CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Los Angeles Regional Water Quality Control Board

June 15, 2016

Mr. Anthony Chu, Chief
Environmental Assessment Branch
California Department of Water Resources
P.O. Box 942836
Sacramento, CA 94236-0001

Certified Mail
Return Receipt Requested
Claim No. 7006 3450 0000 8376 9165

Dear Mr. Chu:

TRANSMITTAL OF THE WASTE DISCHARGE REQUIREMENTS (WDRs) AND NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT – CALIFORNIA DEPARTMENT OF WATER RESOURCES, WILLIAM E. WARNE POWER PLANT (NPDES PERMIT NO. CA0059188, CI-6610)

Our letter dated May 31, 2016, transmitted the revised tentative waste discharge requirements for your permit to discharge wastes under the National Pollutant Discharge Elimination System (NPDES) Program. The revised tentative permit reflected changes addressed in the Response to Comments. On June 8, 2016, we issued a Change Sheet that provided further modifications to the revised tentative permit to address the concerns raised during the conference call on June 3, 2016. The Change Sheet included the removal of effluent limitations for bis (2-ethylhexyl) phthalate and the addition of intake water credits and influent monitoring requirements for nitrate plus nitrite and *E. coli.*

Pursuant to Division 7 of the California Water Code, this Regional Water Board at a public hearing held on June 9, 2016, reviewed the revised tentative requirements, considered all factors in the case and the modifications proposed in the Change Sheet, and adopted Order R4-2016-0224. Order R4-2016-0224 serves as an NPDES permit, and it expires on June 30, 2021. Section 13376 of the California Water Code requires that an application/Report of Waste Discharge for a new permit must be filed at least 180 days before the expiration date.

You are required to implement the Monitoring and Reporting Program (MRP) on the effective date (July 1, 2016) of Order R4-2016-0224. Your first quarterly monitoring report for the period of July 1, 2016 through September 30, 2016 is due by November 1, 2016.

Please continue to electronically submit Self-Monitoring Reports (SMR's) using the State Water Resource Control Board's California Integrated Water Quality System (CIWQS) Program web site (http://www.waterboards.ca.gov/ciwqs/index.html). The CIWQS web site will provide additional information for SMR submittal in the event there is a planned service interruption for electronic submittal. Also, please do not combine other reports with your monitoring reports. Submit each type of report as a separate document.

Please convert all of the regulatory documents, submissions and correspondence that you would normally submit to us as hard copies to a searchable Portable Document Format (PDF).

Please reference facility name, NPDES permit number and Compliance File CI-6610 on the documents. Documents that are less than 10 megabytes (MB) should be emailed to losangeles@waterboards.ca.gov with a copy to JauRen.Chen@waterboards.ca.gov. Documents that are 10 MB or larger should be transferred to a disk and mailed to the address listed above. If you need additional information regarding electronic submittal of documents please visit the Regional Water Board's website listed above and navigate to Paperless Office.

If you have any questions, please contact Dr. Jau Ren Chen at (213) 576-6656.

Sincerely,

Cassandra D. Owens

Cassandra Owens, Chief
Industrial Permitting Unit

Enclosures
(via email only):
David Smith, Environmental Protection Agency, Region 9, Permits Branch (WTR-5)
NPDES Wastewater Unit, State Water Resources Control Board, Division of Water Quality
Kenneth Wong, U.S Army Corps of Engineers
Bryant Chesney, NOAA, National Marine Fisheries Service
Jeff Phillips, Department of Interior, U.S. Fish and Wildlife Service
William Paznokas, Department of Fish and Wildlife, Region 5
Tim Smith, Los Angeles County, Department of Public Works, Waste Management Division
Bellete Yohannes, City of Los Angeles, Bureau of Sanitation, Industrial Waste Management
Angelo Bellomo, Los Angeles County, Department of Health Services
Rita Kampalath, Heal the Bay
Liz Crosson, Los Angeles Waterkeeper
Becky Hayat, Natural Resources Defense Council
Jason Weiner, Ventura Coastkeeper
Katherine Rubin, Los Angeles Department of Water & Power
Leah McNearney, California Department of Water Resources
Diane Shimizu, California Department of Water Resources
Betsy Elzufon, Larry Walker Associates
Kristy Allen, Tetra Tech
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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

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ORDER R4-2016-0224
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 (WDR's) 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

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001(A&B)	Once-through, non-contact cooling water	34.6850°	-118.7878°	Pyramid Lake
002	Drainage sump water containing filter backwash water	34.6850°	-118.7878°"	Pyramid Lake

Table 3. Administrative Information

This Order was adopted on:	**June 9, 2016**
This Order shall become effective on:	**July 1, 2016**
This Order shall expire on:	**June 30, 2021**
The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDR's in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	**180 days prior to the Order expiration date**
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, Los Angeles Region have classified this discharge as follows:	**Major discharge**

I, Samuel Unger, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on the date indicated above.

Samuel Unger

Samuel Unger, P.E., Executive Officer

Tentative: April 22, 2016; Revised: May 31, 2016; Adopted: June 9, 2016

CONTENTS

TABLES

ATTACHMENTS

I. FACILITY INFORMATION

Information describing the William E. Warne Power Plant (Facility) is summarized in Table 1 and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility's permit application.

II. FINDINGS

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

A. Legal Authorities. This Order serves as WDR's pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260).This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this Facility to surface waters.

B. 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 the requirements in this Order, is hereby incorporated into and constitutes Findings for this Order. Attachments A through E and G through J are also incorporated into this Order.

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

D. 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.

THEREFORE, IT IS HEREBY ORDERED that this Order supersedes Order R4-2010-0089-A01 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 CWA and regulations and guidelines adopted thereunder, the Discharger is authorized to discharge from the identified facility and outfall into waters of the United States and shall comply with the requirements in this Order. This action in no way prevents the Regional Water Board from taking enforcement action for past violations of the previous Order.

III. DISCHARGE PROHIBITIONS

A. Wastes discharged shall be limited to a maximum of 1.95 million gallons per day (MGD) of non-contact, once-through cooling water through Discharge Point 001 (A&B), and 0.020 MGD of sump water through Discharge Point 002. The discharge of wastes from accidental spills or other sources is prohibited.

B. The discharge of wastewater at a location other than specifically described in this Order is prohibited, and constitutes a violation of the Order.

C. 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.

D. The discharge of designated waste or hazardous waste, as defined in California Water Code Section 13173 and Title 23 California Code of Regulations (CCR) Section 2521(a), respectively, is prohibited.

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

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

G. 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 (State Water Board) as required by the federal CWA and regulations adopted thereunder.

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

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 001(A&B)

1. Final Effluent Limitations – Discharge Point 001(A&B)

a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001(A&B), with compliance measured at Monitoring Location EFF-001 (A&B) as described in the Monitoring and Reporting Program, Attachment E:

Table 4. Effluent Limitations for Discharge Point 001(A&B)

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
Biochemical Oxygen Demand (BOD) (5-day @20 Deg. C)	mg/L	--	10	--	--
	lbs/day[1]	--	160	--	--
Oil and Grease	mg/L	10	15	--	--
	lbs/day[1]	160	240	--	--
pH	s.u.	--	--	6.5	8.5
Total Suspended Solids (TSS)	mg/L	50	75	--	--
	lbs/day[1]	810	1,220	--	--
Non-Conventional Pollutants					
Ammonia Nitrogen, Total (as N)	mg/L	1.75	5.2	--	--
	lbs/day[1]	28	85	--	--
Chloride [8]	mg/L	100[2]	--	--	--
	lbs/day[1]	1,630[2]	--	--	--
Chronic Toxicity[3]	Pass or Fail,% Effect	Pass[4]	Pass or % Effect <50	--	--
Dissolved Oxygen	mg/L	--	--	5.0 (Minimum)[5]	
E. coli [8]	MPN/100 ml	126[6] / 235[7]			
Nitrate Plus Nitrite (as N) [8]	mg/L	6.8	--	--	--
	lbs/day[1]	111	--	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Settleable Solids	mg/L	0.1	0.3	--	--
Temperature	ºF	--	--	--	86
Turbidity[8]	NTU	5	25	--	--
Priority Pollutants					
Copper, Total Recoverable	µg/L	36	94	--	--
	lbs/day[1]	0.59	1.5	--	--
Mercury, Total Recoverable[8]	µg/L	0.050	0.10	--	--
	lbs/day[1]	0.00081	0.0016	--	--

1. The mass limitations are based on a maximum flow of 1.95 MGD and is calculated as follows:
   Flow (MGD) x concentration (mg/L) x 8.34 (conversion factor) = lbs/day.
2. Applied as a 3-month rolling average.
3. The median monthly effluent limitation (MMEL) shall be reported as "Pass" or "Fail". The MDEL shall be reported as "Pass" or "Fail" and the percent effect. The MMEL for chronic toxicity shall only apply when there is a discharge more than 1 day in a calendar month period. During such calendar months, up to three independent toxicity tests are required when one toxicity test results in a "Fail". The maximum daily effluent limitation (MDEL) is exceeded when a toxicity test results in a "fail," and the percent effect is greater than or equal to 0.50. The median monthly effluent limitation (MMEL) is exceeded when the median result (i.e. two out of three) is a "fail.
4. This is an MMEL.
5. Dissolved oxygen shall not be less than 5.0 mg/L at any time.
6. Applied as a geometric mean.
7. Applied as a single sample maximum.
8. 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 determining compliance with the chloride effluent limitation, the intake water credit is the 3-month rolling average chloride concentration in the influent.

   When determining compliance with *E. coli* effluent limitations, intake water credits are a single maximum value of the influent and a geometric mean of the five influent results within a quarter, respectively.

   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.

B. Effluent Limitations – Discharge Point 002

1. Final Effluent Limitations – Discharge Point 002

a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 002, with compliance measured at Monitoring Location EFF-002 as described in the Monitoring and Reporting Program, Attachment E:

Table 5. Effluent Limitations for Discharge Point 002

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
BOD	mg/L	--	10	--	--
	lbs/day[1]	--	1.7	--	--
Oil and Grease	mg/L	10	15	--	--
	lbs/day[1]	1.7	2.5	--	--
pH	s.u.	--	--	6.5	8.5
TSS	mg/L	50	75	--	--
	lbs/day[1]	8.3	13	--	--
Non-Conventional Pollutants					
Ammonia Nitrogen, Total (as N)	mg/L	1.75	5.2	--	--
	lbs/day[1]	0.29	0.87	--	--
Chloride[8]	mg/L	100[2]	--	--	--
	lbs/day[1]	17[2]	--	--	--
Chronic Toxicity[3]	Pass or Fail, % Effect	Pass[4]	Pass or % Effect <50	--	--
Chlorine, Total Residual	mg/L	--	0.10	--	--
	lbs/day[1]	--	0.017	--	--
Dissolved Oxygen	mg/L	--	--	5.0 (Minimum) [5]	
E. coli [8]	MPN/100 ml	126[6] / 235[7]			
Nitrate Plus Nitrite (as N) [8]	mg/L	6.8	--	--	--
	lbs/day[1]	1.1	--	--	--
Settleable Solids	mg/L	0.1	0.3	--	--
Temperature	ºF	--	--	--	86
Turbidity[8]	NTU	5	25	--	--
Priority Pollutants					
Copper, Total Recoverable	µg/L	24	79	--	--
	lbs/day[1]	0.0040	0.013	--	--
Lead, Total Recoverable	µg/L	13	41	--	--
	lbs/day[1]	0.0022	0.0068	--	--
Mercury, Total Recoverable[8]	µg/L	0.050	0.10	--	--
	lbs/day[1]	8.3×10^{-6}	1.7×10^{-5}	--	--
Zinc, Total Recoverable	µg/L	320	1023	--	--
	lbs/day[1]	0.053	0.17	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Bromoform	µg/L	8.0	26	--	--
	lbs/day[1]	0.0013	0.0043	--	--
Chlorodibromomethane	µg/L	9.1	26	--	--
	lbs/day[1]	0.0015	0.0043	--	--
Dichlorobromomethane	µg/L	4.6	12	--	--
	lbs/day[1]	0.00077	0.0020	--	--
Tetrachloroethylene	µg/L	2.4	4.9	--	--
	lbs/day[1]	0.00040	0.00082	--	--

1. The mass limitations are based on a maximum flow of 0.02 MGD and is calculated as follows:
   Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day.
2. Applied as a 3-month rolling average.
3. The median monthly effluent limitation (MMEL) shall be reported as “Pass” or “Fail”. The MDEL shall be reported as “Pass” or “Fail” and the percent effect. The MMEL for chronic toxicity shall only apply when there is a discharge more than 1 day in a calendar month period. During such calendar months, up to three independent toxicity tests are required when one toxicity test results in a “Fail”. The maximum daily effluent limitation (MDEL) is exceeded when a toxicity test results in a “fail,” and the percent effect is greater than or equal to 0.50. The median monthly effluent limitation (MMEL) is exceeded when the median result (i.e. two out of three) is a “fail.
4. This is an MMEL.
5. Dissolved oxygen shall not be less than 5.0 mg/L at any time.
6. Applied as a geometric mean.
7. Applied as a single sample maximum.
8. 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 determining compliance with the chloride effluent limitation, the intake water credit is the 3-month rolling average chloride concentration in the influent.

   When determining compliance with *E. coli* effluent limitations, intake water credits are a single maximum value of the influent and a geometric mean of the five influent results within a quarter, respectively.

   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.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

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 5º F above the natural temperature of the receiving waters at any time or place. At no time shall the temperature be raised above 80º 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.

Single Sample Maximum (SSM) Limits

i. E. coli density shall not exceed 235/100 ml.

4. The concentration of dissolved oxygen to fall below 6.0 mg/L at any time.

5. Increases in natural turbidity attributable to controllable water quality factors to exceed the following limits:

a. Where natural turbidity is between 0 and 50 NTU, increases shall not exceed 20%, and

b. Where natural turbidity is greater than 50 NTU, increase shall not exceed 10%.

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, or formation of sludge deposits on flood control structures or facilities, or overloading of the design capacity.

16. Degradation of 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. Nuisance, or adversely affect beneficial uses of the receiving water.

19. Violation of any applicable water quality standards for receiving waters adopted by the Regional Water Board or State Water Board.

B. Groundwater Limitations – Not Applicable

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D.

2. The Discharger shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:

a. This Order may be modified, revoked, reissued, or terminated in accordance with the provisions of 40 C.F.R., 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 programs 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 140 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 and the appropriate filing fee.

k. The Discharger shall file with the Regional Water Board a report of waste discharge at least 140 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 the 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. U.S. EPA 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, average monthly effluent limitation, maximum daily effluent limitation, instantaneous minimum effluent limitation, instantaneous maximum 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. (Water Code § 1211.)

B. Monitoring and Reporting Program (MRP) Requirements

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

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 may 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, in accordance with the provisions set forth in 40 C.F.R., 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 Pyramid Lake.

e. 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. **Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan.** The Discharger shall submit to the Regional Water Board an Initial Investigation TRE workplan (1-2 pages) within 90 days of the effective date of this permit. This plan shall describe the steps the Discharger intends to follow in the event that toxicity is detected. See section V of the Monitoring and Reporting Program (Attachment E) for an overview of Toxicity Reduction Evaluation (TRE) requirements.

3. Best Management Practices and Pollution Prevention

The Discharger shall submit within 90 days of the effective date of this Order:

a. An updated Storm Water Pollution Prevention Plan (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. An updated Best Management Practices Plan (BMPP) that entails site-specific plans and procedures implemented and/or to be implemented to prevent hazardous waste/material from being discharged to waters of the State. The BMPs shall be consistent with the general guidance contained in the U.S. EPA *Guidance Manual for Developing Best Management Practices (BMPs)* (EPA 833-B-93-004). In particular, a risk assessment of each area identified by the Discharger shall be performed to determine the potential for hazardous or toxic waste/material discharge to surface waters.

c. An updated 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 Discharger shall implement the SWPPP, BMPP, and SCP within 10 days of the approval by the Executive Officer or no later than 90 days after submission to the Regional Water Board, whichever comes first. The plans shall be reviewed annually and revised, if necessary, at the same time. Updated information shall be submitted to the Regional Water Board within 30 days of revisions.

4. Construction, Operation and Maintenance Specifications

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

5. Other Special Provisions—Not Applicable

6. Compliance Schedules—Not Applicable

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. Effluent Limitations Expressed as a Median

In determining compliance with a median limitation, the analytical results in a set of data will be arranged in order of magnitude (either increasing or decreasing order); and

1. If the number of measurements (n) is odd, then the median will be calculated as = $X_{(n+1)/2}$, or

2. If the number of measurements (n) is even, then the median will be calculated as= [$X_{n/2}$ + $X_{(n/2)+1}$]/2, i.e. the midpoint between the n/2 and (n/2)+1 data points.

D. Multiple Sample Data

When determining compliance with an AMEL 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.

E. Average Monthly Effluent Limitation (AMEL)

If the average (or when applicable, the median determined by subsection 2 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 five 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.

F. 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.

G. 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).

H. 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).

I. Median Monthly Effluent Limitation (MMEL)

If the median of daily discharges over a calendar month exceeds the MMEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of noncompliance in a 31-day month). However, an alleged violation of the MMEL will be considered one violation for the purpose of assessing State mandatory minimum penalties. If no sample (daily discharge) is taken over a calendar month, no compliance determination can be made for that month with respect to effluent violation determination, but compliance determination can be made for that month with respect to reporting violation determination.

J. Chronic Toxicity

The discharge is subject to determination of “Pass” or “Fail” and “Percent Effect” from a chronic toxicity test at the discharge IWC using the Test of Significant Toxicity (TST) statistical approach described in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, 2010), Appendix A, Figure A-1, and Table A-1. The null hypothesis (Ho) for the TST statistical approach is: Mean discharge IWC response ≤0.75 × Mean control response. A test result that rejects this null hypothesis is reported as “Pass”. A test result that does not reject this null hypothesis is reported as “Fail”. The relative “Percent Effect” at the discharge IWC is defined and reported as ((Mean control response - Mean discharge IWC response) ÷ Mean control response)) × 100.

The Maximum Daily Effluent Limitation (MDEL) for chronic toxicity is exceeded and a violation will be flagged when a chronic toxicity test, analyzed using the TST statistical approach, results in “Fail” and the “Percent Effect” is ≥0.50.

The Median Monthly Effluent Limitation (MMEL) for chronic toxicity is exceeded and a violation will be flagged when the median of up to three independent chronic toxicity tests, conducted within the same calendar month and analyzed using the TST statistical approach, results in “Fail”. The MMEL for chronic toxicity shall only apply when there is a discharge more than one day in a calendar month period. During such calendar months, up to three independent toxicity tests are required when one toxicity test results in “Fail”.

K. Mass and Concentration Limitations

Compliance with mass effluent limitations and concentration effluent limitations for the same parameter shall be determined separately. When the concentration for a parameter in a

sample is reported as ND or DNQ, the corresponding mass emission rate determined using that sample concentration shall also be reported as ND or DNQ.

L. Bacterial Standards and Analyses

The geometric mean used for determining compliance with bacterial standards is calculated using the following equation:

$$\text{Geometric Mean} = (C_1 \times C_2 \times \ldots \times C_n)^{1/n}$$

where n is the number of days samples were collected during the period and C is the concentration of bacteria (MPN/100 mL or CFU/100 mL) found on each day of sampling. For bacterial analyses, sample dilutions should be performed so the expected range of values is bracketed (for example, with multiple tube fermentation method or membrane filtration method, 2 to 16,000 per 100 ml for total and fecal coliform, at a minimum, and 1 to 1000 per 100 ml for *Enterococcus*). The detection method used for each analysis shall be reported with the results of the analysis.

Detection methods used for coliforms (total and fecal), *E. coli*, and *Enterococcus* shall be those presented in Table 1A of 40 C.F.R part 136 (revised May 18, 2012), unless alternate methods have been approved by U.S.EPA pursuant to 40 C.F.R. part 136 or improved methods have been determined by the Executive Officer and/or USEPA.

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. Sample results reported as DNQ are estimated concentrations.

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 U.S. EPA 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 include, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters
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).

