewhat misleading. The opening statement of the preamble of the final Phase II 316(b) rule characterizes the rule as implementing section 316(b) of the Clean Water Act (CWA). The purpose of the rule is not to provide new, more stringent requirements, but to implement the existing requirements of the CWA. We recommend changing the permit language (finding 20) and the fact sheet to include narrative similar to the following.

Editorial

"Section 316(b) of the CWA requires 'the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact.' On July 23, 2004, EPA promulgated a new rule implementing section 316(b) of the Clean Water Act (CWA) for certain existing power producing facilities. This rule, commonly referred to as "316(b) Phase II," requires existing dischargers of a certain size to adopt new technologies to reduce impingement mortality and entrainment to within a targeted range, or demonstrate a reasonable alternative for compliance."

EDITORIAL

Findings 48 and 49 appear to need editing. Table 3 in finding 49 shows the reasonable potential (RP) analysis showing RP for mercury, copper, and PCBs. This is not consistent with the narrative in findings 48 and 49. Please proofread the narrative and make edits as necessary.

EDITORIAL

Section 5(b) of the permit provisions (page 24) prohibits the discharge of PCBs at concentrations greater than the intake concentrations. Part (3) of that section specifies that compliance shall be determined using a 12 sample moving average. However, it is unclear how often samples will be collected. If a 12-sample moving average is to be used, enough samples should be taken to determine compliance within a reasonable timeframe, for example, sampling on a monthly basis may be appropriate.

E-2

Page 15 of the fact sheet shows copper as a basin plan objective. This is incorrect, as the objective used in this permit is the saltwater copper number, a CTR number. Please change Table C of the fact sheet to reflect this correction.

EDITORIAL

Regardless of the final decisions regarding requirements for this permit, we look forward to the submittal of the comprehensive demonstration study in November 2007. We anticipate that Regional Board staff will solicit public input at that time, and EPA hopes to be involved and to provide technical assistance as needed. Depending on the requirements of the final permit and the results of the comprehensive demonstration study, we recognize it may be necessary to reopen the permit in late 2007 or early 2008.

E-3

Thank you for your consideration of these comments. If you have any questions, please contact me at (415) 972-3535.

Sincerely,

Nancy Yoshikawa
Environmental Scientist

Mirant Potrero, LLC
Potrero Power Plant
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March 20, 2006

MIRANT

Mr. Derek Whitworth
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, California 94612

Subject: **Comments on Tentative Order**
NPDES Permit No. CA0005657
Potrero Power Plant

Dear Mr. Whitworth:

With this letter, Mirant Potrero, LLC, provides its comments to the February 15, 2006 Tentative Order and Fact Sheet for the Potrero Power Plant issued by the Regional Water Quality Control Board ("Regional Board" or "RWQCB"). This submittal includes the following attachments: 1) Summary Table of Comments on Tentative Order and Fact Sheet; 2) Redline Tentative Order; 3) Redline Fact Sheet; 4) Updated State Implementation Plan ("SIP") data through January 2006; 5) Updated ambient background data; 6) Updated Reasonable Potential Analysis for selected constituents; and 7) Technical Memorandum from ERM-West, Inc. ("ERM") regarding Statistical Variation/Intake Credits. Most of the editorial comments on the attached redlines and summary comment tables are self-explanatory. Some of Mirant's comments require more elaboration, as follows:

Comment 1: Use Current Data

The draft Tentative Order is based on data from June 2002 through April 2004. Mirant believes the final permit should be based on the most current data available; therefore, Mirant recommends that the intake and effluent characterization data, the ambient water quality data and the Reasonable Potential Analysis be updated to use the most recent data collected. Attachment 4 updates the Mirant monitoring data collected under the SIP program through January 2006. Attachment 5 is a complete summary of all current data representing the ambient background data collected at the Yerba Buena station by the San Francisco Estuary Institute. In addition, Attachment 6 provides an update to the Reasonable Potential Analysis.

M-1 COMMENT 1

Comment 2: Update the Reasonable Potential Analysis

1. Adjust Analysis to Assess Outfall Data Relative to the Intake

As the first step to the Reasonable Potential Analysis, Mirant asks that the Regional Board assess any Outfall (effluent) data relative to corresponding levels at the Intake to account for high constituent levels in the Intake. Without this analysis, the Outfall data are not representative of the *facility's* contribution of pollutants to the Bay and are irrelevant to the question of whether the *facility* has the reasonable potential to cause or contribute to an exceedance of a water quality objective. The Outfall data must be adjusted by deducting corresponding Intake data to determine the net *addition* of pollutants, if any, by the facility, before undertaking the remainder of the Reasonable Potential Analysis. If particular Outfall data do not have corresponding Intake sample data, and other data show that Outfall data are not representative of the facility's "performance," that Outfall data should be disregarded.

The Federal NPDES program regulates the "discharge of pollutants" by point sources to navigable waters. Clean Water Act ("CWA") § 402, 33 USC § 1311. The CWA defines "discharge" as the "*addition* of any pollutant to navigable waters." CWA §502(12), 33 U.S.C. § 1362(12) (emphasis added). The Porter-Cologne Water Quality Control Act ("Porter-Cologne"), like the CWA, regulates the "*discharge* of waste." Water Code § 13263. In fact, Porter-Cologne expressly incorporates the CWA's definition of "discharge" for NPDES permitting purposes. Water Code § 13373. (The terms "discharge" and "point source" as used in chapter 5.5 of the Porter-Cologne Act shall have the same meaning as in the federal Clean Water Act ("CWA")). Thus, under both federal and state law, it is the *addition* of pollutants to water that is regulated.

Under the CWA, Water Quality Based Effluent Limitations ("WQBELs") are required when the discharge *(i.e.*, the *addition* of pollutants), "will cause, or have the reasonable potential to cause, or contribute to an excursion above any State water quality standard." 40 CFR 122.44 (d)(1)(i). Effluent limits are not required if there is no "reasonable potential." *In the Matter of Los Coyotes and Long Beach Reclamation Plants,* SWRCB WQO 2002-012 at 16. *See also, In the Matter of Napa Sanitation District*, SWRCB WQO 2001-16, at 50-51 (effluent limits are improper if there is no basis for finding reasonable potential).

The purpose of the Reasonable Potential Analysis is expressly incorporated into the SIP: "The RWQCB shall use all available, valid, relevant, representative information, as described in section 1.2, to determine *whether a discharge may: (1) cause, (2) have a reasonable potential to cause, or (3) contribute to an excursion above any applicable priority pollutant criterion or objective."* SIP, section 1.3 (emphasis added). Thus, the pertinent inquiry under the CWA and Porter-Cologne is whether the facility's *addition* of pollutants has the reasonable potential to cause or contribute to an exceedance.[1]

M-2 COMMENT 22

[1] The Regional Board's attention is drawn to the Court of Appeal's decision in the Tosco/Ultramar/Tesoro permitting process that began several years ago before this Board. That appellate decision upheld this Board's decision to not hold the refinery "responsible" for dioxins that entered the facility's outfall as a result of general air deposition into an open trans-refinery canal as opposed to arising from refinery operations. As the court noted, "The Refinery's wastewater thus became a 'conveyance[] of dioxins

While performing a Reasonable Potential Analysis based solely on effluent data may be appropriate in most situations, evaluating the "reasonable potential" for once-through cooling water presents a special situation. "Effluent" data derived solely from sampling at an outfall (i.e., do not take into account constituent levels at the intake structure) and do not accurately reflect the facility's *addition* of pollutants to the receiving water. Outfall data, standing alone, is not representative of the facility's "discharge" (i.e., its *addition* of pollutants) and therefore are not relevant to the purpose of the Reasonable Potential Analysis. Outfall concentration data must be "corrected" or adjusted by deducting the concentration of the constituent in corresponding intake samples. It is these adjusted sampling data that provide the information that is relevant to the Reasonable Potential inquiry: does the facility "discharge" (*add*) pollutants to the once-through cooling water that have the reasonable potential to cause or contribute to an exceedance of a water quality objective?

This approach is consistent with the SIP. First, as noted above, the SIP directs the Regional Board to use, "all available, valid, *relevant*, *representative* information, as described in section 1.2" when performing the Reasonable Potential analysis. SIP, section 1.3 (emphasis added). Section 1.2 specifically gives the Regional Board, "discretion to consider if any data are inappropriate or insufficient for use in implementing this Policy." SIP, section 1.2. Adjusting the outfall data to reflect corresponding intake concentrations is consistent with the SIP and is necessary to make the SIP conform with the CWA's definition of "discharge." Regulations must be interpreted and implemented consistent with their authorizing statutory underpinnings. *Yamaha Corp. of America v. State Bd. of Equalization*, (1998) 19 Cal. 4th 1, 16 (J. Mosk, concurring) ("no regulation adopted is valid or effective unless consistent and not in conflict with the statute.")

M-2 COMMENT 22

Consistent with the CWA and Porter-Cologne, the Reasonable Potential Analysis must be performed on data that is relevant and representative to the question of whether the facility is reasonably likely to add pollutants that may cause or contribute to an exceedance of water quality objectives. Simply passing pre-existing pollutants through the once-through cooling water tunnel of the facility does not constitute an addition of pollutants to the Bay.

Mirant recognizes that for some of the existing Outfall data there is no corresponding Intake data. The SIP recognizes that, after adjusting a data set as required by Section 1.2, data may be insufficient to perform the Reasonable Potential Analysis. See SIP, section 1.3, "Step 8." In this case, the Regional Board is directed to "require additional monitoring for the pollutant in place of a water quality based effluent limitation."

... from other sources.'" *Communities for a Better Environment v. State Water Resources Control Board*, (2003) 109 Cal. App. 4th 1089, 1099. Similarly, Mirant's once-through cooling water tunnel is simply a "conveyance" of pollutants that already exist in the Bay, returning them to back to exactly the same water body.

In conclusion, Mirant urges the Regional Board to use its discretion under the SIP to find that the only constituent in the discharge with a reasonable potential to cause or contribute to an excursion above any applicable WQO/WQC is copper. Pursuant to the SIP, the Regional Board "shall use all available, valid, relevant, representative information . . ." to determine whether a discharge will have such reasonable potential. The Tentative Order currently includes findings that the constituents mercury and PCBs also trigger the Reasonable Potential Analysis. However, an analysis of the intake data is relevant to the Reasonable Potential Analysis. As discussed above, when paired intake/effluent data sets are analyzed, the maximum effluent concentrations that exceed the applicable WQO/WQC in the current Reasonable Potential Analysis correspond to similarly heightened intake concentrations. This comparison demonstrates that the facility itself does not contribute mercury and PCBs, or any other constituent, to the discharge, and that these values reflect the content of the water withdrawn from the Bay. For mercury, dioxins, and PCBs (see Comment 3 below for further discussion of PCBs), heightened intake levels likely reflect higher near-shore sediment concentrations that will generally be higher than those at Yerba Buena.

