CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LOS ANGELES REGION

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ORDER NO. R4-2010-0089
NPDES NO. CA0059188

WASTE DISCHARGE REQUIREMENTS FOR THE CALIFORNIA DEPARTMENT OF WATER RESOURCES, WILLIAM E. WARNE POWER PLANT

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

Table 1. Discharger Information

Discharger	California Department of Water Resources
Name of Facility	*William E. Warne Power Plant*
Facility Address	Highway 99 at Pyramid Lake (west of Interstate 5 at the Smokey Bear off-ramp)
	Castaic, CA 91310
	Los Angeles County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

The discharge by the California Department of Water Resources (DWR) from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001(A&B)	Once-through, non-contact cooling water	34°41'06"	118°47'16"	Pyramid Lake
002	Drainage sump water	34°41'06"	118°47'16"	Pyramid Lake

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	**June 3, 2010**
This Order shall become effective on:	**July 3, 2010**
This Order shall expire on:	**June 10, 2015**
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	**December 12, 2014**

IT IS HEREBY ORDERED, that Order No. R4-2004-0172 is terminated upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA), and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

I, Sam Unger, Interim Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on June 3, 2010.

Sam Unger, Interim Executive Officer

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I. FACILITY INFORMATION

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

Table 4. Facility Information

Discharger	California Department of Water Resources
Name of Facility	William E. Warne Power Plant
Facility Address	Highway 99 at Pyramid Lake (west of Interstate 5 at the Smokey Bear off-ramp)
	Castaic, CA 91310
	Los Angeles County
Facility Contact, Title, and Phone	Cindy Garcia, Chief, Water Quality Section (916) 653-7213
Mailing Address	P.O. Box 942836 Sacramento, CA 94236-0001
Type of Facility	Hydroelectric Generating Station
Facility Design Flow	1.952 million gallons per day (mgd)

II. FINDINGS

The California Regional Water Quality Control Board, Los Angeles Region (hereinafter Regional Water Board), finds:

A. Background. California Department of Water Resources (hereinafter Discharger) is currently discharging pursuant to Order No. R4-2004-0172 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0059188. The Discharger submitted a Report of Waste Discharge, dated April 17, 2009**,** and applied for an NPDES permit renewal to discharge up to 1.952 million gallons per day (mgd) of wastewater consisting of once-through cooling water and low volume waste water collected in the sump from William E. Warne Power Plant, hereinafter Facility.

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

B. Facility Description. The Discharger owns and operates a hydroelectric generating station. The Facility produces power to offset the State Water Project pumping costs. The State Water Project provides irrigation and surface water supply. The Facility operates two hydroelectric generating turbine units that generate up to 78 megawatts of electricity using State Water Project waters via Penstock pipeline. An on-site water treatment plant uses the processes of chlorination and ultra-filtration to provide potable water for the hydroelectric plant.

Wastewater flows consist of once-through cooling water and drainage sump water. Up to a total of 1.95 mgd of generator, turbine, air, upper and lower guide bearing cooling waters (all once-through, non-contact) from generating turbine units 1 and 2 is discharged through two nearby outfalls collectively to be called Discharge Point No. 001(A&B). Backwash from the potable water treatment plant enters a sump, where it combines with compressor cooling water, unit cooling water rotary strainer backwash, turbine shutoff valve water, and ground water seepage. The mixture of waters in the sump is discharged periodically through Discharge Point No. 002 when the sump water reaches a certain level. The maximum discharge rate at Discharge Point No. 002 is 2,000 gallons per day (gpd). The discharge water from Discharge Point Nos. 001(A&B) and 002 is discharged to the Facility tailrace where it combines with generated penstock waters that are discharged from generating turbine units, and then discharges into Pyramid Lake, a tributary to the Santa Clara River via Piru Creek and Lake Piru, waters of the United States. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

C. Legal Authorities. This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this Facility to surface waters. This Order also serves as Waste

Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

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

E. California Environmental Quality Act (CEQA). Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.

F. Technology-based Effluent Limitations. Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations[1], require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3. For turbidity at Discharge Point No. 001(A&B) and 002, the technology-based effluent limitations include intake water credits. A detailed discussion of the technology-based effluent limitations development and intake water credits is included in the Fact Sheet (Attachment F).

Intake Water Credits. Title 40, Code of Federal Regulations section 122.45(g) allows for adjustment of technology-based effluent limitations based on intake water credits as follows:

"*(1) Upon request of the discharger, technology-based effluent limitations or standards shall be adjusted to reflect credit for pollutants in the discharger's intake water if:*

(i) The applicable effluent limitations and standards contained in 40 CFR subchapter N specifically provide that they shall be applied on a net basis; or

(ii) The discharger demonstrates that the control system it proposes or uses to meet applicable technology-based limitations and standards would, if properly installed and operated, meet the limitations and standards in the absence of pollutants in the intake waters.

(2) Credit for generic pollutants such as biochemical oxygen demand (BOD) or total suspended solids (TSS) should not be granted unless the permittee demonstrates that the constituents of the generic measure in the effluent are substantially similar

[1] All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

to the constituents of the generic measure in the intake water or unless appropriate additional limits are placed on process water pollutants either at the outfall or elsewhere.

(3) Credit shall be granted only to the extent necessary to meet the applicable limitation or standard, up to a maximum value equal to the influent value. Additional monitoring may be necessary to determine eligibility for credits and compliance with permit limits.

(4) Credit shall be granted only if the discharger demonstrates that the intake water is drawn from the same body of water into which the discharge is made. The Director may waive this requirement if he finds that no environmental degradation will result.

(5) This section does not apply to the discharge of raw water clarifier sludge generated from the treatment of intake water."

As discussed in section IV.B.2.a of the Fact Sheet (Attachment F), based on information submitted by the Discharger, the Section 122.45(g) requirements in (1) through (5) have been met, therefore this Order includes effluent limitations for turbidity based on the intake water credits.

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

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi). For mercury, asbestos, and TCDD equivalents at Discharge Point No. 001(A&B) and TCDD equivalents at discharge Point No. 002, the WQBELs include intake water credits as discussed in section IV.C.4.e of the Fact Sheet (Attachment F).

H. Water Quality Control Plans. The Regional Water Board adopted a Water Quality Control Plan for the Los Angeles Region (hereinafter Basin Plan) on June 13, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established

state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to Pyramid Lake are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001(A&B) and 002	Pyramid Lake	Existing: Municipal and Domestic Water Supply (MUN), Industrial Service Supply (IND), Industrial Process Supply (PROC), Agricultural Supply (AGR), Ground Water Recharge (GWR), Hydropower Generation (POW), Water Contact Recreation (REC1), Non-contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), Cold Freshwater Habitat (COLD), Wildlife Habitat (WILD), and Rare, Threatened or Endangered Species (RARE). Potential: Freshwater Replenishment (FRSH)

Requirements of this Order implement the Basin Plan.

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

Ammonia Basin Plan Amendment. The 1994 Basin Plan provided water quality objectives for ammonia to protect aquatic life, in Table 3-1 through Table 3-4. However, those ammonia objectives were revised on April 25, 2002, by the Regional Water Board with the adoption of Resolution No. 2002-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Lif*e. The amendment reflects the revised water quality criteria developed by USEPA in the *"1999 Update of Ambient Water Quality Criteria for Ammonia,"* December 1999. The 1999 Update contains USEPA's most recent freshwater aquatic life criteria for ammonia and supersedes all previous freshwater aquatic life criteria for ammonia. The ammonia Basin Plan amendment was approved by the State Water Board, the Office of Administrative Law, and USEPA on April 30, 2003, June 5, 2003, and June 19, 2003, respectively. Although the revised ammonia water quality objectives may be less stringent than those contained in the 1994 Basin Plan, they are still protective of aquatic life and are consistent with USEPA's 1999 ammonia criteria update.

I. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in

addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

J. State Implementation Policy. On March 2, 2000, the State Water Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

Intake Water Credits. Within Section 1.4.4 of the SIP, the conditions under which intake water credits may be allowed are as follows:

"*A RWQCB may consider priority pollutants in intake water on a pollutant-by-pollutant and discharge-by discharge basis when establishing water quality-based effluent limitations, provided that the discharger has demonstrated to the satisfaction of the RWQCB that the following conditions are met:*

(1) The observed maximum ambient background concentration, as determined in section 1.4.3.1, and the intake water concentration of the pollutant exceeds the most stringent applicable criterion/objective for that pollutant;

(2) The intake water credits provided are consistent with any TMDL applicable to the discharge that has been approved by the Regional Water Board, State Water Board, and USEPA;

(3) The intake water is from the same water body as the receiving water body. The Discharger may demonstrate this condition by showing that:

(a) the ambient background concentration of the pollutant in the receiving water, excluding any amount of the pollutant in the facility's discharge, is similar to that of the intake water;

(b) there is a direct hydrological connection between the intake and discharge points;

(c) the water quality characteristics are similar in the intake and receiving waters; and

(d) the intake water pollutant would have reached the vicinity of the discharge point in the receiving water within a reasonable period of

time and with the same effect had it not been diverted by the Discharger.

The Regional Water Board may also consider other factors when determining whether the intake water is from the same water body as the receiving water body;

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

(5) 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."

Based on monitoring data submitted by the Discharger and additional information provided in the Report of Waste Discharger (ROWD), the above requirements have been met. Therefore, this Order includes effluent limitations based on intake water credits for mercury, asbestos, and TCDD equivalents at Discharger Point No. 001 and for TCDD equivalents at Discharger Point No. 002. A detailed discussion of the basis for the intake water credits is provided in section IV.C.4.e of the Fact Sheet for this Order (Attachment F).

K. Compliance Schedules and Interim Requirements. Section 2.1 of the SIP provides that, based on a Discharger's request and demonstration that it is infeasible for an existing Discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or May 18, 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds 1 year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Water Quality Control Plan Los Angeles Region, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective. This Order does not include compliance schedules and interim effluent limitations and/or discharge specifications.

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

M. Stringency of Requirements for Individual Pollutants. This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on total suspended solids (TSS), settleable solids, turbidity, biochemical oxygen demand (BOD), and oil and grease. Restrictions on TSS, settleable solids, turbidity, BOD and oil and grease are discussed in IV.B in the Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. These limitations are not more stringent than required by the CWA.

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

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

O. Anti-Backsliding Requirements. Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Some effluent limitations in this Order are less stringent that those in the previous Order. As discussed in detail in the Fact Sheet this relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

P. Endangered Species Act. This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act

(Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

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

R. Standard and Special Provisions. Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.

S. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections VI.C.3.a of this Order are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

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

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

THEREFORE, IT IS HEREBY ORDERED, that this Order supercedes Order No. R4-2004-0172 except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

A. Wastes discharged shall be limited to a maximum of 1,950,000 gpd of non-contact, once-through cooling water through Discharge Point No. 001(A&B), and 2,000 gpd of sump water through Discharge Point No. 002, as described in the findings. The discharge of wastes from accidental spills or other sources is prohibited.

B. Discharges of water, materials, thermal wastes, elevated temperature wastes, toxic wastes, deleterious substances, or wastes other than those authorized by this Order, to a storm drain system, Pyramid Lake, or other waters of the State, are prohibited.

C. Neither the treatment nor the discharge of pollutants shall create pollution, contamination, or a nuisance as defined by Section 13050 of the Water Code.

D. Wastes discharged shall not contain any substances in concentrations toxic to human, animal, plant, or aquatic life.

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

F. The discharge of any radiological, chemical, or biological warfare agent or high level radiological waste is prohibited.

G. Any discharge of wastes at any point(s) other than specifically described in this Order is prohibited, and constitutes a violation of the Order.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point No. 001(A&B)

1. Final Effluent Limitations – Discharge Point No. 001(A&B) (Units 1 and 2 Once-through Cooling Water)

a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 001(A&B), with compliance measured at Monitoring Location EFF-001(A&B) as described in the attached MRP (Attachment E):

Table 6. Effluent Limitations—Discharge Point No. 001(A&B)

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	s.u.	--	--	6.5	8.5
Temperature	deg. F	--	--	--	86

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Dissolved Oxygen	mg/L	--	--	5.0[1]	--
Settleable Solids	ml/L	0.1	0.3	--	--
Total Suspended Solids (TSS)	mg/L	50	75	--	--
	lbs/day[2]	810	1220	--	--
Turbidity[3]	NTU	5	25	--	--
Oil and Grease	mg/L	10	15	--	--
	lbs/day[2]	160	240	--	--
Biochemical Oxygen Demand ($BOD_5$20°C)	mg/L	--	10	--	--
	lbs/day[2]	--	160	--	--
Copper , Total Recoverable	µg/L	7.6	12	--	--
	lbs/day[2]	0.12	0.20	--	--
Mercury, Total Recoverable[3]	µg/L	0.050	0.13	--	--
	lbs/day[2]	0.00081	0.0021	--	--
Asbestos[3]	million fibers/L	7	21	--	--
TCDD Equivalents[3,4]	pg/L	0.013	0.026	--	--
	lbs/day[2]	2.1E-10	4.2E-10	--	--

1 Dissolved oxygen shall not be less than 5.0 mg/L at anytime, and the median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.

2 Based on a flow of 1.950 mgd

3 If the intake water pollutant concentration does not exceed the average monthly limitation then the limitations are applied as noted in the table. If the intake water pollutant concentration exceeds the average monthly limitation, but does not exceed the maximum daily limitation, then compliance with the average monthly limitation will be determined based on intake water credit (intake water concentration) and compliance with the maximum daily limitation is applied as noted in the table. If the intake water pollutant concentration exceeds the maximum daily limitation, then compliance with both the average monthly and maximum daily limitation will be determined based on intake water credit (intake water concentration). When determining compliance based on intake water credit, the pollutant effluent limitation is equal to the maximum pollutant concentration in the intake water. The equation is as follows:

Pollutant Effluent Limitation with Intake Water Credit = Maximum Intake Water Concentration

When grab samples are taken, the timing and location of intake water and effluent samples shall reflect the travel time of water in the Facility. The intake water sample shall directly correspond to the effluent sample.

4 TCDD equivalents shall be calculated using the following formula, where the Minimum Levels (MLs), toxicity equivalency factors (TEFs), and bioaccumulation equivalency factors (BEFs) are as provided in the table below. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating TCDD equivalents, the Discharger shall set congener concentrations below the minimum levels to zero. USEPA method 1613 may be used to analyze dioxin and furan congeners.

$$\text{TCDD equivalents} = \Sigma (C_x \times TEF_x \times BEF_x)$$

where:

C_x = concentration of dioxin or furan congener x

TEF_x = TEF for congener x

BEF_x = BEF for congener x

Dioxin or Furan Congener	Minimum Level (pg/L)	Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8-TCDD	10	1.0	1.0
1,2,3,7,8-PeCDD	50	1.0	0.9
1,2,3,4,7,8-HxCDD	50	0.1	0.3
1,2,3,6,7,8-HxCDD	50	0.1	0.1
1,2,3,7,8,9-HxCDD	50	0.1	0.1
1,2,3,4,6,7,8-HpCDD	50	0.01	0.05
OCDD	100	0.0001	0.01
2,3,7,8-TCDF	10	0.1	0.8
1,2,3,7,8-PeCDF	50	0.05	0.2
2,3,4,7,8-PeCDF	50	0.5	1.6
1,2,3,4,7,8-HxCDF	50	0.1	0.08
1,2,3,6,7,8-HxCDF	50	0.1	0.2
1,2,3,7,8,9-HxCDF	50	0.1	0.6
2,3,4,6,7,8-HxCDF	50	0.1	0.7
1,2,3,4,6,7,8-HpCDF	50	0.01	0.01
1,2,3,4,7,8,9-HpCDF	50	0.01	0.4
OCDF	100	0.0001	0.02

b. The acute toxicity of the effluent shall be such that:

i. The average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay test shall be at least 90%, and

ii. No single test producing less than 70% survival. Compliance with the toxicity objectives will be determined by the method described in Section V of the MRP (Attachment E).

B. Effluent Limitations – Discharge Point No. 002

1. Final Effluent Limitations – Discharge Point No. 002

a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point Discharge Point No. 002, with compliance measured at Monitoring Location EFF-002 as described in the attached MRP (Attachment E):

Table 7. Effluent Limitations—Discharge Point No. 002

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	s.u.	--	--	6.5	8.5
Temperature	deg. F	--	--	--	86
Dissolved Oxygen	mg/L	--	--	5.0[1]	--
Settleable Solids	ml/L	0.1	0.3	--	--
Total Suspended Solids (TSS)	mg/L	50	75	--	--
	lbs/day[2]	0.83	1.3	--	--
Turbidity[3]	NTU	5	25	--	--
Oil and Grease	mg/L	10	15	--	--
	lbs/day[2]	0.17	0.25	--	--
Biochemical Oxygen Demand ($BOD_5$20°C)	mg/L	--	10	--	--
	lbs/day[2]	--	0.17	--	--
Chlorine, Total Residual	mg/L	--	0.1	--	--
	lbs/day[2]	--	0.0017	--	--
Copper , Total Recoverable	µg/L	4.5	13	--	--
	lbs/day[2]	7.5E-05	2.2E-04	--	--
Lead, Total Recoverable	µg/L	1.6	5.0	--	--
	lbs/day[2]	2.7E-05	8.3E-05	--	--
Zinc, Total Recoverable	µg/L	42	111	--	--
	lbs/day[2]	7.0E-04	1.9E-03	--	--
TCDD Equivalents[3,4]	pg/L	0.013	0.026	--	--
	lbs/day[2]	2.2E-013	4.3E-13	--	--
Bromoform	µg/L	4.3	13	--	--
	lbs/day[2]	7.2E-05	2.2E-04	--	--
Chlorodibromomethane	µg/L	0.40	1.0	--	--
	lbs/day[2]	6.7E-06	1.7E-05	--	--
Dichlorobromomethane	µg/L	0.56	1.6	--	--
	lbs/day[2]	9.3E-06	2.7E-05	--	--
Tetrachloroethylene	µg/L	0.80	2.3	--	--
	lbs/day[2]	1.3E-05	3.8E-05	--	--

[1] Dissolved oxygen shall not be less than 5.0 mg/L at anytime, and the median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.

[2] Based on a flow of 0.002 mgd

[3] If the intake water pollutant concentration does not exceed the average monthly limitation then the limitations are applied as noted in the table. If the intake water pollutant concentration exceeds the average monthly limitation, but does not exceed the maximum daily limitation, then compliance with the average monthly limitation will be determined based on intake water credit (intake water concentration) and compliance with the maximum daily limitation is applied as noted in the table. If the intake water pollutant concentration exceeds the maximum daily limitation, then compliance with both the average monthly and maximum daily limitation will be determined based on intake water credit (intake water

concentration). When determining compliance based on intake water credit, the pollutant effluent limitation is equal to the maximum pollutant concentration in the intake water. The equation is as follows:

Pollutant Effluent Limitation with Intake Water Credit = Maximum Intake Water Concentration

When grab samples are taken, the timing and location of intake water and effluent samples shall reflect the travel time of water in the Facility. The intake water sample shall directly correspond to the effluent sample.

[4] TCDD equivalents shall be calculated using the following formula, where the Minimum Levels (MLs), toxicity equivalency factors (TEFs), and bioaccumulation equivalency factors (BEFs) are as provided in the table below. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating TCDD equivalents, the Discharger shall set congener concentrations below the minimum levels to zero. USEPA method 1613 may be used to analyze dioxin and furan congeners.

TCDD equivalents = Σ (C_x x TEF_x x BEF_x)

where:

C_x = concentration of dioxin or furan congener x

TEF_x = TEF for congener x

BEF_x = BEF for congener x

Dioxin or Furan Congener	Minimum Level (pg/L)	Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8-TCDD	10	1.0	1.0
1,2,3,7,8-PeCDD	50	1.0	0.9
1,2,3,4,7,8-HxCDD	50	0.1	0.3
1,2,3,6,7,8-HxCDD	50	0.1	0.1
1,2,3,7,8,9-HxCDD	50	0.1	0.1
1,2,3,4,6,7,8-HpCDD	50	0.01	0.05
OCDD	100	0.0001	0.01
2,3,7,8-TCDF	10	0.1	0.8
1,2,3,7,8-PeCDF	50	0.05	0.2
2,3,4,7,8-PeCDF	50	0.5	1.6
1,2,3,4,7,8-HxCDF	50	0.1	0.08
1,2,3,6,7,8-HxCDF	50	0.1	0.2
1,2,3,7,8,9-HxCDF	50	0.1	0.6
2,3,4,6,7,8-HxCDF	50	0.1	0.7
1,2,3,4,6,7,8-HpCDF	50	0.01	0.01
1,2,3,4,7,8,9-HpCDF	50	0.01	0.4
OCDF	100	0.0001	0.02

b. The acute toxicity of the effluent shall be such that:

i. The average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay test shall be at least 90%, and

ii. No single test producing less than 70% survival. Compliance with the toxicity objectives will be determined by the method described in Section V of the MRP (Attachment E).

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitation

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. The discharge shall not cause the following in Pyramid Lake

1. The normal ambient pH to fall below 6.5 nor exceed 8.5 units nor vary from normal ambient pH levels by more than 0.5 units.

2. Surface water temperature to rise greater than 5 °F above the natural temperature of the receiving waters at any time or place. At no time the temperature be raised above 80^0 F as a result of waste discharged.

3. Water Contact Standards

a. State/Regional Water Board Water Contact Standards:

In fresh water designated for water contact recreation (REC-1), the waste discharged shall not cause the following bacterial standards to be exceeded in the receiving water:

Geometric Mean Limits

i. E. coli density shall not exceed 126/100 ml.
ii. Fecal coliform density shall not exceed 200/100 ml.

Single Sample Maximum (SSM) Limits

i. E. coli density shall not exceed 235/100 ml.
ii. Fecal coliform density shall not exceed 400/100 ml.

4. Depress the concentration of dissolved oxygen to fall below 5.0 mg/L anytime, and the median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.

5. Exceed total ammonia (as N) concentrations specified in the Regional Board Resolution No. 2002-011. Resolution No. 2002-011 revised the ammonia water quality objectives for inland surface waters characteristic of freshwater in the 1994 Basin Plan, to be consistent with the *"1999 Update of Ambient Water Quality Criteria for Ammonia"*. Adopted on April 28, 2002, Resolution No. 2002-011 was approved by State Water Board, Office of Administrative Law (OAL) and USEPA on April 30, 2003, June 5, 2003, and June 19, 2003, respectively and is now in effect.

6. The presence of visible, floating, suspended or deposited macroscopic particulate matter or foam.

7. Oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the receiving water or on objects in the water.

8. Suspended or settleable materials, chemical substances or pesticides in amounts that cause nuisance or adversely affect any designated beneficial use.

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

10. Accumulation of bottom deposits or aquatic growths.

11. Biostimulatory substances at concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.

12. The presence of substances that result in increases of BOD that adversely affect beneficial uses.

13. Taste or odor-producing substances in concentrations that alter the natural taste, odor, and/or color of fish, shellfish, or other edible aquatic resources; cause nuisance; or adversely affect beneficial uses.

14. Alteration of turbidity, or apparent color beyond present natural background levels.

15. Damage, discolor, nor cause formation of sludge deposits on flood control structures or facilities nor overload the design capacity.

16. Degrade surface water communities and populations including vertebrate, invertebrate, and plant species.

17. Problems associated with breeding of mosquitoes, gnats, black flies, midges, or other pests.

18. Create nuisance, or adversely effect beneficial uses of the receiving water.

19. Violation of any applicable water quality standards for receiving waters adopted by the Regional Board or State Water Board. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments thereto, the Regional Board will revise or modify this Order in accordance with such standards.

B. Groundwater Limitations

Not Applicable

VI. PROVISIONS

A. Standard Provisions

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

2. Regional Water Board Standard Provisions. The Discharger shall comply with the following provisions**:**

a. This Order may be modified, revoked, reissued, or terminated in accordance with the provisions of sections 122.44, 122.62, 122.63, 122.64, 125.62 and 125.64. Causes for taking such actions include, but are not limited to: failure to comply with any condition of this Order; endangerment to human health or the environment resulting from the permitted activity; or acquisition of newly-obtained information which would have justified the application of different conditions if known at the time of Order adoption. The filing of a request by the Discharger for an Order modification, revocation, and issuance or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

b. The Discharger must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges of storm water to storm drain systems or other water courses under their jurisdiction; including applicable requirements in municipal storm water management program developed to comply with NPDES permits issued by the Regional Water Board to local agencies.

c. Discharge of wastes to any point other than specifically described in this Order and permit is prohibited and constitutes a violation thereof.

d. The Discharger shall comply with all applicable effluent limitations, national standards of performance, toxic effluent standards, and all federal regulations established pursuant to sections 301, 302, 303(d), 304, 306, 307, 316, 318, 405, and 423 of the Federal CWA and amendments thereto.

e. These requirements do not exempt the operator of the waste disposal Facility from compliance with any other laws, regulations, or ordinances which may be applicable; they do not legalize this waste disposal Facility, and they leave unaffected any further restraints on the disposal of wastes at this site which may be contained in other statutes or required by other agencies.

f. Oil or oily material, chemicals, refuse, or other pollutionable materials shall not be stored or deposited in areas where they may be picked up by rainfall and carried off of the property and/or discharged to surface waters. Any such spill of such materials shall be contained and removed immediately.

g. A copy of these waste discharge specifications shall be maintained at the discharge Facility so as to be available at all times to operating personnel.

h. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:

i. Violation of any term or condition contained in this Order;

ii. Obtaining this Order by misrepresentation, or failure to disclose all relevant facts;

iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

i. If there is any storage of hazardous or toxic materials or hydrocarbons at this Facility and if the Facility is not manned at all times, a 24-hour emergency response telephone number shall be prominently posted where it can easily be read from the outside.

j. The Discharger shall notify the Regional Water Board not later than 120 days in advance of implementation of any plans to alter production capacity of the product line of the manufacturing, producing or processing Facility by more than ten percent. Such notification shall include estimates of proposed production rate, the type of process, and projected effects on effluent quality. Notification shall include submittal of a new report of waste discharge appropriate filing fee.

k. The Discharger shall file with the Regional Water Board a report of waste discharge at least 120 days before making any material change or proposed change in the character, location or volume of the discharge.

l. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Regional Water Board as soon as they know or have reason to believe that they have begun or expect to begin to use or manufacture intermediate or final product or byproduct of any toxic pollutant that was not reported on their application.

m. In the event of any change in name, ownership, or control of these waste disposal facilities, the discharger shall notify this Regional Water Board of such change and shall notify the succeeding owner or operator of the existence of this Order by letter, copy of which shall be forwarded to the Regional Water Board.

n. The Water Code provides that any person who violates a waste discharge requirement or a provision of the Water Code is subject to civil penalties of up to $5,000 per day, $10,000 per day, or $25,000 per day of violation, or when the violation involves the discharge of pollutants, is subject to civil penalties of up to $10 per gallon per day or $25 per gallon per day of violation; or some combination thereof, depending on the violation, or upon the combination of violations.

Violation of any of the provisions of the NPDES program or of any of the provisions of this Order may subject the violator to any of the penalties described herein, or any combination thereof, at the discretion of the prosecuting authority; except that only one kind of penalty may be applied for each kind of violation.

o. The discharge of any product registered under the Federal Insecticide, Fungicide, and Rodenticide Act to any waste stream which may ultimately be released to waters of the United States, is prohibited unless specifically authorized elsewhere in this permit or another NPDES permit. This requirement is not applicable to products used for lawn and agricultural purposes.

p. The discharge of any waste resulting from the combustion of toxic or hazardous wastes to any waste stream that ultimately discharges to waters of the United States is prohibited, unless specifically authorized elsewhere in this permit.

q. The Discharger shall notify the Executive Officer in writing no later than 6 months prior to the planned discharge of any chemical, other than the products previously reported to the Executive Officer, which may be toxic to aquatic life. Such notification shall include:

i. Name and general composition of the chemical,

ii. Frequency of use,

iii. Quantities to be used,

iv. Proposed discharge concentrations, and

v. USEPA registration number, if applicable.

r. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this Facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

s. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, maximum daily effluent limitation, average monthly effluent limitation, instantaneous maximum or instantaneous minimum effluent limitation, or receiving water limitation of this Order, the Discharger shall notify the Regional Water Board by telephone (213) 576-6600 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and, prevent recurrence including, where applicable, a

schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

t. Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order.

C. Special Provisions

1. Reopener Provisions

a. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal CWA, and amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.

b. This Order may be reopened to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge through a more comprehensive monitoring program included as part of this Order and based on the results of the RPA.

c. This Order may be reopened and modified, to incorporate in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include requirements for the implementation of the watershed management approach or to include new MLs.

d. This Order may be reopened and modified to revise effluent limitations as a result of future Basin Plan Amendments, such as an update of an objective or the adoption of a TMDL for the Pyramid Lake.

e. This Order may be reopened upon submission by the Discharger of adequate information, as determined by the Regional Water Board, to provide for dilution credits or a mixing zone, as may be appropriate.

f. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Chronic Toxicity Trigger and Monitoring Requirements. The Order contains a chronic toxicity trigger defined as an exceedance of 1.0 TU_c in a critical life stage test for 100% effluent (The monthly median for chronic toxicity of 100% effluent shall not exceed, 1 TU_c in a critical life stage test.). The Discharger shall monitor the effluent annually for chronic toxicity to determine the presence of chronic toxicity. If the chronic toxicity of the effluent exceeds 1.0 TU_c (defined in Section V.B of the MRP, Attachment E), the Discharger shall immediately implement accelerated chronic toxicity testing, as required in Section V.B.2.b of the MRP, Attachment E).

b. Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan. The Discharger shall submit to the Regional Water Board an Initial Investigation Toxicity Reduction Evaluation (TRE) workplan (1-2 pages) within **90 days** of the effective date of this permit. This plan shall describe the steps the permittee intends to follow in the event that toxicity is detected, and should include at a minimum:

i. A description of the investigation and evaluation techniques that will be used to identify potential causes/sources of toxicity, effluent variability, and treatment system efficiency;

ii. A description of the Facility's method of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in operation of the Facility;

iii. If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor) (Section V of the MRP, Attachment E, provides references for the guidance manuals that should be used for performing TIEs).

3. Storm Water Pollution Prevention Plan, Best Management Practices and Pollution Prevention

a. Storm Water Pollution Prevention Plan (SWPPP)

The Discharger shall submit, **within 90 days** of the effective date of this Order an updated SWPPP that describes site-specific management practices for minimizing contamination of storm water runoff and for preventing contaminated storm water runoff from being discharged directly to waters of the State. The SWPPP shall be developed in accordance with the requirements in Attachment G.

b. Spill Contingency Plan (SCP)

This Regional Water Board requires the Discharger to file with the Regional Water Board, **within 90 days** after the effective date of this Order, a Spill

Contingency Plan (SCP) that describes the preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. The SCP shall be reviewed at a minimum once per year and updated as needed. Any changes or revisions shall be summarized in the annual summary report.

4. Construction, Operation and Maintenance Specifications

a. The Discharger shall at all times properly operate and maintain all facilities and systems installed or used to achieve compliance with this Order.

VII. COMPLIANCE DETERMINATION

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

A. Single Constituent Effluent Limitation.

If the concentration of the pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (see Reporting Requirement I.G. of the MRP), then the Discharger is out of compliance.

B. Effluent Limitations Expressed as a Sum of Several Constituents.

If the sum of the individual pollutant concentrations is greater than the effluent limitation, then the Discharger is out of compliance. In calculating the sum of the concentrations of a group of pollutants, consider constituents reported as ND or DNQ to have concentrations equal to zero, provided that the applicable ML is used.

C. Multiple Sample Data.

When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

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

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

D. Average Monthly Effluent Limitation (AMEL).

If the average (or when applicable, the median determined by subsection E above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

In determining compliance with the AMEL, the following provisions shall also apply to all constituents:

1. If the analytical result of a single sample, monitored monthly, quarterly, semiannually, or annually, does not exceed the AMEL for that constituent, the Discharger has demonstrated compliance with the AMEL for that month;

2. If the analytical result of a single sample, monitored monthly, quarterly, semiannually, or annually, exceeds the AMEL for any constituent, the Discharger shall collect four additional samples at approximately equal intervals during the month. All five analytical results shall be reported in the monitoring report for that month, or 45 days after results for the additional samples were received, whichever is later.

   When all sample results are greater than or equal to the reported Minimum Level (see Reporting Requirement I.G. of the MRP), the numerical average of the analytical results of these five samples will be used for compliance determination.

   When one or more sample results are reported as “Not-Detected (ND)” or “Detected, but Not Quantified (DNQ)” (see Reporting Requirement I.G. of the MRP), the median value of these four samples shall be used for compliance determination. If one or both of the middle values is ND or DNQ, the median shall be the lower of the two middle values.

3. In the event of noncompliance with an AMEL, the sampling frequency for that constituent shall be increased to weekly and shall continue at this level until compliance with the AMEL has been demonstrated.

4. If only one sample was obtained for the month or more than a monthly period and the result exceeds the AMEL, then the Discharger is in violation of the AMEL.

E. Maximum Daily Effluent Limitations (MDEL).

If a daily discharge exceeds the MDEL for a given parameter, an alleged violation will be flagged and the discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

F. Instantaneous Minimum Effluent Limitation.

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, a violation will be flagged and the discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

G. Instantaneous Maximum Effluent Limitation.

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, a violation will be flagged and the discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

J. Mass and Concentration Limitations

Compliance with mass and concentration effluent limitations for the same parameter shall be determined separately with their respective limitations. When the concentration of a constituent in an effluent sample is determined to be ND or DNQ, the corresponding mass emission rate determined from that sample concentration shall also be reported as ND or DNQ.

ATTACHMENT A – DEFINITIONS

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

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Minimum Level (ML)
ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

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

Not Detected (ND)
Sample results which are less than the laboratory's MDL.

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

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

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

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

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

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

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

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

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

where:

x is the observed value;

μ is the arithmetic mean of the observed values; and

n is the number of samples.