Median Monthly Effluent Limitation (MMEL)
The MMEL is, for the purposes of this Policy, an effluent limit based on the median results of three independent toxicity tests, conducted within the same calendar month, and analyzed using the TST. The MMEL is exceeded when the median result (i.e. two out of three) is a "fail."

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 in 40 C.F.R. 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.

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 Water Resources Control Board (State Water Board) or Regional Water Board.

Reporting Level (RL)
The 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, including an additional factor if applicable as discussed herein. 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.

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:

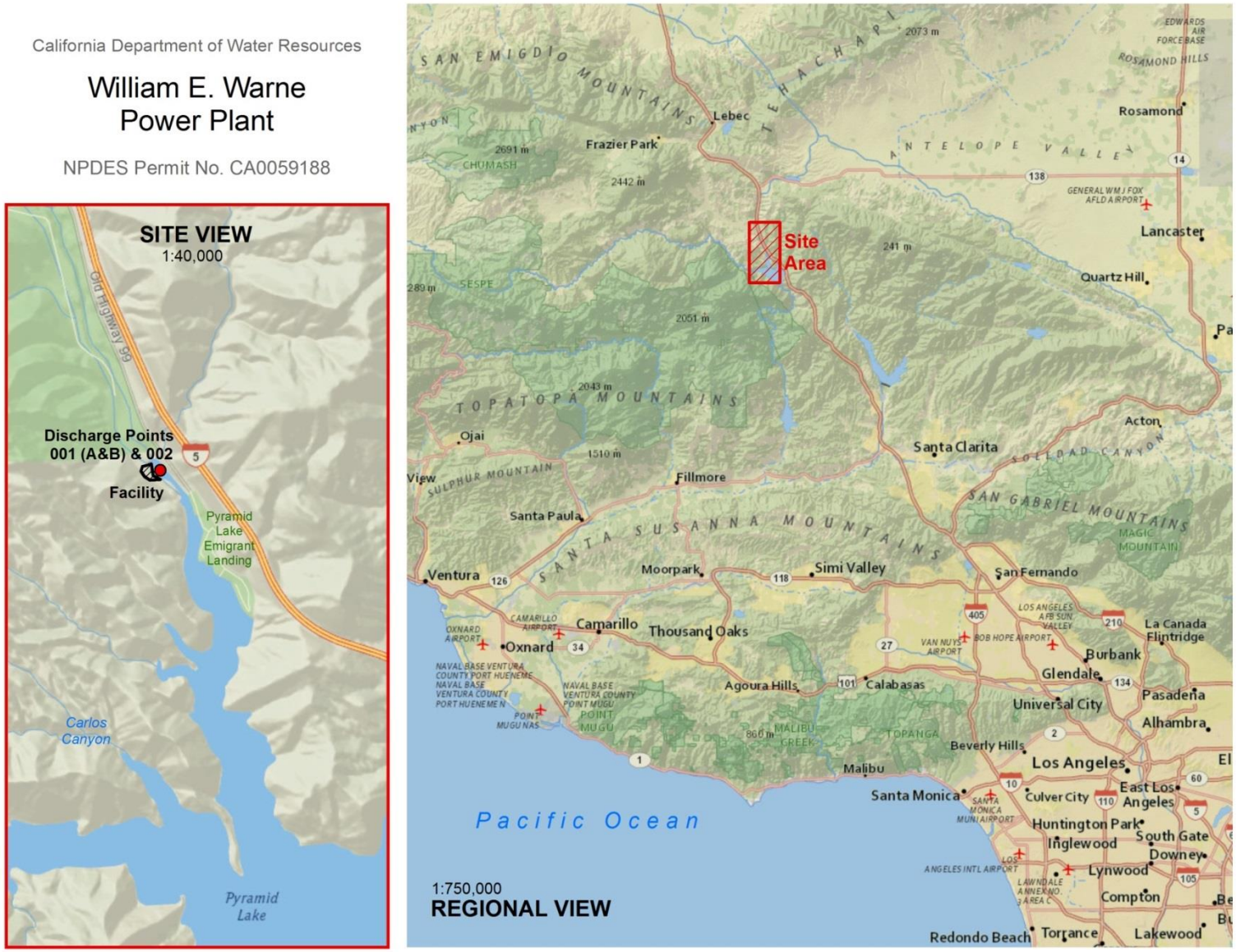
$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:

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

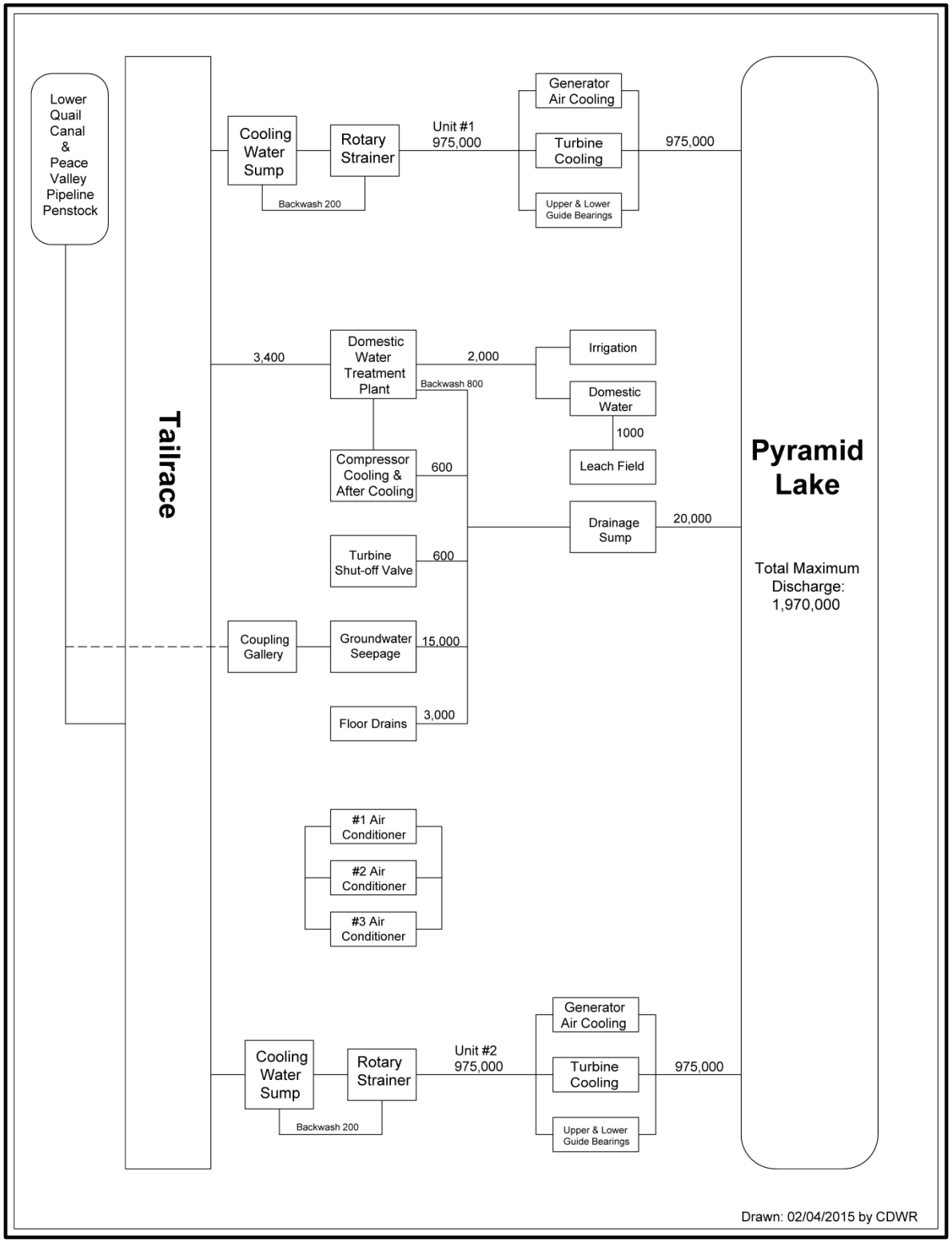
Toxicity Reduction Evaluation (TRE)
TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first 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.)

ATTACHMENT B – MAP



ATTACHMENT C – FLOW SCHEMATIC

William E. Warne Powerplant, Schematic of Maximum Daily Flows (G.P.D.)



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the terms, requirements, and 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; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. § 122.41(a); Wat. Code, §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)

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

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

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

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

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, U.S. EPA, 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 (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i); Wat. Code, §§ 13267, 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 (33 U.S.C. § 1318(a)(4)(B)(i); 40 C.F.R. § 122.41(i)(1); Wat. Code, §§ 13267, 13383);
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(2); Wat. Code, §§ 13267, 13383);
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(3); Wat. Code, §§ 13267, 13383); 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. (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i)(4); Wat. Code, §§ 13267, 13383.)

G. Bypass

1. Definitions
   a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)
   b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)
3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):
   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and
   c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)
4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)

5. Notice

a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. As of December 21, 2020 all notices must be submitted electronically by the Discharger to the initial recipient, as defined in 40 C.F.R. section 127.2(b), in compliance with this section and 40 C.F.R. part 3 (including, in all cases, subpart D of part 3), section 122.22, and 40 C.F.R. part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, the Discharger may be required to report electronically if specified by a particular permit or if required to do so by state law. (40 C.F.R. § 122.41(m)(3)(i).)

b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). As of December 21, 2020 all notices must be submitted electronically by the Discharger to the initial recipient, as defined in 40 C.F.R. section 127.2(b), in compliance with this section and 40 C.F.R. part 3 (including, in all cases, subpart D of part 3), section 122.22, and 40 C.F.R. part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, the Discharger may be required to report electronically if specified by a particular permit or if required to do so by state law. (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

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

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

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

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

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

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

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

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

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of 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. (40 C.F.R. §§ 122.41(l)(3), 122.61.)

III. STANDARD PROVISIONS – MONITORING

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

B. Monitoring must be conducted according to test procedures approved under 40 C.F.R. part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. subchapters N or O. Monitoring must be conducted according to sufficiently sensitive test methods approved under 40 C.F.R. part 136 for the analysis of pollutants or pollutant parameters or as required under 40 C.F.R. chapter 1, subchapter N or O. For the purposes of this paragraph, a method is sufficiently sensitive when:

1. The method minimum level (ML) is at or below the level of the most stringent effluent limitation established in the permit for the measured pollutant or pollutant parameter, and either the method ML is at or below the level of the most stringent applicable water quality criterion for the measured pollutant or pollutant parameter or the method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in the facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or

2. The method has the lowest ML of the analytical methods approved under 40 C.F.R. part 136 or required under 40 C.F.R. chapter 1, subchapter N or O for the measured pollutant or pollutant parameter.

In the case of pollutants or pollutant parameters for which there are no approved methods under 40 C.F.R. part 136 or otherwise required under 40 C.F.R. chapter 1, subchapters N or O, monitoring must be conducted according to a test procedure specified in this Order for such pollutants or pollutant parameters. (40 C.F.R. §§ 122.21(e)(3), 122.41(j)(4), 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 C.F.R. part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by

this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));

2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));

3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));

4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));

5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and

6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

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

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and

2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or U.S. EPA within a reasonable time, any information which the Regional Water Board, State Water Board, or U.S. EPA 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 U.S. EPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, §§ 13267, 13383.)

B. Signatory and Certification Requirements

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

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

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

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

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

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

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

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

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 C.F.R. § 122.22(d).)

6. If documents described in Standard Provisions – V.B.1, V.B.2, or V.B.3 are submitted electronically by or on behalf of the NPDES-regulated facility, any person providing the electronic signature for such documents shall meet all relevant requirements of Standard Provisions – Reporting V.B, and shall ensure that all of the relevant requirements of 40 C.F.R. part 3 (including, in all cases, subpart D of part 3) (Cross-Media Electronic Reporting) and 40 C.F.R. part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 C.F.R § 122.22(e).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.41(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 the results of monitoring, sludge use, or disposal practices. As of December 21, 2016 all reports and forms must be submitted electronically by the Discharger to the initial recipient, as defined in Standard Provisions – Reporting V.J, in compliance with this section and 40 C.F.R. part 3 (including, in all cases, subpart D of part 3), section 122.22, and 40 C.F.R. part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, the Discharger may be required to report electronically if specified by the permit or if required to do so by state law. (40 C.F.R. § 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required

for an industry-specific waste stream under 40 C.F.R. subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)

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

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance which 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 report shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The report 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. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (combined sewer overflows, sanitary sewer overflows, or bypass events), type of sewer overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volumes untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the sewer overflow event, and whether the noncompliance was related to wet weather. As of December 21, 2020 all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events must be submitted electronically by the Discharger to the initial recipient, as defined in Standard Provisions – Reporting V.J, in compliance with this section and 40 C.F.R. part 3 (including in all cases, subpart D of part 3), section 122.22, and 40 C.F.R. part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, the Discharger may be required to electronically submit reports related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section by a particular permit or if required to do so by state law. The <Regional Water Board name> may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. § 122.41(l)(6)(i).)

F. Planned Changes

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

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

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to

effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)

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). (40 C.F.R. § 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 this Order's requirements. (40 C.F.R. § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in Standard Provision – Reporting V.E and the applicable required data in appendix A to 40 C.F.R. part 127. As of December 21, 2020 all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events must be submitted electronically by the Discharger to the initial recipient, as defined in Standard Provisions – Reporting V.J, in compliance with this section and 40 C.F.R. part 3 (including, in all cases, subpart D of part 3), section122.22, and 40 C.F.R. part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, the Discharger may be required to electronically submit reports related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section by a particular permit or if required to do so by state law. The Regional Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

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

J. Identification of the Initial Recipient for NPDES Electronic Reporting Data

The owner, operator, or the duly authorized representative of an NPDES-regulated entity is required to electronically submit the required NPDES information (as specified in appendix A to 40 C.F.R. part 127) to the appropriate initial recipient, as determined by U.S. EPA, and as defined in 40 C.F.R. section 127.2(b). U.S. EPA will identify and publish the list of initial recipients on its website and in the Federal Register, by state and by NPDES data group [see 40 C.F.R. section 127.2(c)]. U.S. EPA will update and maintain this listing. (40 C.F.R. § 122.41(l)(9).)

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 13268, 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 [40 C.F.R. § 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 [40 C.F.R. § 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 [40 C.F.R. § 122.410)(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 [40 C.F.R. § 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 (40 C.F.R. § 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" (40 C.F.R. § 122.42(a)(1)):

a. 100 micrograms per liter (µg/L) (40 C.F.R. § 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 (40 C.F.R. § 122.42(a)(1)(ii));

c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(1)(iii)); or

d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 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" (40 C.F.R. § 122.42(a)(2)):

a. 500 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(2)(i));

b. 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(2)(ii));

c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(2)(iii)); or

d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

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

CONTENTS

TABLES

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

Section 308 of the federal Clean Water Act (CWA) and sections 122.41(h), (j)-(*l*), 122.44(i), and 122.48 of title 40 of the Code of Federal Regulations (40 C.F.R.) require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This MRP establishes monitoring, reporting, and recordkeeping requirements that implement the federal and California laws and/or regulations.

I. GENERAL MONITORING PROVISIONS

A. An effluent sampling station shall be established for the points of discharge, Discharge Points 001(A&B) and 002 (co-located at latitude: 34.6850º N, longitude: -118.7878º W), 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 entering 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 40 C.F.R. sections 136.3, 136.4, and 136.5 (revised May 18, 2012); 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 State Water Board, Drinking Water Division, 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 U.S. EPA 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 State Board, Division of Drinking Water, Environmental Laboratory Accreditation Program (ELAP) or approved by the Executive Officer and in accordance with current U.S. EPA 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 purposes 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, 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. The MLs employed for effluent analyses to determine compliance with effluent limitations shall be lower than the effluent limitations established in this order for a given parameter as per the sufficiently sensitive regulations at 40 C.F.R. section 122.44(i)(1)(iv). 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.

I. The MLs employed for effluent analyses not associated with determining compliance with effluent limitations in this order shall be lower than the lowest applicable water quality objective, for a given parameter as per the sufficiently sensitive regulations at 40 C.F.R. section 122.21(e)(3). Water quality objectives for parameters may be found in Chapter 3 of the Basin Plan and the CTR (40 C.F.R. section 131.38). If the ML value is not below the water quality objective, 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, the associated laboratory QA/QC procedures, reporting levels (RLs), and method detection limits (MDLs).

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 C.F.R. part 136 (revised May 18, 2012);

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 U.S. EPA-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.

J. Water/wastewater samples must be analyzed within allowable holding time limits as specified in part 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.

K. 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.

L. 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.

M. Field analyses with short sample holding times such as pH, total residual chlorine, and temperature, may be performed using properly calibrated and maintained portable instruments by trained personnel acting on the Discharger's behalf, using methods in accordance with 40 C.F.R. part 136. All field instruments must be calibrated per manufacturer's instructions. A manual containing the standard operating procedures for all field analyses, including records of personnel proficiency training, instruments calibration and maintenance, and quality control procedures shall be maintained onsite, and shall be available for inspection by Regional Water Board staff. Information including instrument calibration, time of sample collection, time of analysis, name of analyst, quality assurance/quality control data, and measurement values shall be clearly documented during each field analysis and submitted to the Regional Water Board as part of the corresponding regular monitoring report.

N. The Discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. Unless otherwise specified in the analytical method, duplicate samples must be analyzed at a frequency of 5% (1 in 20 samples) with at least one if there is fewer than 20 samples in a batch. A batch is defined as a single analytical run encompassing no more than 24 hours from start to finish. A similar frequency shall be maintained for analyzing spiked samples.

O. When requested by the State Water Board or the Regional Water Board or U.S. EPA, 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%.

P. 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.

Q. 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 should be submitted.

R. 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
--	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 sampling station shall be established where a representative sample of effluent can be obtained from Discharge Point 001 (A&B) prior to entry into the power plant tailrace to Pyramid Lake. Latitude: 34.6850º N, Longitude: -118.7878° W
002	EFF-002	A sampling station shall be established where a representative sample of effluent can be obtained from Discharge Point 002 prior to entry into the power plant tailrace to Pyramid Lake. Latitude: 34.6850° N, Longitude: -118.7878° W
--	RSW-001	A sampling station shall be established where a representative sample of receiving water can be obtained at Pyramid Lake Inlet. The sampling location shall be outside the influence of the Discharge or located a minimum of 100 feet from the discharge, whichever is a greater distance.

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 at INF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Turbidity [1]	NTU	Grab	1/Month	[2]
Mercury, Total Recoverable [1]	µg/L	Grab	1/Month	[2]
Chloride [1]	mg/L	Grab	1/Month	[2]
Nitrate plus nitrite (as N) [1]	mg/L	Grab	1/Quarter	[2]
E. coli [1]	MPN/100ml	Grab	5/Quarter [5]	[2]
TCDD Equivalents [3]	µg/L	Grab	2/Year	[2]
Asbestos	fibers/L	Grab	2/Year	EPA method 100.2
Other Priority Pollutants [4]	µg/L	Grab	1/Year	[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 C.F.R. part 136; for priority pollutants, the methods must meet the lowest MLs specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the

State Water Board. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level.

3. TCDD equivalents shall be calculated using the following formula, where the MLs and the toxicity equivalency factors (TEFs) are as listed 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 MLs to zero. U.S. EPA method 1613 may be used to analyze dioxin and furan congeners.