M-3 COMMENT 23

2. Revise Reasonable Potential Analysis to Reflect Accurate, Updated Data

Mirant has updated the analysis included in the Reasonable Potential Analysis spreadsheets prepared by the Regional Board. The selected constituents discussed below are those for which the Regional Board found a reasonable potential to contribute to an excursion above applicable limits, or those for which the updated data altered the Reasonable Potential Analysis.

a. Copper

Pursuant to the SIP, the Regional Board "shall use all available, valid, relevant, representative information..." Mirant reanalyzed the reasonable potential and interim effluent limitation using the current data for copper in Attachments 4 and 5. As a result of the updated data, new maximum concentration values for the ambient background, 2.549 µg/L from February 8, 2001, and effluent, 32.8 µg/L from November 3, 2004, were entered into the Reasonable Potential Analysis. The Reasonable Potential Analysis in the Tentative Order and the Fact Sheet previously showed maximum concentrations of 7.17 and 2.45 µg/L, respectively. Consequently, Mirant has recalculated the interim effluent limitation for copper. Mirant recommends the Regional Board adopt this new interim effluent limitation of 24.3 µg/L.

b. Mercury

M-4 COMMENT 24

As discussed above, Mirant believes that the mercury should not trigger the Reasonable Potential Analysis, based on an analysis of paired intake and outfall data. If the Regional Board nonetheless finds that mercury triggers the Reasonable Potential Analysis, Mirant requests that the interim performance-based limits for mercury be updated to reflect updated data, as follows.

The Tentative Order and Fact Sheet state interim effluent limitations are required for mercury since Mirant has demonstrated and the Regional Board verified that the final effluent limitations calculated according to SIP will be infeasible to meet. The Regional Board calculated an IPBL of 0.056 µg/L based on effluent concentrations from mid-2002 through mid-2004 ranging from 0.00303 to 0.0505 µg/L (14 samples). However, Mirant recalculated the interim effluent limitation for mercury with the updated data in Attachment 4. Based on 34 samples and updated data for mercury through January 2006, a new interim effluent of 0.035 µg/L was calculated. Mirant recommends the Regional Board adopt this latest interim effluent limitation.

M-4 COMMENT 24

c. Dioxins (2,3,7,8-TCDD and 2,3,7,8-TCDD TEQ)

As presently written, the Tentative Order finds there is no Reasonable Potential for either 2,3,7,8-TCDD or 2,3,7,8-TCDD TEQ, based primarily on the fact that neither 2,3,7,8-TCDD nor dioxin congeners resulting in a TEQ for 2,3,7,8-TCDD were detected at the Outfall. Using the more recent monitoring data, this conclusion remains unchanged for 2,3,7,8-TCDD. Dioxin 2,3,7,8-TCDD remains undetected at the facility outfall, and there is no Reasonable Potential for 2,3,7,8-TCDD under the SIP.

Dioxin 2,3,7,8-TCDD TEQ ("dioxin TEQ") presents a slightly different situation. There is no "Dioxin TEQ" criteria established in the CTR. Instead, the Regional Board has traditionally relied on the Basin Plan's narrative toxicity objective establish a numeric Water Quality Objective for dioxin TEQ of 1.4×10^{-8} µg/L.[2]

Previously, all dioxin congeners were non-detect, so there was no dioxin TEQ. The most recent data, however, does contain some detections of various congeners. All are near or below the quantification limit for the analysis, however, so the calculated "TEQ" is a rough estimate, at best. Moreover, for all samples with intake/outfall pairs, the intake TEQ is calculated as higher than the outfall TEQ, suggesting that the facility is not, in fact, adding dioxins to the water. This is consistent with other information, since there are no sources of dioxins in the facility. Mirant recommends that, based on the fact that calculated dioxin TEQ at the outfall is less than dioxin TEQ at the intake, and the net result is well below any quantification limit, these results should be treated as "non-detects" for purposes of the Reasonable Potential Analysis.[3]

M-5 COMMENT 25

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[2] Since there is no adopted federal Water Quality Standard for dioxin TEQ, the Regional Board is required to undertake a Water Code § 13421analysis, including an evaluation of economic considerations, before establishing a numeric Water Quality Objective for dioxin TEQ. In addition, under section 13263, this analysis must be performed at the permitting stage as well. *See City of Burbank, et al., v. State Water Resources Control Board* (2005) 35 Cal. 4th 613; 108 P.3d 862, (Regional Board must perform a § 13241/13263 analysis when imposing effluent limits more stringent than mandated by federal law). Mirant reserves the right to challenge the imposition of effluent limits based on numeric dioxin TEQ WQO of 0.00000017 µg/L, since the Regional Board has conducted no section 13241/13263 analysis, either at the time it first adopted this *de facto* water quality objective, nor in the process of issuing this permit.

[3] There is one sample result with a "TEQ" detection at the outfall, May 5, 2004, for which there is no corresponding intake sample. Based on subsequent paired sample results, and the lack of any dioxin source in the facility, however, the Regional Board should conclude that this "detection" is most likely the result of elevated intake levels, as well. The Regional Board should disregard this datum as not representative for purposes of the Reasonable Potential Analysis. (SIP, section 1.2 and 1.3)

The SIP includes special provisions for dioxin TEQ. (SIP, section 3). These provisions require each permit holder to collect samples over a three year period, at which time "the SWRCB and the RWQCB will assess the data (a total of six samples each from major POTWs and industrial discharger, and a total of two samples each from minor POTWs and industrial dischargers), and determine whether further monitoring is necessary." *Id.* Mirant has now collected at least six sets of data pairs, all of which are either non-detect for dioxin TEQ or calculate a higher TEQs at the intake than at the outfall. A TMDL for dioxins and furans is scheduled to be completed and final limits, if any, will be established by that TMDL. Mirant suggests that the available data does not support the establishment of either an interim or final effluent limit for dioxin TEQ at this time (nor is there sufficient data to calculate either an interim or final limit). Moreover, in light of the existing monitoring results, no further monitoring at this or other individual facilities should be required until the Regional Board assesses all available monitoring results and concludes that a comprehensive, Bay-wide monitoring plan is appropriate and necessary for TMDL development of the dioxin TMDL.

M-5 COMMENT 25

Comment 3: Revise PCB Reasonable Potential Analysis and Proposed Compliance Methodology

1. Reconsider PCB Reasonable Potential Analysis

The current Tentative Order finds reasonable potential for PCBs under both SIP "Trigger 1" (effluent MEC exceeds WQO) and SIP "Trigger 2" (ambient exceeds WQO and constituent detected in effluent). Mirant requests the Regional Board review the report submitted on March 23, 2005 and the information below and reconsider its Reasonable Potential Analysis. The Low-Level PCB analysis results do not support a conclusion that the once-through cooling water is a source of PCBs, and there is no "other information" that would suggest a WQBEL is required. Mirant has performed the 13267 sampling required to support development of a PCB TMDL and is already conducting an additional monitoring study looking for possible PCBs in stormwater sediments. These activities, combined with the preparation of the PCB TMDL (TO, Findings 36-38), are sufficient to comply with the SIP.[4]

M-6 COMMENT 11

Low level PCB data was collected on two occasions, January 11 and January 13, 2005. Analysis was performed for two hundred and nine (209) PCB congeners. All but six congeners were non-detect. The results for these six congeners were reported as follows:

[4] *See Communities for a Better Environment v. State Water Resources Control Board*, (2003) 109 Cal. App. 4th 1089, 1106 (effluent limitations need not be numeric).

Table 1. Low-Level PCB Sample Results: Mirant Potrero - Intake and Outfall

			Sample Date January 11, 2005				Sample Date January 13, 2005			
			Intake		Outfall E-001		Intake		Outfall E-001	
Parameter	Units	Detection Limit	Results		Results		Results		Results	
PCB 105	pg/L	20	ND		32	C, B	41	C, B	31	C, B
PCB 118	pg/L	20	32	C, B	54	C, B	42	C, B	34	C, B
PCB 138	pg/L	200	ND		260	C	ND		ND	
PCB 149	pg/L	200	ND		220	C	ND		ND	
PCB 170	pg/L	20	97	C	150	C	79	C	67	C
PCB 180	pg/L	20	200		310		100		93	

Notes:

B Method blank contamination.

C Co-eluting isomer

ND Non Detect

Of the six that were detected, all but two results (PCB-138 and PCB-149 on January 11) are either associated with method blank contamination or are found at similar levels in both the Intake and Outfall. On only one of the two sample events (January 11) did the laboratory analysis result in a higher value at the Outfall than at the Intake. All detections on January 13 were lower at the Outfall than at the Intake. The differences between Intake and Outfall results on January 11 are most likely attributable to the very low level of detection, random variability in laboratory analytical results (see discussion below), and the lack of representativeness of the Intake sample compared to the thoroughly mixed Outfall sample.

The results for both PCB-138 and PCB-149 were reported at levels minimally above the detection limit of 200 pg/L (260 and 220, respectively) and were reported on only one of the sample dates. This is consistent with the expected random variability of laboratory analysis discussed above. In addition, both of these congeners, along with PCB-170, were qualified in the report as "co-eluting isomers". According to the laboratory, the sample method (EPA14-1668) measures 209 isomers and since there are not 209 individual known isomers, some of the isomers are co-eluting. When two or more isomers elute off of the column at the same retention time, the laboratory conservatively reports the results for all of these isomers combined. Thus, the results for PCB-138, PCB-149 and PCB-170 are likely over-reported. With regard to the January 11 PCB-180 measurement, this may well be the result of incomplete mixing at the intake structure resulting in a non-representative sample being taken at that point. Mirant's intake structure is near-shore and is influenced by wind, wave and storm action. These actions can stir up sediments, resulting in a non-uniform water column at the intake structure. Stormwater runoff from other locations around the Bay can also suspend sediments at the Intake structure. As the Tentative Order notes, PCBs are hydrophobic and tend to be associated with sediments. Since the sampling method was to take a grab sample from just one spatial location in the intake structure, it is likely that spatial variations in the suspended sediments at the intake structure will come into play at the

M-6 COMMENT 11

very low levels being analyzed. Mirant is proposing to address this variability by evaluating the feasibility of relocating its sampling point to a location in the intake where full mixing is more likely to be complete (see Comment 4, below). [5]

As the Tentative Order notes, there are no sources of PCBs likely to be contributed to the once-through cooling water. (TO, Findings, page 15, paragraph 52, "Trigger 3: (Other information))" There are no transformers or other equipment containing PCBs currently in the facility. PCBs have been characterized in soil, but the site is paved in the locations where PCBs have been found. Furthermore, PCBs have not been detected in groundwater. Mirant is conducting a PCB stormwater study to determine whether the facility is potentially discharging PCBs above ambient levels.