Toxicity Reduction Evaluation (TRE)

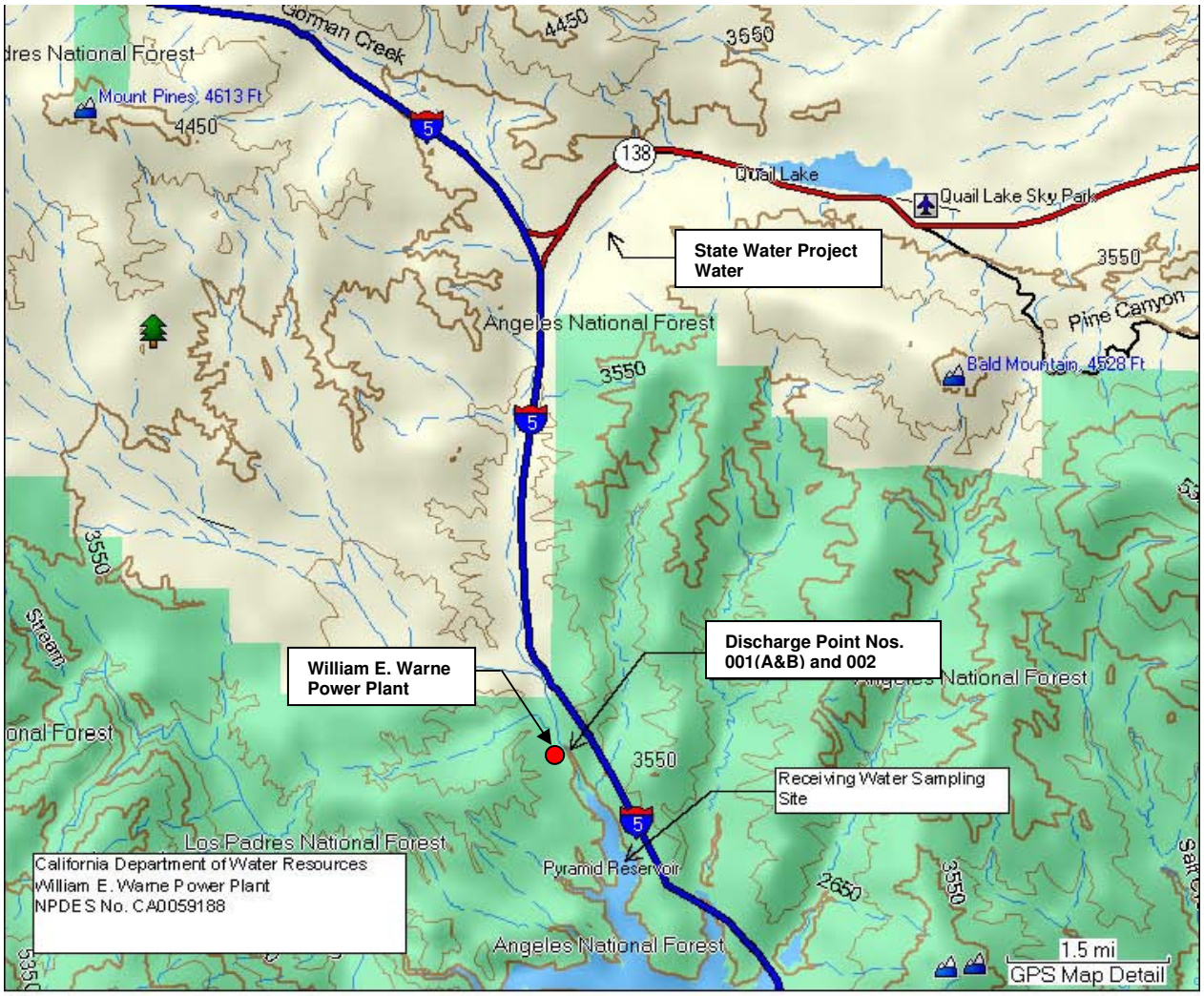
TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection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

ACRONYMS AND ABBREVIATIONS

AMEL	Average Monthly Effluent Limitation
B	Background Concentration
BAT	Best Available Technology Economically Achievable
Basin Plan	*Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*
BCT	Best Conventional Pollutant Control Technology
BMP	Best Management Practices
BMPPP	Best Management Practices Plan
BPJ	Best Professional Judgment
BOD	Biochemical Oxygen Demand 5-day @ 20 ℃
BPT	Best Practicable Treatment Control Technology
C	Water Quality Objective
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CTR	California Toxics Rule
CV	Coefficient of Variation
CWA	Clean Water Act
CWC	California Water Code
Discharger	California Department of Water Resources
DMR	Discharge Monitoring Report
DNQ	Detected But Not Quantified
ELAP	California Department of Public Health Environmental Laboratory Accreditation Program
ELG	Effluent Limitations, Guidelines and Standards
Facility	William E. Warne Power Plant
gpd	gallons per day
IC	Inhibition Coefficient
IC_{15}	Concentration at which the organism is 15% inhibited
IC_{25}	Concentration at which the organism is 25% inhibited
IC_{40}	Concentration at which the organism is 40% inhibited
IC_{50}	Concentration at which the organism is 50% inhibited
LA	Load Allocations
LOEC	Lowest Observed Effect Concentration
µg/L	micrograms per Liter
mg/L	milligrams per Liter
MDEL	Maximum Daily Effluent Limitation
MEC	Maximum Effluent Concentration
MGD	Million Gallons Per Day
ML	Minimum Level
MRP	Monitoring and Reporting Program
ND	Not Detected
NOEC	No Observable Effect Concentration
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standards

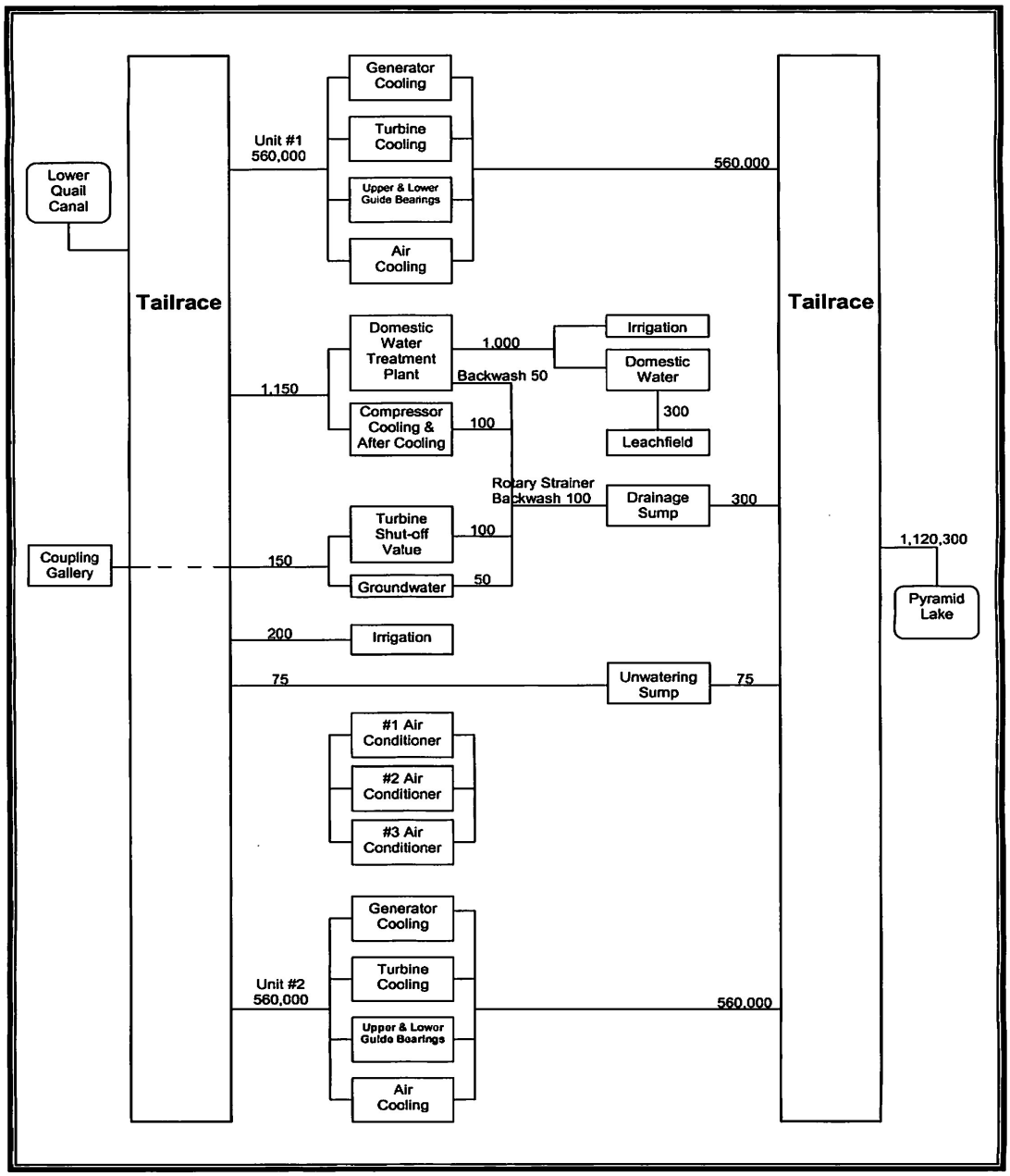
NTR	National Toxics Rule
OAL	Office of Administrative Law
PMEL	Proposed Maximum Daily Effluent Limitation
PMP	Pollutant Minimization Plan
POTW	Publicly Owned Treatment Works
QA	Quality Assurance
QA/QC	Quality Assurance/Quality Control
Ocean Plan	*Water Quality Control Plan for Ocean Waters of California*
Regional Water Board	California Regional Water Quality Control Board, Los Angeles Region
RPA	Reasonable Potential Analysis
SCP	Spill Contingency Plan
SIP	State Implementation Policy (*Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California)*
SMR	Self Monitoring Reports
State Water Board	California State Water Resources Control Board
SWPPP	Storm Water Pollution Prevention Plan
TAC	Test Acceptability Criteria
Thermal Plan	*Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California*
TIE	Toxicity Identification Evaluation
TMDL	Total Maximum Daily Load
TOC	Total Organic Carbon
TRE	Toxicity Reduction Evaluation
TSD	Technical Support Document
TSS	Total Suspended Solid
TU_c	Chronic Toxicity Unit
USEPA	United States Environmental Protection Agency
WDR	Waste Discharge Requirements
WET	Whole Effluent Toxicity
WLA	Waste Load Allocations
WQBELs	Water Quality-Based Effluent Limitations
WQS	Water Quality Standards
%	Percent

ATTACHMENT B – MAP



ATTACHMENT C – FLOW SCHEMATIC

William E. Warne Power Plant, Schematic of Average Daily Water Flows in gallons per day (gpd)



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

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

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

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges [section 122.41(g)].

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations [section 122.5(c)].

F. Inspection and Entry

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

1. Enter upon the Discharger's premises where a regulated Facility or activity is located or conducted, or where records are kept under the conditions of this Order [section 122.41(i)(1)];

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order [section 122.41(i)(2)];

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order [section 122.41(i)(3)]; and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location [section 122.41(i)(4)].

G. Bypass

1. Definitions

i. "Bypass" means the intentional diversion of waste streams from any portion of a treatment Facility [section 122.41(m)(1)(i)].

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

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

3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless [section 122.41(m)(4)(i)]:

a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage [section 122.41(m)(4)(i)(A)];

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

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

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

5. Notice

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

b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice) [section 122.41(m)(3)(ii)].

H. Upset

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

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

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

a. An upset occurred and that the Discharger can identify the cause(s) of the upset [section 122.41(n)(3)(i)];

b. The permitted Facility was, at the time, being properly operated [section 122.41(n)(3)(ii)];

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

d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above [section 122.41(n)(3)(iv)].

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof [section 122.41(n)(4)].

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit [section 122.41(b)].

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity [section 122.41(j)(1)].

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

IV. STANDARD PROVISIONS – RECORDS

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

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements [section 122.41(j)(3)(i)];

2. The individual(s) who performed the sampling or measurements [section 122.41(j)(3)(ii)];

3. The date(s) analyses were performed [section 122.41(j)(3)(iii)];

4. The individual(s) who performed the analyses [section 122.41(j)(3)(iv)];

5. The analytical techniques or methods used [section 122.41(j)(3)(v)]; and

6. The results of such analyses [section 122.41(j)(3)(vi)].

C. Claims of confidentiality for the following information will be denied [section 122.7(b)]:

1. The name and address of any permit applicant or Discharger [section 122.7(b)(1)]; and

2. Permit applications and attachments, permits and effluent data [section 122.7(b)(2)].

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance

with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order [section 122.41(h)] [Water Code section 13267].

B. Signatory and Certification Requirements

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

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

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

a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above [section 122.22(b)(1)];

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

c. The written authorization is submitted to the Regional Water Board and State Water Board [section 122.22(b)(3)].

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

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

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." [section 122.22(d)].

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order [section 122.22(l)(4)].

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

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

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order [section 122.41(l)(4)(iii)].

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

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

2. The following shall be included as information that must be reported within 24 hours under this paragraph [section 122.41(l)(6)(ii)]:

a. Any unanticipated bypass that exceeds any effluent limitation in this Order [section 122.41(l)(6)(ii)(A)].

b. Any upset that exceeds any effluent limitation in this Order [section 122.41(l)(6)(ii)(B)].

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

F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted Facility. Notice is required under this provision only when [section 122.41(l)(1)]:

1. The alteration or addition to a permitted Facility may meet one of the criteria for determining whether a Facility is a new source in section 122.29(b) [section 122.41(l)(1)(i)]; or

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

The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under section 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1) [section 122.41(l)(1)(ii)].

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted Facility or activity that may result in noncompliance with General Order requirements [section 122.41(l)(2)].

H. Other Noncompliance

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

I. Other Information

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

VI. STANDARD PROVISIONS – ENFORCEMENT

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

B. The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation. The CWA provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions [*section 122.41(a)(2)*] [*Water Code sections 13385 and 13387*].

C. Any person may be assessed an administrative penalty by the Regional Water Board for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit

condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000 [*section 122.41(a)(3)*].

D. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both [*section 122.41(j)(5)*].

E. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both [*section 122.41(k)(2)*].

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the Regional Water Board as soon as they know or have reason to believe [section 122.42(a)]:

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" [section 122.42(a)(1)]:

a. 100 micrograms per liter (µg/L) [section 122.42(a)(1)(i)];

b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony [section 122.42(a)(1)(ii)];

c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [section 122.42(a)(1)(iii)]; or

d. The level established by the Regional Water Board in accordance with section 122.44(f) [section 122.42(a)(1)(iv)].

2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order,

if that discharge will exceed the highest of the following “notification levels" [section 122.42(a)(2)]:

a. 500 micrograms per liter (µg/L) [section 122.42(a)(2)(i)];

b. 1 milligram per liter (mg/L) for antimony [section 122.42(a)(2)(ii)];

c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [section 122.42(a)(2)(iii)]; or

d. The level established by the Regional Water Board in accordance with section 122.44(f) [section 122.42(a)(2)(iv)].

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP NO. 6610)

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP) NO. 6610

The Code of Federal Regulations section 122.48 requires that all NPDES permits specify monitoring and reporting requirements. Water Code Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. An effluent sampling station shall be established for the points of discharge (Discharge Point No. 001(A&B) and 002, co-located at latitude 34°41'06", longitude 118°47'16") and shall be located where representative samples of that effluent can be obtained.

B. Effluent samples shall be taken downstream of any addition to treatment works and prior to mixing with the receiving waters.

C. The Regional Water Board shall be notified in writing of any change in the sampling stations once established or in the methods for determining the quantities of pollutants in the individual waste streams.

D. Pollutants shall be analyzed using the analytical methods described in sections 136.3, 136.4, and 136.5 (revised March 12, 2007); or, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board.

Laboratories analyzing effluent samples and receiving water samples shall be certified by the California Department of Public Health Environmental Laboratory Accreditation Program (ELAP) or approved by the Executive Officer and must include quality assurance/quality control (QA/QC) data in their reports. A copy of the laboratory certification shall be provided each time a new certification and/or renewal of the certification is obtained from ELAP.

E. For any analyses performed for which no procedure is specified in the USEPA guidelines or in the MRP, the constituent or parameter analyzed and the method or procedure used must be specified in the monitoring report.

F. Each monitoring report must affirm in writing that "all analyses were conducted at a laboratory certified for such analyses by the Department of Public Health or approved by the Executive Officer and in accordance with current USEPA guideline procedures or as specified in this MRP".

G. The monitoring reports shall specify the analytical method used, the Method Detection Limit (MDL), and the Minimum Level (ML) for each pollutant. For the purpose of reporting compliance with numerical limitations, performance goals, and receiving water limitations, analytical data shall be reported by one of the following methods, as appropriate:

1. An actual numerical value for sample results greater than or equal to the ML; or

2. "Detected, but Not Quantified (DNQ)" if results are greater than or equal to the laboratory's MDL but less than the ML. The estimated chemical concentration of the sample shall also be reported; or,

3. "Not-Detected (ND)" for sample results less than the laboratory's MDL with the MDL indicated for the analytical method used.

Analytical data reported as "less than" for the purpose of reporting compliance with permit limitations shall be the same or lower than the permit limit(s) established for the given parameter.

Current MLs (Attachment H) are those published by the State Water Board in the *Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, February 24, 2005.

H. Where possible, the MLs employed for effluent analyses shall be lower than the permit limitations established for a given parameter. If the ML value is not below the effluent limitation, then the lowest ML value and its associated analytical method shall be selected for compliance purposes. At least once a year, the Discharger shall submit a list of the analytical methods employed for each test and associated laboratory QA/QC procedures.

The Regional Water Board, in consultation with the State Water Board Quality Assurance Program, shall establish a ML that is not contained in Attachment H to be included in the Discharger's permit in any of the following situations:

1. When the pollutant under consideration is not included in Attachment H;

2. When the Discharger and Regional Water Board agree to include in the permit a test method that is more sensitive than that specified in 40 CFR Part 136 (revised March 12, 2007);

3. When the Discharger agrees to use an ML that is lower than that listed in Attachment H;

4. When the Discharger demonstrates that the calibration standard matrix is sufficiently different from that used to establish the ML in Attachment H, and proposes an appropriate ML for their matrix; or,

5. When the Discharger uses a method whose quantification practices are not consistent with the definition of an ML. Examples of such methods are the USEPA-approved method 1613 for dioxins and furans, method 1624 for volatile organic substances, and method 1625 for semi-volatile organic substances. In such cases, the Discharger, the Regional Water Board, and the State Water Board shall agree

on a lowest quantifiable limit and that limit will substitute for the ML for reporting and compliance determination purposes.

I. Water/wastewater samples must be analyzed within allowable holding time limits as specified in section 136.3. All QA/QC items must be run on the same dates the samples were actually analyzed, and the results shall be reported in the Regional Water Board format, when it becomes available, and submitted with the laboratory reports. Proper chain of custody procedures must be followed, and a copy of the chain of custody shall be submitted with the report.

J. All analyses shall be accompanied by the chain of custody, including but not limited to data and time of sampling, sample identification, and name of person who performed sampling, date of analysis, name of person who performed analysis, QA/QC data, method detection limits, analytical methods, copy of laboratory certification, and a perjury statement executed by the person responsible for the laboratory.

K. The Discharger shall calibrate and perform maintenance procedures on all monitoring instruments and to insure accuracy of measurements, or shall insure that both equipment activities will be conducted.

L. The Discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. The annual monitoring report required in Section X.D.3 shall also summarize the QA activities for the previous year. Duplicate chemical analyses must be conducted on a minimum of ten percent (10%) of the samples, or at least one sample per sampling period, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples.

M. When requested by the Regional Water Board or USEPA, the Discharger will participate in the NPDES discharge monitoring report QA performance study. The Discharger must have a success rate equal to or greater than 80%.

N. For parameters that both average monthly and daily maximum limits are specified and the monitoring frequency is less than four times a month, the following shall apply. If an analytical result is greater than the average monthly limit, the Discharger shall collect four additional samples at approximately equal intervals during the month, until compliance with the average monthly limit has been demonstrated. All five analytical results shall be reported in the monitoring report for that month, or 45 days after results for the additional samples were received, whichever is later. In the event of noncompliance with an average monthly effluent limitation, the sampling frequency for that constituent shall be increased to weekly and shall continue at this level until compliance with the average monthly effluent limitation has been demonstrated. The Discharger shall provide for the approval of the Executive Officer a program to ensure future compliance with the average monthly limit.

O. In the event wastes are transported to a different disposal site during the report period, the following shall be reported in the monitoring report:

1. Types of wastes and quantity of each type;

2. Name and address for each hauler of wastes (or method of transport if other than by hauling); and

3. Location of the final point(s) of disposal for each type of waste.

If no wastes are transported off-site during the reporting period, a statement to that effect shall be submitted.

P. Each monitoring report shall state whether or not there was any change in the discharge as described in the Order during the reporting period.

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
--	INF-001	A location where a representative sample of intake water can be obtained at Penstock Pipeline prior to entry into the Facility.
001(A&B)	EFF-001(A&B)	A location where a representative sample of effluent can be obtained from Discharge Point No. 001(A&B) prior to entry into the power plant tailrace to Pyramid Lake.
002	EFF-002	A location where a representative sample of effluent can be obtained from Discharge Point No. 002 prior to entry into the power plant tailrace to Pyramid Lake.
--	RSW-001	A location where a representative sample of receiving water can be obtained at Pyramid Lake Inlet.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

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

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	s.u.	Grab	Quarterly	[2]
Temperature	deg. F	Grab	Quarterly	[2]
Total Suspended Solids (TSS)	mg/L	Grab	Quarterly	[2]
Turbidity[1]	NTU	Grab[1]	Monthly	[2]
Oil and Grease	mg/L	Grab	Quarterly	[2]
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)	mg/L	Grab	Quarterly	[2]
Specific Conductance	µmhos/cm	Grab	Quarterly	[2]
Ammonia (as N)	mg/L	Grab	Quarterly	[2]
Copper, Total Recoverable	µg/L	Grab	Quarterly	[2]
Lead, Total Recoverable	µg/L	Grab	Quarterly	[2]
Mercury, Total Recoverable[1]	µg/L	Grab[1]	Monthly	[2]
Zinc, Total Recoverable	µg/L	Grab	Quarterly	[2]
Asbestos[1]	fibers/L	Grab[1]	Quarterly	[2]
Bromoform	µg/L	Grab	Quarterly	[2]
Chlorodibromomethane	µg/L	Grab	Quarterly	[2]
Dichlorobromomethane	µg/L	Grab	Quarterly	[2]
Tetrachloroethylene	µg/L	Grab	Quarterly	[2]
TCDD Equivalents[1,3]	pg/L	Grab[1]	Quarterly	[2]
Remaining Priority Pollutants[4]	µg/L	Grab	Annually	[2]

[1] Intake water credits are provided for these constituents. Sampling location and timing of intake water and effluent shall be designed so that the intake water samples directly correspond to the effluent samples. The sampling protocol shall reflect the travel time of water in the Facility and detect any facility contributions to the discharge.

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

[3] TCDD equivalents shall be calculated using the following formula, where the Minimum Levels (MLs), toxicity equivalency factors (TEFs), and bioaccumulation equivalency factors (BEFs) are as provided in the table below. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating TCDD equivalents, the Discharger shall set congener concentrations below the minimum levels to zero. USEPA method 1613 may be used to analyze dioxin and furan congeners.

$$\text{TCDD equivalents} = \Sigma (C_x \times TEF_x \times BEF_x)$$

where:

C_x = concentration of dioxin or furan congener x
TEF_x = TEF for congener x
BEF_x = BEF for congener x

Dioxin or Furan Congener	Minimum Level (pg/L)	Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8-TCDD	10	1.0	1.0
1,2,3,7,8-PeCDD	50	1.0	0.9
1,2,3,4,7,8-HxCDD	50	0.1	0.3
1,2,3,6,7,8-HxCDD	50	0.1	0.1
1,2,3,7,8,9-HxCDD	50	0.1	0.1
1,2,3,4,6,7,8-HpCDD	50	0.01	0.05
OCDD	100	0.0001	0.01
2,3,7,8-TCDF	10	0.1	0.8
1,2,3,7,8-PeCDF	50	0.05	0.2
2,3,4,7,8-PeCDF	50	0.5	1.6
1,2,3,4,7,8-HxCDF	50	0.1	0.08
1,2,3,6,7,8-HxCDF	50	0.1	0.2
1,2,3,7,8,9-HxCDF	50	0.1	0.6
2,3,4,6,7,8-HxCDF	50	0.1	0.7
1,2,3,4,6,7,8-HpCDF	50	0.01	0.01
1,2,3,4,7,8,9-HpCDF	50	0.01	0.4
OCDF	100	0.0001	0.02

[4] Priority Pollutants as defined by the California Toxics Rule (CTR) defined in Finding II.J of the Limitations and Discharge Requirements of this Order, and included as Attachment I. All metals shall be reported as total recoverable.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations EFF-001(A&B)

1. The Discharger shall monitor discharge of non-contact, once-through cooling water at EFF-001(A&B) as follows. The Discharger shall conduct monitoring on a composite sample consisting of two flow-weighted grab samples from two discharges from Units 1 and 2, respectively, if discharges from two Units occurred concurrently at the sampling time.

Table E-3a. Effluent Monitoring—Discharge Point No. 001(A&B)

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow Rate (total)	gpd	--	Daily	--
Turbidity[1]	NTU	Grab[1]	Monthly	[2]
pH	s.u.	Grab	Monthly	[2]
Temperature	deg. F	Grab	Monthly	[2]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Dissolved Oxygen	mg/L	Grab	Monthly	[2]
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)	mg/L	Grab	Monthly	[2]
Settleable Solids	ml/L	Grab	Quarterly	[2]
Total Suspended Solids	mg/L	Grab	Quarterly	[2]
Oil and Grease	mg/L	Grab	Quarterly	[2]
Hardness	mg/L $CaCO_3$	Grab	Quarterly	[2]
Specific Conductance	µmhos/cm	Grab	Quarterly	[2]
Ammonia (as N)	mg/L	Grab	Quarterly	[2]
Copper, Total Recoverable	µg/L	Grab	Monthly	[2]
Mercury, Total Recoverable[1]	µg/L	Grab[1]	Monthly	[2]
Asbestos[1]	fibers/L	Grab[1]	Quarterly	[2]
TCDD Equivalents[1,3]	ρg/L	Grab[1]	Quarterly	[2]
Acute Toxicity	% survival	Grab	Annually	[2]
Chronic Toxicity	TUc	Grab	Annually	[2]
Polychlorinated Biphenyls (PCBs)[4]	µg/L	Grab	Semiannually	[2]
Remaining Priority Pollutants[5]	µg/L	Grab	Semiannually	[2]

[1] Intake water credits are provided for these constituents. Sampling location and timing of intake water and effluent shall be designed so that the intake water samples directly correspond to the effluent samples. The sampling protocol shall reflect the travel time of water in the Facility and detect any facility contributions to the discharge.

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

[3] TCDD equivalents shall be calculated using the following formula, where the Minimum Levels (MLs), toxicity equivalency factors (TEFs), and bioaccumulation equivalency factors (BEFs) are as provided in the table below. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating TCDD equivalents, the Discharger shall set congener concentrations below the minimum levels to zero. USEPA method 1613 may be used to analyze dioxin and furan congeners.

$$\text{TCDD equivalents} = \Sigma (C_x \times TEF_x \times BEF_x)$$

where:

C_x = concentration of dioxin or furan congener x

TEF_x = TEF for congener x

BEF_x = BEF for congener x

Dioxin or Furan Congener	Minimum Level (pg/L)	Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8-TCDD	10	1.0	1.0
1,2,3,7,8-PeCDD	50	1.0	0.9

Dioxin or Furan Congener	Minimum Level (pg/L)	Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
1,2,3,4,7,8-HxCDD	50	0.1	0.3
1,2,3,6,7,8-HxCDD	50	0.1	0.1
1,2,3,7,8,9-HxCDD	50	0.1	0.1
1,2,3,4,6,7,8-HpCDD	50	0.01	0.05
OCDD	100	0.0001	0.01
2,3,7,8-TCDF	10	0.1	0.8
1,2,3,7,8-PeCDF	50	0.05	0.2
2,3,4,7,8-PeCDF	50	0.5	1.6
1,2,3,4,7,8-HxCDF	50	0.1	0.08
1,2,3,6,7,8-HxCDF	50	0.1	0.2
1,2,3,7,8,9-HxCDF	50	0.1	0.6
2,3,4,6,7,8-HxCDF	50	0.1	0.7
1,2,3,4,6,7,8-HpCDF	50	0.01	0.01
1,2,3,4,7,8,9-HpCDF	50	0.01	0.4
OCDF	100	0.0001	0.02

[4] PCBs sum refers to sum of PCB Aroclors 1016, 1221, 1232, 1242, 1248, 1254, and 1260.

[5] Priority Pollutants as defined by the California Toxics Rule (CTR) defined in Finding II.J of the Limitations and Discharge Requirements of this Order, and included as Attachment I. All metals shall be reported as total recoverable.

B. Monitoring Location EFF-002

1. The Discharger shall monitor discharge of sump discharge water at EFF-002 as follows:

Table E-3b. Effluent Monitoring—Discharge Point No. 002

Parameter	Units	Sample Type[1]	Minimum Sampling Frequency	Required Analytical Test Method
Flow, Rate	gpd	--	Daily	[2]
Flow, Duration	hours, days	--	--	[2]
Turbidity[1]	NTU	Grab[1]	Monthly	[2]
Chlorine, Total Residual	mg/L	Grab	Monthly	[2]
pH	s.u.	Grab	Monthly	[2]
Temperature	deg. F	Grab	Monthly	[2]
Dissolved Oxygen	mg/L	Grab	Monthly	[2]
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)	mg/L	Grab	Monthly	[2]
Settleable Solids	ml/L	Grab	Quarterly	[2]
Total Suspended Solids	mg/L	Grab	Quarterly	[2]
Oil and Grease	mg/L	Grab	Quarterly	[2]

Parameter	Units	Sample Type[1]	Minimum Sampling Frequency	Required Analytical Test Method
Hardness	mg/L $CaCO_3$	Grab	Quarterly	[2]
Specific Conductance	µmhos/cm	Grab	Quarterly	[2]
Ammonia (as N)	mg/L	Grab	Quarterly	[2]
Copper, Total Recoverable	µg/L	Grab	Monthly	[2]
Lead, Total Recoverable	µg/L	Grab	Monthly	[2]
Zinc, Total Recoverable	µg/L	Grab	Monthly	[2]
Bromoform	µg/L	Grab	Monthly	[2]
Chlorodibromomethane	µg/L	Grab	Monthly	[2]
Dichlorobromomethane	µg/L	Grab	Monthly	[2]
Tetrachloroethylene	µg/L	Grab	Monthly	[2]
TCDD Equivalents[3]	ρg/L	Grab[1]	Quarterly	[2]
Acute Toxicity	% survival	Grab	Annually	[2]
Chronic Toxicity	TUc	Grab	Annually	[2]
Polychlorinated Biphenyls (PCBs)[4]	µg/L	Grab	Semiannually	[2]
Remaining Priority Pollutants[5]	µg/L	Grab	Semiannually	[2]

1 Intake water credits are provided for these constituents. Sampling location and timing of intake water and effluent shall be designed so that the intake water samples directly correspond to the effluent samples. The sampling protocol will reflect the travel time of water in the Facility and detect any facility contributions to the discharge.

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

3 TCDD equivalents shall be calculated using the following formula, where the Minimum Levels (MLs), toxicity equivalency factors (TEFs), and bioaccumulation equivalency factors (BEFs) are as provided in the table below. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating TCDD equivalents, the Discharger shall set congener concentrations below the minimum levels to zero. USEPA method 1613 may be used to analyze dioxin and furan congeners.

$$\text{TCDD equivalents} = \Sigma (C_x \times TEF_x \times BEF_x)$$

where:

C_x = concentration of dioxin or furan congener x

TEF_x = TEF for congener x

BEF_x = BEF for congener x

Dioxin or Furan Congener	Minimum Level (pg/L)	Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8-TCDD	10	1.0	1.0
1,2,3,7,8-PeCDD	50	1.0	0.9
1,2,3,4,7,8-HxCDD	50	0.1	0.3
1,2,3,6,7,8-HxCDD	50	0.1	0.1

Dioxin or Furan Congener	Minimum Level (pg/L)	Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
1,2,3,7,8,9-HxCDD	50	0.1	0.1
1,2,3,4,6,7,8-HpCDD	50	0.01	0.05
OCDD	100	0.0001	0.01
2,3,7,8-TCDF	10	0.1	0.8
1,2,3,7,8-PeCDF	50	0.05	0.2
2,3,4,7,8-PeCDF	50	0.5	1.6
1,2,3,4,7,8-HxCDF	50	0.1	0.08
1,2,3,6,7,8-HxCDF	50	0.1	0.2
1,2,3,7,8,9-HxCDF	50	0.1	0.6
2,3,4,6,7,8-HxCDF	50	0.1	0.7
1,2,3,4,6,7,8-HpCDF	50	0.01	0.01
1,2,3,4,7,8,9-HpCDF	50	0.01	0.4
OCDF	100	0.0001	0.02

[4] PCBs sum refers to sum of PCB Aroclors 1016, 1221, 1232, 1242, 1248, 1254, and 1260.

[5] Priority Pollutants as defined by the California Toxics Rule (CTR) defined in Finding II.J of the Limitations and Discharge Requirements of this Order, and included as Attachment I. All metals shall be reported as total recoverable.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity

1. Definition of Acute Toxicity.

   Acute toxicity is a measure of primarily lethal effects that occur over a 96-hour period. Acute toxicity shall be measured in percent survival measured in undiluted (100%) effluent.

   a The average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, and

   b. No single test shall produce less than 70% survival.

2. Acute Toxicity Effluent Monitoring Program

   a. Method. The Discharger shall conduct acute toxicity tests on 100% effluent grab samples, generally by methods specified in 40 CFR Part 136 which cites USEPA's *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition, October 2002, USEPA, Office of Water, Washington D.C. (EPA/821/R-02/012) or a more recent edition to ensure compliance. Effluent samples shall be collected after all treatment processes and before discharge to the receiving water.

   b. Test Species. The fathead minnow, *Pimephales promelas* (Acute Toxicity Test Method 2000.0), shall be used as the test species for fresh water discharges and

the topsmelt, *Atherinops affinis*, shall be used as the test species for brackish effluent. However, if the salinity of the receiving water is between 1 to 32 parts per thousand (ppt), the Discharger may have the option of using the inland silverslide, *Menidia beryllina* (Acute Toxicity Test Method 2006.0), instead of the topsmelt. The method for topsmelt (Larval Survival and Growth Test Method 1006.0) is found in USEPA's *Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms, First Edition, August 1995* (EPA/600/R-95/136).

c. Alternate Reporting. For the acute toxicity testing with topsmelt , the Discharger may elect to report the results or endpoint from the first 96 hours of the chronic toxicity test as the results of the acute toxicity test, using USEPA's August 1995 method (EPA/600/R-95/136) to conduct the chronic toxicity test.

d. Acute Toxicity Accelerated Monitoring**.** If either of the above requirements (sections 1.a and 1.b) is not met, the Discharger shall conduct six additional tests, approximately every two weeks, over a 12-week period. The Discharger shall ensure that they receive results of a failing toxicity test within 24 hours of the close of the test and the additional tests shall begin within 5 business days of the receipt of the result. If the additional tests indicate compliance with the toxicity limitation, the Discharger may resume regular testing.

e. Toxicity Identification Evaluation (TIE).

i. If the results of any two of the six accelerated tests are less than 90% survival, then the Discharger shall immediately begin a Toxicity Identification Evaluation (TIE) and implement the Initial Investigation Toxicity Reduction Evaluation (TRE) workplan. The TIE shall include all reasonable steps to identify the sources of toxicity. Once the sources are identified, the Discharger shall take all reasonable steps to reduce toxicity to meet the objective.

ii. If the initial test and any of the additional six acute toxicity bioassay tests results are less than 70% survival, the Discharger shall immediately begin a Toxicity Identification Evaluation (TIE) and implement Initial Investigation Toxicity Reduction Evaluation (TRE) workplan. Once the sources are identified the Discharger shall take all reasonable steps to reduce toxicity to meet the requirements.

B. Chronic Toxicity.

1. Definition of Chronic Toxicity**.**

Chronic toxicity measures a sublethal effect (e.g., reduced growth, reproduction) to experimental test organisms exposed to an effluent or ambient waters compared to that of the control organisms. Chronic toxicity shall be measured in TU_c, where TU_c = 100/NOEC. The No Observable Effect Concentration (NOEC) is expressed as the

maximum percent effluent concentration that causes no observable effect on test organisms, as determined by the results of a critical life stage toxicity test.

This Order includes a chronic toxicity trigger defined as an exceedance of 1.0 TU_c in a critical life stage test for 100% effluent. (The monthly median for chronic toxicity of 100% effluent shall not exceed, 1 TU_c in a critical life stage test.)

2. Chronic Toxicity Effluent Monitoring Program

a. Test Species and Methods:

i. The Discharger shall conduct critical life stage chronic toxicity tests on 100% effluent grab samples. For freshwater discharge, the Discharger shall conduct the chronic toxicity test in accordance with USEPA's *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition, October 2002 (EPA/821/R-02/013) or a more recent edition. For brackish effluent, the Discharger shall conduct the chronic toxicity test in accordance with USEPA's *Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms, First Edition, August 1995* (EPA/600/R-95/136) or *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, Third Edition, October 2002, (EPA/821/R-02/014), or a more recent edition.

ii. The Discharger shall conduct tests as follows: with a vertebrate, an invertebrate, and a plant for the first three suites of tests. After the screening period, monitoring shall be conducted using the most sensitive species.

iii. The Discharger shall conduct the first chronic toxicity test screening for three consecutive months in the first required chronic toxicity testing. Re-screening is required every 5 years. The Discharger shall rescreen with the three species listed above and continue to monitor with the most sensitive species. If the first suite of re-screening tests demonstrates that the same species is the most sensitive then re-screening does not need to include more than one suite of tests. If a different species is the most sensitive or if there is ambiguity then the Discharger shall proceed with suites of screening tests for a minimum of three, but not to exceed five suites.

iv. In brackish waters, the presence of chronic toxicity may be estimated as specified using West Coast marine organisms according to USEPA's *Short-Term Methods for Estimating Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms*, August 1995 (EPA/600/R-95/136), or a more recent edition.

v. After the screening period, monitoring shall be conducted annually using the most sensitive species.

vi. Effluent samples shall be collected after all treatment processes and before discharge to the receiving water.

b. Chronic Toxicity Accelerated Monitoring.

If the chronic toxicity of the effluent exceeds the monthly trigger median of 1.0 TU_c, the Discharger shall conduct six additional tests, approximately every two weeks, over a 12-week period. The Discharger shall ensure that they receive results of a failing chronic toxicity test within 24 hours of the completion of the test and the additional tests shall begin within 5 business days of the receipt of the result.

i. If any three out of the initial test and the six additional tests results exceed 1.0 TU_c, the Discharger shall immediately implement the Initial Investigation TRE workplan.

ii. If implementation of the initial investigation TRE workplan indicates the source of toxicity (e.g., a temporary plant upset, etc.), then the Discharger shall return to the normal sampling frequency required in this MRP.

iii. If all of the six additional tests required above do not exceed 1 TU_c, then the Discharger may return to the normal sampling frequency.

iv. If a TRE/TIE is initiated prior to completion of the accelerated testing schedule required, then the accelerated testing schedule may be terminated, or used as necessary in performing the TRE/TIE, as determined by the Executive Officer.

C. Quality Assurance

1. Concurrent testing with a reference toxicant shall be conducted. Reference toxicant tests shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc).

2. If either the reference toxicant test or effluent test does not meet all test acceptability criteria (TAC) as specified in the test methods manuals (EPA/600/4-91/002 and/or EPA/821-R-02-014), then the Discharger must re-sample and re-test at the earliest time possible.

3. Control and dilution water should be receiving water (if non-toxic) or laboratory water, as appropriate, as described in the manual. If the dilution water used is different from the water the test species are grown in (culture water), a second control using culture water shall be used.

D. Preparation of an Initial Investigation TRE Workplan

The Discharger shall prepare and submit a copy of the Discharger's initial investigation Toxicity Reduction Evaluation (TRE) workplan to the Executive Officer of the Regional Water Board for approval within **90 days** of the effective date of this permit. If the

Executive Officer does not disapprove the workplan within 60 days, the workplan shall become effective. The Discharger shall use USEPA manuals EPA/600/2-88/070 (industrial) or EPA/833B-99/002 (municipal) as guidance. This workplan shall describe the steps the Discharger intends to follow if toxicity is detected, and should include, at a minimum:

1. A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.

2. A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in the operation of the facility; and,

3. If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor). See MRP Section V.E.3. for guidance manuals.

E. Steps in Toxicity Reduction Evaluation (TRE) and Toxicity Identification Evaluation (TIE)

1. If results of the implementation of the facility's initial investigation TRE workplan indicate the need to continue the TRE/TIE, the Discharger shall expeditiously develop a more detailed TRE workplan for submittal to the Executive Officer within 30 days of completion of the initial investigation TRE. The detailed workplan shall include, but not be limited to:

   a. Further actions to investigate and identify the cause of toxicity;

   b. Actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and

   c. A schedule for these actions.

2. The following section summarizes the stepwise approach used in conducting the TRE:

   a. Step 1 includes basic data collection. Data collected for the accelerated monitoring requirements may be used to conduct the TRE;

   b. Step 2 evaluates optimization of the treatment system operation, facility housekeeping, and selection and use of in-plant process chemicals;

   c. If Steps 1 and 2 are unsuccessful, Step 3 implements a Toxicity Identification Evaluation (TIE) and employment of all reasonable efforts using currently available TIE methodologies. The objective of the TIE shall be to identify the substance or combination of substances causing the observed toxicity;

d. Assuming successful identification or characterization of the toxicant(s), Step 4 evaluates final effluent treatment options;

e. Step 5 evaluates in-plant treatment options; and

f. Step 6 consists of confirmation once a toxicity control method has been implemented.