Dioxin-TEQ (TCDD equivalents) = $\Sigma(C_x \times TEF_x)$
where: C_x = concentration of dioxin or furan congener x
TEF_x= TEF for congener x

Congeners	Minimum Levels (pg/L)	Toxicity Equivalence Factor (TEF)
2,3,7,8 - tetra CDD	10	1.0
1,2,3,7,8 - penta CDD	50	1.0
1,2,3,4,7,8 - hexa CDD	50	0.1
1,2,3,6,7,8 - hexa CDD	50	0.1
1,2,3,7,8,9 - hexa CDD	50	0.1
1,2,3,4,6,7,8 - hepta CDD	50	0.01
Octa CDD	100	0.0001
2,3,7,8 - tetra CDF	10	0.1
1,2,3,7,8 - penta CDF	50	0.05
2,3,4,7,8 - penta CDF	50	0.5
1,2,3,4,7,8 - hexa CDF	50	0.1
1,2,3,6,7,8 - hexa CDF	50	0.1
1,2,3,7,8,9 - hexa CDF	50	0.1
2,3,4,6,7,8 - hexa CDF	50	0.1
1,2,3,4,6,7,8 - hepta CDFs	50	0.01
1,2,3,4,7,8,9 - hepta CDFs	50	0.01
Octa CDF	100	0.0001

4. Priority Pollutants as defined by the CTR are listed in Attachment I.

5. Generally not less than five (5) samples should be taken equally spaced over a 30-day period with the first sample taken in the monitoring month (February, May, August, or November) for the required quarter. The results will provide sufficient data for the calculation of the geometric mean values.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location 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-3. Effluent Monitoring at EFF-001(A&B)

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Meter	1/Day [1]	--
Biochemical Oxygen Demand (BOD) (5-day @20 Deg. C) [2]	mg/L, lbs/day	Grab	1/Month	[3]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	s.u.	Grab	1/Month	[3]
Dissolved Oxygen	mg/L	Grab	1/Month	[3]
Temperature	ºF	Grab	1/Month	[3]
Turbidity [4]	NTU	Grab[6]	1/Month	[3]
Oil and Grease [2]	mg/L, lbs/day	Grab	1/Quarter	[3]
Total Suspended Solids (TSS) [2]	mg/L, lbs/day	Grab	1/Quarter	[3]
Hardness, Total (as $CaCO_3$)	mg/L	Grab	1/Quarter	[3]
Settleable Solids	ml/L	Grab	1/Quarter	[3]
Chloride [2, 4]	mg/L, lbs/day	Grab	1/Month	[3]
Ammonia Nitrogen, Total (as N) [2]	mg/L, lbs/day	Grab	1/Quarter	[3]
Nitrate plus Nitrite (as N) [2, 4]	mg/L, lbs/day	Grab	1/Quarter	[3]
E. coli [4]	MPN/100 ml	Grab	5/Quarter[5]	[3]
Boron	mg/L	Grab	2/Year	[3]
Iron, Total Recoverable	mg/L	Grab	2/Year	[3]
Sulfate	mg/L	Grab	2/Year	[3]
Total Dissolved Solids	mg/L	Grab	2/Year	[3]
Chronic Toxicity	Pass or Fail, % Effect	Grab	1/Year (Monthly during screening) [6]	[7]
Copper, Total Recoverable [2]	µg/L, lbs/day	Grab	1/Month	[3]
Mercury, Total Recoverable [2, 4]	µg/L, lbs/day	Grab	1/Month	[3]
Bis(2-ethylhexyl) Phthalate [2]	µg/L, lbs/day	Grab	1/Month	[3]
Asbestos	fibers/L	Grab	2/Year	EPA method 100.2
TCDD Equivalents [8]	µg/L	Grab[6]	2/Year	[3]
Remaining Priority Pollutants [9]	µg/L	Grab	2/Year	[3]
Calcium	mg/L	Grab	2/Year	[3]
Sodium	mg/L	Grab	2/Year	[3]
Magnesium	mg/L	Grab	2/Year	[3]
Sodium Adsorption Ratio	--	Calculated [10]	2/Year	Calculated [10]
Title 22 Parameters				
Aluminum, Total Recoverable	µg/L	Grab	1/Year	[3]
Barium, Total Recoverable	µg/L	Grab	1/Year	[3]
Chromium, Total	µg/L	Grab	1/Year	[3]
Radioactivity, Gross Alpha	pCi/L	Grab	1/Year	EPA method 900.0
Radioactivity, Gross Beta	pCi/L	Grab	1/Year	EPA method 900.0

1. The total daily flow volume shall be recorded daily during each period of discharge. Periods of no flow shall also be reported.
2. The mass emission (lbs/day) for the discharge shall be calculated and reported using the measured concentration and the actual flow rate at the time of discharge, using the formula:

   M = 8.34 x Ce x Q

   where: M = mass discharge for a pollutant (lbs/day)

Ce = measured concentration for a pollutant (mg/L)
Q = actual discharge flow rate (MGD)

3. Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136; for priority pollutants, the methods must meet the lowest MLs specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level.

4. 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.

5. Generally not less than five (5) samples should be taken equally spaced over a 30-day period with the first sample taken in the monitoring month (February, May, August, or November) for the required quarter. The results will provide sufficient data for the calculation of the geometric mean values.

6. Monthly sampling is required in the first three months. Species sensitivity screening shall be conducted during first three monthly monitorings in the first required monitoring. The species that exhibit the highest "Percent Effect" at the discharge IWC during species sensitivity screening shall be used for the routine annual monitoring.

7. Refer to section V, Whole Effluent Toxicity Testing Requirements. "Pass" or "Fail" for Median Monthly Effluent Limitation (MMEL). "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL). The MMEL for chronic toxicity shall only apply when there is a discharge more than one day in a calendar month period. During such calendar months, exactly three independent toxicity tests are required when one toxicity test results in "Fail".

8. TCDD equivalents shall be calculated using the following formula, where the MLs and the toxicity equivalency factors (TEFs) are as listed 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 MLs to zero. U.S. EPA method 1613 may be used to analyze dioxin and furan congeners.

Dioxin-TEQ (TCDD equivalents) = $\Sigma(C_x \times TEF_x)$
where: C_x = concentration of dioxin or furan congener x
TEF_x= TEF for congener x

Congeners	Minimum Levels (pg/L)	Toxicity Equivalence Factor (TEF)
2,3,7,8 - tetra CDD	10	1.0
1,2,3,7,8 - penta CDD	50	1.0
1,2,3,4,7,8 - hexa CDD	50	0.1
1,2,3,6,7,8 - hexa CDD	50	0.1
1,2,3,7,8,9 - hexa CDD	50	0.1
1,2,3,4,6,7,8 - hepta CDD	50	0.01
Octa CDD	100	0.0001
2,3,7,8 - tetra CDF	10	0.1
1,2,3,7,8 - penta CDF	50	0.05
2,3,4,7,8 - penta CDF	50	0.5
1,2,3,4,7,8 - hexa CDF	50	0.1
1,2,3,6,7,8 - hexa CDF	50	0.1
1,2,3,7,8,9 - hexa CDF	50	0.1
2,3,4,6,7,8 - hexa CDF	50	0.1
1,2,3,4,6,7,8 - hepta CDFs	50	0.01
1,2,3,4,7,8,9 - hepta CDFs	50	0.01
Octa CDF	100	0.0001

9. Priority Pollutants as defined by the CTR are listed in Attachment I.

10. Sodium Adsorption Ratio (SAR) = $Na^{+} \div \sqrt{(Ca^{++} + Mg^{++}) \div 2}$

B. Monitoring Location EFF-002

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

Table E-4. Effluent Monitoring at EFF-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	gallons per day (gpd)	Meter	1/Day [1]	--
Flow Duration	hours, days	Meter	--	--
BOD [2]	mg/L, lbs/day	Grab	1/Month	[3]
pH	s.u.	Grab	1/Month	[3]
Dissolved Oxygen	mg/L	Grab	1/Month	[3]
Temperature	ºF	Grab	1/Month	[3]
Turbidity [4]	NTU	Grab	1/Month	[3]
Oil and Grease [2]	mg/L, lbs/day	Grab	1/Quarter	[3]
TSS[2]	mg/L, lbs/day	Grab	1/Quarter	[3]
Hardness, Total (as $CaCO_3$)	mg/L	Grab	1/Quarter	[3]
Settleable Solids	ml/L	Grab	1/Quarter	[3]
Chloride [2, 4]	mg/L, lbs/day	Grab	1/Month	[3]
Chlorine, Total Residual [2]	mg/L, lbs/day	Grab	1/Month	[3]
Ammonia Nitrogen, Total (as N) [2]	mg/L, lbs/day	Grab	1/Quarter	[3]
Nitrate plus Nitrite (as N) [2, 4]	mg/L, lbs/day	Grab	1/Quarter	[3]
E. coli [4]	MPN/100 ml	Grab	5/Quarter [5]	[3]
Boron	mg/L	Grab	2/Year	[3]
Iron, Total Recoverable	mg/L	Grab	2/Year	[3]
Sulfate	mg/L	Grab	2/Year	[3]
Total Dissolved Solids	mg/L	Grab	2/Year	[3]
Chronic Toxicity	Pass or Fail, % Effect	Grab	1/Year (Monthly during screening) [6]	[7]
Copper, Total Recoverable [2]	µg/L, lbs/day	Grab	1/Month	[3]
Lead, Total Recoverable	µg/L, lbs/day	Grab	1/Month	[3]
Mercury, Total Recoverable [2, 4]	µg/L, lbs/day	Grab	1/Month	[3]
Zinc, Total Recoverable [2]	µg/L, lbs/day	Grab	1/Month	[3]
Bis(2-exthylhexyl) Phthalate [2]	µg/L, lbs/day	Grab	1/Month	[3]
Bromoform [2]	µg/L, lbs/day	Grab	1/Month	[3]
Chloroform [2]	µg/L, lbs/day	Grab	1/Month	[3]
Chlorodibromomethane [2]	µg/L, lbs/day	Grab	1/Month	[3]
Dichlorobromomethane [2]	µg/L, lbs/day	Grab	1/Month	[3]
Total Trihalomethanes	µg/L	Calculated [8]	1/Month	Calculated [8]
Tetrachloroethylene [2]	µg/L, lbs/day	Grab	1/Month	[3]
Asbestos	fibers/L	Grab	2/Year	EPA method 100.2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
TCDD Equivalents [9]	µg/L	Grab	2/Year	[3]
Remaining Priority Pollutants [10]	µg/L	Grab	2/Year	[3]
Calcium	mg/L	Grab	2/Year	[3]
Sodium	mg/L	Grab	2/Year	[3]
Magnesium	mg/L	Grab	2/Year	[3]
Sodium Adsorption Ratio	--	Calculated [11]	2/Year	Calculated [11]
Title 22 Parameters				
Aluminum, Total Recoverable	µg/L	Grab	1/Year	[3]
Barium, Total Recoverable	µg/L	Grab	1/Year	[3]
Chromium, Total	µg/L	Grab	1/Year	[3]
Radioactivity, Gross Alpha	pCi/L	Grab	1/Year	EPA method 900.0
Radioactivity, Gross Beta	pCi/L	Grab	1/Year	EPA method 900.0

1. The total daily flow volume shall be recorded daily during each period of discharge. Periods of no flow shall also be reported.
2. The mass emission (lbs/day) for the discharge shall be calculated and reported using the measured concentration and the actual flow rate at the time of discharge, using the formula:

   $M = 8.34 \times Ce \times Q$

   where: M = mass discharge for a pollutant (lbs/day)
   Ce = measured concentration for a pollutant (mg/L)
   Q = actual discharge flow rate (MGD)
3. Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136; for priority pollutants, the methods must meet the lowest MLs specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level.
4. 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.
5. Generally not less than five (5) samples should be taken equally spaced over a 30-day period with the first sample taken in the monitoring month (February, May, August, or November) for the required quarter. The results will provide sufficient data for the calculation of the geometric mean values.
6. Monthly sampling is required in the first three months. Species sensitivity screening shall be conducted during first three monthly monitorings in the first required monitoring. The species that exhibit the highest "Percent Effect" at the discharge IWC during species sensitivity screening shall be used for the routine annual monitoring.
7. Refer to section V, Whole Effluent Toxicity Testing Requirements. "Pass" or "Fail" for Median Monthly Effluent Limitation (MMEL). "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL). The MMEL for chronic toxicity shall only apply when there is a discharge more than one day in a calendar month period. During such calendar months, exactly three independent toxicity tests are required when one toxicity test results in "Fail".
8. The Discharger shall monitor for bromoform, bromodichloromethane, chloroform and dibromochloromethane and report the individual results as well as the sum of concentrations of these constituents. For summing of total trihalomethanes, the Discharger shall set concentrations below the MLs to zero.
9. TCDD equivalents shall be calculated using the following formula, where the MLs and the toxicity equivalency factors (TEFs) are as listed 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 MLs to zero. U.S. EPA method 1613 may be

used to analyze dioxin and furan congeners.

Dioxin-TEQ (TCDD equivalents) = $\Sigma(C_x \times TEF_x)$
where: C_x = concentration of dioxin or furan congener x
TEF_x= TEF for congener x

Congeners	Minimum Levels (pg/L)	Toxicity Equivalence Factor (TEF)
2,3,7,8 - tetra CDD	10	1.0
1,2,3,7,8 - penta CDD	50	1.0
1,2,3,4,7,8 - hexa CDD	50	0.1
1,2,3,6,7,8 - hexa CDD	50	0.1
1,2,3,7,8,9 - hexa CDD	50	0.1
1,2,3,4,6,7,8 - hepta CDD	50	0.01
Octa CDD	100	0.0001
2,3,7,8 - tetra CDF	10	0.1
1,2,3,7,8 - penta CDF	50	0.05
2,3,4,7,8 - penta CDF	50	0.5
1,2,3,4,7,8 - hexa CDF	50	0.1
1,2,3,6,7,8 - hexa CDF	50	0.1
1,2,3,7,8,9 - hexa CDF	50	0.1
2,3,4,6,7,8 - hexa CDF	50	0.1
1,2,3,4,6,7,8 - hepta CDFs	50	0.01
1,2,3,4,7,8,9 - hepta CDFs	50	0.01
Octa CDF	100	0.0001

10. Priority Pollutants as defined by the CTR are listed in Attachment I.

11. Sodium Adsorption Ratio (SAR) = $Na^{+} \div \sqrt{(Ca^{++} + Mg^{++}) \div 2}$

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Chronic Toxicity

1. Discharge In-stream Waste Concentration (IWC) for Chronic Toxicity

The chronic toxicity IWC for this discharge is 100 percent effluent.

2. Sample Volume and Holding Time

The total sample volume shall be determined by the specific toxicity test method used. Sufficient sample volume shall be collected to perform the required toxicity test and TIE studies. All toxicity tests shall be conducted as soon as possible following sample collection. No more than 36 hours shall elapse before the conclusion of sample collection and test initiation.

3. Chronic Freshwater Species and Test Methods

If effluent samples are collected from outfalls discharging to receiving waters with salinity <1 ppt, the Discharger shall conduct the following chronic toxicity tests on effluent samples—at the in-stream waste concentration for the discharge—in accordance with species and test methods in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA/821/R-02/013, 2002; Table IA, 40 CFR part 136). In no case shall these species be substituted with another test species unless written authorization from the Executive Officer is received.

a. A static renewal toxicity test with the fathead minnow, *Pimephales promelas* (Larval Survival and Growth Test Method 1000.0).

b. A static renewal toxicity test with the daphnid, *Ceriodaphnia dubia* (Survival and Reproduction Test Method 1002.01).

c. A static renewal toxicity test with the green algae, *Selenastrum capricornutum* (also named *Raphidocelis subcapitata*) (Growth Test Method 1003.0).

4. Species Sensitivity Screening

Species sensitivity screening shall be conducted for three consecutive months in the first required chronic toxicity testing. For each monthly sampling event at the screening period, the Discharger shall collect a single effluent sample and concurrently conduct three toxicity tests using the fish, an invertebrate, and the algae species previously referenced. The species that exhibits the highest "Percent Effect" at the discharge IWC during species sensitivity screening shall be used for routine monitoring during the permit cycle.

Rescreening is required at least once per five (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 rescreening tests demonstrates that the same species is the most sensitive, then the rescreening does not need to include more than one suit 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 using enough collected effluent for a minimum of three, but not to exceed five suites.

5. Quality Assurance and Additional Requirements

Quality assurance measures, instructions, and other recommendations and requirements are found in the test methods manual previously referenced. Additional requirements are specified below.

a. The discharge is subject to determination of "Pass" or "Fail" and "Percent Effect" from a single-effluent concentration chronic toxicity test at the discharge IWC using the Test of Significant Toxicity (TST) statistical approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity* Implementation Document (EPA 833-R-10-003, 2010), Appendix A, Figure A-1, and Table A-1. The null hypothesis (Ho) for the TST approach is: Mean discharge IWC response ≤0.75 × Mean control response. A test result that rejects this null hypothesis is reported as "Pass". A test result that does not reject this null hypothesis is reported as "Fail". The relative "Percent Effect" at the discharge IWC is defined and reported as: ((Mean control response - Mean discharge IWC response) ÷ Mean control response) × 100.

b. The Median Monthly Effluent Limit (MMEL) for chronic toxicity only applies when there is a discharge more than one day in a calendar month period. During such calendar months, up to three independent toxicity tests are required when one toxicity test results in "Fail".

c. If the effluent toxicity test does not meet all test acceptability criteria (TAC) specified in the referenced test method, then the Discharger must re-sample and re-test within 14 days.

d. Dilution water and control water, including brine controls, shall be laboratory water prepared and used as specified in the test methods manual. If dilution water and control water is different from test organism culture water, then a second control using culture water shall also be used.

e. Reference toxicant tests and effluent toxicity tests shall be conducted using the same test conditions (e.g., same test duration, etc.). Monthly reference toxicant testing is sufficient.

f. All reference toxicant test results should be reviewed and reported according to EPA guidance on the evaluation of concentration-response relationships found *in Method Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing* (40 CFR section 136) (EPA 821-B-00-004, 2000).

g. The Discharger shall perform toxicity tests on final effluent samples. Chlorine and ammonia shall not be removed from the effluent sample prior to toxicity testing, unless explicitly authorized under this section of the Monitoring and Reporting Program and the rationale is explained in the Fact Sheet (Attachment F).

6. Preparation of an Initial Investigation TRE Workplan

The Discharger shall prepare or update and submit a generic Initial Investigation TRE Work Plan (1-2 pages) within 90 days of the permit effective date to be ready to respond to toxicity events. The Discharger shall review and update this work plan as necessary so it remains current and applicable to the discharge. At a minimum, the work plan shall include:

a. 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.

b. A description of methods for maximizing in-house treatment efficiency, good housekeeping practices, and a list of all chemicals used in the operation of the Facility; and

c. 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).

7. Accelerated Monitoring Schedule for Median Monthly Summary Result: "Fail" (or Maximum Daily Single Result: "Fail and % Effect ≥50")

The summary result shall be used when there is discharge more than one day in a calendar month. The single result shall be used when there is discharge of only one day in a calendar month.

Within 24 hours of the time the Discharger becomes aware of a failing result, the Discharger shall implement an accelerated monitoring schedule consisting of four, five-concentration (including IWC, two dilutions above and two dilutions below IWC) toxicity tests, conducted at approximately two week intervals, over an eight week period. If each of the accelerated toxicity tests at the discharge IWC results in "Pass", the Discharger shall return to routine monitoring for the next monitoring period. If one of the accelerated toxicity tests at the discharge IWC results in "Fail", the Discharger shall immediately implement the Toxicity Reduction Evaluation (TRE) Process conditions set forth below.

8. Toxicity Reduction Evaluation (TRE) Process

During the TRE Process, monthly effluent monitoring shall resume and TST results ("Pass" or "Fail", "Percent Effect") for chronic toxicity tests shall be reported as effluent compliance monitoring results for the chronic toxicity MDEL and MMEL.

a. **Preparation and Implementation of Detailed TRE Work Plan.** The Discharger shall immediately initiate a TRE using, according to the type of treatment facility, *EPA manual Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, 1989) and, within 30 days, submit to the Executive

Officer a Detailed TRE Work Plan, which shall follow the generic Initial Investigation TRE Work Plan revised as appropriate for this toxicity event. It shall include the following information, and comply with additional conditions set by the Executive Officer:

i. Further actions by the Discharger to investigate, identify, and correct the causes of toxicity.

ii. Actions the Discharger will take to mitigate the effects of the discharge and prevent the recurrence of toxicity.

iii. A schedule for these actions, progress reports, and the final report.

b. **TIE Implementation.** The Discharger may initiate a TIE as part of a TRE to identify the causes of toxicity using the same species and test method and, as guidance, EPA manuals: *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures* (EPA/600/6-91/003, 1991); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080, 1993); *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/081, 1993); and *Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document* (EPA/600/R-96-054, 1996). The TIE should be conducted on the species demonstrating the most sensitive toxicity response.

c. Many recommended TRE elements parallel required or recommended efforts for source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the sources and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with toxicity evaluation parameters.

d. The Discharger shall conduct routine effluent monitoring for the duration of the TRE process. Additional accelerated monitoring and TRE work plans are not required once a TRE is begun.

e. The Regional Water Board recognizes that toxicity may be episodic and identification of causes and reduction of sources of toxicity may not be successful in all cases. The TRE may be ended at any stage if monitoring finds there is no longer toxicity.