When all available information is considered, the Low-Level PCB sample results do not support the conclusion that the facility is adding PCBs to the water. At the very least, Mirant suggests that "Step 8" of Section 1.3 of the SIP applies because there is inadequate data to establish an actual contribution of PCBs by the facility or to establish appropriate numeric effluent limitations, either interim or final.

2. Revise Compliance Methodology to Account for Random Variability

Mirant is concerned that high levels of constituents at its Intake could result in violations of effluent limitations applied at the Outfall, even though Mirant's facilities have not added any of the constituent of concern to the once-through cooling water. Mirant has suggested that allowing "intake credits," as authorized by the SIP (Section 1.4.4) would be an appropriate way to avoid creating a permit that would be violated any time the concentrations exceed the WQO at the Intake. Mirant appreciates the Regional Board's granting of "intake credits" for PCBs (Discharge Prohibition, Provision B.5.b: "The discharge of Polychlorinated Biphenyl compounds (PCBs) at concentrations greater than intake concentrations is prohibited.")

Mirant has additional concerns, however, with respect to the methodology for compliance with the PCB discharge prohibition and the calculation of intake credits. Laboratory analytical results are subject to normal random variability. As a result, two analyses of exactly the same sample will yield two slightly different values, through no fault or inattention of the laboratory, but simply due to this normal analytical variability. As noted in the attached Technical Memorandum:

> Laboratory analytical procedures designed to measure the level (e.g., concentration) of constituents in fact produce only a numeric approximation of the level actually present. No matter how precise this measurement is, it is subject to random fluctuation or variation, so that two identical samples may

[5] It should also be noted that to be consistent with other constituents, the "ambient" value considered for "Trigger 2" should be PCB data from the Yerba Buena monitoring station, not the Intake value. The Yerba Buena data should be used as the ambient value in the Reasonable Potential Analysis, in which case the "background" does not exceed the WQO and there is no Reasonable Potential under Trigger 2.

result in two measurements that are numerically close, but not necessarily numerically identical. This phenomenon is reflected in the "margin of error" associated with particular analytical procedure.
(See Attachment 7)

As the attached Technical Memorandum shows, the consequence of these small differences is significant, when one is subtracted from the other and compared to "zero" (the standard in the current Tentative Order). Even though the concentrations of constituents at the intake and the outfall are identical, laboratory analyses will show that the intake value is slightly higher than the outfall value approximately half the time (no "violation"), and will show the outfall value as slightly higher the other half of the time (a "violation"). In other words, approximately half the time Mirant is likely to violate a standard that prohibits an outfall analytical value that is greater than the intake analytical value.

Recognizing this concern, the Regional Board has proposed comparing the outfall value to a 12-sample moving average of the intake value for determining compliance. (TO Provision B.5.b.3). Unfortunately, the method proposed by the Regional Board does not correct the problem. As again demonstrated in the Technical Memorandum, even without the effect of random laboratory variability, the "12-sample moving average" method will result in "violations" approximately half the time. Comparing moving averages of both the intake and the outfall does not solve the problem of random analytical variability. It will require a statistical analysis of the actual data to determine whether an apparent increase at the outfall is real or just an artifact of laboratory variability.

The Regional Board has addressed this issue in the past by delegating to the Executive Officer the task of determining whether an exceedance of the standard is a violation. (See Order R2-2002-0072 (Mirant Pittsburg NPDES Permit, at footnote 1(a) to Table on page 23). Mirant suggests a similar approach here, by replacing Provision B.5.b.3 with the following:

(3) Compliance Evaluation: Compliance shall be evaluated by comparing the sample result from the outfall to the result of the sample taken from the intake on the same day. If the outfall monitoring sample's analytical results indicate that the pollutant concentration is greater than the sample's analytical results at the intake then the discharge is not in compliance, unless the discharger demonstrates to the satisfaction of the Executive Officer that the difference is within the expected statistical variability of sampling and there is no substantial evidence the discharger's operations have added the pollutant to the effluent. [See Redline Tentative Order and Summary Table]

14-6 COMMENT 11

Comment 4: Revise Finding 67 (Basin Discharge Prohibition 1)

1. Suggested Language

Mirant suggests replacing current Finding 67 (Basin Discharge Prohibition 1) with the following language:

> The Basin Plan (Table 4-1, Item 1) prohibits the discharge of any wastewater that has particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive an initial dilution of at least 10:1. This discharge prohibition does not apply to this permit because it is not a wastewater with particular characteristics of concern to beneficial uses, nor is it a discharge to "non-tidal waters, dead-end sloughs, or similar confined waters" as that term is used in the Basin Plan.
>
> Virtually all of the once through cooling water discharge consists of Bay water taken from the Bay. Upon discharge, the water has minimal characteristics of concern except thermal waste. The water is used for condensing steam through heat exchangers and is returned to the Bay at a temperature higher than that of the intake. The Basin Plan defers its regulation of thermal waste to the State Thermal Plan (see Finding 16 of this Order).[6]
>
> Discharge Prohibition 1 applies primarily to discharges of treated sewage and other discharges containing particular characteristics of concern from treatment systems that are subject to upset for which initial dilution is desirable. The Basin Plan states: "This prohibition will .... Provide a buffer against the effects of abnormal discharges caused by temporary plant upsets or malfunctions ..." The dilution requirement is to provide a contingency in the event of temporary treatment plant malfunction and to minimize public contact with undiluted waste. This discharge prohibition does not apply to non-process once-through cooling water that does not contain characteristics of concern contributed to the discharge by treatment systems that are subject to upset.
>
> The characteristics of concern in the discharge resulting from facility treatment processes other than heat are chlorine and pH. The discharger has excellent compliance with its permit limits for chlorine and pH, which demonstrates excellent reliability of its treatment system for these parameters. The facility's dechlorination system contains numerous safeguards to minimize the risk that constituents of concern will be released to the Bay in the event of a treatment

M-7 COMMENT 21

[6] As noted in the Summary Comment Tables and Redline Tentative Order, the current language in this finding the Tentative Order states: "The Basin Plan, aside from requiring that the receiving water temperature not be altered if doing so adversely affect beneficial uses, defers it regulation of thermal waste to the State Thermal Plan." Mirant agrees that the Basin Plan defers its regulation of thermal waste to the State Thermal Plan but notes the requirement that receiving water temperature not be altered is specific to "inland surface waters." The Potrero Plant is located on an enclosed bay and therefore this provision of the Basin Plan is inapplicable.

system upset. Other potential constituents of concern, (e.g., copper, mercury, Selenium, 4,4'-DDE, Dieldrin, dioxins, and PCBs, among others), are not contributed to by any treatment process that might be subject to upset. Existing information does not suggest that the discharge is a substantial source of these pollutants and this Order requires the discharger to determine whether its processes contribute these pollutants to the discharge. The Board additionally finds that if the discharge prohibition does apply, there would be an undue burden relative to the beneficial uses to be protected and the risk to those beneficial uses created by the discharge, and therefore, the discharge qualifies for an exception to the discharge prohibition, as allowed under the Basin Plan, page 4-5. If the investigations show that these processes do constitute a substantial source of these pollutants to the Bay and that they constitute a threat to beneficial uses, the Board may consider requiring an initial 10:1 dilution, at which time the Board will consider whether the non-process once-through cooling water provides such initial dilution.2. Discussion

The Basin Plan includes several waste discharge prohibitions pursuant to section 13243 of the state Water Code. Basin Discharge Prohibition 1 (Prohibition 1) prohibits the discharge of:

> Any wastewater which has particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive an minimum initial dilution of at least 10:1, or into any nontidal water, dead-end slough, similar confined waters or any immediate tributaries thereof.[7]

The Basin Plan's "Discussion" of Prohibition 1 is as follows:

> Waste discharges will contain some levels of pollutants regardless of treatment. This prohibition will require that these pollutants, when of concern to beneficial uses, be discharged away from areas of minimal assimilative capacity such as nontidal waters and dead-end sloughs. This prohibition will accomplish the following: (a) provide an added degree of protection from the continuous effects of waste discharge; (b) provide a buffer against the effects of abnormal discharges caused by temporary plant upsets or malfunctions; (c) minimize public contact with undiluted wastes; and (d) reduce the visual (aesthetic) impact of waste discharges.

M-7 Comment 31

[7] Though the Basin Plan has been amended several times since it was first adopted in 1975, Prohibition 1 has been essentially unchanged. Exceptions to Prohibition 1 may be allowed when (a) an inordinate burden would be placed on the discharger relative to the beneficial uses protected and an equivalent level of environmental protection can be achieved by alternate means, such as an alternative discharge site, a higher level of treatment, and/or improved treatment reliability; (b) a discharge is approved as part of a reclamation project; (c) it can be demonstrated that net environmental benefits will be derived as a result of the discharge. In reviewing exceptions, the Regional Board will consider the reliability of the discharger's system in preventing inadequately treated wastewater from being discharged to the receiving water and the environmental consequences of such discharges.

Only the first prong of Prohibition 1 is relevant to the Potrero discharge. The discharge is to open, tidal water that does not possess any of the attributes upon which Prohibition 1 is largely based (i.e. nontidal water, dead-end sloughs and/or similar confined waters). Notably, Prohibition 1 applies only to discharges of wastewater that have "particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive a minimum initial dilution of at least 10:1."

For the purposes of the Potrero discharge, it is particularly important to recognize the regulatory distinction between process wastewater and non-process cooling water. Process wastewater is defined as "any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product." 40 CFR 122.2. Process wastewater is distinct from cooling water, which is defined as "water used for contact or noncontact cooling, including water used for equipment cooling, evaporative cooling tower makeup, and dilution of effluent heat content. The intended use of the cooling water is to absorb waste heat rejected from the process or processes used, or from auxiliary operations on the facility's premises." 40 CFR 125.80. EPA has specifically regulated cooling water through the issuance of Clean Water Act section 316(b) regulations for existing cooling water intake structures (69 Fed Reg. 41576 (the "Phase II Rule")), stating that "water used in a manufacturing process either before or after it is used for cooling is process water for both cooling and non-cooling purposes and would not be considered cooling water for purposes of determining" whether the cooling water is an existing facility under the thresholds defined in the Phase II Rule. *See* 40 CFR 125.91(a)(4); *see also* 69 Fed. Reg. 41580 (Phase II Rule adopting the definition of "cooling water" in 40 CFR 125.80). The Potrero discharge does include streams of process wastewater, i.e. water that has been withdrawn from the Bay and used for both cooling and non-cooling purposes. The vast majority, however, is non-process water that has been used for cooling purposes only.