Many recommended TRE elements parallel source control, pollution prevention, and storm water control program best management practices (BMPs). To prevent duplication of efforts, evidence of compliance with those requirements may be sufficient to comply with TRE requirements. By requiring the first steps of a TRE to be accelerated testing and review of the facility's TRE workplan, a TRE may be ended in its early stages. All reasonable steps shall be taken to reduce toxicity to the required level. The TRE may be ended at any stage if monitoring indicates there are no longer toxicity (or six consecutive chronic toxicity test results are less than or equal to 1.0 TU_c or six consecutive acute toxicity test results are greater than 90% survival).

3. The Discharger shall initiate a TIE as part of the TRE process to identify the cause(s) of toxicity. The Discharger shall use the USEPA acute manual, chronic manual, EPA/600/6-91/005F (Phase I)/EPA/600/R-96-054 (for marine), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III), as guidance.

4. If a TRE/TIE is initiated prior to completion of the accelerated testing required in Section V.A.2.d and V.B.2.b. of this program, then the accelerated testing schedule may be terminated, or used as necessary in performing the TRE/TIE, as determined by the Executive Officer .

5. Toxicity tests conducted as part of a TRE/TIE may also be used for compliance determination, if appropriate.

6. The Regional Water Board recognizes that toxicity may be episodic and identification of causes of and reduction of sources of 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.

F. Ammonia Removal

1. Except with prior approval from the Executive Officer of the Regional Water Board, ammonia shall not be removed from bioassay samples. The Discharger must demonstrate the effluent toxicity is caused by ammonia *because of* increasing test pH when conducting the toxicity test. It is important to distinguish the potential toxic effects of ammonia from other pH sensitive chemicals, such as certain heavy metals, sulfide, and cyanide. The following may be steps to demonstrate that the toxicity is caused by ammonia and not other toxicants before the Executive Officer would allow for control of pH in the test.

a. There is consistent toxicity in the effluent and the maximum pH in the toxicity test is in the range to cause toxicity due to increased pH.

b. Chronic ammonia concentrations in the effluent are greater than 4 mg/L total ammonia.

c. Conduct graduated pH tests as specified in the toxicity identification evaluation methods. For example, mortality should be higher at pH 8 and lower at pH 6.

d. Treat the effluent with a zeolite column to remove ammonia. Mortality in the zeolite treated effluent should be lower than the non-zeolite treated effluent. Then add ammonia back to the zeolite-treated samples to confirm toxicity due to ammonia.

2. When it has been demonstrated that toxicity is due to ammonia because of increasing test pH, pH may be controlled using appropriate procedures which do not significantly alter the nature of the effluent, after submitting a written request to the Regional Water Board, and receiving written permission expressing approval from the Executive Officer of the Regional Water Board.

G. Reporting

The Discharger shall submit a full report of the toxicity test results, including any accelerated testing conducted during the month as required by this permit. Test results shall be reported as % survival for acute toxicity test results and as TU_c for chronic toxicity test results with the self monitoring reports (SMR) for the month in which the test is conducted. If an initial investigation indicates the source of toxicity and accelerated testing is unnecessary, then those results also shall be submitted with the SMR for the period in which the Investigation occurred.

If an initial investigation indicates the source of toxicity and accelerated testing is unnecessary, pursuant to Sections V.A.2.d. and V.B.2.b., then those results also shall be submitted with the SMR for the period in which the investigation occurred.

1. The full report shall be submitted on or before the end of the month in which the SMR is submitted.

2. The full report shall consist of (1) the results; (2) the dates of sample collection and initiation of each toxicity test; (3) the acute toxicity average limit or chronic toxicity limit or trigger and (4) printout of the ToxCalc or CETIS (Comprehensive Environmental Toxicity Information System) program results.

3. Test results for toxicity tests also shall be reported according to the appropriate manual chapter on Report Preparation and shall be attached to the SMR. Routine reporting shall include, at a minimum, as applicable, for each test:

   a. Sample date(s);

   b. Test initiation date;

c. Test species;

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

e. LC_{50} value(s) in percent effluent;

f. TU_a values $\left(TU_a = \frac{100}{LC_{50}} \right)$;

g. NOEC value(s) in percent effluent;

h. IC_{15}, IC_{25}, IC_{40} and IC_{50} values in percent effluent;

i. TU_c values $\left(TU_c = \frac{100}{NOEC} \right)$;

j. Mean percent mortality (+standard deviation) after 96 hours in 100% effluent (if applicable);

k. NOEC and LOEC (Lowest Observable Effect Concentration) values for reference toxicant test(s);

l. IC_{25} value for reference toxicant test(s);

m. Any applicable charts; and

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

4. The Discharger shall provide a compliance summary, which includes a summary table of toxicity data from all samples collected during that year.

5. The Discharger shall notify by telephone or electronically, this Regional Water Board of any toxicity exceedance of the limit or trigger within 24 hours of receipt of the results followed by a written report within 14 calendar days of receipt of the results. The verbal or electronic notification shall include the exceedance and the plan the Discharger has taken or will take to investigate and correct the cause(s) of toxicity. It may also include a status report on any actions required by the permit, with a schedule for actions not yet completed. If no actions have been taken, the reasons shall be given.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

Not Applicable

VII. RECLAMATION MONITORING REQUIREMENTS

Not Applicable

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER

A. Monitoring Location RSW-001

1. The Discharger shall monitor Pyramid Lake at RSW-001 as follows:

Table E-4. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	s.u.	Grab	Quarterly	[1]
Temperature	deg. F	Grab	Quarterly	[1]
Dissolved Oxygen	mg/L	Grab	Quarterly	[1]
Turbidity	NTU	Grab	Quarterly	[1]
Hardness	mg/L $CaCO_3$	Grab	Quarterly	[1]
Specific Conductance	µmhos/cm	Grab	Quarterly	[1]
Dissolved Sulfide	mg/L	Grab	Semiannually	[1]
Ammonia (as N)	mg/L	Grab	Quarterly	[1]
Copper, Total Recoverable	µg/L	Grab	Quarterly	[1]
Lead, Total Recoverable	µg/L	Grab	Quarterly	[1]
Mercury, Total Recoverable	µg/L	Grab	Quarterly	[1]
Zinc, Total Recoverable	µg/L	Grab	Quarterly	[1]
Asbestos	fibers/L	Grab	Quarterly	[1]
Bromoform	µg/L	Grab	Quarterly	[1]
Chlorodibromomethane	µg/L	Grab	Quarterly	[1]
Dichlorobromomethane	µg/L	Grab	Quarterly	[1]
Tetrachloroethylene	µg/L	Grab	Quarterly	[1]
TCDD Equivalents[2]	µg/L	Grab	Quarterly	[1]
Polychlorinated Biphenyls (PCBs)[3]	µg/L	Grab	Semiannually	[1]
Remaining Priority Pollutants[4]	µg/L	Grab	Semiannually	[1]

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

[2] TCDD equivalents shall be calculated using the following formula, where the Minimum Levels (MLs), toxicity equivalency factors (TEFs), and bioaccumulation equivalency factors (BEFs) are as provided in the table below. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating TCDD equivalents, the Discharger shall set congener concentrations below the minimum levels to zero. USEPA method 1613 may be used to analyze dioxin and furan congeners.

TCDD equivalents = Σ (C_x x TEF_x x BEF_x)

where:

C_x = concentration of dioxin or furan congener x

TEF_x = TEF for congener x

BEF_x = BEF for congener x

Dioxin or Furan Congener	Minimum Level (pg/L)	Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8-TCDD	10	1.0	1.0
1,2,3,7,8-PeCDD	50	1.0	0.9
1,2,3,4,7,8-HxCDD	50	0.1	0.3
1,2,3,6,7,8-HxCDD	50	0.1	0.1
1,2,3,7,8,9-HxCDD	50	0.1	0.1
1,2,3,4,6,7,8-HpCDD	50	0.01	0.05
OCDD	100	0.0001	0.01
2,3,7,8-TCDF	10	0.1	0.8
1,2,3,7,8-PeCDF	50	0.05	0.2
2,3,4,7,8-PeCDF	50	0.5	1.6
1,2,3,4,7,8-HxCDF	50	0.1	0.08
1,2,3,6,7,8-HxCDF	50	0.1	0.2
1,2,3,7,8,9-HxCDF	50	0.1	0.6
2,3,4,6,7,8-HxCDF	50	0.1	0.7
1,2,3,4,6,7,8-HpCDF	50	0.01	0.01
1,2,3,4,7,8,9-HpCDF	50	0.01	0.4
OCDF	100	0.0001	0.02

[3] PCBs sum refers to sum of PCB Aroclors 1016, 1221, 1232, 1242, 1248, 1254, and 1260.

[4] Priority Pollutants as defined by the California Toxics Rule (CTR) defined in Finding II.J of the Limitations and Discharge Requirements of this Order, and included as Attachment I. All metals shall be reported as total recoverable.

B. Visual Monitoring of Upstream and Downstream Receiving Water Sampling Points

1. A visual observation station shall be established in the vicinity of the discharge point to the receiving water (Pyramid Lake).

2. General observations of the receiving water shall be made at each discharge point when discharges occur on a monthly basis. All receiving water observations shall be reported in the quarterly monitoring report. If no discharge occurred during the observation period, this shall be reported.

Observations shall be descriptive where applicable, such that colors, approximate amounts, or types of materials are apparent. The following observations shall be made:

a. Time and date of monitoring

b. Weather conditions

c. Color of water

d. Appearance of oil films or grease, or floatable materials

e. Extent of visible turbidity or color patches

f. Description of odor, if any, of the receiving water

g. Presence and activity of California Least Tern and California Brown Pelican.

IX. OTHER MONITORING REQUIREMENTS

Not Applicable

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

2. If there is no discharge during any reporting period, the report shall so state.

3. Each monitoring report shall contain a separate section titled "Summary of Non-Compliance" which discusses the compliance record and corrective actions taken or planned that may be needed to bring the discharge into full compliance with waste discharge requirements. This section shall clearly list all non-compliance with waste discharge requirements, as well as all excursions of effluent limitations.

4. Quarterly analyses shall be performed during the months of February, May, August, and November. Semiannual analyses shall be performed during the months of February and August. Annual analyses shall be performed during the month of August. Should there be instances when monitoring could not be done during these specified months, the Discharger must notify the Regional Water Board, state the reason why the monitoring could not be conducted, and obtain approval from the Executive Officer for an alternate schedule. Results of annual analyses shall be reported in the quarterly monitoring report following the analysis.

5. The Discharger shall inform the Regional Water Board well in advance of any proposed construction activity that could potentially affect compliance with applicable requirements.

6. The Discharger shall report the results of acute and chronic toxicity testing, TRE and TIE as required in the Attachment E, Monitoring and Reporting, Section V.G.

B. Self Monitoring Reports (SMRs)

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

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

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

Table E-5. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Daily	**July 3, 2010**	**All**	**Submit with quarterly SMR**
Monthly	**July 3, 2010**	**1st day of calendar month through last day of calendar month**	**Submit with quarterly SMR**
Quarterly	**July 3, 2010**	**January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31**	**May 1 August 1 November 1 February 1**
Semiannually	**July 3, 2010**	**January 1 through June 30 July 1 through December 30**	**August 1 February 1**
Annually	**January 1, 2011**	**January 1 through December 31**	**February 1 of the following year**

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

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

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

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

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

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

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

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

6. Multiple Sample Data. When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

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

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

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

a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the Facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

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

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

California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

C. Discharge Monitoring Reports (DMRs)

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

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

STANDARD MAIL	FEDEX/UPS/ OTHER PRIVATE CARRIERS
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15th Floor Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format of EPA Form 3320-1.

D. Other Reports

1. Within **90 days** of the effective date of this permit, the Discharger is required to submit the following to the Regional Water Board:

   a. Initial Investigation TRE workplan (Section V.D of the MRP)

   b. Updated SWPPP (Section VI.C.3 of the Order)

2. If the Discharger wishes to participate in a coordinated receiving water, biomonitoring, and sediment monitoring program with other dischargers to the Pyramid Lake, then, as discussed in Section VIII.F of the MRP, Attachment E, the Discharger shall submit a report seeking approval of the Regional Water Board.

3. This Regional Water Board requires the Discharger to file with the Regional Water Board, within 90 days after the effective date of this Order, a technical report on his preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. The technical report should:

   a. Identify the possible sources of accidental loss, untreated waste bypass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.

   b. Evaluate the effectiveness of present facilities and procedures and state when they become operational.

   c. Describe facilities and procedures needed for effective preventive and contingency plans.

   d. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule contingent interim and final dates when they will be constructed, implemented, or operational.

   This Regional Water Board, after review of the technical report, may establish conditions which it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions may be incorporated as part of this Order, upon notice to the Discharger.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

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

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	4A190805002
Discharger	California Department of Water Resources
Name of Facility	William E. Warne Power Plant
Facility Address	Highway 99 at Pyramid Lake (west of Interstate 5 at the Smokey Bear off-ramp)
	Castaic, CA 91310
	Los Angeles County
Facility Contact, Title and Phone	Cindy Garcia, (916) 653-7213
Authorized Person to Sign and Submit Reports	Carl Torgerson, Chief, Division of Operations and Maintenance, (916) 653-8583
Mailing Address	P.O. Box 942836 Sacramento, CA 94236-0001
Billing Address	P.O. Box 942836 Sacramento, CA 94236-0001
Type of Facility	Hydroelectric Generating Station
Major or Minor Facility	Major
Threat to Water Quality	3
Complexity	C
Pretreatment Program	N/A
Reclamation Requirements	N/A
Facility Permitted Flow	1.952 million gallons per day (mgd)
Facility Design Flow	1.952 mgd
Watershed	Santa Clara River Watershed
Receiving Water	Pyramid Lake
Receiving Water Type	Inland Surface Water

A. California Department of Water Resources (hereinafter Discharger) is the owner and operator of the William E. Warne Power Plant (hereinafter Facility), a hydroelectric generating station.

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

B. The Facility discharges wastewater to Pyramid Lake, a water of the United States, and is currently regulated by Order No. R4-2004-0172, which was adopted on December 13, 2004 and expired on November 10, 2009. The terms and conditions of the current Order have been continued and remain in effect until new Waste Discharge Requirements (WDRs) and a National Pollutant Discharge Elimination System (NPDES) permit are adopted pursuant to this Order.

C. The Discharger filed a report of waste discharge and submitted an application for renewal of its WDRs and NPDES permit on April 17. 2009. Supplemental information was received at the Regional Water Board on March 1, 2010. A site visit was conducted on March 24, 2010, to observe operations and collect additional data to develop permit limitations and conditions.

II. FACILITY DESCRIPTION

The Discharger owns and operates the William E. Warne Power Plant, a hydroelectric generating station, which is located ten miles south of Gorman, California, just west of Interstate 5 at the Smokey Bear Road off-ramp, in Los Angeles County. The Facility produces power as an offset for requirements of the State Water Project (SWP), a water and power development and conveyance system. The SWP waters originate from northern California watersheds and travel down through the Sacramento-San Joaquin Delta where the waters commingle with waters from some smaller river systems before traveling down the West Branch of the SWP and through the William E. Warne Power Plant to Pyramid Lake. The SWP provides water supplies for 23 million Californians and 750,000 acres of irrigated farmland and impounds water for municipal and manufacturing uses.

The Facility consists of two hydroelectric generating units that may generate up to 78 megawatts of electricity. The two generating turbine units are operated either simultaneously or independently, and each generating unit may operate either continuously or intermittently depending on scheduled water deliveries.

Water for power generation (generated water) is obtained from the SWP at Quail Lake. From the terminus of Lower Quail Canal the water is conveyed to the William E. Warne Power Plant via the 12 foot diameter and 5 mile long Peace Valley Pipeline, which serves as penstock for the power plant. The William E. Warne Power Plant uses two pelton wheel generators, each with the capacity of producing forty megawatts of electricity and generating an outflow of 800 cfs. Each generator is comprised of a pelton wheel, turbine shaft with bearings, a stator and coils. During operation, the penstock water is concentrated and directed at each pelton wheel by six large needle valves. The high pressure stream of water causes the generator to spin at sixty revolutions per second, which produces heat from its guide, turbine and thrust bearings, and its stator. The water exiting the power plant turbines after it has been used to generate power enters the tailrace. A portion of the generated water is withdrawn from

the tailrace of the generating units and used as once-through cooling water. Occasionally, source water used for once-through cooling water is withdrawn from Pyramid Lake. Up to a total of 1,950,000 gallons per day (gpd) of generator, turbine, air, upper and lower guide bearing cooling waters (all once-through) are discharged through Discharge Point No. 001(A&B) located prior to entry into the power plant tailrace.

An on-site 50 gallons per minute (gpm) potable water treatment plant uses the process of chlorination and ultra-filtration to provide a potable water supply for the Facility. The source water for the water treatment plant is the power plant's fire-sump which is fed from the Unit-1 tailrace water via a tailrace valve. The water in the tailrace is penstock water when the unit is operating, and it is lake water when the unit is shut down. The potable water treatment plant operates automatically on demand, and is programmed to backwash every 60 min of runtime. An average daily runtime is approximately 30 min/day, therefore it backwashes about once every two days. .Backwash from the potable water treatment plant enters a sump where it combines with compressor cooling water, backwash from the unit cooling water strainers, raw water from the turbine shutoff valve, and ground water seepage that accumulates in the coupling gallery located below ground level. The drainage sump water is discharged when the drainage sump fills to 3.1 meters, occurring approximately every 1 to 2 days. The Facility discharges a maximum of 2,000 gpd of drainage sump water through Discharge Pont No. 002 located prior to entry into the power plant tailrace.

The cooling water and sump water are discharged to the power plant tailrace where they combine with generated waters and then discharge into Pyramid Lake, a tributary to the Santa Clara River via Piru Creek and Lake Piru, waters of the United States.

A. Description of Wastewater and Biosolids Treatment or Controls

With the exception of the potable water treatment plant, the Facility does not employ treatment nor does it provide any chemical addition to the once-through cooling water or drainage sump water.

The once-through cooling water comprises less than two tenth of one percent (0.2%) of the total generated water flow. The increase in temperature added to Pyramid Lake from the cooling water after it mixes with the generated water is less than 0.1 degree Celsius which is further diluted by Pyramid Lake.

The discharge water is comprised of a maximum of 1,950,000 gpd of generator, turbine, air, upper and lower guide bearing cooling water, and a maximum of 2,000 gpd of drainage sump water.

B. Discharge Points and Receiving Waters

Up to 1.952 mgd of cooling and sump water is discharged into the tailrace through Discharge Point No. 001(A&B) and 002, co-located at latitude 34°41'06", longitude 118°47'16"; and subsequently to Pyramid Lake, a water of the United States. Because

similar effluents (cooling waters) are being discharged from two identical generating units and outfalls for these two Units are so close to each other, these two outfalls are collectively referred to as Discharge Point No. 001(A&B) in this permit. It was named Discharge Point No. 001 in Order No. R4-2004-0172.

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

Effluent limitations contained in the previous Order (Order No. R4-2004-0172) for discharges from Discharge Point Nos. 001 and 002 and representative monitoring data from the term of the previous Order are as follows:

Table F-2a. Historic Effluent Limitations and Monitoring Data – Discharge Point No. 001 in Order No. R4-2004-0172

Parameter	Units	Effluent Limitation		Monitoring Data (From 1/1/05 – 12/31/08)		
		Average Monthly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
pH	s.u.	6.5-8.5[1]		7.8-8.4		
Temperature	deg. F	--	86[2]	---	--	83.3
Dissolved Oxygen	mg/L	[3]	[3]	6.8[4]	--	6.7[5]
Acute Toxicity	% survival	[6]	[6]	--	--	91[7]
Settleable Solids	ml/L	0.1	0.3	< 0.1	--	< 0.1
Total Suspended Solids	mg/L	50	75	14	--	14
Turbidity	NTU	5	25	17	--	17
Oil and Grease	mg/L	10	15	< 5	--	< 5
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)	mg/L	--	10	--	--	200
Polychlorinated Biphenyls (PCBs)	ng/L	--	14	--	--	< 150

1 Between 6.5 and 8.5 at all times

2 No greater than 86 degrees F.

3 Not less than 5.0 mg/L any time and the median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.

4 Minimum 3 month median value.

5 Minimum observed dissolved oxygen concentration. The minimum observed percent below saturation was 84.4 percent.

6 Average survival in the undiluted effluent for any three consecutive 96-hour static or continuous flow bioassay tests shall be at least 90% and no single test producing less than 70% survival.

7 Represents the lowest reported average percent survival.

Table F-2b. Historic Effluent Limitations and Monitoring Data – Discharge Point No. 002

Parameter	Units	Effluent Limitation		Monitoring Data From January 1, 2005 – December 31, 2008		
		Average Monthly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
pH	s.u.	6.5-8.5[1]		7.4-8.3		
Temperature	deg. F	--	86[2]	--	--	74.8
Dissolved Oxygen	mg/L	[3]	[3]	6.8[4]	--	6.5[5]
Acute Toxicity	% survival	[6]	[6]	--	--	90[7]
Settleable Solids	ml/L	0.1	0.3	--	--	0.2
Total Suspended Solids	mg/L	50	75	--	--	43
Turbidity	NTU	5	25	38	--	38
Oil and Grease	mg/L	10	15	< 5	--	< 5
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)	mg/L	--	10	--	--	23
Polychlorinated Biphenyls (PCBs)	ng/L	--	14	--	--	< 100

1 Between 6.5 and 8.5 at all times

2 No greater than 86 degrees F.

3 Not less than 5.0 mg/L any time and the median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.

4 Minimum 3 month median value.

5 Minimum 3 month median value minimum observed dissolved oxygen concentration. The minimum observed percent below saturation was 94 percent.

6 Average survival in the undiluted effluent for any three consecutive 96-hour static or continuous flow bioassay tests shall be at least 90% and no single test producing less than 70% survival.

7 Represents the lowest reported average percent survival.

D. Compliance Summary

Data submitted to the Regional Water Board from January 1, 2005, to June 30, 2008 indicate that the Discharger has exceeded existing permit limitations in Order No. R4-2004-0172 as outlined in the table below:

Table F-3. Summary of Compliance History

Date	Monitoring Period	Violation Type	Pollutant	Reported Value	Permit Limitation	Units
Discharge Point 001 in Order No. R4-2004-0172						
4/19/2005	2nd Quarter 2005	Monthly Average	Turbidity	13	5	NTU
5/24/2005	2nd Quarter 2005	Monthly Average	Turbidity	14	5	NTU
6/29/2005	2nd Quarter 2005	Monthly Average	Turbidity	10	5	NTU
7/12/2005	3rd Quarter 2005	Monthly Average	Turbidity	10	5	NTU
1/10/2006	1st Quarter 2006	Monthly Average	Turbidity	12	5	NTU
5/24/2006	2nd Quarter 2006	Monthly Average	Turbidity	17	5	NTU
5/24/2006	2nd Quarter 2006	Daily Maximum.	BOD	200	10	mg/L
6/21/2006	2nd Quarter 2006	Monthly Average	Turbidity	7.4	5	NTU
7/5/2006	3rd Quarter 2006	Monthly Average	Turbidity	11	5	NTU
1/29/2007	1st Quarter 2007	Monthly Average	Turbidity	8	5	NTU
2/21/2007	1st Quarter 2007	Monthly Average	Turbidity	9	5	NTU
3/30/2007	1st Quarter 2007	Monthly Average	Turbidity	6	5	NTU
6/18/2008	2nd Quarter 2008	Monthly Average	Turbidity	6	5	NTU
Discharge Point 002						
4/19/2005	2nd Quarter 2005	Monthly Average.	Turbidity	25	5	NTU
4/19/2005	2nd Quarter 2005	Monthly Average	Settleable Solids	0.2	0.1	ml/L
5/24/2005	2nd Quarter 2005	Daily Maximum	Turbidity	29	25	NTU
5/24/2005	2nd Quarter 2005	Monthly Average	Turbidity	29	5	NTU
5/24/2005	2nd Quarter 2005	Monthly Average	Settleable Solids	0.2	0.1	ml/L
6/29/2005	2nd Quarter 2005	Daily Maximum	BOD	21	10	mg/L
6/29/2005	2nd Quarter 2005	Monthly Average	Turbidity	38	5	NTU
6/29/2005	2nd Quarter 2005	Daily Maximum	Turbidity	38	25	NTU
7/12/2005	3rd Quarter	Monthly	Turbidity	12	5	NTU

Date	Monitoring Period	Violation Type	Pollutant	Reported Value	Permit Limitation	Units
	2005	Average				
7/5/2006	3rd Quarter 2006	Monthly Average	Turbidity	10	5	NTU
8/23/2006	3rd Quarter 2006	Monthly Average	Turbidity	6	5	NTU
10/12/2006	4th Quarter 2006	Monthly Average	Turbidity	7	5	NTU
11/8/2006	4th Quarter 2006	Monthly Average	Turbidity	9	5	NTU
1/29/2007	1st Quarter 2007	Monthly Average	Turbidity	12	5	NTU
2/21/2007	1st Quarter 2007	Monthly Average	Turbidity	6	5	NTU
10/17/2007	4th Quarter 2007	Daily Maximum	Turbidity	30	25	NTU
10/31/2007	4th Quarter 2007	Monthly Average	Turbidity	13	5	NTU
6/18/2008	2nd Quarter 2008	Monthly Average	Turbidity	6	5	NTU

For effluent limitation violations from May 2000 through June 2008 including violations listed in the above table, an enforcement letter (Settlement Offer No. R4-2008-0077-M) was issued to the Discharger on October 31, 2008. The Discharger accepted the Settlement Offer and submitted the penalty amount on December 14, 2009. Monitoring data after June 2008 are being reviewed and any violations will be evaluated for appropriate enforcement actions.

E. Planned Changes

The Facility does not anticipate any changes in operation during the next permit term.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this Facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

B. California Environmental Quality Act (CEQA)

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

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Quality Control Board (Regional Water Board) adopted a *Water Quality Control Plan Los Angeles Region Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (hereinafter Basin Plan) on June 13, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to Pyramid Lake are as follows:

Table F-4. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001(A&B) and 002	Pyramid Lake	Existing: Municipal and Domestic Water Supply (MUN), Industrial Service Supply (IND), Industrial Process Supply (PROC), Agricultural Supply (AGR), Ground Water Recharge (GWR), Hydropower Generation (POW), Water Contact Recreation (REC1), Non-Contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), Cold Freshwater Habitat (COLD), Wildlife Habitat (WILD), and Rare, Threatened or Endangered Species (RARE). Potential: Freshwater Replenishment (FRSH)

Requirements of this Order implement the Basin Plan.

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

3. **Ammonia Basin Plan Amendment**. The 1994 Basin Plan provided water quality objectives for ammonia to protect aquatic life, in Table 3-1 through Table 3-4. However, those ammonia objectives were revised on April 25, 2002, by the Regional Water Board with the adoption of Resolution No. 2002-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia*

Objectives for Inland Surface Waters (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Life. The amendment reflects the revised water quality criteria developed by USEPA in the *"1999 Update of Ambient Water Quality Criteria for Ammonia,"* December 1999. The 1999 Update contains USEPA's most recent freshwater aquatic life criteria for ammonia and supersedes all previous freshwater aquatic life criteria for ammonia. The ammonia Basin Plan amendment was approved by the State Water Board, the Office of Administrative Law, and USEPA on April 30, 2003, June 5, 2003, and June 19, 2003, respectively and is now in effect. Although the revised ammonia water quality objectives may be less stringent than those contained in the 1994 Basin Plan, they are still protective of aquatic life and are consistent with USEPA's 1999 ammonia criteria update.

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

5. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

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

7. **Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law.

Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.

8. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations[1] section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

D. Watershed Management Approach

The Regional Board has implemented the Watershed Management Approach to address water quality issues in the region. Watershed management may include diverse issues as defined by stakeholders to identify comprehensive solutions to protect maintain, enhance, and restore water quality and beneficial uses. To achieve this goal, the Watershed Management Approach integrates the Regional Board's many diverse programs, particularly total maximum daily loads (TMDLs), to better assess cumulative impacts of pollutants from all point and nonpoint sources. A TMDL is a tool for implementing water quality standards and is based on the relationship between pollution sources and in-stream water quality conditions. The TMDL establishes the allowable loadings or other quantifiable parameters for a waterbody and thereby provides the basis to establish water quality based controls. These controls should provide the pollution reduction necessary for a waterbody to meet water quality standards. This process facilitates the development of watershed-specific solutions that balance the environmental and economic impacts within the watershed. The TMDLs will establish waste load allocations (WLAs) and load allocations (LAs) for point and non-point sources, and will result in achieving water quality standards for the waterbody.

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

Section 303(d) of the CWA requires states to identify specific water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources. For all 303(d)-listed water bodies and pollutants, the Regional Water Board plans to develop and adopt TMDLs that will specify wasteload allocations (WLAs) for point sources and load allocations (LAs) for non-point sources, as appropriate.

On June 28, 2007 USEPA gave final approval to California's 2006 section 303(d) List of Water Quality Limited Segments. Certain receiving waters in the Los Angeles and Ventura County watersheds do not fully support beneficial uses and therefore have been classified as impaired on the 2006 303(d) list and have been scheduled for TMDL development. Pyramid Lake is not currently identified on the State's 303(d) list.

[1] All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

F. Other Plans, Polices and Regulations

Not Applicable

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: section 122.44(a) requires that permits include applicable technology-based limitations and standards; and section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

The list of pollutants of concern is based on constituents that are regulated in the Basin Plan or CTR and were detected in the effluent or intake water, as well as pollutants that are typically found in discharges of once-through cooling water. Settleable solids, total suspended solids, and turbidity are pollutants of concern associated with backwash water and source water. As such, the Facility obtains source water from the Peace Valley Pipeline portion of the California Aqueduct and occasionally Pyramid Lake. The source water may be high in solids due to natural conditions or the physical conditions of withdrawal, which may stir up sediments, creating the potential to transport turbidity, settleable solids, and suspended solids to the receiving water. Hydroelectric plants frequently use materials in the equipment that have the potential to enter the wastewater through leaks in the turbine shaft seals and thus contribute BOD and oil and grease to the discharge. Effluent limitations for BOD and oil and grease have been carried over from the previous Order. Temperature is a pollutant of concern due to the heat transfer associated with cooling water and the potential effects on habitat in the receiving water.

Generally, mass-based effluent limitations ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limitations. However, Section 122.45(f)(1) requires that all permit limitations, standards or prohibitions be expressed in terms of mass units except under the following conditions: (1) for pH, temperature, radiation or other pollutants that cannot appropriately be expressed by mass limitations; (2) when applicable standards or limitations are expressed in terms of other units of measure; or (3) if in establishing technology-based permit limitations on a case-by-case basis limitations based on mass are infeasible because the mass or pollutant cannot be related to a measure of production. The limitations, however, must ensure that dilution will not be used as a substitute for treatment. New mass-based limitations at Discharge Point No. 001(A&B) and 002 are included in this Order to comply with Section 122.45(f)(1).

A. Discharge Prohibitions

The discharge prohibitions are based on the requirements of the Basin Plan, State Water Board's plans and policies, the Water Code, and previous permit provisions, and are consistent with the requirements set for other discharges regulated by an NPDES permit to the Pyramid Lake.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations, require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3.

The CWA requires that technology-based effluent limitations be established based on several levels of controls:

a. Best practicable treatment control technology (BPT) represents the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.

b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.

c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, Total Suspended Solids (TSS), fecal coliform, pH, and oil and grease. The BCT standard is established after considering the "cost reasonableness" of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and also the cost effectiveness of additional industrial treatment beyond BPT.

d. New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires USEPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and section 125.3 of the Code of Federal Regulations authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the permit writer must consider specific factors outlined in section 125.3.

2. Applicable Technology-Based Effluent Limitations

This Order includes technology-based effluent limitations based on BPJ in accordance with 40 CFR § 125.3. Hydroelectric power generation is not currently regulated under effluent guidelines. As such, BPJ is used to develop technology-based limits for the control of some pollutants. BPJ based effluent limitations for total suspended solids (TSS), turbidity, settleable solids, oil and grease, and BOD have been carried over from the existing Order (No. R4-2004-0172).

a. Effluent Limitations for Turbidity Based on Intake Water Credits. Order No. R4-2004-0172 contained effluent limitations for turbidity that are carried over to this Order. During the term of the previous Order, the Facility had experienced numerous exceedances of the effluent limitations for turbidity. In a letter dated November 4, 2009, the Discharger requested intake water credits for turbidity. The Discharger supplied information on intake water and effluent turbidity in the application as well as SMR data from the previous permit term. The results include many instances where intake water turbidity is greater than or equal to effluent turbidity, as shown in Table F-5, at Discharge Point Nos. 001 and 002.

Table F-5. Intake Water and Effluent Turbidity at Discharge Point Nos. 001 (Order No. R4-2004-0172) and 002[1]

Sample Date	Intake	Discharge Point No. 001 (NTU)	Discharge Point No. 002 (NTU)
11/8/2005	4	3	2
2/22/2006	7	5	5
5/24/2006	17	17	4
8/23/2006	4	3	6
2/21/2007	6	9	6
8/22/2007	3	3.1	3
11/14/2007	4	NR	4
8/20/2008	4.5	4.1	2.9
11/12/2008	3.4	2.8	3.1

[1] Table includes only the sampling dates where corresponding intake water and effluent results were available and turbidity in intake water was greater than or equal to the effluent concentration.

Based on this intake water and effluent monitoring data submitted by the Discharger and the nature of operations, the Regional Water Board staff believes that effluent turbidity is largely due to turbidity in the intake water. As such, Title 40 CFR Part 122.45(g) states as follows:

"(1) *Upon request of the discharger, technology-based effluent limitations or standards shall be adjusted to reflect credit for pollutants in the discharger's intake water if:*

(i) The applicable effluent limitations and standards contained in 40 CFR subchapter N specifically provide that they shall be applied on a net basis; or

(ii) The discharger demonstrates that the control system it proposes or uses to meet applicable technology-based limitations and standards would, if properly installed and operated, meet the limitations and standards in the absence of pollutants in the intake waters.

(2) Credit for generic pollutants such as biochemical oxygen demand (BOD) or total suspended solids (TSS) should not be granted unless the permittee demonstrates that the constituents of the generic measure in the effluent are substantially similar to the constituents of the generic measure in the intake water or unless appropriate additional limits are placed on process water pollutants either at the outfall or elsewhere.

(3) Credit shall be granted only to the extent necessary to meet the applicable limitation or standard, up to a maximum value equal to the influent value. Additional monitoring may be necessary to determine eligibility for credits and compliance with permit limits.

(4) Credit shall be granted only if the discharger demonstrates that the intake water is drawn from the same body of water into which the discharge is made. The Director may waive this requirement if he finds that no environmental degradation will result."

In relation to the 40 CFR Part 122.45 (g) criteria described above, the Discharger does not employ treatment technologies for cooling water discharges. In addition, based on information provided in the application, the Discharger does not conduct operations that contribute significant quantities of turbidity to the effluent, thus demonstrating that the nature of turbidity in the influent is similar to the effluent. The intake water is obtained from the Peace Valley Pipeline, which connects to Pyramid Lake at the Facility, thus demonstrating a hydrologic connection between the intake water and the receiving water. The Regional Water Board staff recognizes that the presence of turbidity in the intake water may largely account for high turbidity levels in the effluent. The inclusion of intake water credits will restrict effluent concentrations of turbidity to levels at or below the intake water concentration or the final effluent limitation for turbidity, Based on these facts, the Discharger has satisfied the conditions of 40 CFR 122.45(g) as described above. As a result, intake water credits for the effluent turbidity limitations**,** as specified in sections IV.A and IV.B of this Order are granted for Discharge Point Nos. 001(A&B) and 002. As a condition of receiving intake water credits, the MRP of this Order requires the Discharger to monitor turbidity in the intake water, effluent, and receiving water and to ensure that sampling location and timing are designed to detect any Facility contributions of turbidity to the effluent when grab samples are taken for the compliance purpose.

Table F-6a. Summary of Technology-based Effluent Limitations – Discharge Point No. 001(A&B)

Parameter	Units	Effluent Limitations[3]		
		Average Monthly	Average Weekly	Maximum Daily
Settleable Solids	ml/L	0.1	--	0.3
Total Suspended Solids (TSS)	mg/L	50	--	75
	lbs/day[1]	810	--	1220
Turbidity[2]	NTU	5	--	25
Oil and Grease	mg/L	10	--	15
	lbs/day[1]	162	--	244
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)	mg/L	--	--	10
	lbs/day[1]	--	--	163

1 Based on a flow of 1.95 mgd.

2 If the intake water pollutant concentration does not exceed the average monthly limitation then the limitations are applied as noted in the table. If the intake water pollutant concentration exceeds the average monthly limitation, but does not exceed the maximum daily limitation, then compliance with the average monthly limitation will be determined based on intake water credit (intake water concentration) and compliance with the maximum daily limitation is applied as noted in the table. If the intake water pollutant concentration exceeds the maximum daily limitation, then compliance with both the average monthly and maximum daily limitation will be determined based on intake water credit (intake water concentration). When determining compliance based on intake water credit, the pollutant effluent limitation is equal to the maximum pollutant concentration in the intake water. The equation is as follows:

Pollutant Effluent Limitation with Intake Water Credit = Maximum Intake Water Concentration

When grab samples are taken, the timing and location of intake water and effluent samples shall reflect the travel time of water in the Facility. The intake water sample shall directly correspond to the effluent sample.