9. Reporting

The Self-Monitoring Report (SMR) shall include a full laboratory report for each toxicity test. This report shall be prepared using the format and content of the test methods manual chapter called Report Preparation, including:

a. The toxicity test results for the TST statistical approach, reported as “Pass” or “Fail” and “Percent Effect” at the chronic toxicity IWC for the discharge.

b. Water quality measurements for each toxicity test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, chlorine, ammonia).

c. TRE/TIE results. The Executive Officer shall be notified no later than 30 days from completion of each aspect of TRE/TIE analyses.

d. Statistical program (e.g., TST calculator, CETIS, etc.) output results for each toxicity test.

e. Any additional QA/QC documentation or any additional chronic toxicity-related information, upon request of Regional Water Board staff.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Monitoring Location RSW-001

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

Table E-5. Receiving Water Monitoring Requirements at RSW-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	s.u.	Grab	1/Quarter[1]	[2]
Temperature	ºF	Grab	1/Quarter[1]	[2]
Dissolved Oxygen	mg/L	Grab	1/Quarter	[2]
Turbidity	NTU	Grab	1/Quarter	[2]
Hardness (as mg/L $CaCO_3$)	mg/L	Grab	1/Quarter	[2]
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Quarter[1]	[2]
Nitrate plus Nitrite (as N)	mg/L	Grab	1/Quarter	[2]
Chloride	mg/L	Grab	1/Month	[2]
E. coli	MPN/100 mL	Grab	5/Quarter [3]	[2]
Boron	mg/L	Grab	2/Year	[2]
Iron	mg/L	Grab	2Year	[2]
Sulfate	mg/L	Grab	2/Year	[2]
Total Dissolved Solids	mg/L	Grab	2/Year	[2]
Copper, Total Recoverable	µg/L	Grab	1/Quarter	[2]
Lead, Total Recoverable	µg/L	Grab	1/Quarter	[2]
Mercury, Total Recoverable	µg/L	Grab	1/Quarter	[2]
Zinc, Total Recoverable	µg/L	Grab	1/Quarter	[2]
Bromoform	µg/L	Grab	1/Quarter	[2]
Chloroform	µg/L	Grab	1/Quarter	[2]
Chlorodibromomethane	µg/L	Grab	1/Quarter	[2]
Dichlorobromomethane	µg/L	Grab	1/Quarter	[2]
Total Trihalomethanes	µg/L	Calculated [4]	1/Quarter	Calculated [4]
Tetrachloroethylene	µg/L	Grab	1/Quarter	[2]
Asbestos	fibers/L	Grab	2/Year	EPA method 100.2
Remaining Priority Pollutants [5]	µg/L	Grab	2/Year	[2]
Calcium	mg/L	Grab	2/Year	[2]
Sodium	mg/L	Grab	2/Year	[2]
Magnesium	mg/L	Grab	2/Year	[2]
Sodium Adsorption Ratio	--	Calculated [6]	2/Year	Calculated [6]
Title 22 Parameters				
Aluminum, Total	µg/L	Grab	1/Year	[2]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Recoverable				
Barium, Total Recoverable	µg/L	Grab	1/Year	[2]
Chromium, Total	µg/L	Grab	1/Year	[2]
Radioactivity, Gross Alpha	pCi/L	Grab	1/Year	EPA method 900.0
Radioactivity, Gross Beta	pCi/L	Grab	1/Year	EPA method 900.0

1. Receiving water samples for pH, temperature and ammonia must be collected at the same time.
2. Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136; for priority pollutants, the methods must meet the lowest MLs specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by method approved by the Regional Water Board or the State Water Board. If more than one analytical method is listed for a given parameter, the Discharger must select from the listed methods and corresponding ML.
3. Generally not less than five (5) samples should be taken equally spaced over a 30-day period with the first sample taken in the monitoring month (February, May, August, or November) for the required quarter. The results will provide sufficient data for the calculation of the geometric mean values.
4. The Discharger shall monitor for bromoform, bromodichloromethane, chloroform and dibromochloromethane and report the individual results as well as the sum of concentrations of these constituents. For summing of total trihalomethanes, the Discharger shall set concentrations below the MLs to zero.
5. Priority pollutants as defined by the CTR, are listed in Attachment I of this Order.
6. Sodium Adsorption Ratio (SAR) = $\mathrm{Na}^{+} \div \sqrt{(\mathrm{Ca}^{++} + \mathrm{Mg}^{++}) \div 2}$

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 provide an alternate schedule. Results of semiannual and 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 the chronic toxicity testing, TRE and TIE as required in the Attachment E, Monitoring and Reporting, Section V.A.7.

B. Self-Monitoring Reports (SMR's)

1. The Discharger shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program website <http://www.waterboards.ca.gov/water_issues/programs/ciwqs/>. The CIWQS Web site will provide additional information for SMR submittal in the event there will be a planned 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 U.S. EPA-approved test methods or other test methods specified in this Order. SMRs are to include all new monitoring results obtained since the last SMR was submitted. 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-6. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Start Date	Monitoring Period	SMR Due Date
1/Day	July 1, 2016	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with Quarterly SMR
1/Month	July 1, 2016	1st day of calendar month through last day of calendar month	Submit with Quarterly SMR
1/Quarter	July 1, 2016	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
2/Year	July 1, 2016	January 1 through June 30 July 1 through December 31	August 1 February 1
1/Year	July 1, 2016	January 1 through December 31	February 1of the following year

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

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

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

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

      For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. 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.

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. For purposes of reporting and administrative enforcement by the Regional Water Board and State Water Board, 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 SMR's 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. Discharge Monitoring Reports (DMRs)

The Discharger shall electronically certify and submit DMRs together with SMRs using Electronic Self-Monitoring Reports module eSMR 2.5 or any upgraded version. Electronic submittal of DMRs will be in addition to electronic submittal of SMRs. Information about electronic submittal of DMRs is available at the Discharge Monitoring Report website at <http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring/>

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 (Special Provision VI.C.2.a)

b. An updated Storm Water Pollution Prevention Plan (SWPPP)

c. An updated Best Management Practices Plan (BMPP)

d. An updated Spill Control Plan (SCP)

2. The Discharger shall report the results of any toxicity testing or TRE/TIE activity as required in the MRP section V. The Discharger shall submit reports with the first quarterly SMR scheduled to be submitted on or immediately following the report due date.

ATTACHMENT F – FACT SHEET

CONTENTS

TABLES

ATTACHMENT F – FACT SHEET

As described in section II.B of this Order, the Los Angeles Regional Water Board (Regional Water Board) incorporates this Fact Sheet as findings of the Regional Water Board supporting the issuance 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	Ms. Diane Shimizu, Senior Environmental Scientist, (916) 653-1154
Authorized Person to Sign and Submit Reports	Anthony Chu, Chief, Environmental Assessment Branch, (916) 653-9978
Mailing Address	P.O. Box 942836 Sacramento, CA 94236-0001
Billing Address	SAME
Type of Facility	Hydroelectric Generating Station
Major or Minor Facility	Major
Threat to Water Quality	3
Complexity	C
Pretreatment Program	Not applicable
Recycling Requirements	Not applicable
Facility Permitted Flow	1.95 million gallons per day (MGD) – Discharge Point 001 (A&B) 0.020 MGD – Discharge Point 002
Facility Design Flow	1.95 MGD – Discharge Point 001 (A&B) 0.020 MGD – Discharge Point 002
Watershed	Santa Clara River Watershed
Receiving Water	Pyramid Lake
Receiving Water Type	Inland Surface Water

A. The 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 State of California. The Discharger was previously regulated by Order R4-2010-0089 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0059188, adopted on June 3, 2010 and then later amended in Order No. R4-2010-0089-A01 on April 5, 2012, which expired on June 10, 2015. Pursuant to 40 C.F.R. section 122.6, the permit has been administratively extended and the terms and conditions of the permit remain in effect until the Board issues new Waste Discharge Requirements (WDRs) and NPDES permit pursuant to this Order. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

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 Resources Control Board (State Water Board), Division of Water Rights, and receive approval for such a change. The State Water Board retains the jurisdictional authority to enforce such requirements under Water Code section 1211.

C. The Discharger filed a report of waste discharge and submitted an application for reissuance of its WDR's and NPDES permit on December 11, 2014 and submitted an amended application of February 12, 2015. A site visit was conducted on February 3, 2015, to observe operations and collect additional data to develop permit limitations and requirements for waste discharge. The application was deemed complete on February 3, 2016.

II. FACILITY DESCRIPTION

The Discharger is the owner and operator of 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 25 million Californians and 750,000 acres of irrigated farmland and impounds water for municipal and manufacturing uses.

The Facility operates two hydroelectric generating turbine units that generate up to 78 megawatts of electricity. 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 (a pipe or conduit for carrying water to a water wheel or turbine) 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. During operation, the penstock water is concentrated and directed at each Pelton wheel by six large needle valves. The water exiting the power plant turbines after it has been used to generate power enters the tailrace (the channel or conduit below the water wheel or turbine through which the water flows after striking the Pelton wheel). 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 1.95 million gallons per day (MGD) of generator, turbine, air, upper and lower guide bearing cooling waters (all once-through) and rotary strainer backwash are discharged through Discharge Point 001 (A&B).

An on-site 50 gallons per minute (gpm) potable water treatment plant uses the processes of chlorination (sodium hypochlorite) 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 minutes 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, raw water from the turbine shutoff valve, and ground water seepage that accumulates in the coupling gallery located below ground level, and floor drains. In addition, approximately once per year, the Facility will shut down Units 1 and 2 for maintenance. In these instances, residual intake water is pumped from the Pelton wheel housing structure to the drainage sump. 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 0.020 MGD of drainage sump water through Discharge Point 002.

Generated water is the State Water Project water which when it moves through the William E. Warne Power Plant is used to rotate the Pelton wheel generating electricity. After the water strikes the wheel, it exits the Facility through the tailrace. Since the generated water does not contact any areas of the Facility with pollutants, no pollutants are added to the discharge. The discharge of the generated water is not regulated by an NPDES permit.

The once-through cooling water and drainage sump water are discharged to the power plant tailrace where they combine with generated waters and then discharge into Pyramid Lake.

A. Description of Wastewater and Biosolids Treatment and 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 1.95 MGD of generator, turbine, air, upper and lower guide bearing cooling water, and a maximum of 0.020 MGD of drainage sump water.

B. Discharge Points and Receiving Waters

Similar effluents (cooling waters) are being discharged from two identical generating units and the outfalls for these two units are approximately 35 feet apart. As such, the two outfalls are collectively referred to as Discharge Point 001(A&B) in this permit. Discharge Point 002 is located in the same area as Discharge Point 001 (A&B). Up to 1.97 MGD of cooling and sump water is discharged into the tailrace through Discharge Point 001(A&B) and 002, co-located at latitude 34.6850°, longitude -118.7878°; and subsequently discharged to Canada de los Alamos Creek which flows to Pyramid Lake, a water of the United States.

Water from Pyramid Lake flows through the Angeles Tunnel to turn the Castaic Lake Power Plant turbines. During summer months, water is also released from Pyramid Lake to support

flows in Piru Creek. The creek below Pyramid Dam contains scattered riffle-pool formations until reaching Lake Piru, behind Santa Felicia Dam. The creek continues to meander through Piru Canyon until merging with the Santa Clara River Reach 4. Releases may be diverted from Piru Creek to recharge the Piru Spreading Grounds, a 44-acre recharge basin located near the confluence of Piru Creek and the Santa Clara River. Water releases from Castaic Lake flow south to Castaic Creek, and from there, to Reach 5 of the Santa Clara River. Pyramid Lake is a tributary to the Santa Clara River via Piru Creek, Lake Piru, Castaic Lake, and Castaic Creek, all waters of the United States.

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

Effluent limitations contained in the previous Order for discharges from Discharge Point 001 (A&B) and 002 (Monitoring Locations EFF-001 and EFF-002, respectively) and representative monitoring data from the term of the previous Order are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data – Discharge Point 001 (A&B)

Parameter	Units	Effluent Limitation		Monitoring Data (July 3, 2010 through December 17, 2015)	
		Average Monthly	Maximum Daily	Highest Average Monthly Discharge [1]	Highest Daily Discharge
Conventional Pollutants					
Biochemical Oxygen Demand (BOD) (5-day @20 Deg. C)	mg/L	--	10	--	3.9
	lbs/day[2]	--	160	--	25
Oil and Grease	mg/L	10	15	ND (<1.3)	ND (<1.3)
	lbs/day[2]	160	240	ND	ND
pH	s.u.	6.5-8.5 [3]		7.6-8.9 [4]	
Total Suspended Solids (TSS)	mg/L	50	75	8	8
	lbs/day[2]	810	1220	47	47
Non-Conventional Pollutants					
Acute Toxicity	% Survival	90/70 [5]		93 [6]	
Chronic Toxicity	TUc	1.0 [7]		1.0	
Dissolved Oxygen	mg/L	5.0 (80%) [8]		5.7 (87%) [9]	
Settleable Solids	ml/L	0.1	0.3	ND (<0.1)	ND (<0.1)
Turbidity	NTU	5	25	16	16
Temperature	Deg. F	86 [10]		--	83.3
Priority Pollutants					
Copper, Total Recoverable (interim)[11]	µg/L	26	27	13	13
	lbs/day[2]	0.42	0.44	0.053	0.053
Copper, Total Recoverable [12]	µg/L	7.6	12	27	27
	lbs/day[2]	0.12	0.20	0.29	0.29
Mercury, Total Recoverable [13]	µg/L	0.050	0.13	0.063	0.063
	lbs/day[2]	0.00081	0.0021	0.00058	0.00058
Asbestos [13]	million fibers/L	7	21	<0.2	<0.2
TCDD Equivalents [13]	µg/L	1.3×10^{-8}	2.6×10^{-8}	DNQ (1.7×10^{-6})	DNQ (1.7×10^{-6})
	lbs/day[2]	2.1×10^{-10}	4.2×10^{-10}	DNQ	DNQ

ND = No detected values reported. All mass results reported as "<".

DNQ = Detected, but not quantified, an estimated value.

1. Based on calculations from individual sample results.
2. Mass-based effluent limitations were based on a flow rate of 1.950 MGD.
3. Instantaneous minimum and maximum.
4. Range of instantaneous values.
5. The acute toxicity of the effluent shall be such that: 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 no single test shall produce less than 70% survival.
6. Lowest percent survival.
7. Monitoring trigger. The monthly median for chronic toxicity of 100% effluent shall not exceed 1 TUc.
8. Instantaneous minimum. Dissolved oxygen shall not be less than 5.0 mg/L at 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. Percent saturation is shown within ( ).
9. Lowest observed minimum.
10. Instantaneous maximum.
11. Interim effluent limitations as prescribed in TSO No. R4-2012-0076 were effective from June 1, 2011 through June 1, 2016.
12. Effluent limitations in Order R4-2010-0089 were effective from July 3, 2010 through May 31, 2011.
13. Orders R4-2010-0089 and R4-2010-0089-A01 allow credit for Intake water concentrations. Intake water credits were applied when the highest observed monthly average effluent concentration occurred. All detected concentrations were estimated values below the reporting level (RL).

Table F-3. Historic Effluent Limitations and Monitoring Data – Discharge Point 002

Parameter	Units	Effluent Limitation		Monitoring Data (July 3, 2010 through December 17, 2015)	
		Average Monthly	Maximum Daily	Highest Average Monthly Discharge [1]	Highest Daily Discharge
Conventional Pollutants					
BOD	mg/L	--	10	--	43
	lbs/day[2]	--	1.7	--	1.2
Oil and Grease	mg/L	10	15	10	10
	lbs/day[2]	1.7	2.5	0.30	0.30
pH	s.u.	6.5-8.5 [4]		4.4-9 [5]	
TSS	mg/L	50	75	21	21
	lbs/day[2]	8.3	13	0.63	0.63
Non-Conventional Pollutants					
Acute Toxicity	% Survival	90/70 [6]		100 [7]	
Chronic Toxicity	TUc	1.0 [8]		1.0	
Chlorine, Total Residual	mg/L	--	0.1	--	0.1
	lbs/day[2]	--	0.017	--	0.012
Dissolved Oxygen	mg/L	5.0 (80%) [9]		3.8 (79%) [10]	
Settleable Solids	ml/L	0.1	0.3	ND (<0.1)	ND (<0.1)
Temperature	Deg. F	86 [11]		--	77
Turbidity [12]	NTU	5	25	25	25
Priority Pollutants					

Parameter	Units	Effluent Limitation		Monitoring Data (July 3, 2010 through December 17, 2015)	
		Average Monthly	Maximum Daily	Highest Average Monthly Discharge [1]	Highest Daily Discharge
Copper, Total Recoverable (interim) [13]	µg/L	67	77	372	840
	lbs/day[2]	0.011	0.013	0.00833	0.02
Copper, Total Recoverable [14]	µg/L	4.5	13	120	120
	lbs/day[3]	7.5×10^{-5}	2.2×10^{-4}	0.0036	0.0036
Lead, Total Recoverable (interim) [13]	µg/L	2.7	5.0	7	12
	lbs/day[2]	0.00045	0.00083	0.00016	0.00029
Lead, Total Recoverable[14]	µg/L	1.6	5.0	4.1	4.1
	lbs/day[3]	2.7×10^{-5}	8.3×10^{-5}	0.000123	0.000123
Zinc, Total Recoverable (interim) [13]	µg/L	79	111	240	450
	lbs/day[2]	0.013	0.019	0.006	0.00985
Zinc, Total Recoverable[14]	µg/L	42	111	67	67
	lbs/day[3]	7.0×10^{-4}	1.9×10^{-3}	0.00201	0.00201
Bromoform	µg/L	4.3	13	25	25
	lbs/day[3]	7.2×10^{-5}	2.2×10^{-4}	0.00045	0.00045
Chlorodibromomethane (interim) [13]	µg/L	3.8	4.7	11	11
	lbs/day[2]	0.00063	0.00078	0.0002	0.0002
Chlorodibromomethane[14]	µg/L	0.40	1.0	4.9	4.9
	lbs/day[3]	6.7×10^{-6}	1.7×10^{-5}	0.000265	0.000265
Dichlorobromomethane (interim)[13]	µg/L	2.2	2.4	3.8	3.8
	lbs/day[2]	0.00037	0.00040	0.00011	0.00035
Dichlorobromomethane[14]	µg/L	0.56	1.6	2.4	2.4
	lbs/day[3]	9.3×10^{-6}	2.7×10^{-5}	0.00113	0.00113
Tetrachloroethylene (interim) [13]	µg/L	1.4	2.3	0.82	0.82
	lbs/day[2]	0.00023	0.00038	0.00003	0.00003
Tetrachloroethylene [14]	µg/L	0.80	2.3	26	26
	lbs/day[3]	1.3×10^{-5}	3.8×10^{-5}	0.0235	0.0235
TCDD Equivalents [12,15]	µg/L	1.3×10^{-8}	2.6×10^{-8}	DNQ (2.7×10^{-6})	DNQ (2.7×10^{-6})
	lbs/day[3]	2.2×10^{-12}	4.3×10^{-12}	DNQ	DNQ

ND = No detected values reported. All mass results reported as "<".

DNQ = Detected, but not quantified, an estimated value.