M-7
COMMENT 21

a. Regional Board's Historical Interpretation of Prohibition 1

The Regional Board's historical interpretation of Prohibition 1 is instructive. A 1974 Regional Board memorandum reviewed the then-proposed waste discharge prohibitions, including what became Prohibition 1: "any wastewater which has particular characteristics of concern at any point at which the wastewater does not receive an initial dilution of at least 10:1 [or] into any nontidal water, lake, dead-end tidal slough or similar confined water area or their immediate tributaries." Memorandum from Griffith L. Johnston, Chief of Planning, San Francisco Bay Regional Water Quality Control Board, to Fred H. Dierker, Executive Officer: "Interpretation and Application of Proposed 10:1 Prohibition," May 28, 1974, at p.1. The memorandum stated that domestic and industrial discharges should be considered separately with respect to the 10:1 dilution requirement. For domestic discharges, the memorandum noted that the "primary pollutants in domestic waste discharges are degradable constituents and their detrimental effect on water quality is directly related to the concentration of the pollutants in the receiving water. The requirement for 10:1 dilution of the effluent provides an added degree of protection from the continuous effect of discharge by requiring wastes to be discharged into areas of higher assimilative capacity." *Id.* at 2.

With respect to industrial waste discharges, the memorandum stated that the "primary intent of the 10:1 dilution requirement is to provide added protection against those degradable wastewater constituents whose detrimental effects are directly related to their concentration in the receiving water. This requirement provides an added degree of protection from the continuous effect of discharge by requiring wastes to be discharged into areas of higher assimilative capacity and also provides a buffer against the effects of a temporary upset or malfunction." *Id.* at 3. This explanation of the rationale behind the dilution requirement is very similar to the Basin Plan's "Discussion" of Prohibition 1. The memorandum distinguished between degradable and non-degradable constituents, stating that "those components of industrial waste discharges which are non-degradable (i.e. heavy metals) should be removed by treatment to the maximum extent practicable. Unlike degradable components, additional dilution provides little additional protection against those components. Therefore, the requirement of 10:1 dilution would not be an effective means of protection for non-degradable components and should not be used where those are the sole components of an industrial discharge." *Id.* at 3. Finally, and most relevant to the Potrero discharge, the memorandum stated that the "10:1 dilution requirement should not be applied to cooling waters." *Id* at 3.

The 1974 interpretation of the Prohibition 1 is consistent with the regulatory distinction between process wastewater and non-process cooling water. Non-process cooling water, by definition, does not pose the same types of concerns as wastewater that has been in contact with manufacturing processes. The principal pollutant added to cooling water is heat, which is specifically regulated under CWA section 316(a) and the State Thermal Plan. Viewing the Basin Plan as a whole, it is clear that Prohibition 1 is not intended to apply to cooling water, as the 1974 memorandum made clear. The Basin Plan explicitly defers regulation of temperature as a constituent of concern to the State Thermal Plan, implicitly making the same distinction between process water and non-process cooling water as EPA's regulations discussed above.

Moreover, the SIP also clearly contemplates the dilutive effect of cooling water in its discussion of effluent limitations monitoring methodology, noting that pollutants may be "so diluted by cooling water as to make monitoring impractical." SIP at p. 13.

At the time the memorandum was written and the original 1975 Basin Plan was adopted, the Potrero Power Plant operated Units 1-3. Units 1-2 had been operating since 1931, and Unit 3 had been operating since 1965. The Regional Board Chief of Planning was clearly aware of the Potrero facility when he wrote in the 1974 memorandum that "it is not anticipated that this requirement will have a widespread impact on industry. Discussion with the Permit Branch indicates that the industries which could be affected are the refineries, C & H Sugar, and the Hercules, Inc [sic]. Of the refineries, only Standard Oil and Union Oil do not already have deep water discharges. Both these refineries however, do have large cooling water flows which could be used for dilution if it were decided that this would be allowed." *Id.* at 4.

M-7 COMMENT 31

b. Potrero Power Plan Compliance with Prohibition 1

The proposed language reflects the intent of Prohibition 1 and the historical interpretation in the 1974 memorandum. The Potrero facility's compliance with Prohibition 1 is twofold: (1) the vast majority of the discharge is non-process cooling water, and the relatively small amount of process wastewater in the discharge does not pose a concern to beneficial uses; and (2) constituents of concern in the cooling water itself, such as copper, are already addressed through by water quality-based effluent limitations imposed pursuant to the SIP.

The Tentative Order establishes effluent limits pursuant to the Basin Plan and other statutory authorities for the various constituents of concern in the discharge, ensuring that beneficial uses will be protected. In complying with the limitations, as the Potrero facility has consistently and reliably done over time, the Tentative Order ensures that these constituents do not pose the particular concerns to beneficial uses that Prohibition 1 aims to combat. Virtually all of the discharge consists of once-through cooling water flows that are representative of intake flows into the plant and receive no pollutant other than heat, which is already addressed through limitations established pursuant to the State Thermal Plan. If the Discharge Prohibition were to apply, Mirant would qualify for an exemption as the cost of compliance would greatly exceed any additional benefit to beneficial uses.

It is important to note that the Regional Board has *never* applied the 10:1 dilution requirement to the once-through cooling water discharges from the existing power plants that discharge into the Bay. As the 1974 memorandum made clear, the 10:1 dilution requirement should not be applied to the Potrero discharge because it consists almost entirely of cooling water that does not contain constituents of concern discharged from treatment systems subject to upset.

N-7 COMMENT 3

c. Application of Prohibition 1 to Other Facilities

Examples of the Regional Board's application of Prohibition 1 at other facilities support the finding that the Potrero discharge is in compliance with the prohibition. The Regional Board's application of Prohibition 1 has consistently reflected the circumstances envisioned in the 1974 memorandum: where primarily degradable components are discharged and where constituents of concern to beneficial uses receive low initial dilution and/or are discharged to confined water bodies. For example, the Morton Salt Facility discharge (Regional Board Order No. R2-2005-0010) was found not to be prohibited by Prohibition 1 because it was "considered a non-process wastewater discharge that does not contain characteristics of concern to beneficial uses, provided the discharge limitations contained in the Order [i.e. the WQBELs for individual constituents included in the Order] are met." At the Kobe Precision facility (Regional Board Order No. R2-2005-0040), the discharge was not subject to Prohibition 1 because the reasonable potential for copper indicated in the discharge was triggered by ambient background considerations, and the Order established a compliance schedule for copper WQBELs that were "protective of beneficial uses." Examples of the application of

Prohibition 1 abound in the context of sewage treatment facilities, which process the kind of degradable constituents at which Prohibition 1 is squarely aimed.[8]

M-8

Comment 5: Conduct Intake Credit Study

Mirant supports the requirement of an Intake Credit Study set forth in the TO, provision D.7. As part of this study, Mirant proposes to evaluate the feasibility of relocating its intake sample point to a location where more complete mixing of the intake water will have occurred. One source of variability between the intake and the outfall may be spatial variability within the cross-section of the intake structure from which samples are taken. For example, if the sample happens to collect a non-representative amount of suspended sediment, it may show higher (or lower) results of certain sediment-related constituents than at the outfall. If relocating the intake sample point is feasible, this should reduce the spatial variability that now occurs with intake sampling.

Any questions on these comments can be directed to me either at steve.bauman@mirant.com or (925) 427-3381.

Sincerely,

Steve Bauman

Steven J. Bauman, P.E.
Sr. Environmental Engineer

cc: Electronic copy sent as pdf file to SWRCB - FTP Site, Region 2 staff folder: Whitworth, Derek

Attachments:

1 – Summary Table of Comments on Tentative Order and Fact Sheet
2 - Redline Tentative Order
3 - Redline Fact Sheet
4 - Updated SIP Data through January 2006
5- Updated Ambient Background Data
6 - Updated Reasonable Potential Analysis for selected constituents
7 – ERM Technical Memorandum

[8] *E.g.*, City of American Canyon Wastewater Treatment Facility, Order No. 00-003; Sonoma Valley County Sanitation District, Order No. R2-2002-0046; Fairfield-Suisun Sewer District, Order No. R2-2003-0072.

CITY AND COUNTY OF SAN FRANCISCO

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March 20, 2006

Derek Whitworth
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street
Suite 1400
Oakland, CA 94612

Re: Tentative Order - NPDES Permit No. CA0005657; Waste Discharge Requirements For Mirant Potrero, LLC Potrero Power Plant, San Francisco, San Francisco County

Dear Mr. Whitworth:

Please find attached the comments of the City and County of San Francisco to the above referenced Tentative Order.

Very truly yours,

DENNIS J. HERRERA
City Attorney

/s/

Paula Fernandez
Legal Secretary
for Theresa L. Mueller

Attachment

BEFORE THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

Tentative Order
NPDES Permit No. CA0005657
Order No. R2-2006-00XX

Waste Discharge Requirements For:
Mirant Potrero, LLC
Potrero Power Plant
San Francisco, San Francisco County

Comments Of The City And County Of San Francisco On The Tentative Order Granting a Waste Discharge Permit For The Potrero Power Plant

The City and County of San Francisco (San Francisco or City) submits these comments on the Tentative Order (TO) of the California Regional Water Quality Control Board, San Francisco Bay Region (Regional Board) renewing the National Pollution Discharge Elimination System (NPDES) permit for the Mirant Potrero, LLC Potrero Power Plant. (Potrero Plant). The TO would permit the Potrero Plant to continue operating under conditions established in 1993, with no significant changes to address new water quality standards or evidence of the substantial harm to the Bay caused by this plant. The City urges the Regional Board to reject the TO because it fails to enforce the water quality standards that protect the San Francisco Bay. The City also has reviewed and supports the comments on the TO prepared by Communities for a Better Environment (CBE) and Bayview Hunters Point Community Advocates (BVHPCA).

The City has participated actively in the Regional Board's review of the NPDES permit for the Potrero Plant and has made every effort to work with the Regional Board staff. City representatives have attended numerous stakeholder meetings and submitted comments and letters urging the Regional Board to meet its obligations to protect the San Francisco Bay and the communities who live around it. In January 2005, the City submitted comments on the previous tentative order recommended by staff. (See Attachment 1.) In February 2005, the San Francisco Board of Supervisors unanimously adopted a resolution urging the Regional Board to require Mirant to comply with water

S-1 COMMENT 2
S-2 COMMENT 9

the Potrero Plant once it is not needed for electric reliability; however, it does provide for termination of the reliability contract under which the ISO pays Mirant to operate the Potrero Plant. In other words, the Action Plan makes it clear that the ISO will not subsidize the operation of the old, dirty, inefficient Potrero Plant once it is not needed for electric reliability.