3 Please refer to Attachment A for definitions.

Table F-6b. Summary of Technology-based Effluent Limitations – Discharge Point No. 002

Parameter	Units	Effluent Limitations[3]		
		Average Monthly	Average Weekly	Maximum Daily
Settleable Solids	ml/L	0.1	--	0.3
Total Suspended Solids (TSS)	mg/L	50	--	75
	lbs/day[1]	0.83	--	1.3
Turbidity[2]	NTU	5	--	25
Oil and Grease	mg/L	10	--	15
	lbs/day[1]	0.17	--	0.25
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)	mg/L	--	--	10
	lbs/day[1]	--	--	0.17

1 Based on a flow of 0.002 mgd.

[2] If the intake water pollutant concentration does not exceed the average monthly limitation then the limitations are applied as noted in the table. If the intake water pollutant concentration exceeds the average monthly limitation, but does not exceed the maximum daily limitation, then compliance with the average monthly limitation will be determined based on intake water credit (intake water concentration) and compliance with the maximum daily limitation is applied as noted in the table. If the intake water pollutant concentration exceeds the maximum daily limitation, then compliance with both the average monthly and maximum daily limitation will be determined based on intake water credit (intake water concentration). When determining compliance based on intake water credit, the pollutant effluent limitation is equal to the maximum pollutant concentration in the intake water. The equation is as follows:

Pollutant Effluent Limitation with Intake Water Credit = Maximum Intake Water Concentration

When grab samples are taken, the timing and location of intake water and effluent samples shall reflect the travel time of water in the Facility. The intake water sample shall directly correspond to the effluent sample.

[3] Please refer to Attachment A for definitions.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

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

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

The specific procedures for determining reasonable potential for discharges from the Facility, and if necessary for calculating WQBELs, are contained in the SIP.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

As noted in Section II of the Limitations and Discharge Requirements, the Regional Water Board adopted a Basin Plan that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. The

beneficial uses applicable to Pyramid Lake are summarized in Section III.C.1 of this Fact Sheet. The Basin Plan includes both narrative and numeric water quality objectives applicable to the receiving water.

Priority pollutant water quality criteria in the CTR are applicable to Pyramid Lake. The CTR contains both saltwater and freshwater criteria. Because a distinct separation generally does not exist between freshwater and saltwater aquatic communities, the following apply, in accordance with section 131.38(c)(3), freshwater criteria apply at salinities of 1 part per thousand (ppt) and below at locations where this occurs 95 percent or more of the time. The CTR criteria for freshwater or human health for consumption of organisms, whichever is more stringent, are used to prescribe the effluent limitations in this Order to protect the beneficial uses of the Pyramid Lake, a water of the United States in the vicinity of the discharge.

Some water quality criteria are hardness dependent. The Discharger provided hardness data for the receiving water (Pyramid Lake) as part of their required CTR monitoring. The hardness values reported ranged from 55 mg/L to 120 mg/L as $CaCO_3$. Consistent with the application in TMDLs, and in order to ensure adequate protection of the receiving water, the median observed hardness value of 91.5 mg/L as $CaCO_3$ was used for the evaluation of reasonable potential.

Table F-7 summarizes the applicable water quality criteria/objective for priority pollutants reported in detectable concentrations in the effluent or receiving water. These criteria were used in conducting the RPA for this Order.

Table F-7. Applicable Water Quality Criteria

CTR No.	Constituent	Selected Criteria	CTR/NTR Water Quality Criteria					
			Freshwater		Saltwater		Human Health for Consumption of:	
			Acute	Chronic	Acute	Chronic	Water and Organisms	Organisms Only
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
1	Antimony	14	--	--	N/A		14	4,300
4	Cadmium	2.3	4.1	2.3			--	Narrative
5a	Chromium (III)	192	1,615	192			--	Narrative
5b	Chromium (VI)	11	16	11			--	Narrative
6	Copper	8.7	13	8.7			1,300	Narrative
7	Lead	2.8	73	2.8			--	Narrative
8	Mercury	0.050	--	--			0.050	0.051
9	Nickel	48	435	48			610	4,600
10	Selenium	5.0	20	5.0			--	Narrative

CTR No.	Constituent	Selected Criteria	CTR/NTR Water Quality Criteria					
			Freshwater		Saltwater		Human Health for Consumption of:	
			Acute	Chronic	Acute	Chronic	Water and Organisms	Organisms Only
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
11	Silver	3.5	3.5	--			--	--
13	Zinc	111	111	111			--	--
15	Asbestos (fibers/L)	7.00E+06	--	--			7.00E+06	--
16	2,3,7,8-TCDD (Dioxin)	1.30E-08	--	--			1.30E-08	1.40E-08
	TCDD Equivalents	1.30E-08	--	--			1.30E-08	1.40E-08
20	Bromoform	4.3	--	--			4.3	360
23	Chlorodibromo-methane	0.41	--	--			0.41	34
26	Chloroform	No Criteria	--	--			--	--
27	Dichlorobromo-methane	0.56	--	--			0.56	46
36	Methylene Chloride	4.7	--	--			4.7	1,600
38	Tetrachloroeth-ylene	0.8	--	--			0.8	8.85
43	Trichloroeth-ylene	2.7	--	--			2.7	81
68	Bis(2-Ethylhexyl)-Phthalate	1.8	--	--			1.8	5.9
76	1,3-Dichloroben-zene	400	--	--			400	2,600
79	Diethyl Phthalate	23,000	--	--			23,000	120,000
81	Di-n-Butyl Phthalate	2,700	--	--			2,700	12,000
119-125	PCBs sum *	0.00017	--	0.014			0.00017	0.00017

"N/A" indicates the receiving water body is not characterized as saltwater, nor are the water quality criteria for the protection of human health for the consumption of water and organisms applicable.

* PCBs sum refers to the sum of PCB Aroclor 1016, 1221, 1232, 1242, 1248, 1254, and 1260.

Numeric criterion for TCDD equivalents:

The CTR establishes numeric water quality objectives for 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD) for the protection of human health from

consumption of aquatic organisms only and consumption of water and aquatic organisms, respectively. When CTR was promulgated, USEPA stated its support of the regulation of other dioxin and dioxin-like compounds through the use of toxicity equivalencies (TEQs) in NPDES permits. For California waters, USEPA stated specifically, "if the discharge of dioxin or dioxin-like compounds has reasonable potential to cause or contribute to a violation of a narrative criterion, numeric water quality-based effluent limitations for dioxin or dioxin-like compounds should be included in NPDES permits and should be expressed using a TEQ scheme" [65 Fed. Reg. 31682, 31695 (2000)]. This procedure, developed by the World Health Organization (WHO) in 1988, uses a set of toxicity equivalency factors (TEFs) to convert the concentration of any congener of dioxin or furan into an equivalent concentration of 2,3,7,8-TCDD. When the CTR was promulgated, USEPA also stated that the Agency will continue to assess the risks posed by dioxin to public health and the water quality criteria for dioxin that it had promulgated. To determine if the discharge of dioxin or dioxin-like compounds from the Facility has reasonable potential to cause or contribute to a violation of the Basin Plan's narrative water quality objective regarding bioaccumulation, Regional Water Board staff has therefore used TEFs to express the measured concentrations of 16 dioxin congeners in effluent and background samples as 2,3,7,8-TCDD. These "equivalent" concentrations are then compared to the numeric criterion, established by the CTR for 2,3,7,8-TCDD.

Dioxin-TEQ (TCDD-equivalent) values reflect the combined effect of numerous dioxin and furan compounds (congeners). The effluent limits implement the *Los Angles Region (Region 4) Water Quality Control Plan's* (Basin Plan's) bioaccumulation objective:

> *Toxic pollutants shall not be present at levels that will bioaccumulate in aquatic life to levels which are harmful to aquatic life or human health.*

According to 40 CFR 122.44(d), where reasonable potential exists for a discharge to cause or contribute to violations of water quality objectives, water quality-based effluent limits must be established. If the potentially violated objective is narrative, the narrative objective must be translated into an effluent limitation. The dioxin-TEQ (TCDD-equivalent) effluent limitations in the permit are numeric translations of the Basin Plan narrative bioaccumulation objective.

The translations are based on relevant scientific information used to weight the congener concentrations with respect to their relative toxicities compared to the toxicity of a particular dioxin congener: 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD). The World Health Organization developed toxicity equivalency factors (TEFs) to convert congener concentrations into equivalent concentrations of 2,3,7,8-TCDD, which when added together are expressed as dioxin-TEQ (TCDD-equivalent). The *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy) specifies that the World Health Organization's 1998 TEFs are to be used to calculate dioxin-TEQ (TCDD-equivalent). To complete the translation of the Basin

Plan's narrative bioaccumulation objective into a numeric effluent limit, dioxin-TEQ (TCDD-equivalent) limits are derived from the California Toxic Rule (40 CFR 131) numeric water quality objective for 2,3,7,8-TCDD (numeric objectives do not exist for the other congeners).

In February 2008, the San Francisco Estuary Institute convened an expert panel to provide an unbiased review and analysis of available information regarding San Francisco Bay dioxins and furans. Representatives of the Regional Water Board, the U.S. Environmental Protection Agency, the Bay Area Clean Water Agencies, and others with expertise in the field participated. The panel's recommendations included the following:

- Apply both TEFs and BEFs to dioxin and furan concentrations when calculating dioxin-TEQ (TCDD-equivalent); and
- Do not use dioxin and furan congener concentrations reported below MLs when computing dioxin-TEQ (TCDD-equivalent).

Bioaccumulation Equivalency Factors

The different dioxin and furan congeners exhibit different levels of toxicity, they also exhibit different levels of bioaccumulation potential. To account for the different levels of bioaccumulation potential, each congener may be assigned a bioaccumulation equivalency factor (BEF) relative to 2,3,7,8-TCDD. This is comparable to the TEFs that account for relative differences in toxicities. The BEFs shown in Table F-1 correspond to the differences in biological uptake from the water column for the various dioxin congeners. They come from the Great Lakes Water Quality Initiative.

In 1995, the U.S. Environmental Protection Agency adopted the approach of using both TEFs and BEFs to calculate dioxin-TEQ (TCDD-equivalent) for the Great Lakes System (40 CFR 132, Appendix F). In the absence of site-specific BEFs, the U.S. Environmental Protection Agency supports the use of national BEFs, stating, "...EPA believes that national bioaccumulation factors are broadly applicable to sites throughout the United States and can be applied to achieve an acceptable degree of accuracy when estimating bioaccumulation potential at most sites." In its *Great Lakes Water Quality Initiative Technical Support Document for the Procedure to Determine Bioaccumulation Factors* (EPA-820-B-95-005), the U.S. Environmental Protection Agency states, “Limited comparison to BEFs calculated from data obtained for other ecosystems confirms these bioacculnulation potential differences for [dioxins and furans] for fish in ecosystems outside the Great Lakes." Recently, the U.S. Environmental Protection Agency and the Regional Water Board incorporated the national BEFs into the dioxin-TEQ (TCDD-equivalent) calculations required for the NPDES permit for the City and County of San Francisco's Oceanside Water Pollution Control Plant (Order Number R2-2009-062).

The San Francisco Estuary Institute's expert panel concluded that, if suitable data are unavailable to derive site-specific BEFs for the San Francisco Bay Region, use of the BEFs derived for the Great Lakes System is preferable to omitting BEFs

altogether. The panel concluded that, because BEFs for the congeners most commonly detected in wastewater can be as low as 0.01, calculating dioxin-TEQ (TCDD-equivalent) without BEFs (the current practice) may mischaracterize the significance of dioxin and furan discharges by as much as two orders of magnitude. Therefore, for the purpose of determining compliance with effluent limits, this Order requires the Dischargers to calculate and report dioxin-TEQ (TCDD-equivalent) using the following formula, where the TEFs and BEFs are as listed in Table F-1:

$$\text{Dioxin-TEQ (TCDD-equivalent)} = \Sigma (C_x \times TEF_x \times BEF_x)$$

Minimum Levels, Toxicity Equivalency Factors and Bioaccumulation Equivalency Factors

Dioxin or Furan Congener	Minimum Level (pg/L)	Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8-TCDD	10	1.0	1.0
1,2,3,7,8-PeCDD	50	1.0	0.9
1,2,3,4,7,8-HxCDD	50	0.1	0.3
1,2,3,6,7,8-HxCDD	50	0.1	0.1
1,2,3,7,8,9-HxCDD	50	0.1	0.1
1,2,3,4,6,7,8-HpCDD	50	0.01	0.05
OCDD	100	0.0001	0.01
2,3,7,8-TCDF	10	0.1	0.8
1,2,3,7,8-PeCDF	50	0.05	0.2
2,3,4,7,8-PeCDF	50	0.5	1.6
1,2,3,4,7,8-HxCDF	50	0.1	0.08
1,2,3,6,7,8-HxCDF	50	0.1	0.2
1,2,3,7,8,9-HxCDF	50	0.1	0.6
2,3,4,6,7,8-HxCDF	50	0.1	0.7
1,2,3,4,6,7,8-HpCDF	50	0.01	0.01
1,2,3,4,7,8,9-HpCDF	50	0.01	0.4
OCDF	100	0.0001	0.02

where:

C_x = concentration of dioxin or furan congener x
TEF_x = TEF for congener x
BEF_x = BEF for congener x

Minimum Levels (MLs)

For purposes of laboratory analysis, reporting, and compliance, the minimum level (ML) is the concentration at which the entire analytical system gives a recognizable signal and acceptable calibration point. Below the ML, detected concentrations can sometimes be estimated, but not with sufficient analytical confidence for regulatory

compliance purposes. Currently, the Dischargers analyze dioxin and furan congeners in wastewater using the latest version of U.S. Environmental Protection Agency Method 1613 (*Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS*, USEPA 1994). Many permits set forth the dioxin and furan MLs for reporting and compliance purposes as equal to one half the default MLs specified in Method 1613. This Order revises the dioxin and furan MLs to be consistent among all permits and with Method 1613.

This Order also requires the Dischargers to exclude estimated congener concentrations below MLs when calculating dioxin-TEQ (TCDD-equivalent) for the purpose of determining compliance with effluent limits. When a dioxin or furan congener is detected below its ML, its concentration could be as high as the ML or as low as zero. Dioxin and furan concentrations measured in effluent using high-volume screening techniques have often been orders of magnitude lower than Method 1613's default MLs. Therefore, the San Francisco Estuary Institute's expert panel concluded that assuming congeners detected below MLs are present at concentrations equal to the MLs (or one half the MLs) probably mischaracterizes the significance of dioxin and furan discharges by orders of magnitude. Moreover, when calculating dioxin-TEQ (TCDD-equivalent), the errors associated with adding multiple estimated values compound, resulting in values too uncertain for regulatory compliance purposes. Excluding values below MLs when adding multiple data points is consistent with how the U.S. Environmental Protection Agency directs dischargers to calculate averages when some data are below practical quantitation limits (comparable to MLs). When adding values to determine averages, data points below the practical quantitation limit are to be treated as zeros ("Instructions for Completing EPA Form 3320-1" [Rev. 01/06]).

This Order includes the dioxin and furan MLs, the Dischargers must continue to report all measured and estimated congener concentrations with appropriate data qualifiers.

3. Determining the Need for WQBELs

In accordance with Section 1.3 of the SIP, the Regional Water Board conducts a reasonable potential analysis (RPA) for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the permit. The Regional Water Board analyzes effluent and receiving water data and identifies the maximum observed effluent concentration (MEC) and maximum background concentration (B) in the receiving water for each constituent. To determine reasonable potential, the MEC and the B are then compared with the applicable water quality objectives (C) outlined in the CTR, NTR, as well as the Basin Plan. For all pollutants that have a reasonable potential to cause or contribute to an excursion above a state water quality standard, numeric WQBELs are required. The RPA considers water quality criteria from the CTR and NTR, and when applicable, water quality objectives specified in the Basin Plan. To conduct the RPA, the Regional Water Board identifies the MEC and maximum background concentration in the receiving water for each constituent, based on data provided by the Discharger.

Section 1.3 of the SIP provides the procedures for determining reasonable potential to exceed applicable water quality criteria and objectives. The SIP specifies three triggers to complete a RPA:

1) Trigger 1 – If the MEC ≥ C, a limit is needed.

2) Trigger 2 – If the background concentration (B) > C and the pollutant is detected in the effluent, a limit is needed.

3) Trigger 3 – If other related information such as CWA 303(d) listing for a pollutant, discharge type, compliance history, etc. indicates that a WQBEL is required.

Sufficient effluent and receiving water data are needed to conduct a complete RPA. If data are not sufficient, the Discharger will be required to gather the appropriate data for the Regional Water Board to conduct the RPA. Upon review of the data, and if the Regional Water Board determines that WQBELs are needed to protect the beneficial uses, the permit will be reopened for appropriate modification.

The RPA was performed for the priority pollutants regulated in the CTR for which data are available. Data collected from January 2005 through February 2008 were used in the RPA. Based on the RPA, pollutants that demonstrate reasonable potential are copper, mercury, asbestos, and TCDD equivalents at Discharge Point No. 001(A&B), and copper, lead, zinc, TCDD equivalents, bromoform, chlorodibromomethane, dichlorobromomethane, and tetrachloroethylene at Discharge Point No. 002. Refer to Attachment J for a summary of the RPA and associated effluent limitation calculations.

Table F-8a. Summary Reasonable Potential Analysis - Discharge Point No. 001(A&B)

CTR No.	Constituent	Applicable Water Quality Criteria (C)	Max Effluent Conc. (MEC)	Maximum Detected Receiving Water Conc. (B)	RPA Result - Need Limit?	Reason
		µg/L	µg/L	µg/L		
1	Antimony	14	0.2	0.2	NO	MEC<C
4	Cadmium	2.3	0.027	0.082	NO	MEC<C
5a	Chromium (III)	192	1.1	1.2	NO	MEC<C
5b	Chromium (VI)	11	1.7	2	NO	MEC<C
6	Copper	8.7	14	3.3	YES	MEC>C (Trigger 1)
7	Lead	2.8	1	0.75	NO	MEC<C
8	Mercury	0.050	0.19	0.06	YES	MEC>C (Trigger 1)
9	Nickel	48	2.2	3.1	NO	MEC<C

CTR No.	Constituent	Applicable Water Quality Criteria (C)	Max Effluent Conc. (MEC)	Maximum Detected Receiving Water Conc. (B)	RPA Result - Need Limit?	Reason
		µg/L	µg/L	µg/L		
10	Selenium	5.0	0.39	0.43	NO	MEC<C
11	Silver	3.5	0.0096	< 0.019	NO	MEC<C
13	Zinc	111	10	3.7	NO	MEC<C
15	Asbestos (fibers/L)	7.00E+06	1.1E+07	7E+06	YES	MEC>C (Trigger 1)
	TCDD Equivalents	1.30E-08	1.5E-06	8.9E-07	YES	MEC> C (Trigger 1)
20	Bromoform	4.3	0.41	0.41	NO	MEC<C
26	Chloroform	No Criteria	0.37	< 0.19	NO	No Criteria
36	Methylene Chloride	4.7	< 0.23	0.8	NO	MEC and B <C
68	Bis(2-Ethylhexyl)-Phthalate	1.8	0.38[1]	0.89[1]	NO	MEC<C
79	Diethyl Phthalate	23,000	0.24	< 0.12	NO	MEC<C
81	Di-n-Butyl Phthalate	2,700	0.9	0.97	NO	MEC<C
119-125	PCBs sum	0.00017	< 0.04	< 0.04	NO	Not Detected in Effluent or Background

[1] Some data were not included in the RPA due to quality control issues.

[2] PCBs sum refers to the sum of PCB Aroclor 1016, 1221, 1232, 1242, 1248, 1254, and 1260.

Table F-8b. Summary Reasonable Potential Analysis - Discharge Point No. 002

CTR No.	Constituent	Applicable Water Quality Criteria (C)	Max Effluent Conc. (MEC)	Maximum Detected Receiving Water Conc. (B)	RPA Result - Need Limit?	Reason
		µg/L	µg/L	µg/L		
1	Antimony	14	0.23	0.2	NO	MEC<C
4	Cadmium	2.3	0.054	0.082	NO	MEC<C
5a	Chromium (III)	192	0.9	1.2	NO	MEC<C
5b	Chromium (VI)	11	3.2	1.6	NO	MEC<C
6	Copper	8.7	148	3.3	YES	MEC>C (Trigger 1)
7	Lead	2.8	10.1	0.75	YES	MEC>C (Trigger 1)
8	Mercury	0.050	0.031	0.03	NO	MEC<C
9	Nickel	48	5	3.1	NO	MEC<C
10	Selenium	5.0	0.49	0.43	NO	MEC<C
11	Silver	3.5	0.041	0.019	NO	MEC<C

CTR No.	Constituent	Applicable Water Quality Criteria (C)	Max Effluent Conc. (MEC)	Maximum Detected Receiving Water Conc. (B)	RPA Result - Need Limit?	Reason
		µg/L	µg/L	µg/L		
13	Zinc	111	170	3.7	YES	MEC>C(Trigger 1)
15	Asbestos (fibers/L)	7.00E+06	3.00E+06	7.00E+06	NO	MEC<C
	TCDD Equivalents	1.30E-08	5.8E-07	8.9E-07	YES	MEC>C (Trigger 1)
20	Bromoform	4.3	14	0.41	YES	MEC>C (Trigger 1)
23	Chlorodibromo-methane	0.41	29	< 0.4	YES	MEC>C (Trigger 1)
26	Chloroform	No Criteria	19	< 0.19	NO	No Criteria
27	Dichlorobromo-methane	0.56	14	< 0.25		(Trigger 1)
36	Methylene Chloride	4.7	0.84	0.8	NO	MEC<C
38	Tetrachloroethylene	0.8	0.88	< 0.19	YES	MEC>C (Trigger 1)
43	Trichloroethylene	2.7	1.30	< 0.26	NO	MEC<C
68	Bis(2-Ethylhexyl)-Phthalate	1.8	0.59[1]	0.89[1]	NO	MEC<C
76	1,3-Dichlorobenzene	400	0.46	< 0.35	NO	MEC<C
79	Diethyl Phthalate	23,000	0.25	< 0.12	NO	MEC<C
81	Di-n-Butyl Phthalate	2,700	1.0	0.97	NO	MEC<C
119-125	PCBs sum [2]	0.00017	< 0.04	< 0.04	NO	Not Detected in Effluent or Background

[1] Some data were not included in the RPA due to quality control issues.

[2] PCBs sum refers to the sum of PCB Aroclor 1016, 1221, 1232, 1242, 1248, 1254, and 1260.

4. WQBEL Calculations

The WQBELs for CTR/NTR constituents are calculated according to procedures outlined in the SIP, as described below.

a. If a reasonable potential exists to exceed applicable water quality criteria or objectives, then a WQBEL must be established in accordance with one or more of the three procedures contained in Section 1.4 of the SIP. These procedures include:

i. If applicable and available, use of the wasteload allocation (WLA) established as part of a total maximum daily load (TMDL).

ii. Use of a steady-state model to derive maximum daily effluent limitations (MDELs) and average monthly effluent limitations (AMELs).

iii. Where sufficient effluent and receiving water data exist, use of a dynamic model, which has been approved by the Regional Water Board.

b. Water quality based effluent limits (final) for copper, mercury, asbestos, and TCDD equivalents at Discharge Point No. 001(A&B) and copper, lead, zinc, TCDD equivalents, bromoform, chlorodibromomethane, dichlorobromomethane, and tetrachloroethylene at Discharge Point No. 002 are based on monitoring results and following the procedure based on the steady-state model, available in Section 1.4 of the SIP.

c. The discharge is to a lake and source water at times is the receiving water and thus may be partially composed of effluent. Therefore, in this Order, no dilution credit is being allowed. However, in accordance with the reopener provision in Section VI.C.1.e in the Order, this Order may be reopened upon the submission by the Discharger of adequate information to establish appropriate dilution credits or a mixing zone, as determined by the Regional Water Board.

d. WQBELs Calculation Example

Using copper at Discharge Point No. 001(A&B) as an example, the following demonstrates how WQBELs were established for this Order. The tables in Attachment J summarize the development and calculation of all WQBELs for this Order using the process described below.

Concentration-Based Effluent Limitations

A set of AMEL and MDEL values are calculated separately, one set for the protection of aquatic life and the other for the protection of human health. The AMEL and MDEL limitations for aquatic life and human health are compared, and the most restrictive AMEL and the most restrictive MDEL are selected as the WQBEL.

Calculation of aquatic life AMEL and MDEL:

Step 1: For each constituent requiring an effluent limit, identify the applicable water quality criteria or objective. For each criterion, determine the effluent concentration allowance (ECA) using the following steady state equation:

$ECA = C + D(C-B)$ when $C > B$, and
$ECA = C$ when $C < B$,

Where C = The priority pollutant criterion/objective, adjusted if necessary for hardness, pH and translators. In this Order a hardness value of 91.5 mg/L (as $CaCO_3$) was used for development of hardness-dependant criteria, and a pH of 7.8 was used for pH-dependant criteria.
D = The dilution credit, and
B = The ambient background concentration

As discussed above, for this Order, dilution was not allowed; therefore:

ECA = C

For copper the applicable water quality criteria are (reference Table F-7):

ECA_{acute}= 12.88 µg/L
$ECA_{chronic}$= 8.65 µg/L

Step 2: For each ECA based on aquatic life criterion/objective, determine the long-term average discharge condition (LTA) by multiplying the ECA by a factor (multiplier). The multiplier is a statistically based factor that adjusts the ECA to account for effluent variability. The value of the multiplier varies depending on the coefficient of variation (CV) of the data set and whether it is an acute or chronic criterion/objective. Table 1 of the SIP provides pre-calculated values for the multipliers based on the value of the CV. Equations to develop the multipliers in place of using values in the tables are provided in Section 1.4, Step 3 of the SIP and will not be repeated here.

$LTA_{acute} = ECA_{acute} \times Multiplier_{acute\ 99}$

$LTA_{chronic} = ECA_{chronic} \times Multiplier_{chronic\ 99}$

The CV for the data set must be determined before the multipliers can be selected and will vary depending on the number of samples and the standard deviation of a data set. If the data set is less than 10 samples, or at least 80% of the samples in the data set are reported as non-detect, the CV shall be set equal to 0.6.

For copper, the following data was used to develop the acute and chronic LTA using equations provided in Section 1.4, Step 3 of the SIP (Table 1 of the SIP also provides this data up to three decimals):

No. of Samples	CV	ECA Multiplier$_{acute\ 99}$	ECA Multiplier$_{chronic\ 99}$
13	0.38	0.457	0.658

LTA_{acute} = 12.88 µg/L x 0.457= 5.886 µg/L

$LTA_{chronic}$ = 8.65 µg/L x 0.658 = 5.692 µg/L

Step 3: Select the most limiting (lowest) of the LTA.

LTA = most limiting of LTA_{acute} or $LTA_{chronic}$

For copper, the most limiting LTA was the $LTA_{chronic}$

LTA = 5.692 µg/L

Step 4: Calculate the WQBELs by multiplying the LTA by a factor (multiplier). WQBELs are expressed as an Average Monthly Effluent Limitation (AMEL) and Maximum Daily Effluent Limitation (MDEL). The multiplier is a statistically based factor that adjusts the LTA for the averaging periods and exceedance frequencies of the criteria/objectives and the effluent limitations. The value of the multiplier varies depending on the probability basis, the coefficient of variation (CV) of the data set, the number of samples (for AMEL) and whether it is a monthly or daily limit. Table 2 of the SIP provides pre-calculated values for the multipliers based on the value of the CV and the number of samples. Equations to develop the multipliers in place of using values in the tables are provided in Section 1.4, Step 5 of the SIP and will not be repeated here.

$$AMEL_{aquatic\ life} = LTA \times AMEL_{multiplier\ 95}$$

$$MDEL_{aquatic\ life} = LTA \times MDEL_{multiplier\ 99}$$

AMEL multipliers are based on a 95th percentile occurrence probability, and the MDEL multipliers are based on the 99th percentile occurrence probability. If the number of samples is less than four (4), the default number of samples to be used is four (4).

For copper, the following data was used to develop the AMEL and MDEL for aquatic life using equations provided in Section 1.4, Step 5 of the SIP (Table 2 of the SIP also provides this data up to two decimals):

No. of Samples Per Month	CV	$Multiplier_{MDEL\ 99}$	$Multiplier_{AMEL\ 95}$
4	0.38	2.190	1.338

$$AMEL_{aquatic\ life} = 5.692 \times 1.338 = 7.616\ \mu g/L$$

$$MDEL_{aquatic\ life} = 5.692 \times 2.19 = 12.46\ \mu g/L$$

Calculation of human health AMEL and MDEL:

Step 5: For the ECA based on human health, set the AMEL equal to the $ECA_{human\ health}$

$$AMEL_{human\ health} = ECA_{human\ health}$$

For copper:

$$AMEL_{human\ health} = 1{,}300\ \mu g/L$$

Step 6: Calculate the MDEL for human health by multiplying the AMEL by the ratio of the $Multiplier_{MDEL}$ to the $Multiplier_{AMEL}$. Table 2 of the SIP provides pre-calculated ratios to be used in this calculation based on the CV and the number of samples.

$$MDEL_{human\ health} = AMEL_{human\ health} \times (Multiplier_{MDEL} / Multiplier_{AMEL})$$

For copper, the following data were used to develop the $MDEL_{human\ health}$:

No. of Samples Per Month	CV	$Multiplier_{MDEL\ 99}$	$Multiplier_{AMEL\ 95}$	Ratio
4	0.38	2.19	1.338	1.637

$$MDEL_{human\ health} = 1{,}300\ \mu g/L\ 1.637 = 2{,}128\ \mu g/L$$

Step 7: Select the lower of the AMEL and MDEL based on aquatic life and human health as the water-quality based effluent limit for the Order.

For copper

$AMEL_{aquatic\ life}$	$MDEL_{aquatic\ life}$	$AMEL_{human\ health}$	$MDEL_{human\ health}$
7.6 µg/L	12 µg/L	1,300 µg/L	2,128 µg/L

The lowest (most restrictive) effluent limits are based on aquatic toxicity and were incorporated into this Order. For lead and zinc, there are no human health criteria; therefore, the AMEL and MDEL based on aquatic life criteria are established as the WQBELs. For mercury, TCDD equivalents, asbestos, bromoform, chlorodibromomethane, dichlorobromomethane, and tetrachloroethylene, there are no aquatic life criteria; therefore, the AMEL and MDEL based on the human health criteria are established as the WQBELs. These limits will be protective of aquatic life.

e. Effluent Limitations Based on Intake Water Credits. Intake water credits for WQBELs are addressed in the SIP. Within Section 1.4.4 of the SIP, the conditions under which intake water credits for WQBELS may be allowed are as follows:

"(1) The observed maximum ambient background concentration, as determined in section 1.4.3.1, and the intake water concentration of the pollutant exceeds the most stringent applicable criterion/objective for that pollutant;

(2) The intake water credits provided are consistent with any TMDL applicable to the discharge that has been approved by the Regional Water Board, State Water Board, and USEPA;

(3) The intake water is from the same water body as the receiving water body. The Discharger may demonstrate this condition by showing that:

(a) the ambient background concentration of the pollutant in the receiving water, excluding any amount of the pollutant in the facility's discharge, is similar to that of the intake water;

(b) there is a direct hydrological connection between the intake and discharge points;

(c) the water quality characteristics are similar in the intake and receiving waters; and

(d) the intake water pollutant would have reached the vicinity of the discharge point in the receiving water within a reasonable period of time and with the same effect had it not been diverted by the Discharger.

The Regional Water Board may also consider other factors when determining whether the intake water is from the same water body as the receiving water body;

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

(5) 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."

Monitoring data from the Facility demonstrated that, for CTR constituents mercury, asbestos, and TCDD equivalents at Discharge Point No. 001 (in Order No. R4-2004-0172) and TCDD equivalents at Discharge Point No. 002, intake water concentrations may be contributing to effluent concentrations that are higher than the proposed effluent limitations in this Order and that intake water credits may be warranted. Summary data for each constituent as well as the results of the evaluation are presented in Table F-9. A discussion of the evaluation of each constituent with respect to the conditions is discussed below:

i. Condition (1). The intake water is directly drawn from the upstream ambient water at the Facility location so that the intake water is the same as the ambient water. For each parameter, the intake water has demonstrated a concentration greater than the most stringent applicable criterion (See Table F-9) with the exception of asbestos at Discharge Point No. 001. Asbestos was detected in the intake water and effluent only during the 2005 sample year of the previous term. While the intake water concentration of asbestos was less than the most stringent criterion, this is believed to be due to sample

variability and timing. The Discharger identified the source of asbestos as turn-in sites at Cantua and Arroyo Pasajero Creeks. The Discharger indicates these are known areas of natural occurring asbestos and because of the terrain and original design, during very wet years the natural flows from these creeks are taken into the aqueduct. These creeks are located near the town of Huron, and are about 150+ miles upstream of the Facility. Because the sample size of data collected was limited (less than 10 data points) and because of the distance of the intake water sampling in relation to the discharge (approximately 5 miles), the Regional Water Board believes that sample timing and sample variability could account for the range of concentrations and that correction of these factors would reveal instances where asbestos in the intake water is greater than the CTR criterion. The MRP of this Order further specifies that sampling must account for the travel time of water from the intake location through the Facility so that the intake and effluent samples directly correspond to the same physical volume of water.

ii. **Condition (2).** There is no TMDL in effect or scheduled for Pyramid Lake.

iii. **Condition (3)** The intake water is taken from the Peace Valley Pipeline water as it passes through turbines and enters the tailrace of the Facility, thus the intake water is the same as the upstream, ambient water, thus satisfying conditions (a) and (c). The Peace Valley Pipeline, which is the upstream, ambient receiving water and the cooling water supply source enters directly into Pyramid Lake through turbines, satisfying conditions (b) and (d).

iv. **Condition (4).** Based on the nature of operations, as described in the ROWD, the facility does not alter the intake water pollutants chemically or physically. The Discharger does not conduct operations that contribute appreciable quantities of pollutants to the effluent, thus demonstrating that the nature of intake water is similar to the effluent. In some instances turbidity associated with solids may settle and then become re-suspended upon discharge, particularly during wet weather. However, the extent to which this occurs is slight and consistent with natural wet weather conditions in streams entering Pyramid Lake.

v. **Condition (5).** Cooling water passes through the system and is discharged at the same location where turbine water enters Pyramid Lake. Thus timing and location do 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.

In summary, the constituents for which intake water credits are allowed in this Order were found in the intake water and effluent samples at concentrations that exceed the most stringent applicable water quality criterion. The Facility does not conduct operations which add appreciable amounts of these constituents to the effluent. Effluent limitations based on intake water credits prohibit the Facility from contributing additional amounts of the constituents to the discharge beyond the

original effluent limitations. As a result, this Order includes intake water credits as specified in IV.A and B of this Order for mercury, asbestos, and TCDD equivalents at Discharge Point No. 001(A&B) and TCDD equivalents at Discharge Point No. 002.

Table F-9. Summary of Intake Water Credit Evaluation

Constituent	Applicable Water Quality Criteria (C)	Max Effluent Conc. (MEC)	Maximum Detected Intake Conc. (B)	Intake water credits Applicable?	Reason
Discharge Point No. 001(A&B)					
Mercury (µg/L)	0.05	0.19	0.06	Yes	Meets criteria (1) through (4) in SIP
Asbestos (fibers/L)	7.0E+06	1.10E+07	5.0E+06	Yes[1]	Meets criteria (1) through (4) in SIP[1]
TCDD Equivalents (µg/L)	1.3E-08	1.50E-06	3.54E-07	Yes	Meets criteria (1) through (4) in SIP
Discharge Point No. 002					
TCDD Equivalents (µg/L)	1.3E-08	5.80E-07	3.54E-07	Yes	Meets criteria (1) through (4) in SIP

[1] When sample variability and timing are corrected, the intake concentration is likely to exceed the applicable criterion.

5. WQBELS based on Basin Plan Objectives

The Basin Plan states that the pH of inland surface waters shall not be depressed below 6.5 or raised above 8.5 as a result of waste discharge. Based on the requirements of the Basin Plan an instantaneous minimum limitation of 6.5 and an instantaneous maximum limitation of 8.5 for pH are included in the proposed permit. The Basin Plan lists temperature requirements for the receiving waters and references the Thermal Plan. Based on the requirements of the Thermal Plan and a white paper developed by Regional Water Board staff entitled *Temperature and Dissolved Oxygen Impacts on Biota in Tidal Estuaries and Enclosed Bays in the Los Angeles Region*, a maximum effluent temperature limitation of 86 °F is included in the proposed permit. The white paper evaluated the optimum temperatures for steelhead, topsmelt, ghost shrimp, brown rock crab, jackknife clam, and blue mussel. The 86°F temperature was found to be protective.

Chlorine and its reaction products are toxic to aquatic life. The limit for residual chlorine is based on the Basin Plan (page 3-9) narrative," Chlorine residual shall not be present in surface water discharges at concentrations that exceed 0.1 mg/L and shall not persist in receiving waters at any concentration that causes impairment of beneficial uses." It is impracticable to use a 7-day average or a 30-day average limitation, because it is not as protective as of beneficial uses as a daily maximum limitation is. Chlorine is very toxic to aquatic life and short-term exposures of chlorine may cause fish kills. The Facility chlorinates water in the potable water treatment plant, therefore backwash contributions to Discharge Point No. 002 may contain chlorine residual. Order No. R4-2004-0172 did not require the Facility to

monitor for total chlorine residual. Annual priority pollutant monitoring revealed the chlorination by-products (bromoform, chlorodibromomethane, and dichloro-bromomethane) were present in the effluent at Discharge Point No. 002 (See Table F-8b). Because chlorine is used at the Facility and chlorination by-products were detected in the effluent, this Order includes an effluent limitation for total residual chlorine at Discharge Point No. 002.

6. Whole Effluent Toxicity (WET)

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative "no toxics in toxic amounts" criterion while implementing numeric criteria for toxicity. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

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 responses by aquatic organisms. Detrimental response includes but is not limited to decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota. The existing Order contains acute toxicity limitations and monitoring requirements in accordance with the Basin Plan, in which the acute toxicity objective for discharges dictates that the average survival in undiluted effluent for any three consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, with no single test having less than 70% survival.

Annual acute toxicity data for the years 2005 through 2008 submitted by the Discharger showed 3-sample average survival rates greater than 90% at both Discharge Point Nos. 001(A&B) and 002. Since the acute toxicity limitations may provide a backstop to preventing the discharge of toxic pollutants in toxic amounts, this Order carries over the acute toxicity limitations and monitoring requirements from the previous Order.

In addition to the Basin Plan requirements, Section 4 of the SIP states that a chronic toxicity effluent limitation is required in permits for all discharges that will cause, have the reasonable potential to cause, or contribute to chronic toxicity in receiving waters.