1. Based on calculations from individual sample results.
2. Mass-based effluent limitations were based on a flow rate of 0.02 MGD as calculated in Order R4-2010-0089-A01.
3. Mass-based effluent limitations were based on a flow rate of 0.002 MGD as calculated in Order R4-2010-0089.
4. Instantaneous minimum and maximum.
5. Range of instantaneous values.
6. The acute toxicity of the effluent shall be such that: 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 no single test shall produce less than 70% survival.
7. Lowest percent survival.
8. Monitoring trigger. The monthly median for chronic toxicity of 100% effluent shall not exceed 1 TUc.

9. Instantaneous minimums. Dissolved oxygen shall not be less than 5.0 mg/L at 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. Percent saturation is shown within ( ).
10. Lowest observed minimum.
11. Instantaneous maximum.
12. 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.
13. Interim effluent limitations as prescribed in TSO No. R4-2012-0076 were effective from June 1, 2011 through June1, 2016.
14. Effluent limitations in Order R4-2010-0089 were effective from June 3, 2010 through May 31, 2011.
15. All detected concentrations were estimated values below the RL.

D. Compliance History

During the term of Order R4-2010-0089, numerous violations effluent limitations for copper, lead, zinc, chlorodibromomethane, dichlorobromomethane, and tetrachloroethylene were reported. On November 28, 2011, the Regional Water Board issued the Discharger Settlement Offer R4-2011-0071-M for 99 effluent limit violations subject to mandatory minimum penalties (MMPs). Settlement Offer R4-2011-0071-M was subsequently amended on May 31, 2012 to include violations that occurred in the first quarter of 2012. The Discharger submitted the required penalty fee of $429,000 to the Regional Water Board on August 23, 2012.

In order to address an error discovered by the Discharger, Order R4-2010-0089 was amended by Order R4-2010-0089-A01 on April 5, 2012 to increase the permitted waste flow at Discharge Point 002 from 0.002 MGD to 0.02 MGD. Along with this amendment, the Regional Water Board issued TSO R4-2012-0076 on the same date because the Facility was unable to comply with some new or more stringent effluent limitations included in Order R4-2010-0089-A01. The TSO allowed for additional time to investigate and implement Facility modifications required to comply with the new, more stringent limitations. The TSO included interim effluent limitations for copper at Discharge Point 001 (A&B) and for copper, lead, zinc, chlorodibromomethane, dichlorobromomethane, and tetrachloroethylene at Discharge Point 002. Interim effluent limitations for copper, lead and zinc are effective June 1, 2011 through June 1, 2016. Interim limitations for chlorodibromomethane, dichlorobromomethane, and tetrachloroethylene are effective January 1, 2012 through June 1, 2016.

The TSO included milestones that initially focused on dilution studies to evaluate the appropriateness of a dilution factor to be applied to the discharges. The results of a field tracer study conducted on September 28, 2012 indicated that dilution credits were applicable to the discharge. On March 12, 2014, the Discharger proposed dilution credits. The Regional Water Board rejected most of the dilution credits on the grounds that they were beyond what

was necessary to comply with effluent limitations. The Discharger considered Regional Water Board recommendations, and proposed a set of revised dilution credits which were approved by the Regional Water Board on October 26, 2015. Further discussion of the applicable dilution credits is provided in the Fact Sheet section IV.C.2.b.

Data submitted to the Los Angeles Regional Water Board during term of R4-2010-0089-A01 and Time Schedule Order (TSO) R4-2012-0076 indicates that the discharge has resulted in violations of effluent limits or interim effluent limits as outlined in the tables below:

Table F-4. Summary of Compliance History–Discharge Point 001 (A&B)

Date	Monitoring Period	Violation Type	Pollutant	Reported Value	Limitation Value	Units
04/19/2012	1Q12	Instantaneous Maximum	pH	8.8	8.5	standard units
03/28/2013	1Q13	Instantaneous Maximum	pH	8.6	8.5	standard units
07/30/2013	3Q13	Instantaneous Maximum	pH	8.9	8.5	standard units
08/30/2014	3Q14	Monthly Average	Turbidity	16	5	NTU
10/16/2014	4Q14	Instantaneous Maximum	pH	8.7	8.5	standard units
05/14/2015	2Q15	Instantaneous Maximum	pH	8.6	8.5	standard units

Table F-5. Summary of Compliance History–Discharge Point 002

Date	Monitoring Period	Violation Type	Pollutant	Reported Value	Limitation Value	Units
01/24/2013	01Q13	Monthly Average	Chlorodibromo-methane	4.3	3.8	µg/L
02/25/2013	01Q13	Monthly Average	Chlorodibromo-methane	4.0	3.8	µg/L
02/25/2013	01Q13	Daily Maximum	Dichlorobromo-methane	3.8	2.4	µg/L
02/25/2013	01Q13	Monthly Average	Dichlorobromo-methane	3.8	2.2	µg/L
07/11/2013	3Q13	Daily Maximum	Flow	20,880	20,000	Gallons
07/30/2013	3Q13	Instantaneous Maximum	pH	9.0	8.5	standard units
10/07/2013	3Q13	Daily Maximum	Flow	36,720	20,000	Gallons
01/17/2014	1Q14	Daily Maximum	Bromoform	25	13	µg/L
01/17/2014	1Q14	Monthly Average	Bromoform	25	4.3	µg/L
01/17/2014	1Q14	Daily Maximum	Chlorodibromo-methane	11	4.7	µg/L
01/17/2014	1Q14	Monthly Average	Chlorodibromo-methane	11	3.8	µg/L
08/30/2014	3Q14	Monthly Average	Turbidity	7.0	5	NTU
10/16/2014	4Q14	Instantaneous Maximum	pH	8.8	8.5	standard units

For the violations in Tables F-4 and F-5, the Regional Water Board issued Settlement Offers R4-2013-0073, R4-2013-0143 and R4-2015-0056 on May 7, 2013, September 20, 2013, and

March 27, 2015, respectively. The Discharger agreed to these Settlement Offers and delivered to the Regional Water Board signed letters of Acceptance of Conditional Resolution and Waiver of Right to Hearing. The required mandatory minimum penalty was received by the Regional Water Board on August 12, 2013, December 12, 2013, and August 25, 2015, respectively. The violations that occurred after the 1st quarter of 2015 are currently being investigated by the Regional Water Board for appropriate action.

E. Planned Changes

The Discharger does not anticipate any changes to the Facility during the term of this Order.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

This Order serves as WDR's pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this Facility to surface waters.

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code.

C. State and Federal Laws, Regulations, Policies, and Plans

1. **Water Quality Control Plan.** 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. Requirements in this Order implement the Basin Plan. In addition, the Basin Plan implements State Water Board Resolution 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-6. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001(A&B) and 002	Pyramid Lake	Existing: Municipal and domestic supply (MUN); industrial service supply (IND); industrial process supply (PROC); agricultural supply (AGR); ground water recharge (GWR); hydropower generation (POW); water contact recreation (REC-1); non-contact water recreation (REC-2); 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. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** U.S. EPA 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, U.S. EPA 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 federal water quality criteria for priority pollutants.

3. **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 U.S. EPA 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 U.S. EPA 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.

4. **Domestic Water Quality.** In compliance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring discharges to meet maximum contaminant levels (MCLs) implemented by the Basin Plan that are designed to protect human health and ensure that water is safe for domestic use.

5. **Antidegradation Policy.** Federal regulation 40 C.F.R. 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 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California"). Resolution 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution 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 40 C.F.R. section 131.12 and State Water Board Resolution 68-16.

6. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) restrict 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.

7. **Endangered Species Act Requirements.** 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, §§ 2050 to 2097) or the federal Endangered Species Act (16 U.S.C.A. §§ 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 including protecting rare, threatened, or endangered species. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

D. Impaired Water Bodies on CWA Section 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 total maximum daily loads (TMDLs) that will specify waste load allocations (WLAs) for point sources and load allocations (LAs) for non-point sources, as appropriate.

On July 30, 2015, U.S. EPA gave final approval to the California's 2012 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 2012 303(d) list and have been scheduled for TMDL development.

The Facility discharges to Pyramid Lake. Pyramid Lake is tributary to the Santa Clara River (Reach 11) via Piru Creek. Water from Pyramid Lake also flows through the Angeles Tunnel to turn the Castaic Lake Power Plant turbines. Water releases from Castaic Lake flow south to Castaic Creek, and from there, to Reach 5 of the Santa Clara River. The 2012 303(d) list classifies Pyramid Lake as impaired for mercury. It also classifies Piru Creek (from the gaging station below Santa Felicia Dam to Headwaters) as impaired for chloride and pH. The Santa Clara River Reach 11 (Piru Creek, from the confluence with Santa Clara River Reach 4 to the gaging station below Santa Felicia Dam) is listed as impaired for boron, specific conductance, sulfates, and total dissolved solids.

The State Water Board is in the process of drafting a Statewide Mercury TMDL. The TMDL is expected to include a mercury control program for 74 listed reservoirs, including Pyramid Lake. The Pyramid Lake mercury TMDL is scheduled for completion in 2021. No TMDLs have been established for the Santa Clara River Reach 11 and Piru Creek. The Santa Clara River Reach 5 (Blue Cut gaging station to West Pier Highway 99 Bridge) (was named Santa Clara River Reach 7 on 2002 303(d) list) is listed as impaired for chloride, coliform bacteria and iron.

The following are summaries of the TMDLs that apply to the Facility:

1. **Upper Santa Clara River Watershed Chloride TMDL:** Several chloride TMDLs for the Santa Clara River have been developed and re-visited during the past decade. These TMDLs and related studies have assessed the impact of chloride on agricultural water supplies and groundwater recharge. These efforts resulted in the development of site specific objectives (SSOs) for chloride in specific regions of the watershed and plans for reducing chloride loadings.

   The TMDL history and related studies are summarized as follows:

   - Resolution No. 02-018 is the chloride TMDL for the Upper Santa Clara River that was subsequently remanded by the State Water Board.
   - Resolution No. 03-008 extended the original TMDL implementation plan to up to 13 years.
   - Resolution No. 04-004 required completion of several studies to characterize sources, fate, transport, and specific impacts of chloride, including impacts to downstream reaches and underlying groundwater basins.
   - Resolution No. 06-016 shortened the TMDL implementation time from 13 to 11 years based on findings from initial studies.

- Resolution No. 07-018 subdivided Reach 4, into 4A and 4B, at the confluence of Piru Creek and the Santa Clara River. This change was to allow for the development of more "geographically" precise SSOs for chloride.
- Resolution No. R4-2008-012 facilitated an alternative water resources management plan (AWRM). The Basin Plan amendment included SSOs for Reaches 4B, 5, and 6 of the Santa Clara River and the groundwater basins underlying those reaches.

Most recently, the Regional Water Board adopted the *Santa Clara River Chloride TMDL Revision and SSOs* through Resolution R14-010. The TMDL became effective April 28, 2015. Revisions to the TMDL included an extension of the implementation schedule, and specifications that chloride WLAs be met based on a 3-month rolling average concentration. This Order includes effluent limitations to implement the requirements of Resolution R14-010.

2. **Santa Clara River Watershed Nitrogen Compounds TMDL:** On August 7, 2003, the Regional Water Board adopted Resolution No. R03-011, which incorporated a TMDL and WLAs into the Basin Plan for ammonia and nitrate plus nitrite within the Santa Clara River at U.S. EPA Reach 7 (corresponds to Basin Plan Reach 5). The State Water Board and OAL approved the TMDL on November 19, 2003, and February 27, 2004, respectively. The U.S. EPA approved the TMDL on March 18, 2004, and it became effective on March 23, 2004. This Order includes effluent limitations that implement the requirements of Resolution No. R03-011.

3. **Santa Clara River Bacteria TMDL:** The Regional Water Board adopted the *Santa Clara River Bacteria TMDL,* Resolution No. R10-006, on July 8, 2010, which became effective on March 21, 2012. The TMDL identifies urban storm water runoff as a significant source of bacteria in the Santa Clara River. However, all sources are considered potential sources and are assigned allocations accordingly. The allocations for permittees other than the MS4 are described as follows.

   "General NPDES permits, individual NPDES permits, the Statewide Industrial Stormwater General Permit, the Statewide Construction Activity Stormwater General Permit, and the Statewide Stormwater Permit for Caltrans Activities are assigned WLAs of zero (0) allowable exceedance days of the single sample targets for both dry and wet weather and no exceedances of the geometric mean targets. Compliance with an effluent limit based on the bacteria water quality objectives will be used to demonstrate compliance with the WLA."

   This Order includes effluent limitations consistent with the TMDL requirements of Resolution No. R10-006.

E. 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: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. 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, TSS, and turbidity are pollutants of concern associated with backwash water and source water. Chloride, nutrients, and bacteria, are pollutants of concern as TMDLs for these constituents have been adopted into the Basin Plan and are applicable to the discharge. 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. 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. Since the water system is chlorinated, there is the potential for residual chlorine to be present in the discharge of backwash water at Discharge Point 002. Furthermore, the previous Order identified copper, mercury, asbestos, and TCDD equivalents as pollutants of concern at Discharge Point 001 (A&B); and copper, lead, zinc, TCDD equivalents, bromoform, chlorodibromomethane, dicholorobromomethane, and tetrachloroethylene as pollutants of concern at Discharge Point 002. These parameters remain pollutants of concern.

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 that are regulated by NPDES permits.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and U.S. EPA permit regulations at 40 C.F.R. section 122.44 requires 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 40 C.F.R. section 122.23 (NPDES Permit Regulations) and 40 C.F.R. section 125.3 (Best Professional Judgment (BPJ)).

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 existing performance by well-operated facilities 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, fecal coliform, pH, and oil and grease. The BCT standard is established after considering a two-part reasonableness test. The first test compares the relationship between the

costs of attaining a reduction in effluent discharge and the resulting benefits. The second test examines the cost and level of reduction of pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources. Effluent limitations must be reasonable under both tests.

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 U.S. EPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and 40 C.F.R. section 125.3 authorize the use of 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 Regional Water Board must consider specific factors outlined in 40 C.F.R. section 125.3.

2. Applicable Technology-Based Effluent Limitations

This Order includes technology-based effluent limitations based on BPJ in accordance with 40 C.F.R. section 125.3. Hydroelectric power generation is not currently regulated under effluent limit guidelines. As such, BPJ is used to develop technology-based limits for the control of some pollutants. The technology-based effluent limitation represents the level achievable through BPT and BAT. In setting these limitations, the Regional Water Board considered the factors listed in 40 C.F.R. section 125.3(d)(1) and 125.3(d)(3), respectively. Technology-based effluent limitations for BOD, oil and grease, settleable solids, and turbidity were included in Order No. R4-2010-0089 and its amendment, Order No. R4-2010-0089-A01. The Discharger's past performance demonstrates the ability to meet the effluent limitations for BOD, oil and grease, settleable solids, and turbidity (with applicable intake water credits) established in Order No. R4-2010-0089-A01 with only a few exceptions. As the current technology used by the Discharger is capable of meeting the limitations, no changes to equipment, facilities, process, or controls are necessary, thereby the Facility will incur no additional costs or non-water quality environmental impacts. Therefore, this Order retains effluent limitations for these pollutants as technology-based effluent limitations. The limitations for these pollutants are consistent with technology-based limitations included in other Orders within the region for similar types of discharges.

a. **Effluent Limitations for Turbidity Based on Intake Water Credits**. Order No. R4-2010-0089-A01 contained effluent limitations for turbidity that are retained in this Order. Prior to issuance of Order R4-2010-0089, 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. The Discharger supplied information on intake water and effluent turbidity that demonstrated many instances where intake water turbidity was greater than or equal to effluent turbidity.

Turbidity in the intake water and effluent was re-evaluated for this Order. Since issuance of Order R4-2010-0089, events where intake water credits were applicable are presented in the Table F-7.

The criteria for applying intake water credit are specified in 40 CFR section 122.45 (g) and the discharges from the Facility comply with the criteria. The Discharger does not employ treatment technologies for cooling water discharges. 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 section 122.45(g). As such, this Order retains intake credits for turbidity at Discharge Points 001 (A&B) and 002.

Table F-7. Instances Where Intake Credits Apply[1]

Sample Date	Parameter	Units	Intake Concentration	Effluent Concentration
Monitoring Location EFF-001				
4/21/2011	Turbidity	NTU	9.7	8.6
6/23/2011	Turbidity	NTU	10	9.5
7/21/2011	Turbidity	NTU	8.2	7.9
Monitoring Location EFF-002				
07/31/2011	Turbidity	NTU	8.2	8.1

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 and the average monthly effluent limitation (AMEL).

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

CWA Section 301(b) and 40 C.F.R. 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) of 40 C.F.R. requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) U.S. EPA 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 beneficial 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.

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 the receiving water 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 the receiving water (Pyramid Lake). The CTR contains both saltwater and freshwater criteria. Because a distinct separation generally does not exist between freshwater and saltwater aquatic communities, and 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 Regional Water Board has determined that freshwater conditions exist in Pyramid Lake and as such, freshwater criteria apply. The receiving water has a beneficial use of MUN, the criteria for human health based on consumption of water and organisms are applicable. Therefore, the most stringent CTR criteria among the freshwater criteria, human health criteria based on consumption of organisms, and human health criteria based on consumption of water and organisms, are used to prescribe the effluent limitations in this Order to protect the beneficial uses of Pyramid Lake, a water of the United States in the vicinity of the discharge.

The Basin Plan Chapter 3 includes water quality objectives for chemical constituents incorporated by reference, drinking water primary MCLs as numeric objectives protective of the MUN beneficial use. As such, the drinking water MCLs from Title 22 of the California Code of Regulations are included in the Reasonable Potential Analysis (RPA).

Some water quality criteria are hardness dependent. The Discharger provided hardness data for the receiving water. The median receiving water hardness, based on representative data collected during the terms of Order R4-2010-0089 and Order R4-2010-0089-A01 was 102 mg/L (as $CaCO_3$), which is the value used to conduct the RPA for this Order.

Table F-8 summarizes the applicable water quality criteria/objectives for priority pollutants either having effluent limitations in the existing permit or reported in detectable concentrations in the effluent or receiving water based on data submitted to the Regional Water Board during the terms of Order R4-2010-0089 and Order R4-2010-0089-A01. These criteria were used in conducting the RPA for this Order.

Table F-8. Applicable Water Quality Criteria – Discharge Points 001 (A/B) and 002

CTR No.	Constituent	Selected Criteria	CTR/NTR Water Quality Criteria				California Primary MCLs
			Freshwater		Human Health for Consumption of:		
			Acute	Chronic	Water & Organisms	Organisms Only	
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
2	Arsenic, Total Recoverable	10	340	150	--	--	10
5a	Chromium (III)	210	1,765	210	--	Narrative	--
5b	Chromium (VI)	11	16	11	--	Narrative	50[1]
6	Copper, Total Recoverable	9.5	14	9.5	1,300	--	1,300
7	Lead, Total Recoverable	3.3	84	3.3	Narrative	Narrative	15
8	Mercury, Total Recoverable	0.050	--	--	0.050	0.051	2.0
9	Nickel, Total Recoverable	53	477	53	610	4600	100
10	Selenium, Total Recoverable	5.0	20	5.0	Narrative	Narrative	50

CTR No.	Constituent	Selected Criteria	CTR/NTR Water Quality Criteria				California Primary MCLs
			Freshwater		Human Health for Consumption of:		
			Acute	Chronic	Water & Organisms	Organisms Only	
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
13	Zinc, Total Recoverable	121	121	121	--	--	--
15	Asbestos (fibers/L)	7.0×10^{6}	--	--	7.0×10^{6}	--	7.0×10^{6}
16	2,3,7,8-TCDD (dioxin)	1.3×10^{-8}	--	--	1.3×10^{-8}	1.4×10^{-8}	0.00003
	TCDD Equivalents	1.3×10^{-8}	--	--	1.3×10^{-8}	1.4×10^{-8}	--
20	Bromoform	4.3	--	--	4.3	360	80[2]
22	Chlorobenzene	70	--	--	680	21000	70
23	Chlorodibromomethane	0.41	--	--	0.41	34	80[2]
26	Chloroform	80	--	--	--	--	80[2]
27	Dichlorobromomethane	0.56	--	--	0.56	46	80[2]
38	Tetrachloroethylene	0.80	--	--	0.80	8.85	5.0
43	Trichloroethylene	2.7	--	--	2.7	81	5.0
68	Bis(2-Ethylhexyl)-Phthalate	1.8	--	--	1.8	5.9	4.0
79	Diethyl Phthalate	23,000	--	--	23,000	120000	--

1. Primary MCL is for total chromium.
2. The primary MCL is for total trihalomethanes (sum of bromoform, bromodichloromethane, chloroform and dibromochloromethane).

a. **Numeric criterion for TCDD equivalents**

The CTR establishes a numeric water quality objective for 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD) of 1.4×10^{-8} µg/L for the protection of human health, when aquatic organisms are consumed. 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. 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 have 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 of 1.4×10^{-8} µg/L.