The City urges the Regional Board to protect the San Francisco Bay by requiring the Potrero Plant to immediately comply with water quality standards. Mirant has avoided compliance for far too long due to the delays in this process. The Regional Board should not allow Mirant to avoid the costs of compliance with current water quality requirements. Allowing the Potrero Plant to continue operating without complying with water quality standards, even after it is not needed for electric reliability, would constitute in effect a defacto subsidy. Such a defacto subsidy is particularly inappropriate once the plant is no longer needed for reliability.

S-5. COMMENT 3.

March 20, 2006

Respectfully submitted,

DENNIS J. HERRERA
CITY ATTORNEY
THERESA L. MUELLER
DEPUTY CITY ATTORNEY

By: /s/

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CITY AND COUNTY OF SAN FRANCISCO

APPENDIX C

RESPONSES TO COMMENTS

San Francisco Bay Regional Water Quality Control Board
San Francisco Bay Region

Responses to Comments

Public Hearing on the Mirant Potrero Power Plant Tentative Order (NPDES Permit)
May 10, 2006

The Water Board received over 65 pages of comments (not including attachments) on this item from five organizations and public agencies. Comments were both substantive and editorial. Only substantive comments, those that would change the content of the Tentative Order, are addressed here. Generally, with exceptions noted, editorial comments were incorporated into a Revised Tentative Order. Some of the information submitted involved statements or opinions rather than specific comments on the Tentative Order. This information is recognized as statement, but is not responded to as comment.

Comments were received from the following organizations:

B	San Francisco Baykeeper
C	Golden Gate University Environmental Law and Justice Clinic, incorporating comments of Communities for a Better Environment and Bayview Hunters Point Community Advocates.
E	U.S. Environmental Protection Agency
M	Mirant Corporation
S	City and County of San Francisco

On November 14, 2004, Water Board staff circulated an earlier Tentative Order for public comment, but did not bring it to the Water Board for consideration. This November 2004 Tentative Order is significantly different from the one circulated on February 17, 2006, but comments submitted in response to that the November 2004 Tentative Order were attached to the City and County of San Francisco letter. Since Water Board staff had already responded to them and all other comments on the November 2004 Tentative Order, those comments and responses are not repeated here. They can be found at:
http://www.geotracker.waterboards.ca.gov/reports/site_documents.asp?global_id=SL18380800&assigned_name=SLICSITE .

Comments on the February 2006 Tentative Order are summarized below. Some of the comments that share a common theme were combined into a single set of comments. The original comment letters have been annotated alphanumerically and cross-referenced to these summarized comments. A Water Board staff response follows each summary comment.

Table of Contents

COMMENTS ON THE USE OF MOST CURRENT DATA

Comment 1: The Order should reflect the most current monitoring data
The commenter notes that the requirements in the Tentative Order are based on sampling data collected between June 2002 and April 2004. More recent sampling data, submitted with the comments, has been collected since then and should be incorporated into the Tentative Order through the reasonable potential analysis.
M-1

Response
Water Board staff concur that, when possible, the most current data should be incorporated into permits. While the analysis set forth in the original Tentative Order was sufficient, using additional data increases the number of data points available for analysis. The new data are now included as an attachment to the Fact Sheet. The additional data set included analytical data of samples collected on November 3, 2004, which Water Board staff determined were anomalously high and rejected the data from reasonable potential analysis. Had the data been included, effluent limits for copper and mercury would have increased because data variability is a factor in calculating limits. By rejecting these data, the effect of these changes is to reduce the effluent limits for copper (from 10.3 µg/L to 8.6 µg/L) and mercury (from 0.056 µg/L to 0.032 µg/L). Also rejected were high levels of chromium and nickel detected in the November 3, 2004, data set. In case these high values were not anomalies, the Tentative Order was revised to require monitoring for these two constituents.

Comment 2: Mirant will be operating under a ten year old permit
The commenter states that the Tentative Order would permit the Potrero Plant to continue operating under conditions established in 1993 with no significant changes to address new water quality standards; there is no substantive change in the permit since it was issued in 1994. The commenter argues that the Board has delayed too long in renewing the permit.
S-1

Response:
We disagree. The revised Tentative Order implements all current water quality standards, which in some cases result in requirements that are significantly more demanding and stringent than the 1994 Permit. For example, the revised Tentative Order specifies new effluent limits and monitoring requirements for toxic pollutants that were not in the previous permit. It also requires studies in compliance with new 2004 federal requirements applicable to cooling water intake structures ("CWA 316(b)") that were not required in the previous permit.

With regard to the concern about delays in renewing the permit, we believe any delay has not compromised water quality, and was due in part to Water Board staff's diligent efforts in seeking stakeholder input above and beyond what is required by regulations. In

1999, when the previous permit expired, the Water Board extended the permit for 5 years in accordance with federal regulations and U.S. EPA's watershed permitting strategy. This administrative extension was based on the fact the Potrero plantit was classified as a minor discharge at that time, and that there were no new substantive regulations or policy changes since the last reissuance that would have led to significant changes to existing requirements. As this 5-year extension was coming to an end in 2003, Water Board staff promptly initiated the reissuance process first by requiring a permit application from Mirant, and compiling a list of interested stakeholders. Since that time, we have held four stakeholder meetings in the evenings in the community, released three draft permits for comment, made changes to the draft permits, incorporated the requirements of the new federal regulations to address adverse environmental impacts, required Mirant to conduct further data analysis, issued a §13267 information requirement letter and have worked to incorporate extensive comments received from the stakeholders and the commenters into the revised Tentative Order.

COMMENTS ON COMPLIANCE WITH 316(b) PHASE II RULING

Comment 3: Mirant, by avoiding compliance, is being subsidized
A commenter claims that Mirant has been avoiding compliance by taking advantage of delays in the NPDES permit reissuance process. The Water Board should not allow Mirant to avoid the costs of compliance with current water quality requirements as this would constitute, in effect, a de facto subsidy.

Another commenter states that the Water Board has allowed the antiquated Potrero Plant to operate as-is for too long. With adoption of a new permit the Water Board must require Mirant to upgrade the Potrero facility and bring it into compliance, or require the plant to close.
S-5, B-1

Response:
Under the existing NPDES permit, Mirant has an excellent compliance record and has not avoided any costs of compliance. The revised Tentative Order, if adopted, would put in place new enforceable requirements based on new existing water quality standards and available information. A California Water Code §13267 letter has already been sent to Mirant to ensure timely compliance with the new federal regulations intended to reduce adverse environmental impacts on the Bay. This Order, if adopted, will not allow Mirant to avoid the costs of CWA §316(b) compliance if it is to continue discharging water into the Bay.

Mirant complies with the existing NPDES permit. A new permit based on the revised Tentative Order would update requirements based on the most recent water quality standards. For example, it would also ensure that Mirant is on a timeline to meet the CWA 316(b) Phase II Rule requirements to reduce the adverse environmental impacts due to the intake of cooling water. The Water Board may not, however, specify the

method or means of permit compliance; therefore, it cannot order the closure of the plant. The age of the plant is immaterial.

Comment 4: There must be immediate application of mitigating technology
A commenter noted that, according to 40 CFR §125.98(a)(2)(ii), the permit issued by the Water Board must specify the best technology available for reducing impingement/entrainment impacts and that the discharger must immediately implement such measures even if compliance alternatives have not yet been evaluated. The commenter disagrees with Board staff that immediate, though partial, mitigation would take time to implement and may not be consistent with the subsequent final findings. They state that every effort should be made to determine what technologies can be implemented now.
B-4, C-2, C-3, C-11, C-13

Response
The solution to address the regulatory requirement of reducing adverse environmental impacts due to entrainment and impingement will be determined in the Comprehensive Demonstration Study (CDS) that must be submitted to the Water Board by November 2007. 40 CFR §125.98(a)(2)(ii) states, "Between the time your existing permit expires and the time an NPDES permit containing the requirements consistent with this subpart is issued to your facility, the best technology available to minimize adverse environment impact will continue to be determined based on the Director's best professional judgment." Water Board staff do not read this as stating that technology must be implemented immediately before a reasonable range of alternatives is evaluated and the best alternative is selected.

Water Board staff's professional judgment remains that the most cost-effective and lasting solution should be implemented after a thorough consideration of the alternatives. Thoughtful efforts to provide the best mitigation possible should not be thwarted by efforts to implement temporary alternatives that may not fully satisfy water quality needs. A thorough study will take four seasons (i.e., one year) to complete, to determine the baseline from which to a measure the reductions in adverse environmental impact that must be achieved. Without this information, it would be impossible to determine if the goals specified in the regulations can actually be achieved. Although an entrainment study has already been completed, this has not been finalized, and a baseline Impingement Study is also necessary as part of the Comprehensive Demonstration Study.

One possible measure that has already been examined is the installation of a variable speed pump in the plant's intake. Implementation of such a measure would not only take longer than the time to complete the Comprehensive Demonstration Study but would also interfere with the baseline study. It is, however, one possible outcome of the study. The Tentative Order has been revised to reflect that the solution will be implemented starting in January 2008 and will be completed expediently.

Comment 5: Mirant using phase II studies to avoid installing technology
The commenter alleged that Mirant is using the Phase II study requirements to delay selecting and implementing entrainment and impingement reducing technologies since many believe the plant is nearing the end of its useful life and the studies are a mechanism to avoid the expenses of installing the technology. The commenter also stated that Mirant should select alternatives and narrow the scope of the Comprehensive Demonstration Study.
B-5

Response
The regulations establish clear dates when alternatives to mitigate adverse impacts should be determined. As indicated in the response to comment on the implementation of mitigating technology, a major time component of the Comprehensive Demonstration Study is the one year necessary to establish a baseline on which to set reduction goals. Pre-selecting an alternative would not reduce the time to complete and analyze this component of the study and would not significantly accelerate implementation. The revised Tentative Order is based on available information and existing regulatory requirements. It does not consider any possible motives Mirant may have for preferring one outcome over another in advance of completion of the Comprehensive Demonstration Study
.

Comment 6: The facility should install cooling towers
There are alternatives to once-through cooling that would protect the Bay. Dry cooling is a technically feasible alternative that would avoid air and water pollution. Another is hybrid cooling. Variable speed pumps should be installed on the cooling water intake until cooling towers are installed.
C-9, C-34

Response:
Board staff acknowledges that many alternatives, including cooling towers (either hybrid or dry systems), could reduce the adverse environmental impacts of once-through cooling. Mirant has the responsibility, as required under CWA §316(b), to propose a compliance alternative. A detailed Comprehensive Demonstration Study, as required in the revised Tentative Order and CWA §316(b), will determine if a cooling tower is the most appropriate alternative. See also responses to comments 4 and 5.