The discharges from Discharge Point Nos. 001(A&B) and 002 could contribute to long-term toxic effects within the receiving water. However, no chronic toxicity data are available for the discharge. Therefore, in accordance with the SIP, the Discharger is required to conduct chronic toxicity testing in order to determine reasonable potential and establish WQBELs as necessary. In addition, the Order establishes a chronic toxicity trigger (monthly median of 1.0TUc) that when

exceeded requires the Discharger to conduct accelerated toxicity testing and/or conduct toxicity reduction evaluation (TRE) and toxicity identification evaluation (TIE) studies.

7. Final WQBELs

Table F-10a. Summary of Water Quality-based Effluent Limitations - Discharge Point No. 001(A&B)

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	s.u.	--	--	--	6.5	8.5
Temperature	deg. F	--	--	--	--	86
Dissolved Oxygen	mg/L	--	--	--	5.0[1]	--
Acute Toxicity	% survival	[2]				
Copper , Total Recoverable	µg/L	7.6	--	12	--	--
	lbs/day[3]	0.12	--	0.20	--	--
Mercury, Total Recoverable[4]	µg/L	0.050	--	0.13	--	--
	lbs/day[3]	0.00081	--	0.0021	--	--
Asbestos[4]	million fibers/L	7	--	21	--	--
TCDD Equivalents[4,5]	pg/L	0.013	--	0.026	--	--
	lbs/day[3]	2.1E-10	--	4.2E-10	--	--

[1] Dissolved oxygen shall not be less than 5.0 mg/L at any time; the median dissolved oxygen concentration for any 3 consecutive months shall not be less than 80% of the dissolved oxygen content at saturation.

[2] The acute toxicity of the effluent shall be such that: (i) the average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous bioassay tests shall be at least 90%, and (ii) no single test producing less than 70% survival.

[3] Based on a flow of 1.950 mgd.

[4] If the intake water pollutant concentration does not exceed the average monthly limitation then the limitations are applied as noted in the table. If the intake water pollutant concentration exceeds the average monthly limitation, but does not exceed the maximum daily limitation, then compliance with the average monthly limitation will be determined based on intake water credit (intake water concentration) and compliance with the maximum daily limitation is applied as noted in the table. If the intake water pollutant concentration exceeds the maximum daily limitation, then compliance with both the average monthly and maximum daily limitation will be determined based on intake water credit (intake water concentration). When determining compliance based on intake water credit, the pollutant effluent limitation is equal to the maximum pollutant concentration in the intake water. The equation is as follows:

Pollutant Effluent Limitation with Intake Water Credit = Maximum Intake Water Concentration

When grab samples are taken, the timing and location of intake water and effluent samples shall reflect the travel time of water in the Facility. The intake water sample shall directly correspond to the effluent sample.

[5] TCDD equivalents shall be calculated using the following formula, where the Minimum Levels (MLs), toxicity equivalency factors (TEFs), and bioaccumulation equivalency factors (BEFs) are as provided in the table below. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating TCDD equivalents, the Discharger shall set congener concentrations below the minimum levels to zero. USEPA method 1613 may be used to analyze dioxin and furan congeners.

$$\text{TCDD equivalents} = \Sigma (C_x \times TEF_x \times BEF_x)$$

where:

C_x = concentration of dioxin or furan congener x

TEF_x = TEF for congener x
BEF_x = BEF for congener x

Dioxin or Furan Congener	Minimum Level (pg/L)	Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8-TCDD	10	1.0	1.0
1,2,3,7,8-PeCDD	50	1.0	0.9
1,2,3,4,7,8-HxCDD	50	0.1	0.3
1,2,3,6,7,8-HxCDD	50	0.1	0.1
1,2,3,7,8,9-HxCDD	50	0.1	0.1
1,2,3,4,6,7,8-HpCDD	50	0.01	0.05
OCDD	100	0.0001	0.01
2,3,7,8-TCDF	10	0.1	0.8
1,2,3,7,8-PeCDF	50	0.05	0.2
2,3,4,7,8-PeCDF	50	0.5	1.6
1,2,3,4,7,8-HxCDF	50	0.1	0.08
1,2,3,6,7,8-HxCDF	50	0.1	0.2
1,2,3,7,8,9-HxCDF	50	0.1	0.6
2,3,4,6,7,8-HxCDF	50	0.1	0.7
1,2,3,4,6,7,8-HpCDF	50	0.01	0.01
1,2,3,4,7,8,9-HpCDF	50	0.01	0.4
OCDF	100	0.0001	0.02

Table F-10b. Summary of Water Quality-based Effluent Limitations - Discharge Point No. 002

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	s.u.	--	--	--	6.5	8.5
Temperature	deg. F	--	--	--	--	86
Dissolved Oxygen	mg/L	--	--	--	5.0[1]	--
Acute Toxicity	% survival	[2]				
Chlorine, Total Residual	mg/L	--	--	0.1	--	--
	lbs/day[3]	--	--	0.017	--	--
Copper , Total Recoverable	µg/L	4.5	--	13	--	--
	lbs/day[3]	7.5E-05	--	2.2E-04	--	--
Lead, Total Recoverable	µg/L	1.6	--	5.0	--	--
	lbs/day[3]	2.7E-05	--	8.3E-05	--	--
Zinc, Total Recoverable	µg/L	42	--	111	--	--
	lbs/day[3]	7.0E-04	--	1.9E-03	--	--
TCDD Equivalents[4,5]	pg/L	0.013	--	0.026	--	--
	lbs/day[3]	2.2E-013	--	4.3E-13	--	--
Bromoform	µg/L	4.3	--	13	--	--
	lbs/day[3]	7.2E-05	--	2.4E-04	--	--

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Chlorodibromo-methane	µg/L	0.40	--	1.0	--	--
	lbs/day[3]	6.7E-06	--	1.7E-05	--	--
Dichlorobromo-methane	µg/L	0.56	--	1.6	--	--
	lbs/day[3]	9.3E-06	--	2.7E-05	--	--
Tetrachloro-ethylene	µg/L	0.80	--	2.3	--	--
	lbs/day[3]	1.3E-05	--	3.8E-05	--	--

[1] Dissolved Oxygen shall not be less than 5.0 mg/L at anytime; the median dissolved oxygen concentration for any 3 consecutive months shall not be less than 80 % of the dissolved oxygen content at saturation.

[2] The acute toxicity of the effluent shall be such that: (i) the average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous bioassay tests shall be at least 90%, and (ii) no single test producing less than 70% survival.

[3] Based on a flow of 0.002 mgd.

[4] If the intake water pollutant concentration does not exceed the average monthly limitation then the limitations are applied as noted in the table. If the intake water pollutant concentration exceeds the average monthly limitation, but does not exceed the maximum daily limitation, then compliance with the average monthly limitation will be determined based on intake water credit (intake water concentration) and compliance with the maximum daily limitation is applied as noted in the table. If the intake water pollutant concentration exceeds the maximum daily limitation, then compliance with both the average monthly and maximum daily limitation will be determined based on intake water credit (intake water concentration). When determining compliance based on intake water credit, the pollutant effluent limitation is equal to the maximum pollutant concentration in the intake water. The equation is as follows:

Pollutant Effluent Limitation With Intake Water Credit = Maximum Intake Water Concentration

When grab samples are taken, the timing and location of intake water and effluent samples shall reflect the travel time of water in the Facility. The intake water sample shall directly correspond to the effluent sample.

[5] TCDD equivalents shall be calculated using the following formula, where the Minimum Levels (MLs), toxicity equivalency factors (TEFs), and bioaccumulation equivalency factors (BEFs) are as provided in the table below. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating TCDD equivalents, the Discharger shall set congener concentrations below the minimum levels to zero. USEPA method 1613 may be used to analyze dioxin and furan congeners.

$$\text{TCDD equivalents} = \Sigma (C_x \times TEF_x \times BEF_x)$$

where:

C_x = concentration of dioxin or furan congener x

TEF_x = TEF for congener x

BEF_x = BEF for congener x

Dioxin or Furan Congener	Minimum Level (pg/L)	Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8-TCDD	10	1.0	1.0
1,2,3,7,8-PeCDD	50	1.0	0.9
1,2,3,4,7,8-HxCDD	50	0.1	0.3
1,2,3,6,7,8-HxCDD	50	0.1	0.1
1,2,3,7,8,9-HxCDD	50	0.1	0.1
1,2,3,4,6,7,8-HpCDD	50	0.01	0.05
OCDD	100	0.0001	0.01
2,3,7,8-TCDF	10	0.1	0.8

Dioxin or Furan Congener	Minimum Level (pg/L)	Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
1,2,3,7,8-PeCDF	50	0.05	0.2
2,3,4,7,8-PeCDF	50	0.5	1.6
1,2,3,4,7,8-HxCDF	50	0.1	0.08
1,2,3,6,7,8-HxCDF	50	0.1	0.2
1,2,3,7,8,9-HxCDF	50	0.1	0.6
2,3,4,6,7,8-HxCDF	50	0.1	0.7
1,2,3,4,6,7,8-HpCDF	50	0.01	0.01
1,2,3,4,7,8,9-HpCDF	50	0.01	0.4
OCDF	100	0.0001	0.02

D. Final Effluent Limitations

Section 402(o) of the CWA and section 122.44(l) require that effluent limitations or conditions in reissued Orders be at least as stringent as those in the existing Orders based on the submitted sampling data. Effluent limitations for pH, temperature, dissolved oxygen, settleable solids, total suspended solids, turbidity, oil and grease, and BOD, at Discharge Point No. 001(A&B) and 002; are being carried over from the previous Order (Order No. R4-2004-0172). Removal of these numeric limitations would constitute backsliding under CWA section 402(o). The Regional Water Board has determined that these numeric effluent limitations continue to be applicable to the Facility.

In addition, the effluent limitations for copper, mercury, asbestos, and TCDD equivalents at Discharge Point No. 001(A&B), and copper, lead, zinc, TCDD equivalents, bromoform, chlorodibromomethane, dichlorobromomethane, and tetrachloroethylene at Discharge Point No. 002 have been added to this Order because the Facility's discharge was found to have reasonable potential to exceed water quality criteria for these parameters. As discussed in sections IV.B.2.a and IV.C.4.e of this Fact Sheet, this Order allows for intake water credits in meeting the effluent limitations for turbidity, mercury, asbestos, and TCDD equivalents at Discharge Point No. 001(A&B) and turbidity and TCDD equivalents at Discharge Point No. 002.

1. Satisfaction of Anti-Backsliding Requirements

The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, with the exception of effluent limitations for polychlorinated biphenyls (PCBs) and the allowance of intake water credits for turbidity, mercury, asbestos, and TCDD equivalents at Discharge Point No. 001(A&B) and turbidity and TCDD equivalents at Discharge Point No. 002. The effluent limitations for PCBs from the previous Order are discontinued in this Order. Effluent monitoring conducted in 13 sample events at Discharge Point Nos. 001 and 002 from April 19, 2005 through February 6, 2008 showed no detectable concentrations of PCBs, including individual isomers. The monitoring data collected constitutes new information that was not available at the time of issuance of Order

No. R4-2004-0172. As such, this relaxation of effluent limitations is consistent with the anti-backsliding requirements of 40 CFR 122.44(l)(2)(i).

As discussed in section IV.B.2 of this Fact Sheet, the Facility has satisfied the conditions for allowing intake water credits for turbidity under 40 CFR 122.45(g) and for mercury, asbestos, and TCDD equivalents under Section 1.4.4 of the SIP. The allowance of intake water credits is based on monitoring data submitted by the Discharger that demonstrates that the pollutant concentrations for specified parameters in effluent are largely due to their presence in the intake water as well as the fact that operations at the Facility do not contribute appreciable quantities of pollutants to the discharge. This new information, collected during the previous permit term, allows for relaxation of effluent limitations in accordance with 40 CFR 122.44(l)(2)(i).

Similarly, as discussed in section V.A. of this Fact Sheet, receiving water limitations for sulfide have been removed in this Order. Monitoring data collected during the previous term indicate that dissolved sulfides are not present in the receiving water at detectable levels. This new information is consistent with 40 CFR 122.44(l)(2)(i) in allowing backsliding.

2. Satisfaction of Antidegradation Policy

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

The permitted discharge is consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16. The final limitations in this Order are in compliance with antidegradation requirements and meet the requirements of the SIP because these limits hold the Discharger to performance levels that will not cause or contribute to water quality impairment or further quality degradation that could result from an increase in permitted design flow or a reduction in the level of treatment. This Order does not provide for an increase in the permitted design flow or allow for a reduction in the level of treatment. Further, compliance with these requirements will result in the use of best practicable treatment or control of the discharge.

Under Section 303(d)(4)(B) of the CWA, WQBELs may only be relaxed where the action is consistent with the State's antidegradation policy. The State Water Board has adopted the *Statement of Policy with Respect to Maintaining High Quality Water in California (Antidegradation Policy)*, which states that any actions that can adversely affect water quality in all surface and ground waters must be consistent with the maximum benefit to the people of the state, must not unreasonably affect

present and anticipated beneficial use of such water, and must not result in water quality less than that prescribed in water quality plans and policies. The Regional Water Board believes that removal of the PCB effluent limitation and the receiving water limitation for dissolved sulfide as well as the allowance of intake water credits for the constituents discussed in section IV.D.2 are consistent with these objectives.

The Order does not include an increase in the permitted flow authorized in the previous permit and thus there will be no change in water quality beyond the level that was authorized in the last permit. Therefore, issuance of this permit is consistent with the state's antidegradation policy.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on settleable solids, total suspended solids, turbidity, oil and grease, and BOD. Restrictions on settleable solids, total suspended solids, turbidity, oil and grease, and BOD are discussed in section IV.B.2 of the Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

4. Mass-based Effluent Limitations

Mass-based effluent limitations are established using the following formula:

Mass (lbs/day) = flow rate (MGD) x 8.34 x effluent limitation (mg/L)

where: Mass = mass limitation for a pollutant (lbs/day)
Effluent limitation = concentration limit for a pollutant (mg/L)
Flow rate = discharge flow rate (MGD)

Table F-11a. Summary of Final Effluent Limitations - Discharge Point No. 001(A&B)

Parameter	Units	Effluent Limitations					Basis[2]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
pH	s.u.	--	--	--	6.5	8.5	E, Basin Plan
Temperature	deg. F	--	--	--	--	86	E, BPJ
Total Suspended Solids (TSS)	mg/L	50	--	75	--	--	E, BPJ
	lbs/day[1]	810	--	1220	--	--	
Settleable Solids	ml/L	0.1	--	0.3	--	--	E, BPJ
Turbidity [3]	NTU	5	--	25	--	--	E/Intake Credit[3]
BOD_5 @ 20 °C	mg/L	--	--	10	--	--	E, BPJ
	lbs/day[1]	--	--	160	--	--	
Oil and Grease	mg/L	10	--	15	--	--	E, BPJ
	lbs/day[1]	160	--	240	--	--	
Dissolved Oxygen	mg/L	--	--	--	5.0[5]	--	E
Acute Toxicity	% survival	[6]					E, Basin Plan
Copper , Total Recoverable	µg/L	7.6	--	12	--	--	CTR
	lbs/day[1]	0.12	--	0.20	--	--	
Mercury, Total Recoverable	µg/L	0.050	--	0.13	--	--	CTR/Intake Credit[4]
	lbs/day[1]	0.00081	--	0.0021	--	--	
Asbestos	million fibers/L	7	--	21	--	--	CTR/Intake Credit[4]
TCDD Equivalents[7]	pg/L	0.013	--	0.026	--	--	CTR/Intake Credit[4]
	lbs/day[1]	2.1E-10	--	4.2E-10	--	--	

1 Based on a flow of 1.950 mgd.

2 E — Limit is carried over from the previous Order.

BPJ — Limit is based on best professional judgment in accordance with 40 CFR section 125.3.

CTR — Limit is established based on the criteria contained in the California Toxics Rules.

3 Intake credits are provided for turbidity based on 40 CFR part 122.45(g).

4 Intake credits are provided for these parameters based on Section 1.4.4 of the SIP.

5 Dissolved oxygen shall not be less than 5.0 mg/L at any time; the median dissolved oxygen concentration for any 3 consecutive months shall not be less than 80% of the dissolved oxygen content at saturation.

6 The acute toxicity of the effluent shall be such that: (i) the average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous bioassay tests shall be at least 90%, and (ii) no single test producing less than 70% survival.

7 TCDD equivalents shall be calculated using the following formula, where the Minimum Levels (MLs), toxicity equivalency factors (TEFs), and bioaccumulation equivalency factors (BEFs) are as provided in the table below. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating TCDD equivalents, the Discharger shall set congener concentrations below the minimum levels to zero. USEPA method 1613 may be used to analyze dioxin and furan congeners.

$$\text{TCDD equivalents} = \Sigma (C_x \times TEF_x \times BEF_x)$$

where:

C_x = concentration of dioxin or furan congener x

TEF_x = TEF for congener x

BEF_x = BEF for congener x

Dioxin or Furan Congener	Minimum Level (pg/L)	Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8-TCDD	10	1.0	1.0
1,2,3,7,8-PeCDD	50	1.0	0.9
1,2,3,4,7,8-HxCDD	50	0.1	0.3
1,2,3,6,7,8-HxCDD	50	0.1	0.1
1,2,3,7,8,9-HxCDD	50	0.1	0.1
1,2,3,4,6,7,8-HpCDD	50	0.01	0.05
OCDD	100	0.0001	0.01
2,3,7,8-TCDF	10	0.1	0.8
1,2,3,7,8-PeCDF	50	0.05	0.2
2,3,4,7,8-PeCDF	50	0.5	1.6
1,2,3,4,7,8-HxCDF	50	0.1	0.08
1,2,3,6,7,8-HxCDF	50	0.1	0.2
1,2,3,7,8,9-HxCDF	50	0.1	0.6
2,3,4,6,7,8-HxCDF	50	0.1	0.7
1,2,3,4,6,7,8-HpCDF	50	0.01	0.01
1,2,3,4,7,8,9-HpCDF	50	0.01	0.4
OCDF	100	0.0001	0.02

Table F-11b. Summary of Final Effluent Limitations - Discharge Point No. 002

Parameter	Units	Effluent Limitations					Basis[2]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
pH	s.u.	--	--	--	6.5	8.5	E, Basin Plan
Temperature	deg. F	--	--	--	--	86	E, BPJ
Total Suspended Solids (TSS)	mg/L	50	--	75	--	--	E, BPJ
	lbs/day[1]	0.83	--	1.3	--	--	
Settleable Solids	ml/L	0.1	--	0.3	--	--	E, BPJ
Turbidity	NTU	5	--	25	--	--	E/Intake Credit[3]
BOD_5 @ 20 °C	mg/L	--	--	10	--	--	E, BPJ
	lbs/day[1]	--	--	0.17	--	--	
Oil and Grease	mg/L	10	--	15	--	--	E, BPJ
	lbs/day[1]	0.17	--	0.25	--	--	
Dissolved Oxygen	mg/L	--	--	--	5.0[5]	--	E
Acute Toxicity	% survival	[6]					E, Basin Plan
Chlorine, Total Residual	mg/L	--	--	0.1	--	--	Basin Plan
	lbs/day[1]	--	--	0.017	--	--	
Copper , Total Recoverable	µg/L	4.5	--	13	--	--	CTR
	lbs/day[3]	7.5E-05	--	2.2E-04	--	--	
Lead, Total	µg/L	1.6	--	5.0	--	--	CTR

Parameter	Units	Effluent Limitations					Basis[2]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Recoverable	lbs/day[3]	2.7E-05	--	8.3E-05	--	--	
Zinc, Total Recoverable	µg/L	42	--	111			CTR
	lbs/day[3]	7.0E-04	--	1.9E-03			
TCDD Equivalents[7]	pg/L	0.013	--	0.026			CTR/Intake Credit[4]
	lbs/day[3]	2.2E-013	--	4.3E-13			
Bromoform	µg/L	4.3	--	13			CTR
	lbs/day[3]	7.2E-05	--	2.4E-04			
Chlorodibromo-methane	µg/L	0.40	--	1.0			CTR
	lbs/day[3]	6.7E-06	--	1.7E-05			
Dichlorobromo-methane	µg/L	0.56	--	1.6			CTR
	lbs/day[3]	9.3E-06	--	2.7E-05			
Tetrachloro-ethylene	µg/L	0.80	--	2.3	--	--	CTR
	lbs/day[3]	1.3E-05	--	3.8E-05	--	--	

1 Based on a flow of 0.002 mgd.

2 E – Limit is carried over from the previous Order.

BPJ – Limit is based on best professional judgment in accordance with 40 CFR section 125.3.

CTR – Limit is established based on the criteria contained in the California Toxics Rules.

3 Intake credit is provided for turbidity based on 40 CFR part 122.45(g).

4 Intake credit is provided for this parameter based on Section 1.4.4 of the SIP.

5 Dissolved oxygen shall not be less than 5.0 mg/L at any time; the median dissolved oxygen concentration for any 3 consecutive months shall not be less than 80% of the dissolved oxygen content at saturation.

6 The acute toxicity of the effluent shall be such that: (i) the average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous bioassay tests shall be at least 90%, and (ii) no single test producing less than 70% survival.

7 TCDD equivalents shall be calculated using the following formula, where the Minimum Levels (MLs), toxicity equivalency factors (TEFs), and bioaccumulation equivalency factors (BEFs) are as provided in the table below. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating TCDD equivalents, the Discharger shall set congener concentrations below the minimum levels to zero. USEPA method 1613 may be used to analyze dioxin and furan congeners.

$$\text{TCDD equivalents} = \Sigma (C_x \times TEF_x \times BEF_x)$$

where:

C_x = concentration of dioxin or furan congener x

TEF_x = TEF for congener x

BEF_x = BEF for congener x

Dioxin or Furan Congener	Minimum Level (pg/L)	Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8-TCDD	10	1.0	1.0
1,2,3,7,8-PeCDD	50	1.0	0.9
1,2,3,4,7,8-HxCDD	50	0.1	0.3
1,2,3,6,7,8-HxCDD	50	0.1	0.1
1,2,3,7,8,9-HxCDD	50	0.1	0.1
1,2,3,4,6,7,8-HpCDD	50	0.01	0.05

Dioxin or Furan Congener	Minimum Level (pg/L)	Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
OCDD	100	0.0001	0.01
2,3,7,8-TCDF	10	0.1	0.8
1,2,3,7,8-PeCDF	50	0.05	0.2
2,3,4,7,8-PeCDF	50	0.5	1.6
1,2,3,4,7,8-HxCDF	50	0.1	0.08
1,2,3,6,7,8-HxCDF	50	0.1	0.2
1,2,3,7,8,9-HxCDF	50	0.1	0.6
2,3,4,6,7,8-HxCDF	50	0.1	0.7
1,2,3,4,6,7,8-HpCDF	50	0.01	0.01
1,2,3,4,7,8,9-HpCDF	50	0.01	0.4
OCDF	100	0.0001	0.02

E. Interim Effluent Limitations

Not Applicable

F. Land Discharge Specifications

Not Applicable

G. Reclamation Specifications

Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

The Basin Plan contains numeric and narrative water quality objectives applicable to all surface waters within the Los Angeles Region. Water quality objectives include an objective to maintain the high quality waters pursuant to federal regulations (section 131.12) and State Water Board Resolution No. 68-16. Receiving water limitations in this Order are included to ensure protection of beneficial uses of the receiving water and are based on the water quality objectives contained in the Basin Plan. The receiving water limitations for this Order have been modified to reflect current Basin Plan Objectives.

B. Groundwater

Not Applicable

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this Facility.

A. Influent Monitoring

The source water from which the Facility draws intake water includes California State Water Project water originating in the Sacramento-San Joaquin Delta. Influent monitoring is required to distinguish between contaminants potentially contributed by the Facility and contaminants present in the intake water.

As discussed in sections IV.B.2.a and IV.C.4.e, this Order allows for intake water credits associated with meeting the effluent limitations for turbidity. Turbidity levels in the intake water, effluent, and receiving water are frequently above Basin Plan Objectives, obscuring potential impacts the effluent turbidity has on the receiving water. In an attempt to more clearly monitor turbidity contributions the Discharger has recently installed tubidimeters at the intake water and effluent monitoring locations to provide real time data on turbidity. However, since the turbidimeters installed are not good for measuring low range (0 to 5 NTU) of turbidity (average monthly turbidity limitation is 5 NTU) data reported by turbidimeters will not be used for compliance purpose. Grab samples are required for turbidity in this permit.

This Order includes new limitations for several constituents based on results of reasonable potential analyses discussed in section IV.C.3 of this Fact Sheet. In order to characterize pollutants present in the intake water, the MRP includes at least quarterly monitoring requirements for the constituents with effluent limitations at Discharge Point Nos. 001(A&B), and 002.

As discussed in the Fact Sheet sections IV.B.2 and IV.C.4, this Order allows for intake water credits for turbidity, mercury, asbestos, and TCDD equivalents at Discharge Point No. 001(A&B), and turbidity and TCDD equivalents at Discharge Point No. 002. In order to characterize any Facility contributions that would result in exceedance of the limitations and/or potentially impair beneficial uses, the Discharger must ensure that the timing and location of sampling for intake water and effluent reflect the travel time of water in the Facility such that the intake water samples directly correspond to effluent samples.

B. Effluent Monitoring

Monitoring for those pollutants expected to be present in the effluent at Monitoring Locations EFF-001(A&B) and EFF-002 for Discharge Point Nos. 001(A&B) and 002, respectively, will be required as shown in the MRP. To determine compliance with

effluent limitations, the MRP carries over monitoring requirements from Order No. R4-2004-0172 with some modifications.

According to the SIP, the Discharger is required to monitor the effluent for the CTR priority pollutants to determine reasonable potential. Order No. R4-2004-0172 required monitoring for priority pollutants at a frequency of quarterly during the first 3 years of the permit at Intake Water station, Discharge Point Nos. 001, 002, and Pyramid Lake. Sufficient data were collected during the previous term to determine reasonable potential for this Order. This Order reduces the monitoring frequency of priority pollutants for which no effluent limitations have been established from quarterly to semiannually.

This Order includes new limitations for several constituents based on results of reasonable potential analyses discussed in IV.C.3 of this Fact Sheet. The MRP requires at least quarterly monitoring for constituents with newly established effluent limitations at Discharge Point Nos. 001(A&B) and 002 for compliance determination purpose.

Order No. R4-2004-0172 established an effluent limitation for PCBs at Discharge Point Nos. 001 and 002. As discussed in IV.C.3 of the Fact Sheet, the effluent limitation is removed in this Order. Correspondingly, the effluent monitoring frequency for PCBs is reduced from quarterly to semiannually.

From February 22, 2006 through February 6, 2008, ammonia was detected in 2 out of 10 samples collected at Pyramid Lake, with the maximum concentration equal to 0.15 mg/L total ammonia N. In order to determine whether discharges from the Facility contribute ammonia to Pyramid Lake, effluent monitoring requirements for ammonia are included in this Order.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

This requirement establishes conditions and protocol by which compliance with the Basin Plan narrative water quality objective for toxicity will be demonstrated and in accordance with Section 4.0 of the SIP. Conditions include required monitoring and evaluation of the effluent for acute and chronic toxicity and numerical values for chronic toxicity evaluation to be used as ‘triggers’ for initiating accelerated monitoring and toxicity reduction evaluation(s).

D. Receiving Water Monitoring

1. Surface Water

This Order includes receiving water limitations and therefore, monitoring requirements are included in the MRP to determine compliance with the receiving water limitations established in Limitations and Discharge Requirements, Receiving Water Limitations, Section V.A. Monitoring for temperature, pH, and dissolved oxygen in the downstream receiving water is included in the permit. The Facility is also required to perform general observations of the receiving water when discharges occur and report the observations in the monitoring report. Attention shall be given to the presence or absence of: floating or suspended matter, discoloration, aquatic life, visible film, sheen or coating, and fungi, slime, or objectionable growths.

This Order contains effluent limitations and monitoring requirements for turbidity at Discharge Point Nos. 001(A&B) and 002. Corresponding to effluent monitoring for turbidity, this Order includes receiving water monitoring for turbidity in order to provide information for the determination of any potential impacts of intake water and effluent turbidity on receiving water turbidity.

Order No. R4-2004-0172 contained monitoring requirements for dissolved sulfide to determine compliance with the receiving water limitation in Section I.C.4 of Order No. R4-2004-0172. The dissolved sulfides has not been detected in the receiving water during the previous term. As such, the receiving water monitoring for dissolved sulfides is reduced from quarterly to semiannually.

This Order also includes monitoring for the CTR priority pollutants in order to obtain necessary data of the receiving water as background information for the determination of reasonable potential. The Discharger is required to conduct semiannual receiving water monitoring for the CTR priority pollutants at Monitoring Location RSW-001.

2. Groundwater

Not Applicable

E. Other Monitoring Requirements

Not Applicable

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

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

comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Section 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with section 123.25, this Order omits federal conditions that address enforcement authority specified in sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

These provisions are based on section 123 and the previous Order. The Regional Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new federal regulations, modification in toxicity requirements, or adoption of new regulations by the State Water Board or Regional Water Board, including revisions to the Basin Plan.

2. Special Studies and Additional Monitoring Requirements

a. Chronic Toxicity Trigger. This provision is based on section 4 of the SIP, Toxicity Control Provisions.

b. Initial Investigation Toxicity Reduction Evaluation Workplan. This provision is based on section 4 of the SIP, Toxicity Control Provisions.

3. Storm Water Pollution Prevention Plan, Best Management Practices and Pollution Prevention

This provision is based on section 122.44(k) and includes the requirement to develop a SWPPP.

a. Storm Water Pollution Prevention Plan (SWPPP). The Discharger is required to update and continue to implement a SWPPP in accordance with Attachment G. The SWPPP will outline site-specific management processes for minimizing storm water runoff contamination and for preventing contaminated storm water runoff from being discharged directly into the receiving water.

b. Spill Contingency Plan (SCP). Since spill or overflow may occur in the Facility, this Order requires the Discharger to prepare a SCP for the Facility. The Discharger shall review and update, if necessary, the SCP after each incident and make it available for the facility personnel at all times.

4. Construction, Operation, and Maintenance Specifications

This provision is based on the requirements of section 122.41(e) and the previous Order.

5. Special Provisions for Municipal Facilities (POTWs Only)

Not Applicable

6. Compliance Schedules

Not Applicable

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the William E. Warne Power Plant. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments must be received at the Regional Water Board offices by 5:00 p.m. on May 6, 2010

C. Public Hearing

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

Date: June 3, 2010
Time: 9:00 A.M.
Location: Metropolitan Water District of Southern California, Board Room
700 North Alameda Street
Los Angeles, California

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

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

D. Nature of Hearing

This will be a formal adjudicative hearing pursuant to section 648 et seq. of title 23 of the California Code of Regulations. Chapter 5 of the California Administrative Procedure Act (commencing with section 11500 of the Government Code) will not apply to this proceeding.

Ex Parte Communications Prohibited: As a quasi-adjudicative proceeding, no board member may discuss the subject of this hearing with any person, except during the public hearing itself. Any communications to the Regional Board must be directed to staff.

E. Parties to the Hearing

The following are the parties to this proceeding:

1. The applicant/permittee

Any other persons requesting party status must submit a written or electronic request to staff not later than 20 business days before the hearing. All parties will be notified if other persons are so designated.

F. Public Comments and Submittal of Evidence

Persons wishing to comment upon or object to the tentative waste discharge requirements, or submit evidence for the Board to consider, are invited to submit them in writing to the above address. To be evaluated and responded to by staff, included in the Board's agenda folder, and fully considered by the Board, written comments must be received no later than close of business May 7, 2010. Comments or evidence received after that date will be submitted, ex agenda, to the Board for consideration, but only included in administrative record with express approval of the Chair during the hearing. Additionally, if the Board receives only supportive comments, the permit may be placed on the Board's consent calendar, and approved without an oral testimony.

G. Hearing Procedure

The meeting, in which the hearing will be a part of, will start at 9:00 a.m. Interested persons are invited to attend. Staff will present the matter under consideration, after which oral statements from parties or interested persons will be heard. For accuracy of the record, all important testimony should be in writing. The Board will include in the administrative record written transcriptions of oral testimony that is actually presented at the hearing. Oral testimony may be limited to 3 minutes maximum or less for each speaker, depending on the number of persons wishing to be heard. Parties or persons with similar concerns or opinions are encouraged to choose one representative to speak. At the conclusion of testimony, the Board will deliberate in open or close session, and render a decision.

Parties or persons with special procedural requests should contact staff. Any procedure not specified in this hearing notice will be waived pursuant to section 648(d) of title 23 of the California Code of Regulations. Objections to any procedure to be used during this hearing must be submitted in writing not later than close of 15 business days prior to the date of the hearing. Procedural objections will not be entertained at the hearing.

H. Waste Discharge Requirements Petitions

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

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

I. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (213) 576 - 6600.

J. Register of Interested Persons

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

K. Additional Information

Requests for additional information or questions regarding this order should be directed to Jau Ren Chen at (213) 576-6656

ATTACHMENT G - STORM WATER POLLUTION PREVENTION PLAN REQUIREMENTS

I. Implementation Schedule

A storm water pollution prevention plan (SWPPP) shall be developed and submitted to the Regional Water Board within 90 days following the adoption of this Order. The SWPPP shall be implemented for each facility covered by this Permit within 10 days of approval from the Regional Water Board, or 6-months from the date of the submittal of the SWPPP to the Regional Water Board (whichever comes first).

II. Objectives

The SWPPP has two major objectives: (a) to identify and evaluate sources of pollutants associated with industrial activities that may affect the quality of storm water discharges and authorized non-storm water discharges from the facility; and (b) to identify and implement site- specific best management practices (BMPs) to reduce or prevent pollutants associated with industrial activities in storm water discharges and authorized non-storm water discharges. BMPs may include a variety of pollution prevention measures or other low-cost and pollution control measures. They are generally categorized as non-structural BMPs (activity schedules, prohibitions of practices, maintenance procedures, and other low-cost measures) and as structural BMPs (treatment measures, run-off controls, over-head coverage.) To achieve these objectives, facility operators should consider the five phase process for SWPPP development and implementation as shown in Table A.

The SWPPP requirements are designed to be sufficiently flexible to meet the needs of various facilities. SWPPP requirements that are not applicable to a facility should not be included in the SWPPP.

A facility's SWPPP is a written document that shall contain a compliance activity schedule, a description of industrial activities and pollutant sources, descriptions of BMPs, drawings, maps, and relevant copies or references of parts of other plans. The SWPPP shall be revised whenever appropriate and shall be readily available for review by facility employees or Regional Water Board inspectors.

III. Planning and Organization

A. Pollution Prevention Team

The SWPPP shall identify a specific individual or individuals and their positions within the facility organization as members of a storm water pollution prevention team responsible for developing the SWPPP, assisting the facility manager in SWPPP implementation and revision, and conducting all monitoring program activities required in Attachment E of this Permit. The SWPPP shall clearly identify the Permit related responsibilities, duties, and activities of each team member. For small facilities, storm water pollution prevention teams may consist of one individual where appropriate.

B. Review Other Requirements and Existing Facility Plans

The SWPPP may incorporate or reference the appropriate elements of other regulatory requirements. Facility operators should review all local, State, and Federal requirements that impact, complement, or are consistent with the requirements of this General Permit. Facility operators should identify any existing facility plans that contain storm water pollutant control measures or relate to the requirements of this Permit. As examples, facility operators whose facilities are subject to Federal Spill Prevention Control and Countermeasures' requirements should already have instituted a plan to control spills of certain hazardous materials. Similarly, facility operators whose facilities are subject to air quality related permits and regulations may already have evaluated industrial activities that generate dust or particulates.

IV. Site Map

The SWPPP shall include a site map. The site map shall be provided on an 8-½ x 11 inch or larger sheet and include notes, legends, and other data as appropriate to ensure that the site map is clear and understandable. If necessary, facility operators may provide the required information on multiple site maps.

TABLE A
FIVE PHASES FOR DEVELOPING AND IMPLEMENTING INDUSTRIAL STORM WATER POLLUTION PREVENTION PLANS

PLANNING AND ORGANIZATION
Form Pollution Prevention Team
Review other plans

ASSESSMENT PHASE
Develop a site map
Identify potential pollutant sources
Inventory of materials and chemicals
List significant spills and leaks
Identify non-storm water discharges
Assess pollutant risks

BEST MANAGEMENT PRACTICES IDENTIFICATION PHASE
Non-structural BMPs
Structural BMPs
Select activity and site-specific BMPs

IMPLEMENTATION PHASE

Train employees
Implement BMPs
Conduct recordkeeping and reporting

EVALUATION / MONITORING

Conduct annual site evaluation
Review monitoring information
Evaluate BMPs
Review and revise SWPPP

The following information shall be included on the site map:

A. The facility boundaries; the outline of all storm water drainage areas within the facility boundaries; portions of the drainage area impacted by run-on from surrounding areas; and direction of flow of each drainage area, on-site surface water bodies, and areas of soil erosion. The map shall also identify nearby water bodies (such as rivers, lakes, and ponds) and municipal storm drain inlets where the facility's storm water discharges and authorized non-storm water discharges may be received.

B. The location of the storm water collection and conveyance system, associated points of discharge, and direction of flow. Include any structural control measures that affect storm water discharges, authorized non-storm water discharges, and run-on. Examples of structural control measures are catch basins, berms, detention ponds, secondary containment, oil/water separators, diversion barriers, etc.

C. An outline of all impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures.

D. Locations where materials are directly exposed to precipitation and the locations where significant spills or leaks identified in Section A.6.a.iv. below have occurred.

E. Areas of industrial activity. This shall include the locations of all storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage/maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas, cleaning and rinsing areas, and other areas of industrial activity which are potential pollutant sources.

V. List of Significant Materials

The SWPPP shall include a list of significant materials handled and stored at the site. For each material on the list, describe the locations where the material is being stored,

received, shipped, and handled, as well as the typical quantities and frequency. Materials shall include raw materials, intermediate products, final or finished products, recycled materials, and waste or disposed materials.