The Bioequivalence Factors (BEF) included in the Order R4-2010-0089-A01 were taken from the Great Lakes System approach that was adopted by U.S. EPA in

1995. The BEFs actually account for the different levels of bioaccumulation potential of each congener in the receiving water. These BEFs were used in the absence of site-specific BEFs. After review by USEPA, staff was informed that there are no site specific studies to justify the use of these factors broadly throughout California. Hence, in cases where there are no site specific studies we are not permitted to use them. Therefore, as these permits are renewed, the BEF factors are being removed.

b. **Mixing Zone/Applicable Dilution Credits.**

The State Implementation Policy (SIP) allows the Regional Water Board to grant mixing zones and dilution credits to dischargers in establishing effluent limitations. The SIP specifies the methodology using critical flow conditions for the determination of dilution ratios. It is the Regional Water Board's discretion whether to allow a mixing zone. The SIP, in part, states that mixing zones shall not:

i. Compromise the integrity of the entire water body.

ii. Cause acutely toxic conditions to aquatic life passing through the mixing zone.

iii. Restrict passage of aquatic life.

iv. Adversely impact biologically sensitive or critical habitats, including but not limited to, habitat of species listed under federal or state endangered species laws.

v. Dominate the receiving water body.

vi. Overlap a mixing zone from a different outfall.

The SIP also states that in no case shall the Regional Water Board grant a dilution credit that is greater than the calculated dilution ratio (the critical receiving water flow divided by the effluent flow).

Pursuant to Time Schedule Order No. R4-2012-0076, on September 28, 2012, a field tracer study was conducted during a controlled discharge event including discharges from EFF-001 (cooling water), EFF-002 (sump water), with the Facility in operational mode. The Discharger determined that the CORMIX model effectively simulated the dilution ratio recorded during the field tracer study and mixing conditions at certain distances downstream of the discharge. The study demonstrated that dilution credits are applicable to the discharges. A Mixing Zone Study report was submitted to the Regional Water Board as required by the TSO on May 30, 2013.

On March 12, 2014, the Discharger proposed the dilution credits based on the procedures included in the SIP and requested that these dilution credits be used to calculate the final effluent limitations for copper, lead, zinc, bromoform, chlorodibromomethane, dichlorobromomethane, and tetrachloroethylene. The Regional Water Board evaluated the request to determine the minimum appropriate dilution that would allow the discharge to comply with the final effluent limitations and ensure protection of the beneficial uses of the receiving water.

After reviewing the proposed dilution credits and monitoring data, the Regional Water Board determined that the 8.2 dilution ratio calculated using the SIP procedures is appropriate for acute aquatic life criteria but that the calculated dilution ratios – 28.2 for chronic aquatic life criteria and 79 for human health criteria - exceeded the ratios which were necessary for the discharges to meet the final effluent limitations.

In the subsequent September 4, 2015 letter, as per Regional Water Board recommendation, the Discharger requested an 8.2 dilution credit be applied to both acute and chronic aquatic life criteria for copper, lead and zinc. In addition, for bromoform, chlorodibromomethane, dichlorobromomethane, and tetrachloroethylene the Discharger proposed dilution credits using the projected or estimated effluent concentration allowances (ECAs) that were based on the monitoring data reported during the permit term of Order R4-2010-0089 and its amendment. The proposed dilution credits for these four constituents are less than those determined by the SIP procedures. The application of these dilution credits will ensure protection of the beneficial uses of the Pyramid Lake.

On October 26, 2015, the Regional Water Board approved the dilution credits in Table F-9. These approved dilution credits are chemical and outfall specific and are not applicable to other pollutants in the permit. The approved dilution credits are equal to or less than the calculated available dilution credits derived from the SIP procedure; therefore, the resultant final effluent limitations are protective of the receiving water beneficial uses.

Table F-9. Summary of Approved Dilution Credits for William E. Warner Power Plant

Constituent	Dilution Credit	Applicable to
Discharge Point 001 (A&B)		
Copper	8.2	Acute and chronic aquatic life criteria
Discharge Point 002		
Copper	8.2	Acute and chronic aquatic life criteria
Lead	8.2	Acute and chronic aquatic life criteria
Zinc	8.2	Acute and chronic aquatic life criteria
Bromoform	0.9	Human health criteria
Chlorodibromomethane	39.7	Human health criteria
Dichlorobromomethane	8.6	Human health criteria
Tetrachloroethylene	2.3	Human health criteria

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.

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.

RPAs were performed for Discharge Points 001(A&B) and 002 using data collected by the Discharger from July 2010 through December 2015. Based on the RPA for Discharge Point 001 (A&B), copper and mercury demonstrated reasonable potential to exceed applicable water quality criteria. Based on the RPA for Discharge Point 002, copper, lead, mercury, zinc, bromoform, chlorodibromomethane, dichlorobromomethane, and tetrachloroethylene demonstrated reasonable potential to exceed applicable water quality criteria.

Table F-10. Summary of Reasonable Potential Analysis – Discharge Point 001(A&B)

CTR No.	Constituent	Applicable Water Quality Criteria (µg/L)	Maximum Effluent Concentration (µg/L)	Maximum Detected Receiving Water Concentration (µg/L)	RPA Result – Need Limitation?	Reason
2	Arsenic, Total Recoverable	10	6.6	6.7	No	MEC<C; B<C
5a	Chromium (III)	210	0.66	0.71	No	MEC<C; B<C
5b	Chromium (VI)	11	1.8	1.6	No	MEC<C; B<C
6	Copper, Total Recoverable	9.5	27	4.4	Yes	MEC≥C
7	Lead, Total Recoverable	3.3	1.6	0.78	No	MEC<C; B<C
8	Mercury, Total Recoverable	0.050	0.063	<0.0039	Yes	MEC≥C
9	Nickel, Total Recoverable	53	2.2	8.9	No	MEC<C; B<C
10	Selenium, Total Recoverable	5.0	0.59	0.63	No	MEC<C; B<C
13	Zinc, Total Recoverable	121	53	12	No	MEC<C; B<C
15	Asbestos (fibers/L)	7.0	<0.2	<0.2	No	MEC<C; B<C
--	TCDD Equivalents	1.3×10^{-8}	DNQ [1]	DNQ [1]	No	MEC<C; B<C
43	Trichloroethylene	2.7	0.64	<0.18	No	MEC<C; B<C
68	Bis(2-Ethylhexyl)-Phthalate	1.8	5.9[2]	<2.3	No	MEC<C; B<C

1. All measured values of individual congeners were non-dectect (ND) or below the respective minimum levels (reported as DNQs, Detected, but Not Quantified). According to the reporting protocol for TCDD equivalents in Order R4-2010-0089, the calculated TCDD equivalents value shall be reported as zero (0).
2. The Facility does not have potential sources for this pollutant. This is the only detected result in the past six years and it may be caused by sample contamination. It was excluded from the data set used for the evaluation of reasonable potential. However, monthly monitoring for this pollutant is required in the permit.

Table F-11. Summary of Reasonable Potential Analysis– Discharge Point 002

CTR No.	Constituent	Applicable Water Quality Criteria (µg/L)	Maximum Effluent Concentration (µg/L)	Maximum Detected Receiving Water Concentration (µg/L)	RPA Result – Need Limitation?	Reason
2	Arsenic, Total Recoverable	10	6.2	6.7	No	MEC<C; B<C
5a	Chromium (III)	210	0.94	0.71	No	MEC<C; B<C
5b	Chromium (VI)	11	0.94	1.6	No	MEC<C; B<C
6	Copper, Total Recoverable	9.5	840	4.4	Yes	MEC≥C
7	Lead, Total Recoverable	3.3	12	0.78	Yes	MEC≥C
8	Mercury, Total Recoverable	0.050	0.051	<0.0039	Yes	MEC≥C
9	Nickel, Total Recoverable	53	3.7	8.9	No	MEC<C; B<C
10	Selenium, Total Recoverable	5.0	0.58	0.63	No	MEC<C; B<C
13	Zinc, Total Recoverable	121	450	12	Yes	MEC≥C
15	Asbestos (fibers/L)	7.0	<0.2	<0.2	No	MEC<C; B<C
--	TCDD Equivalents	1.3×10^{-8}	DNQ [1]	DNQ [1]	No	MEC<C; B<C
20	Bromoform	4.3	25	<0.17	Yes	MEC≥C
22	Chlorobenzene	70	0.06	<0.15	No	MEC<C; B<C
23	Chlorodibromo-methane	0.41	11	<0.19	Yes	MEC≥C
26	Chloroform	80	3.2	<0.12	No	MEC<C; B<C
27	Dichlorobromo-methane	0.56	3.8	<0.09	Yes	MEC≥C
38	Tetrachloro-	0.80	26	<0.18	Yes	MEC≥C

CTR No.	Constituent	Applicable Water Quality Criteria (µg/L)	Maximum Effluent Concentration (µg/L)	Maximum Detected Receiving Water Concentration (µg/L)	RPA Result – Need Limitation?	Reason
	ethylene					
43	Trichloroethylene	2.7	0.98	<0.18	No	MEC<C; B<C
68	Bis(2-Ethylhexyl)-Phthalate	1.8	79 [2]	<2.3	No	MEC<C; B<C
79	Diethyl Phthalate	23,000	5.7	<0.15	No	MEC<C; B<C

1. All measured values of individual congeners were non-dectect (ND) or below the respective minimum levels (reported as DNQs, Detected, but Not Quantified). According to the reporting protocol for TCDD equivalents in Order R4-2010-0089, the calculated TCDD equivalents value shall be reported as zero (0).
2. The Facility does not have potential sources for this pollutant. This is the only detected result in the past six years and it may be caused by sample contamination. It was excluded from the data set used for the evaluation of reasonable potential. However, monthly monitoring for this pollutant is required in the permit.

4. WQBEL Calculations

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 the WLA established as part of a 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. Based on the RPA for Discharge Point 001 (A&B), copper and mercury demonstrated reasonable potential to cause or contribute to an exceedance of water quality objectives. The RPA for Discharge Point 002 identified reasonable potential for copper, lead, mercury, zinc, bromoform, chlorodibromomethane, dichlorobromomethane, and tetrachloroethylene.

c. The approved dilution credits are presented in Table F-9. These approved dilution credits are chemical and outfall specific and are not applicable to other pollutants in the permit.

WQBELs Calculation Example

Using copper at Discharge Point 001 (A&B) as an example, the following demonstrates how WQBELs were established for this Order.

The process for developing effluent limitations is in accordance with section 1.4 of the SIP. Two sets of WQBEL values are calculated separately, one set for the protection of aquatic life and the other for the protection of human health. The MDELs and AMELs for aquatic life and human health are compared; and the most restrictive MDEL and AMEL are selected as the WQBELs.

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. The hardness used for this RPA was 102 mg/L as $CaCO_3$.

D = The dilution credit, and

B = The ambient background concentration

For copper, the dilution credit for the protection of aquatic life is 8.2 (see section IV.C.2.b). For the protection of aquatic life, B is set equal to the maximum background concentration. The ECAs for the acute and chronic aquatic life criteria are:

ECA_{acute} = 14.26 µg/L + 8.2(14.26 - 4.4) = 95.11

$ECA_{chronic}$ = 9.49 µg/L+ 8.2(9.49 - 4.4) = 51.23

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} x $Multiplier_{acute99}$

$LTA_{chronic}$ = $ECA_{chronic}$ x $Multiplier_{chronic99}$

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 were used to develop the acute and chronic LTAs 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$_{acute}$	ECA Multiplier$_{chronic}$
67	1.10	0.188	0.346

LTAacute = 95.11 µg/L x 0.188 = 17.88 µg/L

LTAchronic = 51.23 µg/L x 0.346 = 17.73 µg/L

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

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

$LTA_{chronic}$ = 17.73 µg/L

Step 4: Calculate the WQBELs by multiplying the LTA by a factor (multiplier). WQBELs are expressed as AMEL and 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 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.

$AMEL_{aquatic\ life} = LTA \times AMEL_{multiplier95}$

$MDEL_{aquatic\ life} = LTA \times MDEL_{multiplier99}$

AMEL multipliers are based on a 95th percentile occurrence probability, and the MDEL multipliers are based on a 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 were used to develop the AMEL and MDEL for effluent limitations using equations provided in section 1.4, Step 5 of the SIP:

No. of Samples Per Month	CV	$Multiplier_{MDEL99}$	$Multiplier_{AMEL95}$
4	1.10	5.32	2.04

For copper:

AMEL = 17.73 µg/L x 2.04 = 36.17 µg/L

MDEL = 17.73 µg/L x 5.32 = 94.32 µg/L

Calculation of human health AMEL and MDEL for Copper:

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, human health criterion for consumption of water and organisms is 1300 µg/L. Therefore, for copper:

$AMEL_{human\ health}$ = 1300 µg/L

Note that no dilution credit has been granted for human health criteria for copper. The approved dilution credit is only applicable to acute and chronic aquatic life criteria.

Step 6: Calculate the MDEL for human health by multiplying the AMEL by the ratio of $Multiplier_{MDEL}$ 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,

$MDEL_{human\ health}$ = 1300 µg/L x 2.61 µg/L = 3395 µg/L

Step 7: Select the lower of the AMEL and MDEL based on aquatic life and human health as the WQBEL for the Order. Therefore, the final WQBELs for copper are as follows:

Final WQBELs for Copper:

$AMEL_{copper}$ = 36 µg/L

$MDEL_{copper}$ = 94 µg/L

d. **Effluent Limitations Based on Intake Water Credits.** Intake water credits for WQBELs are addressed in the SIP. Section 1.4.4 of the SIP enumerates 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 U.S. EPA;

(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 mercury and turbidity at Discharge Point 001 (A&B) and turbidity at Discharge Point 002, intake water concentrations may be contributing to effluent concentrations that are higher than the prescribed 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-12. A discussion of the evaluation of each constituent with respect to the conditions is discussed below:

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-12).

Condition (2). There are no TMDLs in effect for Pyramid Lake although mercury in Pyramid Lake will be addressed through a TMDL scheduled for completion in 2021 (see Fact Sheet section III.D).

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).

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.

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 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.

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 or the concentration of the pollutant in the intake water. As a result, this Order includes intake water credits as specified in sections IV.A and B of this Order for mercury and turbidity at Discharge Points 001(A&B) and 002. During the comment period, the Discharger indicated that chloride data reported during the past five years at a point in the State Water Project conveyance approximately 15 miles upstream of the Facility exceeded the chloride effluent limitation of 100 mg/L in several instances. The variability in the chloride concentration in the intake water (State Water Project water) was referenced in the Upper Santa Clara River TMDL Reconsideration Final Staff Report (August 2006). The Discharger also indicated that there are no potential sources for nitrate plus nitrite and *E. coli* from the operations at the Facility. The intake water is the only source for these pollutants. After reviewing the information submitted by the Discharger, Regional Board determined that the criteria for applying intake water credit for chloride, nitrate plus nitrite, and *E. coli* as specified in 40 C.F.R. section 122.45(g) has been satisfied. Therefore, this Order includes intake water credit for chloride, nitrate plus nitrite, and *E. coli*.

Table F-12. Summary of Intake Water Credit Evaluation[1]

Parameter	Applicable Water Quality Criteria (C) or Effluent Limitation	Max Effluent Conc. (MEC)	Max Detected Intake Conc. (B)	Intake Water Credits Applicable?	Reason
Discharge Point 001 (A&B)					
Mercury (µg/L)	0.050	0.063	0.061	Yes	Meets criteria (1) through (4) in SIP

Parameter	Applicable Water Quality Criteria (C) or Effluent Limitation	Max Effluent Conc. (MEC)	Max Detected Intake Conc. (B)	Intake Water Credits Applicable?	Reason
Turbidity (NTU)	5 (AMEL), 25 (MDEL)	16	19	Yes	Meets criteria (1) through (4) in SIP
Discharge Point 002					
Mercury (µg/L)	0.050	0.051	0.061	Yes	Meets criteria (1) through (4) in SIP
Turbidity (NTU)	5 (AMEL), 25 (MDEL)	25	19	Yes	Meets criteria (1) through (4) in SIP

5. WQBELs Based on Basin Plan Objectives

Table F-13. Applicable Basin Plan Numeric Water Quality Objectives

Constituent	Units	Water Quality Objectives
pH	standard units	The pH of inland surface waters must be between 6.5 and 8.5 at all times and ambient pH shall not be changed more than 0.5 units from natural conditions.
Ammonia[1]	mg/L	1-hr. average concentration mg/L= 5.2 mg/L. 30-day average concentration (mg/L) = 1.75 mg/L
Bacteria[2]	MPN/100 ml	Geometric Mean *E. coli* density shall not exceed 126/100 ml Single Sample Limits *E. coli* density shall not exceed 235/100 ml.
Boron	mg/L	1.5 (Reach 5 of Santa Clara River)
Chloride	mg/L	100[3]
Chlorine, Total Residual	mg/L	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.
Dissolved Oxygen	mg/L	The dissolved oxygen content of all surface waters designated as COLD shall not be depressed below 6 mg/L as a result of waste discharges.
Nitrate + Nitrite (as Nitrogen) [1]	mg/L	6.8 (Reach 5)
Sodium Adsorption Ratio (SAR)	mg/L	10 (Reach 5)
Sulfate	mg/L	400
Total Dissolved Solids	mg/L	1000 (Reach 5)
Temperature	ºF	For waters designated COLD, water temperature shall not be altered by more than 5º F above the natural temperature.