COMMENTS ON PUBLIC INVOLVEMENT

Comment 7: Staff should include options for the Board
The commenter recommends that Board staff present Board members with several feasible policy options to address the adverse environmental impacts caused by impingement and entrainment. The commenter states that the Board should require measures, such as variable speed pumps and cooling towers, to minimize adverse impacts

prior to completion of the Comprehensive Demonstration Study called for under Clean Water Act §316(b).
E-1

Response:
It is Water Board staff's responsibility to analyze the policy options and present a recommendation to the Water Board for their consideration. Staff's recommendation is embodied in the revised Tentative Order. Through the hearing process, the Water Board is presented with different policy options, and at its discretion, may select one that is different than the one staff recommends or even direct staff to develop another option. The interim measures proposed by commentators (e.g., the installation of variable speed intake water pumps or cooling towers) would take at least a year to implement and would very likely predetermine a permanent solution before all impacts (such as from impingement) are fully understood and quantified. This could provide Mirant grounds to challenge the imposition of such measures or challenge the imposition of any additional measures once impingement impacts were known, thus delaying the goal of complying with the intent of the regulations. A better approach to expedite implementation of necessary permanent measures is to require Mirant to examine options and recommend permanent solution to reduce the adverse impacts on the Bay in advance of the mandated CWA 316(b) deadlines. Water Board staff did this with a California Water Code (CWC) §13267 letter requirement sent on December 21, 2005, requiring the results by November 2007. These requirements are restated in the revised Tentative Order. Water Board staff proposes that the process now in place, as described in the revised Tentative Order, will address any adverse impacts in the shortest possible time. (See also the response to Comment 4)

Comment 8: There should be public participation during the period of the permit
The commenters request that Board staff solicit public input when the Comprehensive Demonstration Study is completed in November 2007. EPA specifically notes that it may be necessary to reopen the permit in late 2007 or early 2008. Baykeeper urged that the permit include public participation requirements to foster transparency around this issue.
E-4, B-9

Response: To the extentd resources allow, Water Board staff plans to establish a Technical Working Group to review work related to the Comprehensive Demonstration Study and to advise Mirant and Water Board staff. It is anticipated this group will meet every one to three months until the study is completed. Water Board staff intend to invite all the organizations that submitted comments on the revised Tentative Order to participate. That being said, no specific public participation requirements exist in the revised Tentative Order for the Comprehensive Demonstration Study as there is no regulatory basis for such requirements. If it is necessary to reopen the permit to implement the findings of the Comprehensive Demonstration Study, the Water Board must comply with public participation requirements for amending permits (i.e., a minimum 30-day public comment period).

Comment 9: Compliance with the City and County of San Francisco Resolution
A comment noted that the San Francisco Board of Supervisors unanimously adopted a resolution urging the Water Board to require Mirant to comply with water quality standards that protect the Bay. It stated that the current Tentative Order does little to stop what they claim is the continuing degradation of the Bay that results from the operation of the Potrero Plant.
S-2

Response: We disagree that the revised Tentative Order does little to stop degradation of the Bay. The Water Board seriously takes its responsibility and mandate to protect the water quality of San Francisco Bay. The revised Tentative Order requires Mirant to comply with water quality standards through established legal processes and applicable regulations. To reduce the adverse environmental impacts caused by the use of cooling water, we have gone beyond federal requirements by requiring that Mirant fully assess intake impacts and develop alternatives for addressing the impacts in advance of the mandated CWA 316(b) deadlines. The revised Tentative Order also requires a 316(a) thermal study to determine if the impacts of the thermal discharge and requires Mirant to analyze alternatives, select, and implement the measures that would most effectively reduce adverse impacts to the Bay.

Comment 10: Implementation of a community permit and electric reliability
A commenter noted that the City of San Francisco, Communities for a Better Environment and Bay View Hunters Point Community Action (City/CBE/BVHPCA) drafted a Proposed Tentative Order that would begin immediately to mitigate what they claim is damage to San Francisco Bay without putting an undue burden on Mirant or jeopardizing electric reliability.
S-3, C-10

Response
We appreciate the efforts and comments of these parties. However, after review of their proposal, Water Board staff determined that their draft permit is based on flawed interpretation of the Thermal Plan and Basin Plan Discharge Prohibitions as further discussed in our responses to Comments 27 and 29.

COMMENTS ON THE DISCHARGE OF CONTAMINANTS

Comment 11: Use of 12 point moving average for PCB intake measurements
Commenters questioned the requirements in the Tentative Order that the intake concentration of PCBs in the cooling water intake be determined by calculating the average of the 12 most recent data sets. Since samples are only collected every six months it would be six years before a determination could be made. The outfall would then be compared with the inflow to determine if the facility was in fact discharging PCBs. Commenters stated that the data should be collected over a much shorter time period.

In addition the commenter states that Federal regulations require there be no discharge of PCBs and that Board staff has undermined the prohibition of PCB discharges by authorizing intake credits.

Commenters also stated that the Tentative Order fails to prohibit PCB discharges as required by law. They state that it contains a loophole that would allow collection of 12 samples over six years before compliance with the PCB discharge prohibition is evaluated. They also state that the plant's previous permit, issued in 1994, contained a blanket prohibition on the discharge of PCBs, and the Clean Water Act prohibits backsliding with less stringent effluent limitations.

Another commenter noted that the Tentative Order finds reasonable potential for PCBs under Trigger 1 and Trigger 2 of the State Implementation Policy and requests that the Board reconsider the finding since it is based on low-level detection PCB analysis not approved by EPA for compliance purposes. The commenter notes that the low-level PCB analysis was required by Water Board staff to support development of the San Francisco Bay PCB TMDL.
B-2, E-2, C-31, M-6

Response
To address the concern over the time that it would take to accumulate 12 samples, the Tentative Order has been revised to require monthly monitoring of inflow and outflow samples for the first year of the permit. Using the data already collected, 12 sets of monitoring data will be available within ten months of the effective permit date..

Regarding the comment that the intake credits for PCBs undermines the PCB prohibition, we disagree. We believe the two requirements are consistent and not in conflict. The intake credit essentially requires that Mirant not add any PCBs to the discharge. They are only allowed to discharge the ambient PCBs that come into the plant from the intake water. The PCB prohibition effectively requires the same thing. Though the prohibition's wording is slightly different than what was in the previous permit, this change is not backsliding as alleged by the commenter, but is instead identical to the PCB prohibition from federal regulations. As regards to the appropriateness of the intake credits, it is appropriate. The low detection data, though more qualitative than quantitative in nature, clearly indicate the presence of PCBs in both the intake and discharge. It is not surprising that PCBs are in the intake because San Francisco Bay is impaired by PCBs. Mirant's discharge qualifies for intake credits because it meets all the criteria specified in the SIP for intake credits.

Regarding the concern that the low level PCB data are not approved for NPDES purposes and, thus, should not be used to trigger reasonable potential and the resulting need for a limit, we disagree. Though we agree that the low level analysis cannot be legally required for NPDES compliance determination, the SIP does allow it to be used for reasonable potential analysis. At section 1.2, the SIP states "…the RWQCB shall use all available, valid, relevant, representative data and information, as determined by the RWQCB."

Though the low detection limit method may not provide accurate enough data for compliance determination, its results are reliable qualitative evidence that PCBs are likely in the discharge (and intake) at levels above the criteria. We believe its results are credible because it is an USEPA developed and published method. It is also over 10,000 times more sensitive than the higher detection limit method. If its results were higher by as much as five times, the one result that shows a level of 1026 pg/l, when divided by five would still be above the water quality criteria (170 pg/l). Thus, in our judgment, an effluent limit is appropriate.

Comment 12: The power plant is old and dirty

Commenters state that the Potrero Power Plant is among the oldest and dirtiest plants in California and that the negative effects of these plants on air, water and human health cannot be ignored. They state that the plant employs outdated technologies that are known to have significant impacts on aquatic life and that it is time for Mirant to invest in the upgrades necessary to protect the Bay and to bring the plant into compliance with federal and state laws.

S-4, B-10

Response:

The Water Board directly regulates water quality, not air quality and not how old the facilities are allowed to be. Air emissions are regulated by the Bay Area Air Quality Management District, who currently permits this power plant. The revised Tentative Order addresses only the discharge of water to the Bay, and, based on the available information, the proposed effluent limits are protective of human health. Effluent limits ensure that any constituents of concern released due to aging plant components are regulated. Regardless of the age or condition of the plant, the facility complies and must continue to comply with discharge limits and prohibitions and federal regulations. The revised Tentative Order requires that the facility comply with federal regulations by investigating and implementing measures to quantifiably reduce, to specified goals, the adverse environmental impacts caused by its use of cooling water.

Comment 13: Implementation of the proposed PCB Stormwater Study

A commenter strongly recommends that the Water Board require Mirant to provide a detailed PCB Stormwater Study design in addition to the vague work plan submitted on February 1, 2006. The commenter also recommends that the Board have the plan evaluated by independent technical experts and that Mirant make the study plan available to the public for comment.

B-3, C-19, C-33

Response

We disagree that the PCB Study work plan is vague. We believe the level of detail is appropriate. Although there is no formal public participation process for this study, all workplans for this site, including the one for the PCB stormwater study, are posted on an Internet web site that is readily accessible by the public. Informal comments are

incorporated into plans, proposals and findings as appropriate. Water Board staff actively seeks input and comment from technical staff of other government agencies. Also, as mentioned earlier, as resources allow, Water Board staff plans to establish a Technical Advisory Group to review and comment on all workplans.

Comment 14: The Order should establish WQBELs for nickel and selenium
The commenter states that the Board should establish water quality based effluent limitations (WQBELs) for nickel and selenium since limits must be established for all pollutants that have reasonable potential to cause or contribute to an excursion above any water quality standard. The commenter also states that the permit should include an interim limitation for nickel and selenium because the Bay is currently listed as impaired for both pollutants and power plant cooling water is known to be a source of metals, especially nickel. In addition, the commenter states that more data are needed to complete a reasonable potential analysis and additional monitoring should be completed. B-8, C-13

Response:
The reasonable potential analyses for selenium and nickel in the Tentative Order originally submitted for public comment, and the revised Order that incorporates most recent data that was submitted during the public comment period, concluded that no effluent limits are necessary. This is to be expected because the cooling water is not exposed to selenium when pumped through the heat exchange system. Additional monitoring beyond what is required by the Tentative Order cannot be justified.