VI. Description of Potential Pollutant Sources

A. The SWPPP shall include a narrative description of the facility's industrial activities, as identified in Section A.4.e above, associated potential pollutant sources, and potential pollutants that could be discharged in storm water discharges or authorized non-storm water discharges. At a minimum, the following items related to a facility's industrial activities shall be considered:

1. **Industrial Processes.** Describe each industrial process, the type, characteristics, and quantity of significant materials used in or resulting from the process, and a description of the manufacturing, cleaning, rinsing, recycling, disposal, or other activities related to the process. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

2. **Material Handling and Storage Areas.** Describe each handling and storage area, type, characteristics, and quantity of significant materials handled or stored, description of the shipping, receiving, and loading procedures, and the spill or leak prevention and response procedures. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

3. **Dust and Particulate Generating Activities.** Describe all industrial activities that generate dust or particulates that may be deposited within the facility's boundaries and identify their discharge locations; the characteristics of dust and particulate pollutants; the approximate quantity of dust and particulate pollutants that may be deposited within the facility boundaries; and a description of the primary areas of the facility where dust and particulate pollutants would settle.

4. **Significant Spills and Leaks.** Describe materials that have spilled or leaked in significant quantities in storm water discharges or non-storm water discharges since April 17, 1994. Include toxic chemicals (listed in 40 CFR, Part 302) that have been discharged to storm water as reported on U.S. Environmental Protection Agency (USEPA) Form R, and oil and hazardous substances in excess of reportable quantities (see 40 Code of Federal Regulations [CFR], Parts 110, 117, and 302).

   The description shall include the type, characteristics, and approximate quantity of the material spilled or leaked, the cleanup or remedial actions that have occurred or are planned, the approximate remaining quantity of materials that may be exposed to storm water or non-storm water discharges, and the preventative measures taken to ensure spill or leaks do not reoccur. Such list shall be updated as appropriate during the term of this Permit.

5. **Non-Storm Water Discharges.** Facility operators shall investigate the facility to identify all non-storm water discharges and their sources. As part of this investigation, all drains (inlets and outlets) shall be evaluated to identify whether they connect to the storm drain system.

   All non-storm water discharges shall be described. This shall include the source, quantity, frequency, and characteristics of the non-storm water discharges and associated drainage area.

   Non-storm water discharges (other boiler blowdown and boiler condensate permitted under the Order) that contain significant quantities of pollutants or that do not meet the conditions provided in Special Conditions D of the storm water general permit are prohibited by this Permit (Examples of prohibited non-storm water discharges are contact and non-contact cooling water, rinse water, wash water, etc.). Non-storm water discharges that meet the conditions provided in Special Condition D of the general storm water permit are authorized by this Permit. The SWPPP must include BMPs to prevent or reduce contact of non-storm water discharges with significant materials or equipment.

6. **Soil Erosion.** Describe the facility locations where soil erosion may occur as a result of industrial activity, storm water discharges associated with industrial activity, or authorized non-storm water discharges.

B. The SWPPP shall include a summary of all areas of industrial activities, potential pollutant sources, and potential pollutants. This information should be summarized similar to Table B. The last column of Table B, "Control Practices", should be completed in accordance with Section A.8. below.

VII. Assessment of Potential Pollutant Sources

A. The SWPPP shall include a narrative assessment of all industrial activities and potential pollutant sources as described in A.6. above to determine:

1. Which areas of the facility are likely sources of pollutants in storm water discharges and authorized non-storm water discharges, and

2. Which pollutants are likely to be present in storm water discharges and authorized non-storm water discharges. Facility operators shall consider and evaluate various factors when performing this assessment such as current storm water BMPs; quantities of significant materials handled, produced, stored, or disposed of; likelihood of exposure to storm water or authorized non-storm water discharges; history of spill or leaks; and run-on from outside sources.

B. Facility operators shall summarize the areas of the facility that are likely sources of pollutants and the corresponding pollutants that are likely to be present in storm water discharges and authorized non-storm water discharges.

Facility operators are required to develop and implement additional BMPs as appropriate and necessary to prevent or reduce pollutants associated with each pollutant source. The BMPs will be narratively described in Section 8 below.

VIII. Storm Water Best Management Practices

The SWPPP shall include a narrative description of the storm water BMPs to be implemented at the facility for each potential pollutant and its source identified in the site assessment phase (Sections A.6. and 7. above). The BMPs shall be developed and implemented to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Each pollutant and its source may require one or more BMPs. Some BMPs may be implemented for multiple pollutants and their sources, while other BMPs will be implemented for a very specific pollutant and its source.

TABLE B

EXAMPLE
ASSESSMENT OF POTENTIAL POLLUTION SOURCES AND CORRESPONDING BEST MANAGEMENT PRACTICES SUMMARY

Area	Activity	Pollutant Source	Pollutant	Best Management Practices
Vehicle & Equipment Fueling	Fueling	Spills and leaks during delivery. Spills caused by topping off fuel tanks. Hosing or washing down fuel oil fuel area. Leaking storage tanks. Rainfall running off fuel oil, and rainfall running onto and off fueling area.	fuel oil	Use spill and overflow protection. Minimize run-on of storm water into the fueling area. Cover fueling area. Use dry cleanup methods rather than hosing down area. Implement proper spill prevention control program. Implement adequate preventative maintenance program to preventive tank and line leaks. Inspect fueling areas regularly to detect problems before they occur. Train employees on proper fueling, cleanup, and spill response techniques.

The description of the BMPs shall identify the BMPs as (1) existing BMPs, (2) existing BMPs to be revised and implemented, or (3) new BMPs to be implemented. The description shall also include a discussion on the effectiveness of each BMP to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. The SWPPP shall provide a summary of all BMPs implemented for each pollutant source. This information should be summarized similar to Table B.

Facility operators shall consider the following BMPs for implementation at the facility:

A. Non-Structural BMPs

Non-structural BMPs generally consist of processes, prohibitions, procedures, schedule of activities, etc., that prevent pollutants associated with industrial activity from contacting with storm water discharges and authorized non-storm water discharges. They are considered low technology, cost-effective measures. Facility operators should consider all possible non-structural BMPs options before considering additional

structural BMPs (see Section A.8.b. below). Below is a list of non-structural BMPs that should be considered:

1. **Good Housekeeping.** Good housekeeping generally consists of practical procedures to maintain a clean and orderly facility.

2. **Preventive Maintenance.** Preventive maintenance includes the regular inspection and maintenance of structural storm water controls (catch basins, oil/water separators, etc.) as well as other facility equipment and systems.

3. **Spill Response.** This includes spill clean-up procedures and necessary clean-up equipment based upon the quantities and locations of significant materials that may spill or leak.

4. **Material Handling and Storage.** This includes all procedures to minimize the potential for spills and leaks and to minimize exposure of significant materials to storm water and authorized non-storm water discharges.

5. **Employee Training.** This includes training of personnel who are responsible for (1) implementing activities identified in the SWPPP, (2) conducting inspections, sampling, and visual observations, and (3) managing storm water. Training should address topics such as spill response, good housekeeping, and material handling procedures, and actions necessary to implement all BMPs identified in the SWPPP. The SWPPP shall identify periodic dates for such training. Records shall be maintained of all training sessions held.

6. **Waste Handling/Recycling.** This includes the procedures or processes to handle, store, or dispose of waste materials or recyclable materials.

7. **Recordkeeping and Internal Reporting.** This includes the procedures to ensure that all records of inspections, spills, maintenance activities, corrective actions, visual observations, etc., are developed, retained, and provided, as necessary, to the appropriate facility personnel.

8. **Erosion Control and Site Stabilization.** This includes a description of all sediment and erosion control activities. This may include the planting and maintenance of vegetation, diversion of run-on and runoff, placement of sandbags, silt screens, or other sediment control devices, etc.

9. **Inspections.** This includes, in addition to the preventative maintenance inspections identified above, an inspection schedule of all potential pollutant sources. Tracking and follow-up procedures shall be described to ensure adequate corrective actions are taken and SWPPPs are made.

10. **Quality Assurance.** This includes the procedures to ensure that all elements of the SWPPP and Monitoring Program are adequately conducted.

B. Structural BMPs.

Where non-structural BMPs as identified in Section A.8.a. above are not effective, structural BMPs shall be considered. Structural BMPs generally consist of structural devices that reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Below is a list of structural BMPs that should be considered:

1. **Overhead Coverage.** This includes structures that provide horizontal coverage of materials, chemicals, and pollutant sources from contact with storm water and authorized non-storm water discharges.

2. **Retention Ponds.** This includes basins, ponds, surface impoundments, bermed areas, etc. that do not allow storm water to discharge from the facility.

3. **Control Devices.** This includes berms or other devices that channel or route run-on and runoff away from pollutant sources.

4. **Secondary Containment Structures.** This generally includes containment structures around storage tanks and other areas for the purpose of collecting any leaks or spills.

5. **Treatment.** This includes inlet controls, infiltration devices, oil/water separators, detention ponds, vegetative swales, etc. that reduce the pollutants in storm water discharges and authorized non-storm water discharges.

IX. Annual Comprehensive Site Compliance Evaluation

The facility operator shall conduct one comprehensive site compliance evaluation (evaluation) in each reporting period (July 1-June 30). Evaluations shall be conducted within 8-16 months of each other. The SWPPP shall be revised, as appropriate, and the revisions implemented within 90 days of the evaluation. Evaluations shall include the following:

A. A review of all visual observation records, inspection records, and sampling and analysis results.

B. A visual inspection of all potential pollutant sources for evidence of, or the potential for, pollutants entering the drainage system.

C. A review and evaluation of all BMPs (both structural and non-structural) to determine whether the BMPs are adequate, properly implemented and maintained, or whether additional BMPs are needed. A visual inspection of equipment needed to implement the SWPPP, such as spill response equipment, shall be included.

D. An evaluation report that includes, (i) identification of personnel performing the evaluation, (ii) the date(s) of the evaluation, (iii) necessary SWPPP revisions, (iv)

schedule, as required in Section A.10.e, for implementing SWPPP revisions, (v) any incidents of non-compliance and the corrective actions taken, and (vi) a certification that the facility operator is in compliance with this Permit. If the above certification cannot be provided, explain in the evaluation report why the facility operator is not in compliance with this General Permit. The evaluation report shall be submitted as part of the annual report, retained for at least five years, and signed and certified in accordance with Standard Provisions V.D.5 of Attachment D.

X. SWPPP General Requirements

A. The SWPPP shall be retained on site and made available upon request of a representative of the Regional Water Board and/or local storm water management agency (local agency) which receives the storm water discharges.

B. The Regional Water Board and/or local agency may notify the facility operator when the SWPPP does not meet one or more of the minimum requirements of this Section. As requested by the Regional Water Board and/or local agency, the facility operator shall submit an SWPPP revision and implementation schedule that meets the minimum requirements of this section to the Regional Water Board and/or local agency that requested the SWPPP revisions. Within 14 days after implementing the required SWPPP revisions, the facility operator shall provide written certification to the Regional Water Board and/or local agency that the revisions have been implemented.

C. The SWPPP shall be revised, as appropriate, and implemented prior to changes in industrial activities which (i) may significantly increase the quantities of pollutants in storm water discharge, (ii) cause a new area of industrial activity at the facility to be exposed to storm water, or (iii) begin an industrial activity which would introduce a new pollutant source at the facility.

D. The SWPPP shall be revised and implemented in a timely manner, but in no case more than 90 days after a facility operator determines that the SWPPP is in violation of any requirement(s) of this Permit.

E. When any part of the SWPPP is infeasible to implement due to proposed significant structural changes, the facility operator shall submit a report to the Regional Water Board prior to the applicable deadline that (i) describes the portion of the SWPPP that is infeasible to implement by the deadline, (ii) provides justification for a time extension, (iii) provides a schedule for completing and implementing that portion of the SWPPP, and (iv) describes the BMPs that will be implemented in the interim period to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Such reports are subject to Regional Water Board approval and/or modifications. Facility operators shall provide written notification to the Regional Water Board within 14 days after the SWPPP revisions are implemented.

F. The SWPPP shall be provided, upon request, to the Regional Water Board. The SWPPP is considered a report that shall be available to the public by the Regional Water Board under Section 308(b) of the Clean Water Act.

ATTACHMENT H – STATE WATER BOARD MINIMUM LEVELS

The Minimum Levels (MLs) in this appendix are for use in reporting and compliance determination purposes in accordance with section 2.4 of the State Implementation Policy. These MLs were derived from data for priority pollutants provided by State certified analytical laboratories in 1997 and 1998. These MLs shall be used until new values are adopted by the State Water Board and become effective. The following tables (Tables 2a - 2d) present MLs for four major chemical groupings: volatile substances, semi-volatile substances, inorganics, and pesticides and PCBs.

Table 2a - VOLATILE SUBSTANCES*	GC	GCMS
1,1 Dichloroethane	0.5	1
1,1 Dichloroethylene	0.5	2
1,1,1 Trichloroethane	0.5	2
1,1,2 Trichloroethane	0.5	2
1,1,2,2 Tetrachloroethane	0.5	1
1,2 Dichlorobenzene (volatile)	0.5	2
1,2 Dichloroethane	0.5	2
1,2 Dichloropropane	0.5	1
1,3 Dichlorobenzene (volatile)	0.5	2
1,3 Dichloropropene (volatile)	0.5	2
1,4 Dichlorobenzene (volatile)	0.5	2
Acrolein	2.0	5
Acrylonitrile	2.0	2
Benzene	0.5	2
Bromoform	0.5	2
Methyl Bromide	1.0	2
Carbon Tetrachloride	0.5	2
Chlorobenzene	0.5	2
Chlorodibromo-methane	0.5	2
Chloroethane	0.5	2
Chloroform	0.5	2
Chloromethane	0.5	2
Dichlorobromo-methane	0.5	2
Dichloromethane	0.5	2
Ethylbenzene	0.5	2
Tetrachloroethylene	0.5	2
Toluene	0.5	2
Trans-1,2 Dichloroethylene	0.5	1
Trichloroethene	0.5	2
Vinyl Chloride	0.5	2

*The normal method-specific factor for these substances is 1; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.

Table 2b - SEMI-VOLATILE SUBSTANCES*	GC	GCMS	LC	COLOR
Benzo (a) Anthracene	10	5		
1,2 Dichlorobenzene (semivolatile)	2	2		
1,2 Diphenylhydrazine		1		
1,2,4 Trichlorobenzene	1	5		

Table 2b - SEMI-VOLATILE SUBSTANCES*	GC	GCMS	LC	COLOR
1,3 Dichlorobenzene (semivolatile)	2	1		
1,4 Dichlorobenzene (semivolatile)	2	1		
2 Chlorophenol	2	5		
2,4 Dichlorophenol	1	5		
2,4 Dimethylphenol	1	2		
2,4 Dinitrophenol	5	5		
2,4 Dinitrotoluene	10	5		
2,4,6 Trichlorophenol	10	10		
2,6 Dinitrotoluene		5		
2- Nitrophenol		10		
2-Chloroethyl vinyl ether	1	1		
2-Chloronaphthalene		10		
3,3' Dichlorobenzidine		5		
Benzo (b) Fluoranthene		10	10	
3-Methyl-Chlorophenol	5	1		
4,6 Dinitro-2-methylphenol	10	5		
4- Nitrophenol	5	10		
4-Bromophenyl phenyl ether	10	5		
4-Chlorophenyl phenyl ether		5		
Acenaphthene	1	1	0.5	
Acenaphthylene		10	0.2	
Anthracene		10	2	
Benzidine		5		
Benzo(a) pyrene		10	2	
Benzo(g,h,i)perylene		5	0.1	
Benzo(k)fluoranthene		10	2	
bis 2-(1-Chloroethoxyl) methane		5		
bis(2-chloroethyl) ether	10	1		
bis(2-Chloroisopropyl) ether	10	2		
bis(2-Ethylhexyl) phthalate	10	5		
Butyl benzyl phthalate	10	10		
Chrysene		10	5	
di-n-Butyl phthalate		10		
di-n-Octyl phthalate		10		
Dibenzo(a,h)-anthracene		10	0.1	
Diethyl phthalate	10	2		
Dimethyl phthalate	10	2		
Fluoranthene	10	1	0.05	
Fluorene		10	0.1	
Hexachloro-cyclopentadiene	5	5		
Hexachlorobenzene	5	1		
Hexachlorobutadiene	5	1		
Hexachloroethane	5	1		
Indeno(1,2,3,cd)-pyrene		10	0.05	
Isophorone	10	1		
N-Nitroso diphenyl amine	10	1		
N-Nitroso-dimethyl amine	10	5		
N-Nitroso -di n-propyl amine	10	5		
Naphthalene	10	1	0.2	
Nitrobenzene	10	1		
Pentachlorophenol	1	5		
Phenanthrene		5	0.05	

Table 2b - SEMI-VOLATILE SUBSTANCES*	GC	GCMS	LC	COLOR
Phenol **	1	1		50
Pyrene		10	0.05	

* With the exception of phenol by colorimetric technique, the normal method-specific factor for these substances is 1,000; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 1,000.

** Phenol by colorimetric technique has a factor of 1.

Table 2c – INORGANICS*	FAA	GFAA	ICP	ICPMS	SPGFAA	HYDRIDE	CVAA	COLOR	DCP
Antimony	10	5	50	0.5	5	0.5			1,000
Arsenic		2	10	2	2	1		20	1,000
Beryllium	20	0.5	2	0.5	1				1,000
Cadmium	10	0.5	10	0.25	0.5				1,000
Chromium (total)	50	2	10	0.5	1				1,000
Chromium VI	5							10	
Copper	25	5	10	0.5	2				1,000
Cyanide								5	
Lead	20	5	5	0.5	2				10,000
Mercury				0.5			0.2		
Nickel	50	5	20	1	5				1,000
Selenium		5	10	2	5	1			1,000
Silver	10	1	10	0.25	2				1,000
Thallium	10	2	10	1	5				1,000
Zinc	20		20	1	10				1,000

* The normal method-specific factor for these substances is 1; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.

Table 2d – PESTICIDES – PCBs*	GC
4,4'-DDD	0.05
4,4'-DDE	0.05
4,4'-DDT	0.01
a-Endosulfan	0.02
alpha-BHC	0.01
Aldrin	0.005
b-Endosulfan	0.01
Beta-BHC	0.005
Chlordane	0.1
Delta-BHC	0.005
Dieldrin	0.01
Endosulfan Sulfate	0.05
Endrin	0.01
Endrin Aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
Gamma-BHC (Lindane)	0.02
PCB 1016	0.5
PCB 1221	0.5

Table 2d – PESTICIDES – PCBs*	GC
PCB 1232	0.5
PCB 1242	0.5
PCB 1248	0.5
PCB 1254	0.5
PCB 1260	0.5
Toxaphene	0.5

* The normal method-specific factor for these substances is 100; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 100.

Techniques:

GC - Gas Chromatography
GCMS - Gas Chromatography/Mass Spectrometry
HRGCMS - High Resolution Gas Chromatography/Mass Spectrometry (i.e., EPA 1613, 1624, or 1625)
LC - High Pressure Liquid Chromatography
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
COLOR – Colorimetric

ATTACHMENT I – LIST OF PRIORITY POLLUTANTS

CTR Number	Parameter	CAS Number	Suggested Analytical Methods
1	Antimony	7440360	Methods in 40 CFR part 136
2	Arsenic	7440382	Methods in 40 CFR part 136
3	Beryllium	7440417	Methods in 40 CFR part 136
4	Cadmium	7440439	Methods in 40 CFR part 136
5a	Chromium (III)	16065831	Methods in 40 CFR part 136
5a	Chromium (VI)	18540299	Methods in 40 CFR part 136
6	Copper	7440508	Methods in 40 CFR part 136
7	Lead	7439921	Methods in 40 CFR part 136
8	Mercury	7439976	Methods in 40 CFR part 136
9	Nickel	7440020	Methods in 40 CFR part 136
10	Selenium	7782492	Methods in 40 CFR part 136
11	Silver	7440224	Methods in 40 CFR part 136
12	Thallium	7440280	Methods in 40 CFR part 136
13	Zinc	7440666	Methods in 40 CFR part 136
14	Cyanide	57125	Methods in 40 CFR part 136
15	Asbestos	1332214	Methods in 40 CFR part 136
16	2,3,7,8-TCDD	1746016	Methods in 40 CFR part 136 / 1613B
17	Acrolein	107028	Methods in 40 CFR part 136
18	Acrylonitrile	107131	Methods in 40 CFR part 136
19	Benzene	71432	Methods in 40 CFR part 136
20	Bromoform	75252	Methods in 40 CFR part 136
21	Carbon Tetrachloride	56235	Methods in 40 CFR part 136
22	Chlorobenzene	108907	Methods in 40 CFR part 136
23	Chlorodibromomethane	124481	Methods in 40 CFR part 136
24	Chloroethane	75003	Methods in 40 CFR part 136
25	2-Chloroethylvinyl Ether	110758	Methods in 40 CFR part 136
26	Chloroform	67663	Methods in 40 CFR part 136
27	Dichlorobromomethane	75274	Methods in 40 CFR part 136
28	1,1-Dichloroethane	75343	Methods in 40 CFR part 136
29	1,2-Dichloroethane	107062	Methods in 40 CFR part 136
30	1,1-Dichloroethylene	75354	Methods in 40 CFR part 136
31	1,2-Dichloropropane	78875	Methods in 40 CFR part 136
32	1,3-Dichloropropylene	542756	Methods in 40 CFR part 136
33	Ethylbenzene	100414	Methods in 40 CFR part 136
34	Methyl Bromide	74839	Methods in 40 CFR part 136
35	Methyl Chloride	74873	Methods in 40 CFR part 136
36	Methylene Chloride	75092	Methods in 40 CFR part 136
37	1,1,2,2-Tetrachloroethane	79345	Methods in 40 CFR part 136
38	Tetrachloroethylene	127184	Methods in 40 CFR part 136
39	Toluene	108883	Methods in 40 CFR part 136
40	1,2-Trans-Dichloroethylene	156605	Methods in 40 CFR part 136
41	1,1,1-Trichloroethane	71556	Methods in 40 CFR part 136

CTR Number	Parameter	CAS Number	Suggested Analytical Methods
42	1,12-Trichloroethane	79005	Methods in 40 CFR part 136
43	Trichloroethylene	79016	Methods in 40 CFR part 136
44	Vinyl Chloride	75014	Methods in 40 CFR part 136
45	2-Chlorophenol	95578	Methods in 40 CFR part 136
46	2,4-Dichlorophenol	120832	Methods in 40 CFR part 136
47	2,4-Dimethylphenol	105679	Methods in 40 CFR part 136
48	2-Methyl-4,6-Dinitrophenol	534521	Methods in 40 CFR part 136
49	2,4-Dinitrophenol	51285	Methods in 40 CFR part 136
50	2-Nitrophenol	88755	Methods in 40 CFR part 136
51	4-Nitrophenol	100027	Methods in 40 CFR part 136
52	3-Methyl-4-Chlorophenol	59507	Methods in 40 CFR part 136
53	Pentachlorophenol	87865	Methods in 40 CFR part 136
54	Phenol	108952	Methods in 40 CFR part 136
55	2,4,6-Trichlorophenol	88062	Methods in 40 CFR part 136
56	Acenaphthene	83329	Methods in 40 CFR part 136
57	Acenaphthylene	208968	Methods in 40 CFR part 136
58	Anthracene	120127	Methods in 40 CFR part 136
59	Benzidine	92875	Methods in 40 CFR part 136
60	Benzo(a)Anthracene	56553	Methods in 40 CFR part 136
61	Benzo(a)Pyrene	50328	Methods in 40 CFR part 136
62	Benzo(b)Fluoranthene	205992	Methods in 40 CFR part 136
63	Benzo(ghi)Perylene	191242	Methods in 40 CFR part 136
64	Benzo(k)Fluoranthene	207089	Methods in 40 CFR part 136
65	Bis(2-Chloroethoxy)Methane	111911	Methods in 40 CFR part 136
66	Bis(2-Chloroethyl)Ether	111444	Methods in 40 CFR part 136
67	Bis(2-Chloroisopropyl)Ether	108601	Methods in 40 CFR part 136
68	Bis(2-Ethylhexyl)Phthalate	117817	Methods in 40 CFR part 136
69	4-Bromophenyl Phenyl Ether	101553	Methods in 40 CFR part 136
70	Butylbenzyl Phthalate	85687	Methods in 40 CFR part 136
71	2-Chloronaphthalene	91587	Methods in 40 CFR part 136
72	4-Chlorophenyl Phenyl Ether	7005723	Methods in 40 CFR part 136
73	Chrysene	218019	Methods in 40 CFR part 136
74	Dibenzo(a,h)Anthracene	53703	Methods in 40 CFR part 136
75	1,2-Dichlorobenzene	95501	Methods in 40 CFR part 136
76	1,3-Dichlorobenzene	541731	Methods in 40 CFR part 136
77	1,4-Dichlorobenzene	106467	Methods in 40 CFR part 136
78	3,3'-Dichlorobenzidine	91941	Methods in 40 CFR part 136
79	Diethyl Phthalate	84662	Methods in 40 CFR part 136
80	Dimethyl Phthalate	131113	Methods in 40 CFR part 136
81	Di-n-Butyl Phthalate	84742	Methods in 40 CFR part 136
82	2,4-Dinitrotoluene	121142	Methods in 40 CFR part 136
83	2,6-Dinitrotoluene	606202	Methods in 40 CFR part 136
84	Di-n-Octyl Phthalate	117840	Methods in 40 CFR part 136
85	1,2-Diphenylhydrazine	122667	Methods in 40 CFR part 136
86	Fluoranthene	206440	Methods in 40 CFR part 136
87	Fluorene	86737	Methods in 40 CFR part 136
88	Hexachlorobenzene	118741	Methods in 40 CFR part 136
89	Hexachlorobutadiene	87863	Methods in 40 CFR part 136

CTR Number	Parameter	CAS Number	Suggested Analytical Methods
90	Hexachlorocyclopentadiene	77474	Methods in 40 CFR part 136
91	Hexachloroethane	67721	Methods in 40 CFR part 136
92	Indeno(1,2,3-cd)Pyrene	193395	Methods in 40 CFR part 136
93	Isophorone	78591	Methods in 40 CFR part 136
94	Naphthalene	91203	Methods in 40 CFR part 136
95	Nitrobenzene	98953	Methods in 40 CFR part 136
96	N-Nitrosodimethylamine	62759	Methods in 40 CFR part 136
97	N-Nitrosodi-n-Propylamine	621647	Methods in 40 CFR part 136
98	N-Nitrosodiphenylamine	86306	Methods in 40 CFR part 136
99	Phenanthrene	85018	Methods in 40 CFR part 136
100	Pyrene	129000	Methods in 40 CFR part 136
101	1,2,4-Trichlorobenzene	120821	Methods in 40 CFR part 136
102	Aldrin	309002	Methods in 40 CFR part 136
103	alpha-BHC	319846	Methods in 40 CFR part 136
104	beta-BHC	319857	Methods in 40 CFR part 136
105	gamma-BHC	58899	Methods in 40 CFR part 136
106	delta-BHC	319868	Methods in 40 CFR part 136
107	Chlordane	57749	Methods in 40 CFR part 136
108	4,4'-DDT	50293	Methods in 40 CFR part 136
109	4,4'-DDE	72559	Methods in 40 CFR part 136
110	4,4'-DDD	72548	Methods in 40 CFR part 136
111	Dieldrin	60571	Methods in 40 CFR part 136
112	alpha-Endosulfan	959988	Methods in 40 CFR part 136
113	beta-Endosulfan	33213659	Methods in 40 CFR part 136
114	Endosulfan Sulfate	1031078	Methods in 40 CFR part 136
115	Endrin	72208	Methods in 40 CFR part 136
116	Endrin Aldehyde	7421934	Methods in 40 CFR part 136
117	Heptachlor	76448	Methods in 40 CFR part 136
118	Heptachlor Epoxide	1024573	Methods in 40 CFR part 136
119	PCB-1016	12674112	Methods in 40 CFR part 136
120	PCB-1221	11104282	Methods in 40 CFR part 136
121	PCB-1232	11141165	Methods in 40 CFR part 136
122	PCB-1242	53469219	Methods in 40 CFR part 136
123	PCB-1248	12672296	Methods in 40 CFR part 136
124	PCB-1254	11097691	Methods in 40 CFR part 136
125	PCB-1260	11096825	Methods in 40 CFR part 136
126	Toxaphene	8001352	Methods in 40 CFR part 136

ATTACHMENT J – SUMMARY OF REASONABLE POTENTIAL ANALYSIS AND WQBEL CALCULATIONS

Attachment J
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
William E. Warne Power Plant ,Discharge Point No. 001(A+B)

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)						Lowest C	MEC >= Lowest C	Tier 1 - Need limit?
					Freshwater		Saltwater		Human Health for consumption of:				
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot	Water & organisms	Organisms only			
1	Antimony	ug/L		0.2					14.00	4300.00	14.00	No	No
2	Arsenic	ug/L		0.49	340.00	150.00					150.00	No	No
3	Beryllium	ug/L		No Criteria						Narrative	No Criteria	No Criteria	No Criteria
4	Cadmium	ug/L		0.027	4.09	2.30				Narrative	2.30	No	No
5a	Chromium (III)			1.1	1614.66	192.46				Narrative	192.46	No	No
5b	Chromium (VI)	ug/L		1.7	16.29	11.43				Narrative	11.43	No	No
6	Copper	ug/L	0.378	14	12.88	8.65			1300.00		8.65	Yes	Yes
7	Lead	ug/L		1	72.92	2.84				Narrative	2.84	No	No
8	Mercury	ug/L	1.07	0.19	Res	Res			0.050	0.051	0.050	Yes	Yes
9	Nickel	ug/L		2.2	435.21	48.39			610.00	4600.00	48.39	No	No
10	Selenium	ug/L		0.39	20.00	5.00				Narrative	5.00	No	No
11	Silver	ug/L		0.0096	3.48						3.48	No	No
12	Thallium	ug/L		0.011					1.70	6.30	1.70	No	No
13	Zinc	ug/L		10	111.13	111.13					111.13	No	No
14	Cyanide	ug/L		0.0031	22.00	5.20			700.00	220000.00	5.20	No	No
15	Asbestos	Fibers/L	1.905	11000000					7000000.00		7000000.00	Yes	Yes
16	2,3,7,8 TCDD	ug/L							0.000000013	0.000000014	0.000000013		
	TCDD Equivalents	ug/L	0	1.501E-06					0.000000013	0.000000014	0.000000013	Yes	Yes
17	Acrolein	ug/L		0.27					320	780	320	No	No
18	Acrylonitrile	ug/L							0.059	0.66	0.059		
19	Benzene	ug/L		0.092					1.2	71	1.2	No	No
20	Bromoform	ug/L		0.41					4.3	360	4.3	No	No
21	Carbon Tetrachloride	ug/L							0.25	4.4	0.25		
22	Chlorobenzene	ug/L		0.14					680	21000	680	No	No
23	Chlorodibromomethane	ug/L		0.4					0.40	34	0.40	No	No
24	Chloroethane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
25	2-Chloroethylvinyl ether	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
26	Chloroform	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
27	Dichlorobromomethane	ug/L		0.25					0.56	46	0.56	No	No
28	1,1-Dichloroethane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
29	1,2-Dichloroethane	ug/L		0.27					0.38	99	0.38	No	No
30	1,1-Dichloroethylene	ug/L							0.057	3.2	0.057		
31	1,2-Dichloropropane	ug/L		0.27					0.52	39	0.52	No	No
32	1,3-Dichloropropylene	ug/L		0.1					10	1700	10	No	No
33	Ethylbenzene	ug/L		0.16					3100	29000	3100	No	No
34	Methyl Bromide	ug/L		0.49					48	4000	48	No	No
35	Methyl Chloride	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
36	Methylene Chloride	ug/L		0.23					4.7	1600	4.7	No	No
37	1,1,2,2-Tetrachloroethane	ug/L							0.17	11	0.17		
38	Tetrachloroethylene	ug/L		0.19					0.8	8.85	0.8	No	No
39	Toluene	ug/L		0.15					6800	200000	6800	No	No
40	1,2-Trans-Dichloroethylene	ug/L		0.17					700	140000	700	No	No
41	1,1,1-Trichloroethane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
42	1,1,2-Trichloroethane	ug/L		0.45					0.6	42	0.6	No	No

Attachment J
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
William E. Warne Power Plant ,Discharge Point No. 001(A+B)

			REASONABLE POTENTIAL ANALYSIS (RPA)							
CTR#	Parameters	Units	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL)	Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?
1	Antimony	ug/L	Y	N		0.2		B<=C, Step 7		No
2	Arsenic	ug/L	Y	N		3.1		B<=C, Step 7		No
3	Beryllium	ug/L	Y	Y	0.035		N	No Criteria	No Criteria	Uc
4	Cadmium	ug/L	Y	N		0.082		B<=C, Step 7		No
5a	Chromium (III)		Y	N		1.2		B<=C, Step 7	0.00	No
5b	Chromium (VI)	ug/L	Y	N		1.6		B<=C, Step 7	0.00	No
6	Copper	ug/L	Y	N		3.3		B<=C, Step 7	0.00	Yes
7	Lead	ug/L	Y	N		0.75		B<=C, Step 7	0.00	No
8	Mercury	ug/L	Y	N		0.03		B<=C, Step 7	0.00	Yes
9	Nickel	ug/L	Y	N		3.1		B<=C, Step 7	0.00	No
10	Selenium	ug/L	Y	N		0.43		B<=C, Step 7	0.00	No
11	Silver	ug/L	Y	Y	0.019		N	No detected value of B, Step 7	0.00	No
12	Thallium	ug/L	Y	Y	0.011		N	No detected value of B, Step 7	0.00	No
13	Zinc	ug/L	Y	N		3.7		B<=C, Step 7	0.00	No
14	Cyanide	ug/L	Y	Y	0.0031		N	No detected value of B, Step 7	0.00	No
15	Asbestos	Fibers/L	Y	N		7000000		B<=C, Step 7	0.00	Yes
16	2,3,7,8 TCDD	ug/L	Y	Y	5.88E-07		Y	No detected value of B, Step 7	0.00	No
	TCDD Equivalents	ug/L	Y	N		8.8598E-07		Limit required, B>C & pollutant	0.00	Yes
17	Acrolein	ug/L	Y	Y	0.27		N	No detected value of B, Step 7	0.00	No
18	Acrylonitrile	ug/L	Y	Y	0.11		Y	No detected value of B, Step 7	0.00	No
19	Benzene	ug/L	Y	Y	0.092		N	No detected value of B, Step 7	0.00	No
20	Bromoform	ug/L	Y	Y	0.41		N	No detected value of B, Step 7	0.00	No
21	Carbon Tetrachloride	ug/L	Y	Y	0.29		Y	No detected value of B, Step 7	0.00	No
22	Chlorobenzene	ug/L	Y	Y	0.14		N	No detected value of B, Step 7	0.00	No
23	Chlorodibromomethane	ug/L	Y	Y	0.4		N	No detected value of B, Step 7	0.00	No
24	Chloroethane	ug/L	Y	Y	0.17		N	No Criteria	0.00	Uc
25	2-Chloroethylvinyl ether	ug/L	Y	Y	0.22		N	No Criteria	0.00	Uc
26	Chloroform	ug/L	Y	Y				No Criteria	0.00	Uc
27	Dichlorobromomethane	ug/L	Y	Y	0.25		N	No detected value of B, Step 7	0.00	No
28	1,1-Dichloroethane	ug/L	Y	Y	0.12		N	No Criteria	0.00	Uc
29	1,2-Dichloroethane	ug/L	Y	Y	0.27		N	No detected value of B, Step 7	0.00	No
30	1,1-Dichloroethylene	ug/L	Y	Y	0.24		Y	No detected value of B, Step 7	0.00	No
31	1,2-Dichloropropane	ug/L	Y	Y	0.27		N	No detected value of B, Step 7	0.00	No
32	1,3-Dichloropropylene	ug/L	Y	Y	0.1		N	No detected value of B, Step 7	0.00	No
33	Ethylbenzene	ug/L	Y	Y	0.16		N	No detected value of B, Step 7	0.00	No
34	Methyl Bromide	ug/L	Y	Y	0.49		N	No detected value of B, Step 7	0.00	No
35	Methyl Chloride	ug/L	Y	Y	0.18		N	No Criteria	0.00	Uc
36	Methylene Chloride	ug/L	Y	N		0.8		B<=C, Step 7	0.00	No
37	1,1,2,2-Tetrachloroethane	ug/L	Y	Y	0.51		Y	No detected value of B, Step 7	0.00	No
38	Tetrachloroethylene	ug/L	Y	Y	0.19		N	No detected value of B, Step 7	0.00	No
39	Toluene	ug/L	Y	Y	0.15		N	No detected value of B, Step 7	0.00	No
40	1,2-Trans-Dichloroethylene	ug/L	Y	Y	0.17		N	No detected value of B, Step 7	0.00	No
41	1,1,1-Trichloroethane	ug/L	Y	Y	0.18		N	No Criteria	0.00	Uc
42	1,1,2-Trichloroethane	ug/L	Y	Y	0.45		N	No detected value of B, Step 7	0.00	No

Attachment J
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
William E. Warne Power Plant ,Discharge Point No. 001(A+B)