Constituent	Units	Water Quality Objectives
Turbidity	NTU	The secondary drinking water standard for turbidity is 5 NTU (nephelometric turbidity units). Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases in natural turbidity attributable to controllable water quality factors shall not exceed the following limits: • Where natural turbidity is between 0 and 50 NTU, increases shall not exceed 20%. • Where natural turbidity is greater than 50 NTU, increases shall not exceed 10%. Allowable zones of dilution within which higher concentrations may be tolerated may be defined for each discharge in specific Waste Discharge Requirements

1. Based on *Santa Clara River Nitrogen Compounds TMDL*, Resolution No. R03-011.
2. Based on the *Santa Clara River Bacteria TMDL*, Resolution No. R10-006.
3. Based on the *Santa Clara River Chloride TMDL Revision & SSOs*, Resolution No. R14-010.

a. **pH.** This Order includes effluent and receiving water limitations for pH to ensure compliance with Basin Plan Objectives for pH.

b. **Ammonia.** Effluent limitations for ammonia are based on WLAs for Reach 7 (corresponded to Regional Board Reach 5) in the *Santa Clara River Nitrogen Compounds TMDL*, Resolution No. 03-011. The MDEL is set equal to the 1-hour average concentration WLA. The AMEL is set equal to the 30-day average concentration WLA.

c. **Boron.** Normally, the water from Pyramid Lake flows through the Angeles Tunnel to the Castaic Lake. During summer months, the water from Pyramid Lake may be released to support flows in Piru Creek. Piru Creek is a part of Reach 11 of the Santa Clara River that is listed as impaired for boron. This Order requires effluent and receiving water monitoring for boron to assess the potential contributions to Reach 11.

d. **Bacteria.** Effluent limitations, based on the WLAs specified in the *Santa Clara River Bacteria TMDL,* are included in this Order for Discharge Points 001 (A&B) and 002.

e. **Chloride.** The discharge from the Facility is classified as a Major discharge by U.S. EPA and the Regional Water Board. Based on the most recent TMDL revision (Resolution No. R4-2014-010) the WLA for "*Other NPDES dischargers*" is equal to 100 mg/L as a 3-month rolling average. This Order establishes an effluent limitation for chloride at Discharge Points 001 (A&B) and 002 equal to 100 mg/L. Additionally, this Order establishes monitoring and reporting requirements to evaluate the limitation as a 3-month rolling average.

f. **Chlorine, Total Residual.** Order No. R4-2010-0089-A01 contained an MDEL at Discharge Point 002 for total residual chlorine equal to 0.1 mg/L. Backwash from chlorinated water within the water treatment system is a component of Discharge Point 002, therefore, the chlorine limitation is retained in this Order. Effluent limitations at Discharge Point 001 (A&B) are not required as there are no chlorine contributions to this waste stream.

g. **Dissolved Oxygen.** Order R4-2010-0089-A01 included effluent limitations for dissolved oxygen at Discharge Points 001(A&B) and 002 equal to a minimum concentration of 5.0 mg/L and a requirement that the 3-month median saturation must be above 80%. Since the sampling of effluents occurs inside the Facility, the

effluent monitoring data for DO will not adequately reflect the effect of aeration that occurs when the discharges flow down to the receiving water surface, approximately 8 feet below the discharge points. The reported monitoring data demonstrated that the DO effluent limitation of 5 mg/L as a minimum value in the existing permit is adequate to ensure the protection of the COLD beneficial use in the receiving water which requires a 6.0 mg/L water quality objective be met in the receiving water. Therefore, the minimum DO concentration of 5.0 mg/L in the effluent for both discharge points has been retained in this Order. To be consistent with the dissolved oxygen objective for surface waters designated as COLD in the Basin Plan, the receiving water limitation has been changed from the minimum concentration of 5.0 mg/L in Order R4-2010-0089-A01 to 6.0 mg/L in this Order. However, the 3-month median saturation limit of 80% for the dissolved oxygen was removed from this Order because it is no longer a requirement in the Basin Plan.

h. **Nitrate plus Nitrite (as N).** This Order includes an AMEL for nitrate plus nitrite (as N) equal to 6.8 mg/L. The limitation is based on the WLA included in the *Santa Clara River Nitrogen Compounds TMDL*, Resolution No. 003-011.

i. **SAR.** In order to evaluate discharges with respect to the Basin Plan Objectives, this Order includes new monitoring requirements for SAR components (calcium, sodium, and magnesium) and requires the Discharger to calculate and report SAR at Monitoring Locations EFF-001 and EFF-002, as described in the Monitoring and Reporting Program (Attachment E).

j. **Sulfate.** No effluent data for sulfate were available for comparison with Basin Plan Objective. This Order includes new requirements to monitor effluent and receiving water for sulfate.

k. **Total Dissolved Solids (TDS).** No effluent data for total dissolved solids were available for the term of Order R4-2010-0089 and its amendment. This Order includes effluent and receiving water monitoring requirements for total dissolved solids for future evaluation of compliance with Basin Plan Objectives.

l. **Iron.** The Santa Clara River Reach 5 is listed as impaired for iron. This Order includes effluent and receiving water monitoring to assess the Facility's potential to contribute to iron in the receiving water.

m. **Temperature.** The existing Order includes an instantaneous effluent temperature limitation of 86°F based on the Thermal Plan and a white paper titled *Temperature and Dissolved Oxygen Impacts on Biota in Tidal Estuaries and Enclosed Bays in the Los Angeles Region*. This effluent limitation is retained to prevent backsliding. The once-through cooling water comprises less than two tenths 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.

n. **Total Suspended Solids (TSS).** The Basin Plan requires that, "Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses." This narrative objective has been translated into a numeric effluent limit, based on U.S. EPA's *Quality Criteria for Water* (commonly known as the "Gold Book"). In the Gold Book, U.S. EPA notes that "[i]n a study downstream from a discharge where inert suspended solids were increased to 80 mg/L, the density of macroinvertebrates decreased by 60 percent…". This indicates that suspended solids concentrations of 80 mg/L in the receiving water resulted in adverse effects to aquatic life. As such, the Regional Water Board has implemented

effluent limitations of 50 mg/L (AMEL) and 75 mg/L (MDEL) for the implementation of the narrative water quality objective for solids at Discharge Points 001(A&B) and 002. These limitations are consistent with the limitations in Order No. R4-2010-0089-A01 and are retained as the technology-based effluent limitations.

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 responses include, but are 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.

Order R4-2010-0089 and R4-2010-0089-A01 contained 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. During the period of July 3, 2010 through December 17, 2015, effluent acute toxicity monitoring results were between 93% and 100% survival for all of the annual sample events at Discharge Point 001 (A&B). Acute toxicity results from annual samples at Discharge Point 002 during this period ranged from 93% to 100% survival. Chronic toxicity was monitored in the effluent during this time as well. The chronic toxicity results for both Discharge Point 001 (A&B) and 002 were all reported as 1 TUc.

Chronic toxicity is a more stringent requirement than acute toxicity. A chemical at a low concentration can have chronic effects but no acute effects. This Order addresses both acute and chronic toxicity in the discharge through inclusion of a chronic toxicity monthly median effluent limitation and a maximum daily effluent limitation.

In 2010, USEPA endorsed the peer-reviewed Test of Significant Toxicity (TST) approach in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010) as an improved statistical testing tool to evaluate data from USEPA's toxicity test methods. The TST statistical testing approach more reliably identifies toxicity—in relation to the chronic (0.25 or more) and acute (0.20 or more) mean responses of regulatory management concern—than the current no observed effect concentration (NOEC) statistical testing approach. TST results are also more transparent than the point estimate model approach used for acute toxicity that is not designed to address the question of statistical uncertainty around the modeled toxicity test result in relation to the effect level of concern. The TST is the superior approach for addressing statistical uncertainty when used in combination with U.S. EPA's toxicity test methods and is implemented in federal permits issued by U.S. EPA Region 9.

The TST's null hypothesis for chronic toxicity is:

H_0: Mean response (In-stream Waste Concentration (IWC) in % effluent) ≤ 0.75 mean response (Control).

Results obtained from a single-concentration chronic toxicity test are analyzed using the TST statistical approach and an acceptable level of chronic toxicity is demonstrated by rejecting the null hypothesis and reporting "Pass" or "P". Since no dilution credit is allowed for the chronic toxicity testing, the chronic toxicity IWCs for Discharge Points 001(A&B) and 002 are 100 percent effluent.

This Order implements the SIP chronic toxicity requirements, which in Section 4 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 nature and quantity of the discharge is such that effluent toxicity limitations continue to be appropriate. The flow from Discharge Point 001 (A&B) is greater than 1 MGD, such that any toxicity in the discharges could result in widespread impacts. In addition, the Facility employs chlorination, which could result in chlorine being present in the filter backwash discharged through Discharge Point 002. Chlorine can be extremely toxic to aquatic life. Since a chronic WET test is 1) capable of measuring both sublethal and lethal effects and it is 2) more stringent than the acute WET test, a chronic toxicity effluent limitation is imposed in this permit to replace the acute toxicity effluent limitation. The final effluent limitations for chronic toxicity at Discharge Points 001(A&B) and 002 will be implemented using current U.S. EPA guidance in its 2010 *TST Guidance and Toxicity Training Tool*. The chronic toxicity effluent limitation is expressed as "Pass" or "Fail" for the median monthly summary results and "Pass" or "Fail" and "Percent Effect" for each individual chronic toxicity result.

D. Final Effluent Limitation Considerations

This Order includes effluent limitations at Discharge Point 001 (A&B) for copper and mercury based on the reasonable potential analysis. This Order includes effluent limitations at Discharge Point 002 for copper, lead, zinc, bromoform, chlorodibromomethane, dichlorobromomethane, and tetrachloroethylene based on the reasonable potential analysis. This Order includes new effluent limitations at Discharge Point 001 (A&B) and 002 for *E. coli*, ammonia, nitrate plus nitrite (as N), and chloride in order to implement requirements of TMDLs. In addition, this Order replaces acute toxicity limitations at Discharge Points 001 (A&B) and 002 in Order R4-2010-0089-A01 with more stringent chronic toxicity limitations. Furthermore, the effluent limitations for dissolved oxygen are revised to reflect current Basin Plan Objectives for waters designated as COLD which is more stringent than the limits included in the previous permit.

1. Anti-Backsliding Requirements

Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. 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. All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, with some exceptions.

This Order contains less stringent effluent limitations for copper at Discharge Point 001 (A&B) and copper, lead, zinc, bromoform, chlorodibromomethane, dichlorobromomethane, and tetrachloroethylene at Discharge Point 002. These effluent limitations are less stringent than in Order R4-2010-0089-A01 as the result of applying a dilution credit in calculating the effluent limitations. The application of dilution credits is

based on new information that was not available at the time Order R4-2010-0089 or Order R4-2010-0089-A01 were issued and would have justified the application of less strigent effluent limitations when those orders were issued. As previously discussed, pursuant to Time Schedule Order R4-2012-0076, issued on September 28, 2012, a field tracer study was conducted during a controlled discharge event including discharges from EFF-001 (cooling water), EFF-002 (sump water), with the Facility in operational mode. On October 26, 2015, the Regional Water Board approved the dilution credits in Table F-9. Thus, modification of the effluent limitations for these pollutants is in accordance with CWA section 402(o)(2)(B)(i) and 40 C.F.R. section 122.44(l)(2)(i)(B)(1), which allows for less stringent effluent limitations based on information that was not available at the time of permit issuance.

CWA section 303(d)(4)(B) also allows for backsliding of a WQBEL in an attainment water when the action is consistent with the state's anti-degradation policy. As discussed in the Fact Sheet section IV.C.2.b, the approved dilution credits are equal to or less than the calculated available dilution credits derived from the SIP procedure and the resultant final effluent limitations are protective of the receiving water beneficial uses. The modified effluent limitations are as stringent as necessary to ensure that water quality objectives are met at the edge of the mixing zone, thus there will be no lowering of water quality.

This Order no longer includes effluent limitations for asbestos and TCDD equivalents based on the reasonable potential analysis. Updated information that was not available at the time Order R4-2010-0089-A01 was issued indicates that asbestos and TCDD equivalents does not exhibit reasonable potential to cause or contribute to an exceedance of the CTR human health criteria. Thus, removal of the effluent limitations for these pollutants is in accordance with CWA section 402(o)(2)(B)(i) and 40 C.F.R. section 122.44(l)(2)(i)(B)(1), which allows for the removal of effluent limitations based on information that was not available at the time of permit issuance.

Therefore, the relaxation or removal of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations

2. Antidegradation Policies

Federal regulation 40 C.F.R. 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 68-16. Resolution 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution 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. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. In addition, this Order no longer includes effluent limitations for asbestos and TCDD equivalents based on the reasonable potential analysis using updated information.

As discussed in section IV.D.1 above (Anti-Backsliding Requirements), this Order contains less stringent effluent limitations at Discharge Point 001 (A&B) for copper and less stringent effluent limitations at Discharge Point 002 for copper, lead, zinc, bromoform, chlorodibromomethane, dichlorobromomethane, and tetrachloroethylene. These less stringent effluent limitations are the result of applying dilution credits for calculating effluent limitations based on the most stringent applicable water quality criteria.

The State Water Board issued Administrative Procedures Update 90-004 (APU 90-004), which provides guidance for the Regional Boards for implementing State Board Resolution No. 68-16. Regarding circumstances when antidegradation analyses are required, APU 90-004 states that a complete antidegradation analysis is not required when reduction of water quality is confined to a mixing zone. In reviewing the dilution credits, the Regional Water Board determined that the pollutant concentrations in the receiving water outside of the mixing zone shall be below the applicable water quality criteria. Granting of dilution credits will not change the operation of the Facility or change the quantity of pollutants discharged to Pyramid Lake. Therefore, there will be no change in the concentrations or loadings of pollutants compared to current conditions. The approval of the dilution credits will not adversely affect the beneficial uses of the receiving water. The effluent limitations based on the approved dilution credits are consistent with federal and state antidegradation policies.

In addition, this Order no longer includes effluent limitations for asbestos and TCDD equivalents based on the reasonable potential analysis using updated information. This information indicates that discharges from the facility are not expected to cause or contribute to exceedances of water quality standards for asbestos and TCDD equivalents.

This Order does not provide for an increase in the permitted design flow or allow for a reduction in the level of treatment. The final limitations in this Order meet the requirements of the Basin Plan and SIP and they hold the Discharger to performance levels that will not cause or contribute to water quality impairment or degrade receiving water quality. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. Hence, the permitted discharge is consistent with the antidegradation provision of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. Water quality-based effluent limitations (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 WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 C.F.R. section 131.38. The scientific procedures for calculating the individual WQBELs for priority pollutants are based on the SIP, which was approved by U.S. EPA 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 U.S. EPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to U.S. EPA prior to May 30, 2000, but not approved by U.S. EPA before that date, are nonetheless “applicable water quality standards for purposes of the CWA” pursuant to 40 C.F.R. 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.

Table F-14 provides a summary of the final effluent limitations at Discharge Point 001.

4. Summary of Final Effluent Limitations

Table F-14. Summary of Final Effluent Limitations – Discharge Point 001(A&B)

Parameter	Units	Effluent Limitations			Basis for Limitation [1]
		Average Monthly	Maximum Daily	Instantaneous Minimum/Maximum	
Conventional Pollutants					
Biochemical Oxygen Demand (BOD) (5-day @ 20ºC)	mg/L	--	10	--	E, BPJ
	lbs/day[2]	--	160	--	
Oil and Grease	mg/L	10	15	--	E, BPJ
	lbs/day[2]	160	240	--	
pH	s.u.	--	--	6.5 / 8.5	E, BP
TSS	mg/L	50	75	--	E, BPJ
	lbs/day[2]	810	1,220	--	
Non-Conventional Pollutants					
Ammonia Nitrogen, Total (as N)	mg/L	1.75	5.2	--	TMDL
	lbs/day[2]	28	85	--	
Chloride [9]	mg/L	100 [3]		--	TMDL
	lbs/day[2]	1,630 [3]		--	
Chronic Toxicity [4]	Pass or Fail, % Effect (TST)	Pass [5]	Pass or % Effect <50	--	BP, TST
Dissolved Oxygen	mg/L	--	--	5.0 [6](Minimum)	E, BP
E. coli [9]	MPN/100 ml	126 [7] / 235 [8]			TMDL
Nitrate Plus Nitrite (as N) [9]	mg/L	6.8	--	--	TMDL
	lbs/day[2]	110	--	--	
Settleable Solids	mg/L	0.1	0.3	--	E, BPJ
Temperature	ºF	--	--	86 (Maximum)	E, BP, TP, WP
Turbidity [9]	NTU	5	25	--	E, BPJ
Priority Pollutants					
Copper, Total Recoverable	µg/L	36	94	--	SIP/CTR
	lbs/day[2]	0.59	1.5	--	
Mercury, Total Recoverable [9]	µg/L	0.050	0.10	--	SIP/CTR
	lbs/day[2]	0.00081	0.0016	--	

1. E = Existing Order; BP = Basin Plan; TMDL = Total Maximum Daily Load; BPJ = Best Professional Judgment in accordance with 40 CFR section 125.3; CTR = California Toxics Rule; WP = White Paper; SIP = State Implementation Policy; TST = National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, 2010); TP = Thermal Plan.
2. The mass limitations are based on a maximum flow of 1.95 MGD and are calculated as follows:

   Flow (MGD) x concentration (mg/L) x 8.34 (conversion factor) = lbs/day.
3. Applied as a 3-month rolling average.
4. The median monthly effluent limitation (MMEL) shall be reported as “Pass” or “Fail”. The MDEL shall be reported as “Pass” or “Fail” and the percent effect. The MMEL for chronic toxicity shall only apply when there is a discharge more than 1 day in a calendar month period. During such calendar months, up to three independent toxicity tests are required when one toxicity test results in a “Fail”. The maximum daily effluent limitation (MDEL) is exceeded when a toxicity test results in a “fail,” and the percent effect is greater than or equal to 0.50. The median monthly effluent limitation (MMEL) is exceeded when the median result (i.e. two out of three) is a “fail.
5. This is an MMEL.

6. Dissolved oxygen shall not be less than 5.0 mg/L at any time.
7. Applied as a geometric mean.
8. Applied as a single sample maximum.
9. 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 determining compliance with the chloride effluent limitation, the intake water credit is the 3-month rolling average chloride concentration in the influent.

When determining compliance with *E. coli* effluent limitations, intake water credits are a single maximum value of the influent and a geometric mean of the five influent results within a quarter, respectively.

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.

Table F-15. Summary of Final Effluent Limitations – Discharge Point 002

Parameter	Units	Effluent Limitations			Basis for Limitation [1]
		Average Monthly	Maximum Daily	Instantaneous Minimum/Maximum	
Conventional Pollutants					
BOD	mg/L	--	10	--	E, BPJ
	lbs/day[2]	--	1.7	--	
Oil and Grease	mg/L	10	15	--	E, BPJ
	lbs/day[2]	1.7	2.5	--	
pH	s.u.	--	--	6.5 / 8.5	E, BP
TSS	mg/L	50	75	--	E, BPJ
	lbs/day[2]	8.3	13	--	
Non-Conventional Pollutants					
Ammonia Nitrogen, Total (as N)	mg/L	1.75	5.2	--	TMDL
	lbs/day[2]	0.29	0.87	--	
Chloride [9]	mg/L	100 [3]		--	TMDL
	lbs/day[2]	17 [3]		--	
Chronic Toxicity [4]	Pass or Fail, % Effect (TST)	Pass [5]	Pass or % Effect <50	--	BP, TST
Chlorine, Total Residual	mg/L	--	0.10	--	E, BP
	lbs/day[2]	--	0.017	--	
Dissolved Oxygen	mg/L	--	--	5.0 [6] (Minimum)	E, BP
E. coli [9]	MPN/100 ml	126 [7] / 235 [8]			TMDL
Nitrate Plus Nitrite (as N) [9]	mg/L	6.8	--	--	TMDL
	lbs/day[2]	1.1	--	--	

Parameter	Units	Effluent Limitations			Basis for Limitation [1]
		Average Monthly	Maximum Daily	Instantaneous Minimum/Maximum	
Settleable Solids	mg/L	0.1	0.3	--	E, BPJ
Temperature	ºF	--	--	86 (Maximum)	E, BP, TP, WP
Turbidity[9]	NTU	5	25	--	E, BP
Priority Pollutants					
Copper, Total Recoverable	µg/L	24	79	--	SIP/CTR
	lbs/day[2]	0.0040	0.013	--	
Lead, Total Recoverable	µg/L	13	41	--	SIP/CTR
	lbs/day[2]	0.0022	0.0068	--	
Mercury, Total Recoverable [9]	µg/L	0.050	0.10	--	SIP/CTR
	lbs/day[2]	8.3×10^{-6}	1.7×10^{-5}	--	
Zinc, Total Recoverable	µg/L	320	1,023	--	SIP/CTR
	lbs/day[2]	0.053	0.17	--	
Bromoform	µg/L	8.0	26	--	SIP/CTR
	lbs/day[2]	0.0013	0.0043	--	
Chlorodibromomethane	µg/L	9.1	26	--	SIP/CTR
	lbs/day[2]	0.0015	0.0043	--	
Dichlorobromomethane	µg/L	4.6	12	--	SIP/CTR
	lbs/day[2]	0.00077	0.0020	--	
Tetrachloroethylene	µg/L	2.4	4.9	--	SIP/CTR
	lbs/day[2]	0.00040	0.00082	--	

1. E = Existing Order; BP = Basin Plan; TMDL = Total Maximum Daily Load; BPJ = Best Professional Judgment in accordance with 40 CFR section 125.3; CTR = California Toxics Rule; WP = White Paper; SIP = State Implementation Policy; TST = National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, 2010); TP = Thermal Plan.
2. The mass limitations are based on a maximum flow of 0.02 MGD and are calculated as follows:
   Flow (MGD) x concentration (mg/L) x 8.34 (conversion factor) = lbs/day.
3. Applied as a 3-month rolling average.
4. The median monthly effluent limitation (MMEL) shall be reported as “Pass” or “Fail”. The MDEL shall be reported as “Pass” or “Fail” and the percent effect. The MMEL for chronic toxicity shall only apply when there is a discharge more than 1 day in a calendar month period. During such calendar months, up to three independent toxicity tests are required when one toxicity test results in a “Fail”. The maximum daily effluent limitation (MDEL) is exceeded when a toxicity test results in a “fail,” and the percent effect is greater than or equal to 0.50. The median monthly effluent limitation (MMEL) is exceeded when the median result (i.e. two out of three) is a “fail.
5. This is an MMEL.
6. Dissolved oxygen shall not be less than 5.0 mg/L at any time.
7. Applied as a geometric mean.
8. Applied as a single sample maximum.
9. 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 determining compliance with the chloride effluent limitation, the intake water credit is the 3-month rolling average chloride concentration in the influent.