For nickel, however, along with copper and chromium, very recent sampling data indicate that these metals were present at unusually high levels in one particular discharge sample. This particular data set was not incorporated into the revised reasonable potential analysis because the data were anomalous and inclusion would have significantly increased the effluent limits for copper.

Nickel and chromium are metals that are probably present in the piping and equipment that comes into contact with the cooling water. If corrosion were to occur, then these metals could be discharged to the outflow cooling water. These metals are, however, highly corrosion resistant, hence their use in alloys for such applications. To determine if there is any corrosion, Board staff revised the Tentative Order to require monthly sampling for nickel and chromium for a twelve- month period. In order to determine if there is any net discharge, both influent and effluent samples are to be collected and analyzed in the same manner.

Comment 15: Pollutants are being mobilized by the action of the intake
The commenter states that the influent and effluent sampling data at the site indicate that pollutants of concern are mobilized by the cooling system's impact on nearby sediments. The commenter also states that until the discharger demonstrates that these pollutants in the intake do not result from the flow through the cooling system sucking in polluted

sediment, pollution intake credits (e.g., for PCBs) should be denied. The commenter, Golden Gate University and Communities for a Better Environment provide a table (Table 1) with data from samples collected at high tide and low tide, claiming that these data support the position that the facility is causing mobilization.
C-4, C-20

Response
The system has been in place for over 40 years, so it can be reasonably assumed that it is in equilibrium and that settled sediments are not being disturbed. Board staff do not agree that the information provided in the commenter's table shows that sediment is being mobilized. The data simply show that sediment levels relate to the tides, as one would expect. The normal suspension and deposition of sediment on a daily cycle does not suggest any ongoing disruptions of buried sediment.

The revised Tentative Order contains effluent limits for pollutants added to the discharge by the facility, not pollutants that already exist in Bay sediment. The issue of allowing for intake credits for PCBs, has been examined in Comment 3.

Comment 16: Tentative Order finds, wrongly, that dioxins were not detected in the outfall
The commenter notes that the Tentative Order does not identify discharges of highly toxic pollutants and toxicity. It notes the presence of many toxic metals, but finds that dioxins were not detected. The commenter states that elsewhere the Tentative Order shows the presence of dioxins in the outfall.
C-22

Response:
Inconsistencies within the Tentative Order have been corrected. The assessment of dioxins is complex. Dioxins are a group of chemicals, one of which (2,3,7,8-TCDD) is considered the reference dioxin and is the most toxic. Other dioxin and furan compounds are compared to this one in terms of their toxicity by what is termed toxicity equivalency. For example, one dioxin chemical may have one hundredth or one thousandth the toxicity of 2,3,7,8-TCDD. To account for these differences between the various dioxins and furans, the toxic effects are weighted and added to see what the total would be equivalent to in 2,3,7,8-TCDD. This is known as the dioxin Toxicity Equivalent or TEQ.

At this site, 2,3,7,8-TCDD has not been detected. Other dioxins have been detected, so dioxin TEQ was found. When detected, outfall concentrations were less than intake concentrations. There is no reason to expect that dioxins are created in the cooling water system at this facility. The Tentative Order has been revised to reflect that reasonable potential exists for dioxin TEQ, but because the available data are insufficient to calculate an effluent limitation, no limitation is set forth. Instead, the revised Tentative Order requires continued monitoring of these chemicals.

Comment 17: The Tentative Order does not address chronic toxicity
The commenter states that the Tentative Order omits chronic toxicity in the discharge though the previous Tentative Order made this finding.
C-23

Response: The revised Tentative Order addresses the requirements for chronic toxicity monitoring in Finding 60 and in the Self Monitoring Program, which is part of the Order.

Comment 18: The Tentative Order does not set mass discharge limits
The commenter notes that the Tentative Order does not set mass limits or even attempt to quantify toxic mass loading for PCBs, dioxins or metals.
C-24, C-27

Response:
The revised Tentative Order references Total Maximum Daily Loads (TMDLs) that are being developed that will establish allowable mass loadings for this and all other discharges in the region for impairing pollutants. Mass limits are not specified in the revised Tentative Order because either mass limits are not required, or not practicable. The standards for toxic pollutants are concentration-based, and, following the SIP, results in a concentration-based limit that is adequately protective. For toxic pollutants that are bioaccumulative, however, mass-based limits may be needed. PCBs, dioxins and mercury are bioaccumulative. Unfortunately, because of detection limit issues with the approved U.S. EPA analytical methods, it is impracticable to calculate a meaningful mass-based limit for these compounds.

Comment 19: The Tentative Order does not evaluate available evidence of toxic discharge.
The commenter states that the Tentative Order's analysis of dioxin and PCB discharge compliance with water quality standards is not accurate. The commenter claims that the statement "pursuant to the SIP there is no reasonable potential for TCDD TEQ" is wrong and that the TCDD TEQ exceeds applicable water quality criteria and thus there is reasonable potential for dioxin TEQ. The commenter states a similar situation exists for PCBs.
C-25

Response:
For dioxins, there is no evidence of a discharge of 2,3,7,8- TCDD and no reason to expect that it would be discharged. For dioxin TEQ, or TCDD TEQ, these have been detected in the influent and effluent at extremely low levels. Similarly, for PCBs, using new experimental low-detection methods, PCBs have been detected in influent and effluent at similar levels. For the dioxins analysis, the data indicate that Mirant does not contribute

dioxin TEQ to the discharge. Similarly, for PCBs, using accepted compliance monitoring methods, there is no discharge of PCBs. Using low-detection methods, PCBs can sometimes be detected. The revised Tentative Order finds reasonable potential for both PCBs and dioxin TEQ (but not 2,3,7,8 TCDD). The available data are insufficient to calculate effluent limitations for dioxins TEQ. PCB discharges are prohibited, but provisions allowing for intake credits are included. The revised Tentative Order requires continued monitoring of both these components. Please also see our response to Comment 16.

Comment 20: Potrero discharge threats to human health are understated
The commenter states that mass loadings of these pollutants (dioxins, PCBs and mercury) caused by Potrero's high discharge flow, coupled with pollutant concentrations exceeding water quality criteria, indicate cause for concern about human health.
C-26

Response:
Effluent limits for all pollutants, including those stated, are based on water quality standards intended, in part, to protect human health. At this facility, the concentrations of the noted pollutants in the effluent, when detected, are effectively the same as in the influent. This is to be expected, since the plant would not be expected to generate or discharge any of those contaminants. Although these pollutants may be a threat to human health, there is no evidence to indicate that the effluent from this plant is contributing to that concern. This issue of the sources of these pollutants within the Bay Area is a regional problem and cannot be associated with this facility in isolation.

Comment 21: Staff errs in stating that the cooling water has no contact with the process
A commenter claims that the characterization that the Potrero plant does not cause any pollution with its cooling water is simply not true. The commenter also claims that the facility pollutes the cooling water through several routes, including equipment corrosion, storm water runoff, potential chlorine spills, and sediment remobilization. The commenter states that the purpose of the discharge prohibition is to protect the Bay from discharges containing such pollutants.
C-28, C-29

Response:
The flow of water at Potrero is essentially for cooling purposes only; it has virtually no contact with process operations and is not industrial process water. The commenter has not provided specific information to show that the discharger is contributing pollutants. Any incidental contamination due to material contact is addressed through the reasonable potential analyses, effluent limitations, and monitoring requirements. See also the responses to Comment 27.

Comment 22: Discharge data should be the difference between outflow & intake
The commenter states that, in the Reasonable Potential Analysis, outfall data should be assessed relative to the corresponding levels at the intake so that the facility's contribution to the outflow can be calculated. The commenter recommends that outfall data without corresponding intake data be disregarded.
M-2

Response:
Water Board staff concur that a closed once-through cooling system is different than a typical discharge of treated industrial or domestic wastewater. However, the State Implementation Policy, on which the reasonable potential analysis is based, does not clearly call for intake concentrations to be considered in the analysis. The reasonable potential analysis is to be based on the actual effluent discharge. However, the evaluation of compliance with effluent limits may take into account constituents in the intake, and the revised Tentative Order includes intake credits for some constituents.

Comment 23: The Reasonable Potential Analysis for copper should be changed
The commenter notes that more data are now available for use in the reasonable potential analysis; the number of sampling events has increased from around 11 or 12 depending on the constituent, to around 25. As a result, the new performance-based interim limit for copper should be 24.3 µg/L instead of 10.3 µg/L in the Tentative Order and Fact sheet.
M-3

Response:
After careful consideration, staff agreed to incorporate the additional data, except for the data collected on November 3, 2004,(see also the response to Comment 1). The concentrations of several constituents on that day is two or three orders of magnitude greater than the constituents collected on all other sampling days and appears to represent some anomaly. Introducing such high levels distorts the calculation of the effluent limits. The effluent limit for copper, without the anomalous data, is 8.6 µg/L.

Comment 24: If the Board finds reasonable potential for mercury, new limits should be set
The commenter proposes that mercury should not trigger the reasonable potential analysis if the analysis is based on paired intake and outfall data see comment 28, above). The commenter notes, however, that if the Board finds reasonable potential for mercury, then the performance based limit for mercury should be based on the most recent data.
M-4

Response:

The Water Board staff does find there is reasonable potential and have imposed effluent limitations. Water Board staff concur that all current data should be incorporated (after discarding the November 3, 2004, samples which are considered anomalous, see response to comment 1). Incorporating these data, the effluent limitation for mercury is reduced from the originally proposed 0.056 µg/L to 0.032 µg/L.

Comment 25: Effluent limits for dioxin TEQ should not be required

The commenter states that, at this site, 2,3,7,8 TCDD has never been detected. The commenter notes that other dioxin congeners have been detected and then the equivalent toxicity, TEQ, has been calculated. Moreover, the Board has traditionally based its effluent limitations for dioxin TEQ on the Basin Plan's numeric Water Quality Objective for 2,3,7,8 TCDD (1.4×10^{-8} µg/L), but the discharger asserts that doing so is inappropriate because this value has not been promulgated as a numeric water quality objective for dioxin TEQ. Recent analysis of paired samples for TCDD TEQ taken from the inflow and outflow data indicate that they are present at equal amounts in both the intake and outfall. In addition, the commenter notes that Mirant has collected six data points over three years, thus complying with SIP requirements and no further sampling is required.

M-5

Response:

Water Board staff concur that the data indicate there is apparently no evidence of net contribution of dioxin TEQ to the cooling water since, when dioxin TEQ is found in the discharge, it is also detected at similar concentrations in the inflow. However, since it has been detected in the outfall, a reasonable potential for the discharge exists per the Basin Plan. Because the data are insufficient to calculate an effluent limitation, the revised Tentative Order simply requires continued semiannual sampling at this time at both the inflow and the outfall.