				HUMAN HEALTH CALCULATIONS			AQUATIC L			
CTR#				Organisms only			Saltwater / F			
	Parameters	Units	Reason	AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic
1	Antimony	ug/L	MEC<C & B<=C							
2	Arsenic	ug/L	MEC<C & B<=C							
3	Beryllium	ug/L	No Criteria							
4	Cadmium	ug/L	MEC<C & B<=C							
5a	Chromium (III)		MEC<C & B<=C							
5b	Chromium (VI)	ug/L	MEC<C & B<=C							
6	Copper	ug/L	MEC>=C	1300	1.637	2128.30488	0.46	5.88	0.66	5.69
7	Lead	ug/L	MEC<C & B<=C							
8	Mercury	ug/L	MEC>=C	0.05	2.59	0.12942				
9	Nickel	ug/L	MEC<C & B<=C							
10	Selenium	ug/L	MEC<C & B<=C							
11	Silver	ug/L	MEC<C & B is ND							
12	Thallium	ug/L	MEC<C & B is ND							
13	Zinc	ug/L	MEC<C & B<=C							
14	Cyanide	ug/L	MEC<C & B is ND							
15	Asbestos	Fibers/L	MEC>=C	7000000	3.05	21328571.96473				
16	2,3,7,8 TCDD	ug/L	UD; effluent ND, MDL>C, and B is ND							
	TCDD Equivalents	ug/L	MEC>=C	0.000000013	2.01	0.00000				
17	Acrolein	ug/L	MEC<C & B is ND							
18	Acrylonitrile	ug/L	UD; effluent ND, MDL>C, and B is ND							
19	Benzene	ug/L	MEC<C & B is ND							
20	Bromoform	ug/L	MEC<C & B is ND							
21	Carbon Tetrachloride	ug/L	UD; effluent ND, MDL>C, and B is ND							
22	Chlorobenzene	ug/L	MEC<C & B is ND							
23	Chlorodibromomethane	ug/L	MEC<C & B is ND							
24	Chloroethane	ug/L	No Criteria							
25	2-Chloroethylvinyl ether	ug/L	No Criteria							
26	Chloroform	ug/L	No Criteria							
27	Dichlorobromomethane	ug/L	MEC<C & B is ND							
28	1,1-Dichloroethane	ug/L	No Criteria							
29	1,2-Dichloroethane	ug/L	MEC<C & B is ND							
30	1,1-Dichloroethylene	ug/L	UD; effluent ND, MDL>C, and B is ND							
31	1,2-Dichloropropane	ug/L	MEC<C & B is ND							
32	1,3-Dichloropropylene	ug/L	MEC<C & B is ND							
33	Ethylbenzene	ug/L	MEC<C & B is ND							
34	Methyl Bromide	ug/L	MEC<C & B is ND							
35	Methyl Chloride	ug/L	No Criteria							
36	Methylene Chloride	ug/L	MEC<C & B<=C							
37	1,1,2,2-Tetrachloroethane	ug/L	UD; effluent ND, MDL>C, and B is ND							
38	Tetrachloroethylene	ug/L	MEC<C & B is ND							
39	Toluene	ug/L	MEC<C & B is ND							
40	1,2-Trans-Dichloroethylene	ug/L	MEC<C & B is ND							
41	1,1,1-Trichloroethane	ug/L	No Criteria							
42	1,1,2-Trichloroethane	ug/L	MEC<C & B is ND							

Attachment J
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
William E. Warne Power Plant ,Discharge Point No. 001(A+B)

CTR#	Parameters	Units	LIFE CALCULATIONS reshwater / Basin Plan Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life	LIMITS Lowest AMEL	Lowest MDEL	Recommendation	Comment
1	Antimony	ug/L								No Limit	
2	Arsenic	ug/L								No Limit	
3	Beryllium	ug/L								No Limit	
4	Cadmium	ug/L								No Limit	
5a	Chromium (III)									No Limit	
5b	Chromium (VI)	ug/L								No Limit	
6	Copper	ug/L	5.69	1.34	7.61	2.19	12.45957	7.6	12		
7	Lead	ug/L								No Limit	
8	Mercury	ug/L		2.01		5.21		0.050	0.13		
9	Nickel	ug/L								No Limit	
10	Selenium	ug/L								No Limit	
11	Silver	ug/L								No Limit	
12	Thallium	ug/L								No Limit	
13	Zinc	ug/L								No Limit	
14	Cyanide	ug/L								No Limit	
15	Asbestos	Fibers/L		2.72		8.27		7000000	21328572		
16	2,3,7,8 TCDD	ug/L								No Limit	
	TCDD Equivalents	ug/L		1.55		3.11		0.000000013	0.000000026		
17	Acrolein	ug/L								No Limit	
18	Acrylonitrile	ug/L								No Limit	
19	Benzene	ug/L								No Limit	
20	Bromoform	ug/L								No Limit	
21	Carbon Tetrachloride	ug/L								No Limit	
22	Chlorobenzene	ug/L								No Limit	
23	Chlorodibromomethane	ug/L								No Limit	
24	Chloroethane	ug/L								No Limit	
25	2-Chloroethylvinyl ether	ug/L								No Limit	
26	Chloroform	ug/L								No Limit	
27	Dichlorobromomethane	ug/L								No Limit	
28	1,1-Dichloroethane	ug/L								No Limit	
29	1,2-Dichloroethane	ug/L								No Limit	
30	1,1-Dichloroethylene	ug/L								No Limit	
31	1,2-Dichloropropane	ug/L								No Limit	
32	1,3-Dichloropropylene	ug/L								No Limit	
33	Ethylbenzene	ug/L								No Limit	
34	Methyl Bromide	ug/L								No Limit	
35	Methyl Chloride	ug/L								No Limit	
36	Methylene Chloride	ug/L								No Limit	
37	1,1,2,2-Tetrachloroethane	ug/L								No Limit	
38	Tetrachloroethylene	ug/L								No Limit	
39	Toluene	ug/L								No Limit	
40	1,2-Trans-Dichloroethylene	ug/L								No Limit	
41	1,1,1-Trichloroethane	ug/L								No Limit	
42	1,1,2-Trichloroethane	ug/L								No Limit	

Attachment J
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
William E. Warne Power Plant ,Discharge Point No. 001(A+B)

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)						Lowest C	MEC >= Lowest C	Tier 1 - Need limit?
					Freshwater		Saltwater		Human Health for consumption of:				
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot	Water & organisms	Organisms only			
43	Trichloroethylene	ug/L		0.26					2.7	81	2.7	No	No
44	Vinyl Chloride	ug/L		0.16					2	525	2	No	No
45	2-Chlorophenol	ug/L		0.12					120	400	120	No	No
46	2,4-Dichlorophenol	ug/L		0.21					93	790	93	No	No
47	2,4-Dimethylphenol	ug/L		0.31					540	2300	540	No	No
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	ug/L		0.33					13.4	765	13.4	No	No
49	2,4-Dinitrophenol	ug/L		2.7					70	14000	70	No	No
50	2-Nitrophenol	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
51	4-Nitrophenol	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
53	Pentachlorophenol	ug/L			19.49	14.95			0.28	8.2	0.28		
54	Phenol	ug/L		0.14					21000	4600000	21000	No	No
55	2,4,6-Trichlorophenol	ug/L		0.1					2.1	6.5	2.1	No	No
56	Acenaphthene	ug/L		0.1					1200	2700	1200	No	No
57	Acenaphthylene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
58	Anthracene	ug/L		0.08					9600	110000	9600	No	No
59	Benzidine	ug/L							0.00012	0.00054	0.00012		
60	Benzo(a)Anthracene	ug/L							0.0044	0.049	0.0044		
61	Benzo(a)Pyrene	ug/L							0.0044	0.049	0.0044		
62	Benzo(b)Fluoranthene	ug/L							0.0044	0.049	0.0044		
63	Benzo(ghi)Perylene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
64	Benzo(k)Fluoranthene	ug/L							0.0044	0.049	0.0044		
65	Bis(2-Chloroethoxy)Methan	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
66	Bis(2-Chloroethyl)Ether	ug/L							0.031	1.4	0.031		
67	Bis(2-Chloroisopropyl)Ether	ug/L		0.11					1400	170000	1400	No	No
68	Bis(2-Ethylhexyl)Phthalate	ug/L		0.38					1.8	5.9	1.8	No	No
69	4-Bromophenyl Phenyl Ethe	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
70	Butylbenzyl Phthalate	ug/L		0.29					3000	5200	3000	No	No
71	2-Chloronaphthalene	ug/L		0.12					1700	4300	1700	No	No
72	4-Chlorophenyl Phenyl Ethe	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
73	Chrysene	ug/L							0.0044	0.049	0.0044		
74	Dibenzo(a,h)Anthracene	ug/L							0.0044	0.049	0.0044		
75	1,2-Dichlorobenzene	ug/L		0.12					2700	17000	2700	No	No
76	1,3-Dichlorobenzene	ug/L		0.35					400	2600	400	No	No
77	1,4-Dichlorobenzene	ug/L		0.32					400	2600	400	No	No
78	3,3 Dichlorobenzidine	ug/L							0.04	0.077	0.04		
79	Diethyl Phthalate	ug/L		0.24					23000	120000	23000	No	No
80	Dimethyl Phthalate	ug/L		0.08					313000	2900000	313000	No	No
81	Di-n-Butyl Phthalate	ug/L		0.9					2700	12000	2700	No	No
82	2,4-Dinitrotoluene	ug/L							0.11	9.10	0.11		
83	2,6-Dinitrotoluene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
84	Di-n-Octyl Phthalate	ug/L		No Criteria							No Criteria	No Criteria	No Criteria

Attachment J
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
William E. Warne Power Plant ,Discharge Point No. 001(A+B)

			REASONABLE POTENTIAL ANALYSIS (RPA)								
CTR#	Parameters	Units	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL)	Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?
43	Trichloroethylene	ug/L	Y	Y	0.26		N	No detected value of B, Step 7	0.00	No
44	Vinyl Chloride	ug/L	Y	Y	0.16		N	No detected value of B, Step 7	0.00	No
45	2-Chlorophenol	ug/L	Y	Y	0.12		N	No detected value of B, Step 7	0.00	No
46	2,4-Dichlorophenol	ug/L	Y	Y	0.21		N	No detected value of B, Step 7	0.00	No
47	2,4-Dimethylphenol	ug/L	Y	Y	0.31		N	No detected value of B, Step 7	0.00	No
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	ug/L	Y	Y	0.33		N	No detected value of B, Step 7	0.00	No
49	2,4-Dinitrophenol	ug/L	Y	Y	2.7		N	No detected value of B, Step 7	0.00	No
50	2-Nitrophenol	ug/L	Y	Y	0.23		N	No Criteria	0.00	Uc
51	4-Nitrophenol	ug/L	Y	Y	0.73		N	No Criteria	0.00	Uc
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	ug/L	Y	Y	0.3		N	No Criteria	0.00	Uc
53	Pentachlorophenol	ug/L	Y	Y	0.56		Y	No detected value of B, Step 7	0.00	No
54	Phenol	ug/L	Y	Y	0.14		N	No detected value of B, Step 7	0.00	No
55	2,4,6-Trichlorophenol	ug/L	Y	Y	0.1		N	No detected value of B, Step 7	0.00	No
56	Acenaphthene	ug/L	Y	Y	0.1		N	No detected value of B, Step 7	0.00	No
57	Acenaphthylene	ug/L	Y	Y	0.1		N	No Criteria	0.00	Uc
58	Anthracene	ug/L	Y	Y	0.08		N	No detected value of B, Step 7	0.00	No
59	Benzidine	ug/L	Y	Y	0.7		Y	No detected value of B, Step 7	0.00	No
60	Benzo(a)Anthracene	ug/L	Y	Y	0.04		Y	No detected value of B, Step 7	0.00	No
61	Benzo(a)Pyrene	ug/L	Y	Y	0.14		Y	No detected value of B, Step 7	0.00	No
62	Benzo(b)Fluoranthene	ug/L	Y	Y	0.05		Y	No detected value of B, Step 7	0.00	No
63	Benzo(ghi)Perylene	ug/L	Y	Y	0.06		N	No Criteria	0.00	Uc
64	Benzo(k)Fluoranthene	ug/L	Y	Y	0.05		Y	No detected value of B, Step 7	0.00	No
65	Bis(2-Chloroethoxy)Methan	ug/L	Y	Y	0.07		N	No Criteria	0.00	Uc
66	Bis(2-Chloroethyl)Ether	ug/L	Y	Y	0.08		Y	No detected value of B, Step 7	0.00	No
67	Bis(2-Chloroisopropyl)Ether	ug/L	Y	Y	0.11		N	No detected value of B, Step 7	0.00	No
68	Bis(2-Ethylhexyl)Phthalate	ug/L	Y	N		0.89		B<=C, Step 7	0.00	No
69	4-Bromophenyl Phenyl Ethe	ug/L	Y	Y	0.12		N	No Criteria	0.00	Uc
70	Butylbenzyl Phthalate	ug/L	Y	Y	0.29		N	No detected value of B, Step 7	0.00	No
71	2-Chloronaphthalene	ug/L	Y	Y	0.12		N	No detected value of B, Step 7	0.00	No
72	4-Chlorophenyl Phenyl Ethe	ug/L	Y	Y	0.06		N	No Criteria	0.00	Uc
73	Chrysene	ug/L	Y	Y	0.07		Y	No detected value of B, Step 7	0.00	No
74	Dibenzo(a,h)Anthracene	ug/L	Y	Y	0.08		Y	No detected value of B, Step 7	0.00	No
75	1,2-Dichlorobenzene	ug/L	Y	Y	0.12		N	No detected value of B, Step 7	0.00	No
76	1,3-Dichlorobenzene	ug/L	Y	Y	0.35		N	No detected value of B, Step 7	0.00	No
77	1,4-Dichlorobenzene	ug/L	Y	Y	0.32		N	No detected value of B, Step 7	0.00	No
78	3,3 Dichlorobenzidine	ug/L	Y	Y	0.3		Y	No detected value of B, Step 7	0.00	No
79	Diethyl Phthalate	ug/L	Y	Y	0.12		N	No detected value of B, Step 7	0.00	No
80	Dimethyl Phthalate	ug/L	Y	Y	0.08		N	No detected value of B, Step 7	0.00	No
81	Di-n-Butyl Phthalate	ug/L	Y	N		0.97		B<=C, Step 7	0.00	No
82	2,4-Dinitrotoluene	ug/L	Y	Y	0.23		Y	No detected value of B, Step 7	0.00	No
83	2,6-Dinitrotoluene	ug/L	Y	Y	0.24		N	No Criteria	0.00	Uc
84	Di-n-Octyl Phthalate	ug/L	Y	Y	0.17		N	No Criteria	0.00	Uc

				HUMAN HEALTH CALCULATIONS			AQUATIC L			
CTR#				Organisms only			Saltwater / F			
	Parameters	Units	Reason	AMEL hh = ECA = C. hh O only	MDEL/AMEL multiplier	MDEL hh	ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic
43	Trichloroethylene	ug/L	MEC<C & B is ND							
44	Vinyl Chloride	ug/L	MEC<C & B is ND							
45	2-Chlorophenol	ug/L	MEC<C & B is ND							
46	2,4-Dichlorophenol	ug/L	MEC<C & B is ND							
47	2,4-Dimethylphenol	ug/L	MEC<C & B is ND							
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	ug/L	MEC<C & B is ND							
49	2,4-Dinitrophenol	ug/L	MEC<C & B is ND							
50	2-Nitrophenol	ug/L	No Criteria							
51	4-Nitrophenol	ug/L	No Criteria							
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	ug/L	No Criteria							
53	Pentachlorophenol	ug/L	UD; effluent ND, MDL>C, and B is ND							
54	Phenol	ug/L	MEC<C & B is ND							
55	2,4,6-Trichlorophenol	ug/L	MEC<C & B is ND							
56	Acenaphthene	ug/L	MEC<C & B is ND							
57	Acenaphthylene	ug/L	No Criteria							
58	Anthracene	ug/L	MEC<C & B is ND							
59	Benzidine	ug/L	UD; effluent ND, MDL>C, and B is ND							
60	Benzo(a)Anthracene	ug/L	UD; effluent ND, MDL>C, and B is ND							
61	Benzo(a)Pyrene	ug/L	UD; effluent ND, MDL>C, and B is ND							
62	Benzo(b)Fluoranthene	ug/L	UD; effluent ND, MDL>C, and B is ND							
63	Benzo(ghi)Perylene	ug/L	No Criteria							
64	Benzo(k)Fluoranthene	ug/L	UD; effluent ND, MDL>C, and B is ND							
65	Bis(2-Chloroethoxy)Methan	ug/L	No Criteria							
66	Bis(2-Chloroethyl)Ether	ug/L	UD; effluent ND, MDL>C, and B is ND							
67	Bis(2-Chloroisopropyl)Ether	ug/L	MEC<C & B is ND							
68	Bis(2-Ethylhexyl)Phthalate	ug/L	MEC<C & B<=C							
69	4-Bromophenyl Phenyl Ethe	ug/L	No Criteria							
70	Butylbenzyl Phthalate	ug/L	MEC<C & B is ND							
71	2-Chloronaphthalene	ug/L	MEC<C & B is ND							
72	4-Chlorophenyl Phenyl Ethe	ug/L	No Criteria							
73	Chrysene	ug/L	UD; effluent ND, MDL>C, and B is ND							
74	Dibenzo(a,h)Anthracene	ug/L	UD; effluent ND, MDL>C, and B is ND							
75	1,2-Dichlorobenzene	ug/L	MEC<C & B is ND							
76	1,3-Dichlorobenzene	ug/L	MEC<C & B is ND							
77	1,4-Dichlorobenzene	ug/L	MEC<C & B is ND							
78	3,3 Dichlorobenzidine	ug/L	UD; effluent ND, MDL>C, and B is ND							
79	Diethyl Phthalate	ug/L	MEC<C & B is ND							
80	Dimethyl Phthalate	ug/L	MEC<C & B is ND							
81	Di-n-Butyl Phthalate	ug/L	MEC<C & B<=C							
82	2,4-Dinitrotoluene	ug/L	UD; effluent ND, MDL>C, and B is ND							
83	2,6-Dinitrotoluene	ug/L	No Criteria							
84	Di-n-Octyl Phthalate	ug/L	No Criteria							

CTR#	Parameters	Units	LIFE CALCULATIONS Freshwater / Basin Plan Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life	LIMITS Lowest AMEL	Lowest MDEL	Recommendation	Comment
43	Trichloroethylene	ug/L								No Limit	
44	Vinyl Chloride	ug/L								No Limit	
45	2-Chlorophenol	ug/L								No Limit	
46	2,4-Dichlorophenol	ug/L								No Limit	
47	2,4-Dimethylphenol	ug/L								No Limit	
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	ug/L								No Limit	
49	2,4-Dinitrophenol	ug/L								No Limit	
50	2-Nitrophenol	ug/L								No Limit	
51	4-Nitrophenol	ug/L								No Limit	
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	ug/L								No Limit	
53	Pentachlorophenol	ug/L								No Limit	
54	Phenol	ug/L								No Limit	
55	2,4,6-Trichlorophenol	ug/L								No Limit	
56	Acenaphthene	ug/L								No Limit	
57	Acenaphthylene	ug/L								No Limit	
58	Anthracene	ug/L								No Limit	
59	Benzidine	ug/L								No Limit	
60	Benzo(a)Anthracene	ug/L								No Limit	
61	Benzo(a)Pyrene	ug/L								No Limit	
62	Benzo(b)Fluoranthene	ug/L								No Limit	
63	Benzo(ghi)Perylene	ug/L								No Limit	
64	Benzo(k)Fluoranthene	ug/L								No Limit	
65	Bis(2-Chloroethoxy)Methan	ug/L								No Limit	
66	Bis(2-Chloroethyl)Ether	ug/L								No Limit	
67	Bis(2-Chloroisopropyl)Ether	ug/L								No Limit	
68	Bis(2-Ethylhexyl)Phthalate	ug/L								No Limit	
69	4-Bromophenyl Phenyl Ethe	ug/L								No Limit	
70	Butylbenzyl Phthalate	ug/L								No Limit	
71	2-Chloronaphthalene	ug/L								No Limit	
72	4-Chlorophenyl Phenyl Ethe	ug/L								No Limit	
73	Chrysene	ug/L								No Limit	
74	Dibenzo(a,h)Anthracene	ug/L								No Limit	
75	1,2-Dichlorobenzene	ug/L								No Limit	
76	1,3-Dichlorobenzene	ug/L								No Limit	
77	1,4-Dichlorobenzene	ug/L								No Limit	
78	3,3 Dichlorobenzidine	ug/L								No Limit	
79	Diethyl Phthalate	ug/L								No Limit	
80	Dimethyl Phthalate	ug/L								No Limit	
81	Di-n-Butyl Phthalate	ug/L								No Limit	
82	2,4-Dinitrotoluene	ug/L								No Limit	
83	2,6-Dinitrotoluene	ug/L								No Limit	
84	Di-n-Octyl Phthalate	ug/L								No Limit	

Attachment J
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
William E. Warne Power Plant ,Discharge Point No. 001(A+B)

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)						Lowest C	MEC >= Lowest C	Tier 1 - Need limit?
					Freshwater		Saltwater		Human Health for consumption of:				
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot	Water & organisms	Organisms only			
85	1,2-Diphenylhydrazine	ug/L							0.040	0.54	0.040		
86	Fluoranthene	ug/L		0.09					300	370	300	No	No
87	Fluorene	ug/L		0.08					1300	14000	1300	No	No
88	Hexachlorobenzene	ug/L							0.00075	0.00077	0.00075		
89	Hexachlorobutadiene	ug/L		0.41					0.44	50	0.44	No	No
90	Hexachlorocyclopentadiene	ug/L		1.8					240	17000	240	No	No
91	Hexachloroethane	ug/L		0.36					1.9	8.9	1.9	No	No
92	Indeno(1,2,3-cd)Pyrene	ug/L							0.0044	0.049	0.0044		
93	Isophorone	ug/L		0.06					8.4	600	8.4	No	No
94	Naphthalene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
95	Nitrobenzene	ug/L		0.37					17	1900	17	No	No
96	N-Nitrosodimethylamine	ug/L							0.00069	8.10	0.00069		
97	N-Nitrosodi-n-Propylamine	ug/L							0.005	1.40	0.005		
98	N-Nitrosodiphenylamine	ug/L		0.08					5.0	16	5.0	No	No
99	Phenanthrene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
100	Pyrene	ug/L		0.06					960	11000	960	No	No
101	1,2,4-Trichlorobenzene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
102	Aldrin	ug/L			3.00				0.00013	0.00014	0.00013		
103	alpha-BHC	ug/L		0.001					0.0039	0.013	0.0039	No	No
104	beta-BHC	ug/L		0.003					0.014	0.046	0.014	No	No
105	gamma-BHC	ug/L		0.0021	0.95				0.019	0.063	0.019	No	No
106	delta-BHC	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
107	Chlordane	ug/L			2.4	0.0043			0.00057	0.00059	0.00057		
108	4,4'-DDT	ug/L			1.1	0.001			0.00059	0.00059	0.00059		
109	4,4'-DDE (linked to DDT)	ug/L							0.00059	0.00059	0.00059		
110	4,4'-DDD	ug/L							0.00083	0.00084	0.00083		
111	Dieldrin	ug/L			0.24	0.056			0.00014	0.00014	0.00014		
112	alpha-Endosulfan	ug/L		0.0017	0.22	0.056			110	240	0.0560	No	No
113	beta-Endolsulfan	ug/L		0.0019	0.22	0.056			110	240	0.0560	No	No
114	Endosulfan Sulfate	ug/L		0.003					110	240	110	No	No
115	Endrin	ug/L		0.0028	0.086	0.036			0.76	0.81	0.0360	No	No
116	Endrin Aldehyde	ug/L		0.003					0.76	0.81	0.76	No	No
117	Heptachlor	ug/L			0.52	0.0038			0.00021	0.00021	0.00021		
118	Heptachlor Epoxide	ug/L			0.52	0.0038			0.00010	0.00011	0.00010		
119-125	PCBs sum (2)	ug/L				0.014			0.00017	0.00017	0.00017		
126	Toxaphene	ug/L			0.73	0.0002			0.00073	0.00075	0.0002		

Notes:
Ud = Undetermined due to lack of data
Uc = Undetermined due to lack of CTR Water Quality Criteria
C = Water Quality Criteria
B = Background receiving water data

Attachment J
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
William E. Warne Power Plant ,Discharge Point No. 001(A+B)

			REASONABLE POTENTIAL ANALYSIS (RPA)							
CTR#	Parameters	Units	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL)	Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?
85	1,2-Diphenylhydrazine	ug/L	Y	Y	0.09		Y	No detected value of B, Step 7	0.00	No
86	Fluoranthene	ug/L	Y	Y	0.09		N	No detected value of B, Step 7	0.00	No
87	Fluorene	ug/L	Y	Y	0.08		N	No detected value of B, Step 7	0.00	No
88	Hexachlorobenzene	ug/L	Y	Y	0.13		Y	No detected value of B, Step 7	0.00	No
89	Hexachlorobutadiene	ug/L	Y	Y	0.41		N	No detected value of B, Step 7	0.00	No
90	Hexachlorocyclopentadiene	ug/L	Y	Y	1.8		N	No detected value of B, Step 7	0.00	No
91	Hexachloroethane	ug/L	Y	Y	0.36		N	No detected value of B, Step 7	0.00	No
92	Indeno(1,2,3-cd)Pyrene	ug/L	Y	Y	0.19		Y	No detected value of B, Step 7	0.00	No
93	Isophorone	ug/L	Y	Y	0.06		N	No detected value of B, Step 7	0.00	No
94	Naphthalene	ug/L	Y	Y	0.13		N	No Criteria	0.00	Uc
95	Nitrobenzene	ug/L	Y	Y	0.37		N	No detected value of B, Step 7	0.00	No
96	N-Nitrosodimethylamine	ug/L	Y	Y	0.22		Y	No detected value of B, Step 7	0.00	No
97	N-Nitrosodi-n-Propylamine	ug/L	Y	Y	0.18		Y	No detected value of B, Step 7	0.00	No
98	N-Nitrosodiphenylamine	ug/L	Y	Y	0.08		N	No detected value of B, Step 7	0.00	No
99	Phenanthrene	ug/L	Y	Y	0.07		N	No Criteria	0.00	Uc
100	Pyrene	ug/L	Y	Y	0.06		N	No detected value of B, Step 7	0.00	No
101	1,2,4-Trichlorobenzene	ug/L	Y	Y	0.26		N	No Criteria	0.00	Uc
102	Aldrin	ug/L	Y	Y				No detected value of B, Step 7	0.00	No
103	alpha-BHC	ug/L	Y	Y				No detected value of B, Step 7	0.00	No
104	beta-BHC	ug/L	Y	Y	0.003		N	No detected value of B, Step 7	0.00	No
105	gamma-BHC	ug/L	Y	Y	0.0021		N	No detected value of B, Step 7	0.00	No
106	delta-BHC	ug/L	Y	Y	0.003		N	No Criteria	0.00	Uc
107	Chlordane	ug/L	Y	Y	0.002		Y	No detected value of B, Step 7	0.00	No
108	4,4'-DDT	ug/L	Y	Y	0.003		Y	No detected value of B, Step 7	0.00	No
109	4,4'-DDE (linked to DDT)	ug/L	Y	Y	0.0025		Y	No detected value of B, Step 7	0.00	No
110	4,4'-DDD	ug/L	Y	Y	0.003		Y	No detected value of B, Step 7	0.00	No
111	Dieldrin	ug/L	Y	Y	0.001		Y	No detected value of B, Step 7	0.00	No
112	alpha-Endosulfan	ug/L	Y	Y	0.0017		N	No detected value of B, Step 7	0.00	No
113	beta-Endolsulfan	ug/L	Y	Y	0.0019		N	No detected value of B, Step 7	0.00	No
114	Endosulfan Sulfate	ug/L	Y	Y	0.003		N	No detected value of B, Step 7	0.00	No
115	Endrin	ug/L	Y	Y	0.0028		N	No detected value of B, Step 7	0.00	No
116	Endrin Aldehyde	ug/L	Y	Y	0.003		N	No detected value of B, Step 7	0.00	No
117	Heptachlor	ug/L	Y	Y	0.0017		Y	No detected value of B, Step 7	0.00	No
118	Heptachlor Epoxide	ug/L	Y	Y	0.0019		Y	No detected value of B, Step 7	0.00	No
119-125	PCBs sum (2)	ug/L	Y	Y	0.04		Y	No detected value of B, Step 7	0.00	No
126	Toxaphene	ug/L	Y	Y	0.07		Y	No detected value of B, Step 7	0.00	No
Notes:										
Ud = Undetermined due to lack of data										
Uc = Undetermined due to lack of CTR Water Q										
C = Water Quality Criteria										
B = Background receiving water data										

Attachment J
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
William E. Warne Power Plant ,Discharge Point No. 001(A+B)

				HUMAN HEALTH CALCULATIONS			AQUATIC L			
CTR#				Organisms only			Saltwater / F			
	Parameters	Units	Reason	AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic
85	1,2-Diphenylhydrazine	ug/L	UD; effluent ND, MDL>C, and B is ND							
86	Fluoranthene	ug/L	MEC<C & B is ND							
87	Fluorene	ug/L	MEC<C & B is ND							
88	Hexachlorobenzene	ug/L	UD; effluent ND, MDL>C, and B is ND							
89	Hexachlorobutadiene	ug/L	MEC<C & B is ND							
90	Hexachlorocyclopentadiene	ug/L	MEC<C & B is ND							
91	Hexachloroethane	ug/L	MEC<C & B is ND							
92	Indeno(1,2,3-cd)Pyrene	ug/L	UD; effluent ND, MDL>C, and B is ND							
93	Isophorone	ug/L	MEC<C & B is ND							
94	Naphthalene	ug/L	No Criteria							
95	Nitrobenzene	ug/L	MEC<C & B is ND							
96	N-Nitrosodimethylamine	ug/L	UD; effluent ND, MDL>C, and B is ND							
97	N-Nitrosodi-n-Propylamine	ug/L	UD; effluent ND, MDL>C, and B is ND							
98	N-Nitrosodiphenylamine	ug/L	MEC<C & B is ND							
99	Phenanthrene	ug/L	No Criteria							
100	Pyrene	ug/L	MEC<C & B is ND							
101	1,2,4-Trichlorobenzene	ug/L	No Criteria							
102	Aldrin	ug/L	UD; effluent ND, MDL>C, and B is ND							
103	alpha-BHC	ug/L	MEC<C & B is ND							
104	beta-BHC	ug/L	MEC<C & B is ND							
105	gamma-BHC	ug/L	MEC<C & B is ND							
106	delta-BHC	ug/L	No Criteria							
107	Chlordane	ug/L	UD; effluent ND, MDL>C, and B is ND							
108	4,4'-DDT	ug/L	UD; effluent ND, MDL>C, and B is ND							
109	4,4'-DDE (linked to DDT)	ug/L	UD; effluent ND, MDL>C, and B is ND							
110	4,4'-DDD	ug/L	UD; effluent ND, MDL>C, and B is ND							
111	Dieldrin	ug/L	UD; effluent ND, MDL>C, and B is ND							
112	alpha-Endosulfan	ug/L	MEC<C & B is ND							
113	beta-Endolsulfan	ug/L	MEC<C & B is ND							
114	Endosulfan Sulfate	ug/L	MEC<C & B is ND							
115	Endrin	ug/L	MEC<C & B is ND							
116	Endrin Aldehyde	ug/L	MEC<C & B is ND							
117	Heptachlor	ug/L	UD; effluent ND, MDL>C, and B is ND							
118	Heptachlor Epoxide	ug/L	UD; effluent ND, MDL>C, and B is ND							
119-125	PCBs sum (2)	ug/L	UD; effluent ND, MDL>C, and B is ND							
126	Toxaphene	ug/L	UD; effluent ND, MDL>C, and B is ND							
Notes:										
Ud = Undetermined due to lack of data										
Uc = Undetermined due to lack of CTR Water Qu										
C = Water Quality Criteria										
B = Background receiving water data										

Attachment J
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
William E. Warne Power Plant ,Discharge Point No. 001(A+B)

CTR#	Parameters	Units	LIFE CALCULATIONS Freshwater / Basin Plan Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life	LIMITS Lowest AMEL	Lowest MDEL	Recommendation	Comment
85	1,2-Diphenylhydrazine	ug/L								No Limit	
86	Fluoranthene	ug/L								No Limit	
87	Fluorene	ug/L								No Limit	
88	Hexachlorobenzene	ug/L								No Limit	
89	Hexachlorobutadiene	ug/L								No Limit	
90	Hexachlorocyclopentadiene	ug/L								No Limit	
91	Hexachloroethane	ug/L								No Limit	
92	Indeno(1,2,3-cd)Pyrene	ug/L								No Limit	
93	Isophorone	ug/L								No Limit	
94	Naphthalene	ug/L								No Limit	
95	Nitrobenzene	ug/L								No Limit	
96	N-Nitrosodimethylamine	ug/L								No Limit	
97	N-Nitrosodi-n-Propylamine	ug/L								No Limit	
98	N-Nitrosodiphenylamine	ug/L								No Limit	
99	Phenanthrene	ug/L								No Limit	
100	Pyrene	ug/L								No Limit	
101	1,2,4-Trichlorobenzene	ug/L								No Limit	
102	Aldrin	ug/L								No Limit	
103	alpha-BHC	ug/L								No Limit	
104	beta-BHC	ug/L								No Limit	
105	gamma-BHC	ug/L								No Limit	
106	delta-BHC	ug/L								No Limit	
107	Chlordane	ug/L								No Limit	
108	4,4'-DDT	ug/L								No Limit	
109	4,4'-DDE (linked to DDT)	ug/L								No Limit	
110	4,4'-DDD	ug/L								No Limit	
111	Dieldrin	ug/L								No Limit	
112	alpha-Endosulfan	ug/L								No Limit	
113	beta-Endolsulfan	ug/L								No Limit	
114	Endosulfan Sulfate	ug/L								No Limit	
115	Endrin	ug/L								No Limit	
116	Endrin Aldehyde	ug/L								No Limit	
117	Heptachlor	ug/L								No Limit	
118	Heptachlor Epoxide	ug/L								No Limit	
119-125	PCBs sum (2)	ug/L								No Limit	
126	Toxaphene	ug/L								No Limit	
Notes:											
Ud = Undetermined due to lack of data											
Uc = Undetermined due to lack of CTR Water Q											
C = Water Quality Criteria											
B = Background receiving water data											

Attachment J
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
William E. Warne Power Plant, Discharge Point No. 002

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)						Lowest C	MEC >= Lowest C	Tier 1 - Need limit?
					Freshwater		Saltwater		Human Health for consumption of:				
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot	Water & organisms	Organisms only			
1	Antimony	ug/L		0.23					14.00	4300.00	14.00	No	No
2	Arsenic	ug/L		0.49	340.00	150.00					150.00	No	No
3	Beryllium	ug/L		No Criteria						Narrative	No Criteria	No Criteria	No Criteria
4	Cadmium	ug/L		0.054	4.09	2.30				Narrative	2.30	No	No
5a	Chromium (III)			0.9	1614.66	192.46				Narrative	192.46	No	No
5b	Chromium (VI)	ug/L		3.2	16.29	11.43				Narrative	11.43	No	No
6	Copper	ug/L	1.511	148	12.88	8.65			1300.00		8.65	Yes	Yes
7	Lead	ug/L	2.014	10.1	72.92	2.84				Narrative	2.84	Yes	Yes
8	Mercury	ug/L		0.031	Res	Res			0.050	0.051	0.050	No	No
9	Nickel	ug/L		5	435.21	48.39			610.00	4600.00	48.39	No	No
10	Selenium	ug/L		0.49	20.00	5.00				Narrative	5.00	No	No
11	Silver	ug/L		0.023	3.48						3.48	No	No
12	Thallium	ug/L		0.011					1.70	6.30	1.70	No	No
13	Zinc	ug/L	1.169	170	111.13	111.13					111.13	Yes	Yes
14	Cyanide	ug/L		0.0031	22.00	5.20			700.00	220000.00	5.20	No	No
15	Asbestos	Fibers/L		3000000					7000000.00		7000000.00	No	No
16	2,3,7,8 TCDD	ug/L							0.000000013	0.000000014	0.000000013		
	TCDD Equivalents	ug/L	0	5.809E-07					0.000000013	0.000000014	0.000000013	Yes	Yes
17	Acrolein	ug/L		0.27					320	780	320	No	No
18	Acrylonitrile	ug/L							0.059	0.66	0.059		
19	Benzene	ug/L		0.092					1.2	71	1.2	No	No
20	Bromoform	ug/L	1.681	14					4.3	360	4.3	Yes	Yes
21	Carbon Tetrachloride	ug/L							0.25	4.4	0.25		
22	Chlorobenzene	ug/L		0.14					680	21000	680	No	No
23	Chlorodibromomethane	ug/L	1	29					0.40	34	0.40	Yes	Yes
24	Chloroethane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
25	2-Chloroethylvinyl ether	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
26	Chloroform	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
27	Dichlorobromomethane	ug/L	1.324	14					0.56	46	0.56	Yes	Yes
28	1,1-Dichloroethane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
29	1,2-Dichloroethane	ug/L		0.27					0.38	99	0.38	No	No
30	1,1-Dichloroethylene	ug/L							0.057	3.2	0.057		
31	1,2-Dichloropropane	ug/L		0.27					0.52	39	0.52	No	No
32	1,3-Dichloropropylene	ug/L		0.1					10	1700	10	No	No
33	Ethylbenzene	ug/L		0.16					3100	29000	3100	No	No
34	Methyl Bromide	ug/L		0.49					48	4000	48	No	No
35	Methyl Chloride	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
36	Methylene Chloride	ug/L		0.23					4.7	1600	4.7	No	No
37	1,1,2,2-Tetrachloroethane	ug/L							0.17	11	0.17		
38	Tetrachloroethylene	ug/L	1.378	6.6					0.8	8.85	0.8	Yes	Yes
39	Toluene	ug/L		0.15					6800	200000	6800	No	No
40	1,2-Trans-Dichloroethylene	ug/L		0.17					700	140000	700	No	No
41	1,1,1-Trichloroethane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
42	1,1,2-Trichloroethane	ug/L		0.45					0.6	42	0.6	No	No

Attachment J
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
William E. Warne Power Plant, Discharge Point No. 002