The comment regarding basing effluent limitations for dioxin TEQ on the numeric objective for 2,3,7,8-TCDD is moot because no effluent limitations are proposed. However, an effluent limitation for dioxin TEQ would be based on the narrative water quality objective in the Basin Plan for bioaccumulation. The narrative objective is not in question; it was adopted legally. To develop an effluent limitation based on the narrative objective, however, requires a numeric translation of the narrative requirement. Because dioxin TEQ is defined as the amount of dioxin congeners equivalent to 2,3,7,8 TCDD, it is reasonable to use the 2,3,7,8-TCDD numeric objective to translate the applicable narrative objective.

Comment 26: Request for change in the Intake Credit Study, Provision 7

The commenter, Mirant, supports performance of the Intake Credit Study identified in Provision 7 in the Tentative Order and, as part of this, proposes to relocate its intake sampling point to a place with better mixing of the intake water. The commenter notes that the present location could lead to non-representative results.

M-8

Response:
Water Board staff recognizes that investigations should be conducted to establish an appropriate sampling point at the intake, samples from which truly represent the intake water. Based on the results of Mirant's study the Water Board will consider relocating the sample points to obtain more representative samples.

COMMENTS ON THE BASIN PLAN DISCHARGE PROHIBITION

Comment 27: Basin Plan Prohibition 1 must be applied to this discharge
Commenters stated that the permit must incorporate the Basin Plan's prohibition on undiluted discharges. They state that the Basin Plan prohibits discharges that contain "characteristics of concern to beneficial uses" unless those discharges receive a minimum initial dilution of 10:1, and that this is for protection against abnormal discharges and the continuous effect of discharges from treatment processes. Commenters state that the Water Board assertion, as written in the Tentative Order posted, that this prohibition applies only to sewage or other treatment processes, is incorrect. They state, "Mirant chlorinates and dechlorinates its cooling water. If an upset occurs in the dechlorination process, the resulting undiluted chlorinated discharge to shallow Bay waters would be devastating … the dilution requirement exists to protect against upsets, which by their nature are unreliable." They also state that the plant's discharges contain many "constituents of concern," including mercury and copper, and the Bay lacks the capacity to assimilate these pollutants. To them, the recognition that there may be discharges from the plant, by definition, means that the outflow cooling water is a discharge and thus subject to the 10:1 dilution requirement. Commenters also state that the chlorination-dechlorination of the cooling water (used intermittently to prevent biofouling) could be upset, and there could be a release of chlorine that would require the mitigating effects of a 10:1 dilution. A commenter asserted that the discharge prohibition should be applied to thermal discharges. Another comment references Board Order R2-2004-0026 that applies the discharge prohibition to the Crockett Cogeneration Plant and that this should be applied to the Mirant facility.
B-6, C-8, C-14, C-17, C-21, C-29

Response*:*
The Basin Plan Discharge Prohibition 1 does not apply in this situation. The Tentative Order has been revised to clarify findings related to Discharge Prohibition 1. There are several reasons to support this position:

(a) The discharge is water taken from the Bay, pumped through pipes and heat exchangers for approximately three minutes, and then returned to the Bay at an average temperature 10 degrees Fahrenheit higher than the intake. It is virtually all (>99.99%) Bay water and not process water.

(b) The facility has been in operation since before the 1975 Basin Plan containing the discharge prohibition was adopted. The discharge prohibition has never been applied to any cooling water discharge in the past 30 years, and nothing has changed to require application now. Though we recognize that staff memorandums do not establish Water Board policy, we note that in a memo written at the time (May 28, 1974), the Chief of Planning wrote to the Executive Officer referring to industrial waste discharges, "The 10:1 dilution requirement should not be applied to cooling waters."

(c) The chlorination process referenced is not a continuous operation as in a sewage treatment plant. It is used intermittently to treat each of the two heat exchangers for less than one hour each, five days a week, specifically to prevent biofouling of the heat exchanger tubes. Before chlorine (as 12 to 14% sodium hypochlorite solution) can be added to the cooling water and pass through the heat exchanger tubes, sodium bisulfite is injected to the outflow from the heat exchanger stream. Such systems are used extensively throughout industry and are highly reliable. Such application does not change the nature of the water from cooling water to process waste water.

(d) The discharge is water that has been taken directly from the Bay and is being returned to the Bay, with no known sources for the addition of mercury or copper. However, as the comment states, since the Bay cannot absorb any more of these constituents, it does not matter if there is or is not initial dilution. Effluent limitations in the permit ensure that these constituents do not pose a threat to beneficial uses.

(e) The Basin Plan Discharge Prohibition does not apply to thermal discharge. The Basin Plan Water Quality Objectives for temperature provides that temperature objectives for enclosed bays and estuaries are specified in the Statewide Thermal Plan. While there are thermal provisions in the Basin Plan related to inland surface water and fresh water, there are no provisions specific to the Bay.

In addition, the section in the Basin Plan, Discharge Prohibitions Applicable Throughout the Region (Section 4-5), states that "Exceptions to Prohibitions 1, ….will be considered where: An inordinate burden would be placed on the discharger relative to beneficial uses protected, and an equivalent level of environmental protection can be achieved by …improved treatment reliability;" This section further states that "In reviewing requests for exceptions , the Regional Board will consider the reliability of the discharger's system in preventing inadequately treated wastewater from being discharged to the receiving water …" These statements clearly indicate that the Prohibition 1 is dependent on circumstances and not intended to be absolute. Therefore, because the Potrero plant's treatment system is extremely reliable, and construction of a deepwater outfall would result in very little benefit by diluting a discharge consisting of 99.99% Bay water with essentially the same Bay water, even if Prohibition 1 applied to this discharge, we believe it appropriately qualifies for an exception to the Prohibition.

Regarding the Crockett Cogeneration Plant, where the Prohibition applies, that plant does not predominantly discharge once through cooling water. The discharge has some

cooling water, but is primarily conventional wastewater from a demineralizer that is treated in a treatment system. Thus the Prohibition in this case is correctly applied.

Comment 28: A Chevron-related case supports applying the Discharge Prohibition
The commenter claims, "Staff refuses to apply Prohibition 1. This region has had a checkered history of enforcing its Discharge Prohibition 1, repeatedly being chastised by the State Board. See In the Matter of the Petition of Citizens for a Better Environment, et al., State Water Resources Control Board …. Once again the staff is trying to protect a facility's discharge into shallow water …. There is no fundamental difference between Chevron's cooling water discharge … and Mirant's discharge."
C-7

Response:
The commenter misrepresents the true facts related to the petition referenced. In that matter, the Water Board, in permit actions going as far back as 1978, had imposed Prohibition 1 on Chevron's discharge. The Water Board was not "chastised" by the State Board for not enforcing Prohibition 1. In fact, the State Board upheld the Water Board's imposition of Prohibition 1 in that case but did direct the Water Board to impose stricter interim effluent limits on the discharge until Chevron constructed a deepwater outfall. There are, however, two fundamental differences between the Chevron situation and this one that do not support the application of Prohibition 1:

(a) Chevron was disposing of process wastewater (approximately 18.5 mgd) that had been mixed with cooling water (28 to 59 mgd). The State Board determined that the discharge was predominantly process water and that the initial dilution of process water with cooling water from the facility, was less than 10:1 The only discharge from the Potrero plant, directly into the receiving water, is >99.99% cooling water.

(b) Chevron's discharge to Castro Creek, a confined water body similar to a dead end slough. The Basin Plan Prohibition prohibits discharges to dead-end sloughs, regardless of dilution. The Potrero plant's discharge is not to a dead-end slough.

Therefore, Water Board staff concludes that the Chevron case does not support the application of the Basin Plan's Discharge Prohibition to the Potrero plant.

Comment 29: The permit must incorporate thermal waste limitations
Commenters stated that the permit must incorporate thermal waste limitations that are protective of beneficial uses. They state that the State Thermal Plan, which is incorporated into the San Francisco Bay Basin Plan by reference, requires that existing discharges of thermal waste to enclosed bays comply with limitations necessary to ensure protection of beneficial uses. They also allege that it is specious for the permit to rely on an outdated study that finds there are no impacts to beneficial uses.
B-7, C-30

Response:
The State Thermal Plan states, "A. Existing discharges: (1) Elevated temperature wastes shall comply with limitations necessary to assure protection of the beneficial uses and areas of special biological significance." The existing thermal study found no impact on beneficial uses caused by the elevated temperature wastes from this facility. There is no other evidence to refute this. However, as described in the revised Tentative Order's findings, because the existing thermal study (completed by the previous owner of the facility, PG&E) may be outdated and may not reflect current conditions, the revised Tentative Order (Provision D.5) requires a thermal effects study to re-affirm that the discharge is not harming beneficial uses.

Comment 30: The Board's 2001 draft permit correctly applied the discharge prohibition, while this Tentative Order does not
The 2001 draft permit included a requirement stating, "Discharge of wasters … where it does not receive an initial dilution of 10:1 is prohibited." No such requirement appears in the current Tentative Order.
C-7, C-15, C-16, C-17

Response:
The comment refers to a draft permit not currently under consideration. It was an administrative draft permit prepared for Mirant's new Unit 7 project, which Mirant has withdrawn from consideration. The draft was never brought to the Water Board, and was not adopted by the Water Board. Draft documents are works in progress and frequently contain statements that are changed before documents are finished. They are not recognized as reference sources.

Comment 31: Additional reasons why Basin Plan Prohibition 1 does not apply
A commenter proposed additional text to be used in the Tentative Order to support the original finding that Basin Plan Prohibition 1 (described in Table 4.1, Discharge Prohibitions of the Basin Plan) does not apply. The commenter emphasized the difference between process wastewater and non-process cooling water and the Board's previous interpretations of this prohibition. The commenter cites a Board policy memo (from 1974, after the Potrero plant began operations in 1965), stating that the prohibition did not apply to discharge of cooling water.
M-7

Response:
Water Board staff acknowledge the supporting statements provided by the commenter and the Tentative Order has been revised, with one exception. Contrary to the commenter's assertion, Prohibition 1 applies, regardless of dilution, to non-tidal water and dead-end sloughs. The commenter argued that the required 10:1 dilution only applies to non-tidal water and dead-end sloughs. However, Prohibition 1 reads, "It shall be

prohibited to discharge any wastewater which has particular characteristics of concern to beneficial uses at any point at which the waste water does not receive a minimum dilution of at least 10:1, **or** into any nontidal water, dead end slough, similar confined water, or any immediate tributaries thereof." (Emphasis added.) Therefore, the Prohibition applies to either dead-end sloughs, or certain discharges with less than 10:1 dilution, not just dead-end sloughs.