			REASONABLE POTENTIAL ANALYSIS (RPA)							
CTR#	Parameters	Units	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL)	Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?
1	Antimony	ug/L	Y	N		0.2		B<=C, Step 7		No
2	Arsenic	ug/L	Y	N		3.1		B<=C, Step 7		No
3	Beryllium	ug/L	Y	Y	0.035		N	No Criteria	No Criteria	Uc
4	Cadmium	ug/L	Y	N		0.082		B<=C, Step 7		No
5a	Chromium (III)		Y	N		1.2		B<=C, Step 7		No
5b	Chromium (VI)	ug/L	Y	N		1.6		B<=C, Step 7		No
6	Copper	ug/L	Y	N		3.3		B<=C, Step 7		Yes
7	Lead	ug/L	Y	N		0.75		B<=C, Step 7		Yes
8	Mercury	ug/L	Y	N		0.03		B<=C, Step 7		No
9	Nickel	ug/L	Y	N		3.1		B<=C, Step 7		No
10	Selenium	ug/L	Y	N		0.43		B<=C, Step 7		No
11	Silver	ug/L	Y	Y	0.019		N	No detected value of B, Step 7		No
12	Thallium	ug/L	Y	Y	0.011		N	No detected value of B, Step 7		No
13	Zinc	ug/L	Y	N		3.7		B<=C, Step 7		Yes
14	Cyanide	ug/L	Y	Y	0.0031		N	No detected value of B, Step 7		No
15	Asbestos	Fibers/L	Y	N		7000000		B<=C, Step 7		No
16	2,3,7,8 TCDD	ug/L	Y	Y	5.88E-07		Y	No detected value of B, Step 7		No
	TCDD Equivalents	ug/L	Y	N		8.8598E-07		Limit required, B>C & pollutant		Yes
17	Acrolein	ug/L	Y	Y	0.27		N	No detected value of B, Step 7		No
18	Acrylonitrile	ug/L	Y	Y	0.11		Y	No detected value of B, Step 7		No
19	Benzene	ug/L	Y	Y	0.092		N	No detected value of B, Step 7		No
20	Bromoform	ug/L	Y	Y	0.41		N	No detected value of B, Step 7		Yes
21	Carbon Tetrachloride	ug/L	Y	Y	0.29		Y	No detected value of B, Step 7		No
22	Chlorobenzene	ug/L	Y	Y	0.14		N	No detected value of B, Step 7		No
23	Chlorodibromomethane	ug/L	Y	Y	0.4		N	No detected value of B, Step 7		Yes
24	Chloroethane	ug/L	Y	Y	0.17		N	No Criteria	No Criteria	Uc
25	2-Chloroethylvinyl ether	ug/L	Y	Y	0.22		N	No Criteria	No Criteria	Uc
26	Chloroform	ug/L	Y	Y				No Criteria	No Criteria	Uc
27	Dichlorobromomethane	ug/L	Y	Y	0.25		N	No detected value of B, Step 7		Yes
28	1,1-Dichloroethane	ug/L	Y	Y	0.12		N	No Criteria	No Criteria	Uc
29	1,2-Dichloroethane	ug/L	Y	Y	0.27		N	No detected value of B, Step 7		No
30	1,1-Dichloroethylene	ug/L	Y	Y	0.24		Y	No detected value of B, Step 7		No
31	1,2-Dichloropropane	ug/L	Y	Y	0.27		N	No detected value of B, Step 7		No
32	1,3-Dichloropropylene	ug/L	Y	Y	0.1		N	No detected value of B, Step 7		No
33	Ethylbenzene	ug/L	Y	Y	0.16		N	No detected value of B, Step 7		No
34	Methyl Bromide	ug/L	Y	Y	0.49		N	No detected value of B, Step 7		No
35	Methyl Chloride	ug/L	Y	Y	0.18		N	No Criteria	No Criteria	Uc
36	Methylene Chloride	ug/L	Y	N		0.8		B<=C, Step 7		No
37	1,1,2,2-Tetrachloroethane	ug/L	Y	Y	0.51		Y	No detected value of B, Step 7		No
38	Tetrachloroethylene	ug/L	Y	Y	0.19		N	No detected value of B, Step 7		Yes
39	Toluene	ug/L	Y	Y	0.15		N	No detected value of B, Step 7		No
40	1,2-Trans-Dichloroethylene	ug/L	Y	Y	0.17		N	No detected value of B, Step 7		No
41	1,1,1-Trichloroethane	ug/L	Y	Y	0.18		N	No Criteria	No Criteria	Uc
42	1,1,2-Trichloroethane	ug/L	Y	Y	0.45		N	No detected value of B, Step 7		No

Attachment J
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
William E. Warne Power Plant, Discharge Point No. 002

CTR#	Parameters	Units	Reason	HUMAN HEALTH CALCULATIONS Organisms only AMEL hh = ECA = C hh O	MDEL/AMEL multiplier	MDEL hh	AQUATIC LIFE CALC Saltwater / Freshwater ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	Lowest LTA
1	Antimony	ug/L	MEC<C & B<=C								
2	Arsenic	ug/L	MEC<C & B<=C								
3	Beryllium	ug/L	No Criteria								
4	Cadmium	ug/L	MEC<C & B<=C								
5a	Chromium (III)		MEC<C & B<=C								
5b	Chromium (VI)	ug/L	MEC<C & B<=C								
6	Copper	ug/L	MEC>=C		2.89		0.14	1.85	0.26	2.27	1.85
7	Lead	ug/L	MEC>=C		3.08		0.12	8.49	0.20	0.58	0.58
8	Mercury	ug/L	MEC<C & B<=C								
9	Nickel	ug/L	MEC<C & B<=C								
10	Selenium	ug/L	MEC<C & B<=C								
11	Silver	ug/L	MEC<C & B is ND								
12	Thallium	ug/L	MEC<C & B is ND								
13	Zinc	ug/L	MEC>=C		2.67		0.18	19.74	0.33	36.49	19.74
14	Cyanide	ug/L	MEC<C & B is ND								
15	Asbestos	Fibers/L	MEC<C & B<=C								
16	2,3,7,8 TCDD	ug/L	UD; effluent ND, MDL>C, and B is ND								
	TCDD Equivalents	ug/L	MEC>=C	1.3E-08	2.01	0.00000					
17	Acrolein	ug/L	MEC<C & B is ND								
18	Acrylonitrile	ug/L	UD; effluent ND, MDL>C, and B is ND								
19	Benzene	ug/L	MEC<C & B is ND								
20	Bromoform	ug/L	MEC>=C	4.3	2.97	12.76470					
21	Carbon Tetrachloride	ug/L	UD; effluent ND, MDL>C, and B is ND								
22	Chlorobenzene	ug/L	MEC<C & B is ND								
23	Chlorodibromomethane	ug/L	MEC>=C	0.401	2.52	1.01072					
24	Chloroethane	ug/L	No Criteria								
25	2-Chloroethylvinyl ether	ug/L	No Criteria								
26	Chloroform	ug/L	No Criteria								
27	Dichlorobromomethane	ug/L	MEC>=C	0.56	2.79	1.55982					
28	1,1-Dichloroethane	ug/L	No Criteria								
29	1,2-Dichloroethane	ug/L	MEC<C & B is ND								
30	1,1-Dichloroethylene	ug/L	UD; effluent ND, MDL>C, and B is ND								
31	1,2-Dichloropropane	ug/L	MEC<C & B is ND								
32	1,3-Dichloropropylene	ug/L	MEC<C & B is ND								
33	Ethylbenzene	ug/L	MEC<C & B is ND								
34	Methyl Bromide	ug/L	MEC<C & B is ND								
35	Methyl Chloride	ug/L	No Criteria								
36	Methylene Chloride	ug/L	MEC<C & B<=C								
37	1,1,2,2-Tetrachloroethane	ug/L	UD; effluent ND, MDL>C, and B is ND								
38	Tetrachloroethylene	ug/L	MEC>=C	0.8	2.82	2.25530					
39	Toluene	ug/L	MEC<C & B is ND								
40	1,2-Trans-Dichloroethylene	ug/L	MEC<C & B is ND								
41	1,1,1-Trichloroethane	ug/L	No Criteria								
42	1,1,2-Trichloroethane	ug/L	MEC<C & B is ND								

Attachment J
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
William E. Warne Power Plant, Discharge Point No. 002

CTR#	Parameters	Units	ULATIONS / Basin Plan AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life	LIMITS Lowest AMEL	Lowest MDEL	Recommendation	Comment
1	Antimony	ug/L							No Limit	
2	Arsenic	ug/L							No Limit	
3	Beryllium	ug/L							No Limit	
4	Cadmium	ug/L							No Limit	
5a	Chromium (III)								No Limit	
5b	Chromium (VI)	ug/L							No Limit	
6	Copper	ug/L	2.41	4.45	6.97	12.87509	4.5	13		
7	Lead	ug/L	2.79	1.61	8.59	4.947317	1.6	4.95		
8	Mercury	ug/L							No Limit	
9	Nickel	ug/L							No Limit	
10	Selenium	ug/L							No Limit	
11	Silver	ug/L							No Limit	
12	Thallium	ug/L							No Limit	
13	Zinc	ug/L	2.11	41.58	5.63	111.1293	42	111		
14	Cyanide	ug/L							No Limit	
15	Asbestos	Fibers/L							No Limit	
16	2,3,7,8 TCDD	ug/L							No Limit	
	TCDD Equivalents	ug/L	1.55		3.11		0.000000013	0.000000026		
17	Acrolein	ug/L							No Limit	
18	Acrylonitrile	ug/L							No Limit	
19	Benzene	ug/L							No Limit	
20	Bromoform	ug/L	2.55		7.56		4.3	13		
21	Carbon Tetrachloride	ug/L							No Limit	
22	Chlorobenzene	ug/L							No Limit	
23	Chlorodibromomethane	ug/L	1.95		4.90		0.40	1.0		
24	Chloroethane	ug/L							No Limit	
25	2-Chloroethylvinyl ether	ug/L							No Limit	
26	Chloroform	ug/L							No Limit	
27	Dichlorobromomethane	ug/L	2.25		6.26		0.56	1.6		
28	1,1-Dichloroethane	ug/L							No Limit	
29	1,2-Dichloroethane	ug/L							No Limit	
30	1,1-Dichloroethylene	ug/L							No Limit	
31	1,2-Dichloropropane	ug/L							No Limit	
32	1,3-Dichloropropylene	ug/L							No Limit	
33	Ethylbenzene	ug/L							No Limit	
34	Methyl Bromide	ug/L							No Limit	
35	Methyl Chloride	ug/L							No Limit	
36	Methylene Chloride	ug/L							No Limit	
37	1,1,2,2-Tetrachloroethane	ug/L							No Limit	
38	Tetrachloroethylene	ug/L	2.30		6.47		0.80	2.3		
39	Toluene	ug/L							No Limit	
40	1,2-Trans-Dichloroethylene	ug/L							No Limit	
41	1,1,1-Trichloroethane	ug/L							No Limit	
42	1,1,2-Trichloroethane	ug/L							No Limit	

Attachment J
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
William E. Warne Power Plant, Discharge Point No. 002

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)						Lowest C	MEC >= Lowest C	Tier 1 - Need limit?
					Freshwater		Saltwater		Human Health for consumption of:				
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot	Water & organisms	Organisms only			
43	Trichloroethylene	ug/L		1.3					2.7	81	2.7	No	No
44	Vinyl Chloride	ug/L		0.16					2	525	2	No	No
45	2-Chlorophenol	ug/L		0.12					120	400	120	No	No
46	2,4-Dichlorophenol	ug/L		0.21					93	790	93	No	No
47	2,4-Dimethylphenol	ug/L		0.31					540	2300	540	No	No
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	ug/L		0.33					13.4	765	13.4	No	No
49	2,4-Dinitrophenol	ug/L		2.7					70	14000	70	No	No
50	2-Nitrophenol	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
51	4-Nitrophenol	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
53	Pentachlorophenol	ug/L			21.55	16.54			0.28	8.2	0.28		
54	Phenol	ug/L		0.14					21000	4600000	21000	No	No
55	2,4,6-Trichlorophenol	ug/L		0.1					2.1	6.5	2.1	No	No
56	Acenaphthene	ug/L		0.1					1200	2700	1200	No	No
57	Acenaphthylene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
58	Anthracene	ug/L		0.08					9600	110000	9600	No	No
59	Benzidine	ug/L							0.00012	0.00054	0.00012		
60	Benzo(a)Anthracene	ug/L							0.0044	0.049	0.0044		
61	Benzo(a)Pyrene	ug/L							0.0044	0.049	0.0044		
62	Benzo(b)Fluoranthene	ug/L							0.0044	0.049	0.0044		
63	Benzo(ghi)Perylene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
64	Benzo(k)Fluoranthene	ug/L							0.0044	0.049	0.0044		
65	Bis(2-Chloroethoxy)Methane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
66	Bis(2-Chloroethyl)Ether	ug/L							0.031	1.4	0.031		
67	Bis(2-Chloroisopropyl)Ether	ug/L		0.11					1400	170000	1400	No	No
68	Bis(2-Ethylhexyl)Phthalate	ug/L		0.59					1.8	5.9	1.8	No	No
69	4-Bromophenyl Phenyl Ether	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
70	Butylbenzyl Phthalate	ug/L		0.29					3000	5200	3000	No	No
71	2-Chloronaphthalene	ug/L		0.12					1700	4300	1700	No	No
72	4-Chlorophenyl Phenyl Ether	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
73	Chrysene	ug/L							0.0044	0.049	0.0044		
74	Dibenzo(a,h)Anthracene	ug/L							0.0044	0.049	0.0044		
75	1,2-Dichlorobenzene	ug/L		0.12					2700	17000	2700	No	No
76	1,3-Dichlorobenzene	ug/L		0.46					400	2600	400	No	No
77	1,4-Dichlorobenzene	ug/L		0.32					400	2600	400	No	No
78	3,3 Dichlorobenzidine	ug/L							0.04	0.077	0.04		
79	Diethyl Phthalate	ug/L		0.25					23000	120000	23000	No	No
80	Dimethyl Phthalate	ug/L		0.08					313000	2900000	313000	No	No
81	Di-n-Butyl Phthalate	ug/L		1					2700	12000	2700	No	No
82	2,4-Dinitrotoluene	ug/L							0.11	9.10	0.11		
83	2,6-Dinitrotoluene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
84	Di-n-Octyl Phthalate	ug/L		No Criteria							No Criteria	No Criteria	No Criteria

CTR#	Parameters	Units	REASONABLE POTENTIAL ANALYSIS (RPA)							
			B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL)	Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?
43	Trichloroethylene	ug/L	Y	Y	0.26		N	No detected value of B, Step 7		No
44	Vinyl Chloride	ug/L	Y	Y	0.16		N	No detected value of B, Step 7		No
45	2-Chlorophenol	ug/L	Y	Y	0.12		N	No detected value of B, Step 7		No
46	2,4-Dichlorophenol	ug/L	Y	Y	0.21		N	No detected value of B, Step 7		No
47	2,4-Dimethylphenol	ug/L	Y	Y	0.31		N	No detected value of B, Step 7		No
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	ug/L	Y	Y	0.33		N	No detected value of B, Step 7		No
49	2,4-Dinitrophenol	ug/L	Y	Y	2.7		N	No detected value of B, Step 7		No
50	2-Nitrophenol	ug/L	Y	Y	0.23		N	No Criteria	No Criteria	Uc
51	4-Nitrophenol	ug/L	Y	Y	0.73		N	No Criteria	No Criteria	Uc
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	ug/L	Y	Y	0.3		N	No Criteria	No Criteria	Uc
53	Pentachlorophenol	ug/L	Y	Y	0.56		Y	No detected value of B, Step 7		No
54	Phenol	ug/L	Y	Y	0.14		N	No detected value of B, Step 7		No
55	2,4,6-Trichlorophenol	ug/L	Y	Y	0.1		N	No detected value of B, Step 7		No
56	Acenaphthene	ug/L	Y	Y	0.1		N	No detected value of B, Step 7		No
57	Acenaphthylene	ug/L	Y	Y	0.1		N	No Criteria	No Criteria	Uc
58	Anthracene	ug/L	Y	Y	0.08		N	No detected value of B, Step 7		No
59	Benzidine	ug/L	Y	Y	0.7		Y	No detected value of B, Step 7		No
60	Benzo(a)Anthracene	ug/L	Y	Y	0.04		Y	No detected value of B, Step 7		No
61	Benzo(a)Pyrene	ug/L	Y	Y	0.14		Y	No detected value of B, Step 7		No
62	Benzo(b)Fluoranthene	ug/L	Y	Y	0.05		Y	No detected value of B, Step 7		No
63	Benzo(ghi)Perylene	ug/L	Y	Y	0.06		N	No Criteria	No Criteria	Uc
64	Benzo(k)Fluoranthene	ug/L	Y	Y	0.05		Y	No detected value of B, Step 7		No
65	Bis(2-Chloroethoxy)Methane	ug/L	Y	Y	0.07		N	No Criteria	No Criteria	Uc
66	Bis(2-Chloroethyl)Ether	ug/L	Y	Y	0.08		Y	No detected value of B, Step 7		No
67	Bis(2-Chloroisopropyl)Ether	ug/L	Y	Y	0.11		N	No detected value of B, Step 7		No
68	Bis(2-Ethylhexyl)Phthalate	ug/L	Y	N		0.89		B<=C, Step 7		No
69	4-Bromophenyl Phenyl Ether	ug/L	Y	Y	0.12		N	No Criteria	No Criteria	Uc
70	Butylbenzyl Phthalate	ug/L	Y	Y	0.29		N	No detected value of B, Step 7		No
71	2-Chloronaphthalene	ug/L	Y	Y	0.12		N	No detected value of B, Step 7		No
72	4-Chlorophenyl Phenyl Ether	ug/L	Y	Y	0.06		N	No Criteria	No Criteria	Uc
73	Chrysene	ug/L	Y	Y	0.07		Y	No detected value of B, Step 7		No
74	Dibenzo(a,h)Anthracene	ug/L	Y	Y	0.08		Y	No detected value of B, Step 7		No
75	1,2-Dichlorobenzene	ug/L	Y	Y	0.12		N	No detected value of B, Step 7		No
76	1,3-Dichlorobenzene	ug/L	Y	Y	0.35		N	No detected value of B, Step 7		No
77	1,4-Dichlorobenzene	ug/L	Y	Y	0.32		N	No detected value of B, Step 7		No
78	3,3 Dichlorobenzidine	ug/L	Y	Y	0.3		Y	No detected value of B, Step 7		No
79	Diethyl Phthalate	ug/L	Y	Y	0.12		N	No detected value of B, Step 7		No
80	Dimethyl Phthalate	ug/L	Y	Y	0.08		N	No detected value of B, Step 7		No
81	Di-n-Butyl Phthalate	ug/L	Y	N		0.97		B<=C, Step 7		No
82	2,4-Dinitrotoluene	ug/L	Y	Y	0.23		Y	No detected value of B, Step 7		No
83	2,6-Dinitrotoluene	ug/L	Y	Y	0.24		N	No Criteria	No Criteria	Uc
84	Di-n-Octyl Phthalate	ug/L	Y	Y	0.17		N	No Criteria	No Criteria	Uc

				HUMAN HEALTH CALCULATIONS			AQUATIC LIFE CALC				
				Organisms only			Saltwater / Freshwater				
CTR#	Parameters	Units	Reason	AMEL hh = ECA = C hh O	MDEL/AMEL multiplier	MDEL hh	ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	Lowest LTA
43	Trichloroethylene	ug/L	MEC<C & B is ND								
44	Vinyl Chloride	ug/L	MEC<C & B is ND								
45	2-Chlorophenol	ug/L	MEC<C & B is ND								
46	2,4-Dichlorophenol	ug/L	MEC<C & B is ND								
47	2,4-Dimethylphenol	ug/L	MEC<C & B is ND								
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	ug/L	MEC<C & B is ND								
49	2,4-Dinitrophenol	ug/L	MEC<C & B is ND								
50	2-Nitrophenol	ug/L	No Criteria								
51	4-Nitrophenol	ug/L	No Criteria								
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	ug/L	No Criteria								
53	Pentachlorophenol	ug/L	UD; effluent ND, MDL>C, and B is ND								
54	Phenol	ug/L	MEC<C & B is ND								
55	2,4,6-Trichlorophenol	ug/L	MEC<C & B is ND								
56	Acenaphthene	ug/L	MEC<C & B is ND								
57	Acenaphthylene	ug/L	No Criteria								
58	Anthracene	ug/L	MEC<C & B is ND								
59	Benzidine	ug/L	UD; effluent ND, MDL>C, and B is ND								
60	Benzo(a)Anthracene	ug/L	UD; effluent ND, MDL>C, and B is ND								
61	Benzo(a)Pyrene	ug/L	UD; effluent ND, MDL>C, and B is ND								
62	Benzo(b)Fluoranthene	ug/L	UD; effluent ND, MDL>C, and B is ND								
63	Benzo(ghi)Perylene	ug/L	No Criteria								
64	Benzo(k)Fluoranthene	ug/L	UD; effluent ND, MDL>C, and B is ND								
65	Bis(2-Chloroethoxy)Methane	ug/L	No Criteria								
66	Bis(2-Chloroethyl)Ether	ug/L	UD; effluent ND, MDL>C, and B is ND								
67	Bis(2-Chloroisopropyl)Ether	ug/L	MEC<C & B is ND								
68	Bis(2-Ethylhexyl)Phthalate	ug/L	MEC<C & B<=C								
69	4-Bromophenyl Phenyl Ether	ug/L	No Criteria								
70	Butylbenzyl Phthalate	ug/L	MEC<C & B is ND								
71	2-Chloronaphthalene	ug/L	MEC<C & B is ND								
72	4-Chlorophenyl Phenyl Ether	ug/L	No Criteria								
73	Chrysene	ug/L	UD; effluent ND, MDL>C, and B is ND								
74	Dibenzo(a,h)Anthracene	ug/L	UD; effluent ND, MDL>C, and B is ND								
75	1,2-Dichlorobenzene	ug/L	MEC<C & B is ND								
76	1,3-Dichlorobenzene	ug/L	MEC<C & B is ND								
77	1,4-Dichlorobenzene	ug/L	MEC<C & B is ND								
78	3,3 Dichlorobenzidine	ug/L	UD; effluent ND, MDL>C, and B is ND								
79	Diethyl Phthalate	ug/L	MEC<C & B is ND								
80	Dimethyl Phthalate	ug/L	MEC<C & B is ND								
81	Di-n-Butyl Phthalate	ug/L	MEC<C & B<=C								
82	2,4-Dinitrotoluene	ug/L	UD; effluent ND, MDL>C, and B is ND								
83	2,6-Dinitrotoluene	ug/L	No Criteria								
84	Di-n-Octyl Phthalate	ug/L	No Criteria								

CTR#	Parameters	Units	ULATIONS / Basin Plan AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life	LIMITS Lowest AMEL	Lowest MDEL	Recommendation	Comment
43	Trichloroethylene	ug/L							No Limit	
44	Vinyl Chloride	ug/L							No Limit	
45	2-Chlorophenol	ug/L							No Limit	
46	2,4-Dichlorophenol	ug/L							No Limit	
47	2,4-Dimethylphenol	ug/L							No Limit	
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	ug/L							No Limit	
49	2,4-Dinitrophenol	ug/L							No Limit	
50	2-Nitrophenol	ug/L							No Limit	
51	4-Nitrophenol	ug/L							No Limit	
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	ug/L							No Limit	
53	Pentachlorophenol	ug/L							No Limit	
54	Phenol	ug/L							No Limit	
55	2,4,6-Trichlorophenol	ug/L							No Limit	
56	Acenaphthene	ug/L							No Limit	
57	Acenaphthylene	ug/L							No Limit	
58	Anthracene	ug/L							No Limit	
59	Benzidine	ug/L							No Limit	
60	Benzo(a)Anthracene	ug/L							No Limit	
61	Benzo(a)Pyrene	ug/L							No Limit	
62	Benzo(b)Fluoranthene	ug/L							No Limit	
63	Benzo(ghi)Perylene	ug/L							No Limit	
64	Benzo(k)Fluoranthene	ug/L							No Limit	
65	Bis(2-Chloroethoxy)Methane	ug/L							No Limit	
66	Bis(2-Chloroethyl)Ether	ug/L							No Limit	
67	Bis(2-Chloroisopropyl)Ether	ug/L							No Limit	
68	Bis(2-Ethylhexyl)Phthalate	ug/L							No Limit	
69	4-Bromophenyl Phenyl Ether	ug/L							No Limit	
70	Butylbenzyl Phthalate	ug/L							No Limit	
71	2-Chloronaphthalene	ug/L							No Limit	
72	4-Chlorophenyl Phenyl Ether	ug/L							No Limit	
73	Chrysene	ug/L							No Limit	
74	Dibenzo(a,h)Anthracene	ug/L							No Limit	
75	1,2-Dichlorobenzene	ug/L							No Limit	
76	1,3-Dichlorobenzene	ug/L							No Limit	
77	1,4-Dichlorobenzene	ug/L							No Limit	
78	3,3 Dichlorobenzidine	ug/L							No Limit	
79	Diethyl Phthalate	ug/L							No Limit	
80	Dimethyl Phthalate	ug/L							No Limit	
81	Di-n-Butyl Phthalate	ug/L							No Limit	
82	2,4-Dinitrotoluene	ug/L							No Limit	
83	2,6-Dinitrotoluene	ug/L							No Limit	
84	Di-n-Octyl Phthalate	ug/L							No Limit	

Attachment J
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
William E. Warne Power Plant, Discharge Point No. 002

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)						Lowest C	MEC >= Lowest C	Tier 1 - Need limit?
					Freshwater		Saltwater		Human Health for consumption of:				
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot	Water & organisms	Organisms only			
85	1,2-Diphenylhydrazine	ug/L							0.040	0.54	0.040		
86	Fluoranthene	ug/L		0.09					300	370	300	No	No
87	Fluorene	ug/L		0.08					1300	14000	1300	No	No
88	Hexachlorobenzene	ug/L							0.00075	0.00077	0.00075		
89	Hexachlorobutadiene	ug/L		0.41					0.44	50	0.44	No	No
90	Hexachlorocyclopentadiene	ug/L		1.8					240	17000	240	No	No
91	Hexachloroethane	ug/L		0.36					1.9	8.9	1.9	No	No
92	Indeno(1,2,3-cd)Pyrene	ug/L							0.0044	0.049	0.0044		
93	Isophorone	ug/L		0.06					8.4	600	8.4	No	No
94	Naphthalene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
95	Nitrobenzene	ug/L		0.37					17	1900	17	No	No
96	N-Nitrosodimethylamine	ug/L							0.00069	8.10	0.00069		
97	N-Nitrosodi-n-Propylamine	ug/L							0.005	1.40	0.005		
98	N-Nitrosodiphenylamine	ug/L		0.08					5.0	16	5.0	No	No
99	Phenanthrene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
100	Pyrene	ug/L		0.06					960	11000	960	No	No
101	1,2,4-Trichlorobenzene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
102	Aldrin	ug/L			3.00				0.00013	0.00014	0.00013		
103	alpha-BHC	ug/L		0.001					0.0039	0.013	0.0039	No	No
104	beta-BHC	ug/L		0.003					0.014	0.046	0.014	No	No
105	gamma-BHC	ug/L		0.0021	0.95				0.019	0.063	0.019	No	No
106	delta-BHC	ug/L		No Criteria							No Criteria	No Criteria	No Criteria
107	Chlordane	ug/L			2.4	0.0043			0.00057	0.00059	0.00057		
108	4,4'-DDT	ug/L			1.1	0.001			0.00059	0.00059	0.00059		
109	4,4'-DDE (linked to DDT)	ug/L							0.00059	0.00059	0.00059		
110	4,4'-DDD	ug/L							0.00083	0.00084	0.00083		
111	Dieldrin	ug/L			0.24	0.056			0.00014	0.00014	0.00014		
112	alpha-Endosulfan	ug/L		0.0017	0.22	0.056			110	240	0.0560	No	No
113	beta-Endolsulfan	ug/L		0.0019	0.22	0.056			110	240	0.0560	No	No
114	Endosulfan Sulfate	ug/L		0.003					110	240	110	No	No
115	Endrin	ug/L		0.0028	0.086	0.036			0.76	0.81	0.0360	No	No
116	Endrin Aldehyde	ug/L		0.003					0.76	0.81	0.76	No	No
117	Heptachlor	ug/L			0.52	0.0038			0.00021	0.00021	0.00021		
118	Heptachlor Epoxide	ug/L			0.52	0.0038			0.00010	0.00011	0.00010		
119-125	PCBs sum (2)	ug/L				0.014			0.00017	0.00017	0.00017		
126	Toxaphene	ug/L			0.73	0.0002			0.00073	0.00075	0.0002		

Notes:
Ud = Undetermined due to lack of data
Uc = Undetermined due to lack of CTR Water Quality Criteria
C = Water Quality Criteria
B = Background receiving water data

Attachment J
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
William E. Warne Power Plant, Discharge Point No. 002

			REASONABLE POTENTIAL ANALYSIS (RPA)							
CTR#	Parameters	Units	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL)	Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?
85	1,2-Diphenylhydrazine	ug/L	Y	Y	0.09		Y	No detected value of B, Step 7		No
86	Fluoranthene	ug/L	Y	Y	0.09		N	No detected value of B, Step 7		No
87	Fluorene	ug/L	Y	Y	0.08		N	No detected value of B, Step 7		No
88	Hexachlorobenzene	ug/L	Y	Y	0.13		Y	No detected value of B, Step 7		No
89	Hexachlorobutadiene	ug/L	Y	Y	0.41		N	No detected value of B, Step 7		No
90	Hexachlorocyclopentadiene	ug/L	Y	Y	1.8		N	No detected value of B, Step 7		No
91	Hexachloroethane	ug/L	Y	Y	0.36		N	No detected value of B, Step 7		No
92	Indeno(1,2,3-cd)Pyrene	ug/L	Y	Y	0.19		Y	No detected value of B, Step 7		No
93	Isophorone	ug/L	Y	Y	0.06		N	No detected value of B, Step 7		No
94	Naphthalene	ug/L	Y	Y	0.13		N	No Criteria	No Criteria	Uc
95	Nitrobenzene	ug/L	Y	Y	0.37		N	No detected value of B, Step 7		No
96	N-Nitrosodimethylamine	ug/L	Y	Y	0.22		Y	No detected value of B, Step 7		No
97	N-Nitrosodi-n-Propylamine	ug/L	Y	Y	0.18		Y	No detected value of B, Step 7		No
98	N-Nitrosodiphenylamine	ug/L	Y	Y	0.08		N	No detected value of B, Step 7		No
99	Phenanthrene	ug/L	Y	Y	0.07		N	No Criteria	No Criteria	Uc
100	Pyrene	ug/L	Y	Y	0.06		N	No detected value of B, Step 7		No
101	1,2,4-Trichlorobenzene	ug/L	Y	Y	0.26		N	No Criteria	No Criteria	Uc
102	Aldrin	ug/L	Y	Y				No detected value of B, Step 7		No
103	alpha-BHC	ug/L	Y	Y				No detected value of B, Step 7		No
104	beta-BHC	ug/L	Y	Y	0.003		N	No detected value of B, Step 7		No
105	gamma-BHC	ug/L	Y	Y	0.0021		N	No detected value of B, Step 7		No
106	delta-BHC	ug/L	Y	Y	0.003		N	No Criteria	No Criteria	Uc
107	Chlordane	ug/L	Y	Y	0.002		Y	No detected value of B, Step 7		No
108	4,4'-DDT	ug/L	Y	Y	0.003		Y	No detected value of B, Step 7		No
109	4,4'-DDE (linked to DDT)	ug/L	Y	Y	0.0025		Y	No detected value of B, Step 7		No
110	4,4'-DDD	ug/L	Y	Y	0.003		Y	No detected value of B, Step 7		No
111	Dieldrin	ug/L	Y	Y	0.001		Y	No detected value of B, Step 7		No
112	alpha-Endosulfan	ug/L	Y	Y	0.0017		N	No detected value of B, Step 7		No
113	beta-Endolsulfan	ug/L	Y	Y	0.0019		N	No detected value of B, Step 7		No
114	Endosulfan Sulfate	ug/L	Y	Y	0.003		N	No detected value of B, Step 7		No
115	Endrin	ug/L	Y	Y	0.0028		N	No detected value of B, Step 7		No
116	Endrin Aldehyde	ug/L	Y	Y	0.003		N	No detected value of B, Step 7		No
117	Heptachlor	ug/L	Y	Y	0.0017		Y	No detected value of B, Step 7		No
118	Heptachlor Epoxide	ug/L	Y	Y	0.0019		Y	No detected value of B, Step 7		No
119-125	PCBs sum (2)	ug/L	Y	Y	0.04		Y	No detected value of B, Step 7		No
126	Toxaphene	ug/L	Y	Y	0.07		Y	No detected value of B, Step 7		No
Notes:										
Ud = Undetermined due to lack of data										
Uc = Undetermined due to lack of CTR Water Qualit										
C = Water Quality Criteria										
B = Background receiving water data										

CTR#	Parameters	Units	Reason	HUMAN HEALTH CALCULATIONS Organisms only: AMEL hh = ECA = C hh O	MDEL/AMEL multiplier	MDEL hh	AQUATIC LIFE CALC Saltwater / Freshwater: ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	Lowest LTA
85	1,2-Diphenylhydrazine	ug/L	UD; effluent ND, MDL>C, and B is ND								
86	Fluoranthene	ug/L	MEC<C & B is ND								
87	Fluorene	ug/L	MEC<C & B is ND								
88	Hexachlorobenzene	ug/L	UD; effluent ND, MDL>C, and B is ND								
89	Hexachlorobutadiene	ug/L	MEC<C & B is ND								
90	Hexachlorocyclopentadiene	ug/L	MEC<C & B is ND								
91	Hexachloroethane	ug/L	MEC<C & B is ND								
92	Indeno(1,2,3-cd)Pyrene	ug/L	UD; effluent ND, MDL>C, and B is ND								
93	Isophorone	ug/L	MEC<C & B is ND								
94	Naphthalene	ug/L	No Criteria								
95	Nitrobenzene	ug/L	MEC<C & B is ND								
96	N-Nitrosodimethylamine	ug/L	UD; effluent ND, MDL>C, and B is ND								
97	N-Nitrosodi-n-Propylamine	ug/L	UD; effluent ND, MDL>C, and B is ND								
98	N-Nitrosodiphenylamine	ug/L	MEC<C & B is ND								
99	Phenanthrene	ug/L	No Criteria								
100	Pyrene	ug/L	MEC<C & B is ND								
101	1,2,4-Trichlorobenzene	ug/L	No Criteria								
102	Aldrin	ug/L	UD; effluent ND, MDL>C, and B is ND								
103	alpha-BHC	ug/L	MEC<C & B is ND								
104	beta-BHC	ug/L	MEC<C & B is ND								
105	gamma-BHC	ug/L	MEC<C & B is ND								
106	delta-BHC	ug/L	No Criteria								
107	Chlordane	ug/L	UD; effluent ND, MDL>C, and B is ND								
108	4,4'-DDT	ug/L	UD; effluent ND, MDL>C, and B is ND								
109	4,4'-DDE (linked to DDT)	ug/L	UD; effluent ND, MDL>C, and B is ND								
110	4,4'-DDD	ug/L	UD; effluent ND, MDL>C, and B is ND								
111	Dieldrin	ug/L	UD; effluent ND, MDL>C, and B is ND								
112	alpha-Endosulfan	ug/L	MEC<C & B is ND								
113	beta-Endolsulfan	ug/L	MEC<C & B is ND								
114	Endosulfan Sulfate	ug/L	MEC<C & B is ND								
115	Endrin	ug/L	MEC<C & B is ND								
116	Endrin Aldehyde	ug/L	MEC<C & B is ND								
117	Heptachlor	ug/L	UD; effluent ND, MDL>C, and B is ND								
118	Heptachlor Epoxide	ug/L	UD; effluent ND, MDL>C, and B is ND								
119-125	PCBs sum (2)	ug/L	UD; effluent ND, MDL>C, and B is ND								
126	Toxaphene	ug/L	UD; effluent ND, MDL>C, and B is ND								
Notes:											
Ud = Undetermined due to lack of data											
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Attachment J
Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
William E. Warne Power Plant, Discharge Point No. 002

CTR#	Parameters	Units	ULATIONS / Basin Plan AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life	LIMITS Lowest AMEL	Lowest MDEL	Recommendation	Comment
85	1,2-Diphenylhydrazine	ug/L							No Limit	
86	Fluoranthene	ug/L							No Limit	
87	Fluorene	ug/L							No Limit	
88	Hexachlorobenzene	ug/L							No Limit	
89	Hexachlorobutadiene	ug/L							No Limit	
90	Hexachlorocyclopentadiene	ug/L							No Limit	
91	Hexachloroethane	ug/L							No Limit	
92	Indeno(1,2,3-cd)Pyrene	ug/L							No Limit	
93	Isophorone	ug/L							No Limit	
94	Naphthalene	ug/L							No Limit	
95	Nitrobenzene	ug/L							No Limit	
96	N-Nitrosodimethylamine	ug/L							No Limit	
97	N-Nitrosodi-n-Propylamine	ug/L							No Limit	
98	N-Nitrosodiphenylamine	ug/L							No Limit	
99	Phenanthrene	ug/L							No Limit	
100	Pyrene	ug/L							No Limit	
101	1,2,4-Trichlorobenzene	ug/L							No Limit	
102	Aldrin	ug/L							No Limit	
103	alpha-BHC	ug/L							No Limit	
104	beta-BHC	ug/L							No Limit	
105	gamma-BHC	ug/L							No Limit	
106	delta-BHC	ug/L							No Limit	
107	Chlordane	ug/L							No Limit	
108	4,4'-DDT	ug/L							No Limit	
109	4,4'-DDE (linked to DDT)	ug/L							No Limit	
110	4,4'-DDD	ug/L							No Limit	
111	Dieldrin	ug/L							No Limit	
112	alpha-Endosulfan	ug/L							No Limit	
113	beta-Endolsulfan	ug/L							No Limit	
114	Endosulfan Sulfate	ug/L							No Limit	
115	Endrin	ug/L							No Limit	
116	Endrin Aldehyde	ug/L							No Limit	
117	Heptachlor	ug/L							No Limit	
118	Heptachlor Epoxide	ug/L							No Limit	
119-125	PCBs sum (2)	ug/L							No Limit	
126	Toxaphene	ug/L							No Limit	
Notes:										
Ud = Undetermined due to lack of data										
Uc = Undetermined due to lack of CTR Water Qualit										
C = Water Quality Criteria										
B = Background receiving water data										