When determining compliance with *E. coli* effluent limitations, intake water credits are a single maximum value of the influent and a geometric mean of the five influent results within a quarter, respectively.

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.

E. Land Discharge Specifications – Not Applicable

F. Recycling 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 (40 C.F.R. 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.

B. Groundwater - Not Applicable

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. 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.

Sections 122.41(a)(1) and (b) through (n) of 40 C.F.R. 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) of 40 C.F.R. allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 C.F.R. 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 40 C.F.R. part 123 and Order R4-2010-0089-A01. 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 or revisions to a TMDL, or submittal of a request for modification by the Discharger.

2. Special Studies and Additional Monitoring Requirements

a. **Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan.** This provision is based on section 4 of the SIP, Toxicity Control Provisions, which establishes minimum toxicity control requirements for implementing the narrative toxicity objective for aquatic life protection established in the basin plans of the State of California.

3. 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).** This Order requires the Discharger to update, as necessary, and continue to implement a SWPPP. 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. At a minimum, the management practices should ensure that raw materials and chemicals do not come into contact with storm water. SWPPP requirements are included as Attachment G, based on 40 CFR 122.44(k).

b. **Best Management Practices Plan (BMPP).** This Order requires the Discharger to update, as necessary, a Best Management Practices Plan (BMPP), that includes site-specific plans and procedures implemented and/or to be implemented to prevent hazardous waste/material from being discharged to waters of the State. The BMPs shall be consistent with the general guidance contained in the *U.S. EPA Guidance Manual for Developing Best Management Practices (BMPs)* (EPA 833-B-93-004). In particular, a risk assessment of each area identified by the Discharger shall be performed to determine the potential for hazardous or toxic waste/material discharge to surface waters.

c. **Spill Contingency Plan (SCP).** This Order requires the Discharger to update, as necessary, and continue to implement a SCP to control the discharge of pollutants. The SCP shall include a technical report on the preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events at the site. This provision is included in this Order to minimize and control the amount of pollutants discharged in case of a spill. The SCP shall be site specific and shall cover all areas of the Facility.

4. Construction, Operation, and Maintenance Specifications

This provision is based on the requirements of section 122.41(e).

5. Special Provisions for Municipal Facilities (POTW's Only) – Not Applicable

6. Other Special Provisions – Not Applicable

7. Compliance Schedules – Not Applicable

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

CWA section 308 and 40 C.F.R. sections 122.41(h), (j)-(*l*), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The Monitoring and Reporting Program (MRP),

Attachment E, establishes monitoring and reporting requirements that 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.d, this Order allows for intake water credits for mercury and turbidity at Discharge Points 001 (A&B) and 002. The levels of these constituents in the intake water and effluent may be above Basin Plan Objectives, obscuring the potential impacts the effluent has on the receiving water. In order to characterize pollutants present in the intake water, the MRP includes monthly monitoring requirements for the constituents for which intake credits are allowed at Discharge Points 001(A&B), and 002. Furthermore, 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 for pollutants with intake water credits reflect the travel time of water in the Facility such that the intake water samples directly correspond to effluent samples.

This Order retains monitoring requirements for asbestos and TCDD equivalents with a reduced monitoring frequency of semiannually. These two constituents had provisions for intake credits in Order R4-2010-0089-A01 and may be present in the intake water; therefore, monitoring requirements are retained.

Order R4-2010-0089-A01 required influent monitoring for several constituents. Sufficient data was collected to characterize influent contributions of several parameters. This Order discontinues influent monitoring requirements with the exception of parameters for which intake credits are allowed and parameters that may be present in the influent. However, this Order retains annual influent monitoring for priority pollutants to evaluate the water quality of the influent.

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 001(A&B) and 002, respectively, is required as shown in the MRP. To determine compliance with effluent limitations, the MRP retains monitoring requirements in Order No. R4-2010-0089-A01 with some modifications.

This Order reduces the monitoring frequency for asbestos at Monitoring Location EFF-001(A&B) from once per quarter to twice per year. At Monitoring Location EFF-001(A&B), asbestos has not been detected in any samples collected from July 2010 through December 2015. TCDD equivalents monitoring at both effluent monitoring locations is also reduced to twice per year because results of all congeners are reported below the reporting levels.

To determine compliance with the Bacteria TMDL and the Chloride TMDL, this Order requires monitoring for these constituents at Monitoring Locations EFF-001(A&B) and EFF-002 at a frequency of once per quarter.

The Santa Clara River Reach 11, to which Pyramid Lake is at times a tributary, is listed as impaired for sulfate, total dissolved solids, and boron. This Order includes new requirements to monitor at EFF-001(A&B) and EFF-002 for sulfate, total dissolved solids, and boron at a frequency of twice per year to determine if the effluent could cause or contribute to an exceedance of the Basin Plan objectives.

The Santa Clara River Reach 5, to which Pyramid Lake intermittently discharges, is listed as impaired for iron. This Order includes new requirements to monitor at Monitoring Locations EFF-001*A&B) and EFF-002 for iron at a frequency of twice per year to determine if the effluent could cause or contribute to an exceedance of the Basin Plan objectives.

On the Discharger's Form 2C, there were numerous constituents that were checked "believed present" for which the Title 22 California Primary MCLs are incorporated by reference as Basin Plan objectives (see Fact Sheet section III.C.4). These parameters are listed below:

- Aluminum
- Barium
- Chromium, Total
- Radioactivity, Gross Alpha
- Radioactivity, Gross Beta

This Order includes new effluent monitoring requirements for these constituents at Monitoring Locations EFF-001(A&B) and EFF-002 at a frequency of once per year to determine if the effluent concentrations may exceed the Basin Plan objectives.

Based on Santa Clara River Watershed Nitrogen Compounds TMDL, a new effluent limitation has been included in this Order. Therefore, this Order includes new effluent monitoring requirements at Monitoring Locations EFF-001(A&B) and EFF-002 for nitrate plus nitrite (as N) at a frequency of quarterly in order to determine if the discharge may cause or contribute to an exceedance of the Basin Plan numeric objectives.

The Basin Plan Objective for Sodium Adsorption Ratio (SAR) addresses the effects of dissolved solids in irrigation water on crops. SAR is calculated from measured concentrations of calcium, sodium, and magnesium. In order to characterize the Facility's contributions to SAR, this Order includes new monitoring and reporting requirements for SAR at EFF-001(A&B) and EFF-002.

This Order replaces monitoring requirements for electrical conductivity with monitoring requirements for total dissolved solids. The Basin Plan contains an objective for total dissolved solids. The new monitoring requirements allow for a direct comparison with the objective.

The effluent at Discharge Point 002 includes filter backwash which commonly contains trihalomethanes. Trihalomethanes are calculated as the sum of bromoform, chloroform, chlorodibromomethane, and dichlorobromomethane. Order R4-2010-0089-A01 included monthly monitoring requirements for bromoform, chlorodibromomethane, and dichlorobromomethane, but not chloroform. In order to perform future determinations of reasonable potential to exceed the Title 22 MCL for total trihalomethanes, this Order retains the monitoring requirements for bromoform, chlorodibromomethane, dichlorobromomethane from Order R4-2010-0089-A01 and also requires monitoring for chloroform at Monitoring Location EFF-002 at a frequency of once per month.

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. Chronic toxicity is a more stringent requirement than acute toxicity. A chemical at a low concentration can have chronic effects but no acute effects. For this permit, chronic toxicity in the discharge is limited and evaluated using USEPA's 2010 TST statistical approach.

D. Receiving Water Monitoring

1. Surface Water

Monitoring requirements are included in the MRP (Attachment E) to determine compliance with the receiving water limitations established in Limitations and Discharge Requirements, Receiving Water Limitations, Section V.A. Receiving water monitoring requirements included in Order R4-2010-0089-A01 have been retained in this Order, with some additions.

The Santa Clara River Reach 11, to which Pyramid Lake intermittently discharges, is listed as impaired for boron, sulfate and total dissolved solids. This Order includes new requirements to monitor receiving water (Pyramid Lake) for boron, sulfate and total dissolved solids at a frequency of twice per year.

The Santa Clara River Reach 5, to which Pyramid Lake intermittently discharges, is listed as impaired for iron. This Order includes new requirements to monitor Pyramid Lake for iron at a frequency of twice per year.

Quarterly monitoring for nitrate plus nitrite, chloride and chloroform and semiannual monitoring for calcium, sodium, and magnesium in the receiving water has been established in order to provide data for conducting reasonable potential analyses. Asbestos monitoring frequency has been reduced from quarterly to semiannually due to no-detects in all effluent and receiving samples during the last permit term. Monitoring for Title 22 parameters including radioactivity for gross alpha and beta is required at a frequency of once per year.

Receiving water monitoring requirements for dissolved sulfide have been discontinued in this Order. Dissolved sulfide was not detected in the receiving water. In addition, there are no numeric Basin Plan objectives for dissolved sulfide; therefore, the monitoring requirement was removed.

2. Groundwater – Not Applicable

E. Other Monitoring Requirements – Not Applicable

VIII. PUBLIC PARTICIPATION

The Regional Water Board has considered the issuance of WDRs that will serve as an NPDES permit for the Facility. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs and has encouraged public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided to all interested parties via a local newspaper and email.

The public had access to the agenda and any changes in dates and locations through the Regional Water Board's website at http://www.waterboards.ca.gov/losangeles

B. Written Comments

Interested persons were invited to submit written comments concerning tentative WDRs as provided through the notification process electronically at losangeles@waterboards.ca.gov with a copy to JauRen.Chen@waterboards.ca.gov

To be fully responded to by staff and considered by the Regional Water Board, the written comments were due at the Regional Water Board office by 5 pm on **May 23, 2016**.

C. Public Hearing

The Regional Water Board held 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 9, 2016
Time: 9:00 A.M.
Location: Metropolitan Water District of Southern California, Board Room
700 North Alameda Street
Los Angeles, California

Interested persons were invited to attend. At the public hearing, the Regional Water Board heard testimony pertinent to the discharge, WDRs, and permit. For accuracy of the record, important testimony was requested 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. Reconsideration of Waste Discharge Requirements

Any aggrieved person may petition the State Water Board to review the decision of the Regional Water Board regarding the final WDR's. The petition must be received by the State Water Board at the following address within 30 calendar days of the Regional Water Board's action:

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

For instructions on how to file a petition for review, see http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml

E. Information and Copying

The Report of Waste Discharge, other supporting documents, and comments received 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 Regional Water Board.

F. Register of Interested Persons

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

G. Additional Information

Requests for additional information or questions regarding this order should be directed to 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 no later than 90 daysfrom 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, overhead 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 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 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 VI.A.4. 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[1] 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 IV.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.

[1] Significant materials" includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of Comprehensive Environmental Response, Compensation, and Liability Act (CERLCA); any chemical the facility is required to report pursuant to Section 313 of Title III of Superfund Amendments and Reauthorization Act (SARA); fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharges.

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 authorize non-storm water discharges since April 17, 1994. Include toxic chemicals (listed in 40 C.F.R. 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 [C.F.R.] 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 authorize 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 that are not authorized by this Permit, other waste discharge requirements, or other NPDES permits are prohibited. The SWPPP must include BMPs to prevent or reduce contact of authorized non-storm water discharges with significant materials (as defined in Footnote 1 of section V above) 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 VIII. 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 section VI 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 VIII 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 VI and VII 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 VIII.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 VIII.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 10 days of the approval by the Executive Officer or no later than 90 days after submission to the Regional Water Board, whichever comes first. . 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 X.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 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 micrograms per liter (µg/L) 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		
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		

Table 2b - SEMI-VOLATILE SUBSTANCES*	GC	GCMS	LC	COLOR
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	
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
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	Required Analytical Methods
1	Antimony	7440360	[1]
2	Arsenic	7440382	[1]
3	Beryllium	7440417	[1]
4	Cadmium	7440439	[1]
5a	Chromium (III)	16065831	[1]
5a	Chromium (VI)	18540299	[1]
6	Copper	7440508	[1]
7	Lead	7439921	[1]
8	Mercury	7439976	[1]
9	Nickel	7440020	[1]
11	Selenium	7782492	[1]
11	Silver	7440224	[1]
12	Thallium	7440280	[1]
13	Zinc	7440666	[1]
14	Cyanide	57125	[1]
15	Asbestos	1332214	EPA method 100.2
16	2,3,7,8-TCDD	1746016	[1]
17	Acrolein	117028	[1]
18	Acrylonitrile	117131	[1]
19	Benzene	71432	[1]
20	Bromoform	75252	[1]
21	Carbon Tetrachloride	56235	[1]
22	Chlorobenzene	118907	[1]
23	Chlorodibromomethane	124481	[1]
24	Chloroethane	75003	[1]
25	2-Chloroethylvinyl Ether	111758	[1]
26	Chloroform	67663	[1]
27	Dichlorobromomethane	75274	[1]
28	1,1-Dichloroethane	75343	[1]
29	1,2-Dichloroethane	117062	[1]
30	1,1-Dichloroethylene	75354	[1]
31	1,2-Dichloropropane	78875	[1]
32	1,3-Dichloropropylene	542756	[1]
33	Ethylbenzene	110414	[1]
34	Methyl Bromide	74839	[1]
35	Methyl Chloride	74873	[1]
36	Methylene Chloride	75092	[1]
37	1,1,2,2-Tetrachloroethane	79345	[1]
38	Tetrachloroethylene	127184	[1]
39	Toluene	118883	[1]

CTR Number	Parameter	CAS Number	Required Analytical Methods
40	1,2-Trans-Dichloroethylene	156605	[1]
41	1,1,1-Trichloroethane	71556	[1]
42	1,12-Trichloroethane	79005	[1]
43	Trichloroethylene	79016	[1]
44	Vinyl Chloride	75014	[1]
45	2-Chlorophenol	95578	[1]
46	2,4-Dichlorophenol	120832	[1]
47	2,4-Dimethylphenol	115679	[1]
48	2-Methyl-4,6-Dinitrophenol	534521	[1]
49	2,4-Dinitrophenol	51285	[1]
50	2-Nitrophenol	88755	[1]
51	4-Nitrophenol	110027	[1]
52	3-Methyl-4-Chlorophenol	59507	[1]
53	Pentachlorophenol	87865	[1]
54	Phenol	118952	[1]
55	2,4,6-Trichlorophenol	88062	[1]
56	Acenaphthene	83329	[1]
57	Acenaphthylene	208968	[1]
58	Anthracene	120127	[1]
59	Benzidine	92875	[1]
60	Benzo(a)Anthracene	56553	[1]
61	Benzo(a)Pyrene	50328	[1]
62	Benzo(b)Fluoranthene	205992	[1]
63	Benzo(ghi)Perylene	191242	[1]
64	Benzo(k)Fluoranthene	207089	[1]
65	Bis(2-Chloroethoxy)Methane	111911	[1]
66	Bis(2-Chloroethyl)Ether	111444	[1]
67	Bis(2-Chloroisopropyl)Ether	118601	[1]
68	Bis(2-Ethylhexyl)Phthalate	117817	[1]
69	4-Bromophenyl Phenyl Ether	111553	[1]
70	Butylbenzyl Phthalate	85687	[1]
71	2-Chloronaphthalene	91587	[1]
72	4-Chlorophenyl Phenyl Ether	7005723	[1]
73	Chrysene	218019	[1]
74	Dibenzo(a,h)Anthracene	53703	[1]
75	1,2-Dichlorobenzene	95501	[1]
76	1,3-Dichlorobenzene	541731	[1]
77	1,4-Dichlorobenzene	116467	[1]
78	3,3'-Dichlorobenzidine	91941	[1]
79	Diethyl Phthalate	84662	[1]
80	Dimethyl Phthalate	131113	[1]
81	Di-n-Butyl Phthalate	84742	[1]

CTR Number	Parameter	CAS Number	Required Analytical Methods
82	2,4-Dinitrotoluene	121142	[1]
83	2,6-Dinitrotoluene	606202	[1]
84	Di-n-Octyl Phthalate	117840	[1]
85	1,2-Diphenylhydrazine	122667	[1]
86	Fluoranthene	206440	[1]
87	Fluorene	86737	[1]
88	Hexachlorobenzene	118741	[1]
89	Hexachlorobutadiene	87863	[1]
90	Hexachlorocyclopentadiene	77474	[1]
91	Hexachloroethane	67721	[1]
92	Indeno(1,2,3-cd)Pyrene	193395	[1]
93	Isophorone	78591	[1]
94	Naphthalene	91203	[1]
95	Nitrobenzene	98953	[1]
96	N-Nitrosodimethylamine	62759	[1]
97	N-Nitrosodi-n-Propylamine	621647	[1]
98	N-Nitrosodiphenylamine	86306	[1]
99	Phenanthrene	85018	[1]
110	Pyrene	129000	[1]
111	1,2,4-Trichlorobenzene	120821	[1]
112	Aldrin	309002	[1]
113	alpha-BHC	319846	[1]
114	beta-BHC	319857	[1]
115	gamma-BHC	58899	[1]
116	delta-BHC	319868	[1]
117	Chlordane	57749	[1]
118	4,4’-DDT	50293	[1]
119	4,4’-DDE	72559	[1]
111	4,4’-DDD	72548	[1]
111	Dieldrin	60571	[1]
112	alpha-Endosulfan	959988	[1]
113	beta-Endosulfan	33213659	[1]
114	Endosulfan Sulfate	1131178	[1]
115	Endrin	72208	[1]
116	Endrin Aldehyde	7421934	[1]
117	Heptachlor	76448	[1]
118	Heptachlor Epoxide	1124573	[1]
119	PCB-1116	12674112	[1]
120	PCB-1221	11114282	[1]
121	PCB-1232	11141165	[1]
122	PCB-1242	53469219	[1]
123	PCB-1248	12672296	[1]

CTR Number	Parameter	CAS Number	Required Analytical Methods
124	PCB-1254	11197691	[1]
125	PCB-1260	11196825	[1]
126	Toxaphene	8001352	[1]

1. Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 (revised May 18, 2012); for priority pollutants, the methods must meet the lowest MLs specified in Attachment 4 of the SIP (Attachment H of this permit package) or, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level.

ATTACHMENT J – SUMMARY OF REASONABLE POTENTIAL ANALYSIS AND WQBEL CALCULATIONS

Attachment J
Reasonable Potential Analysis and Effluent Limitations
CA Dept. of Water Resources, William E Warne Power Plant (CA0059188), Discharge Point 001(A and B)

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)						Lowest C or WLAs	MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?
					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		0.008					14.00	4300.00	14.00	No	No	Y	Y
2	Arsenic	ug/L		6.6	340.00	150.00					150.00	No	No	Y	N
3	Beryllium	ug/L		No Criteria						Narrative	No Criteria	No Criteria	No Criteria	Y	Y
4	Cadmium	ug/L		0.013	4.62	2.50				Narrative	2.50	No	No	Y	Y
5a	Chromium (III)			0.66	1764.91	210.37				Narrative	210.37	No	No	N	N
5b	Chromium (VI)	ug/L		1.8	16.00	11.00				Narrative	11.00	No	No	Y	N
6	Copper	ug/L	1.096	27	14.26	9.49			1300.00		9.49	Yes	Yes	Y	N
7	Lead	ug/L		1.6	83.73	3.26				Narrative	3.26	No	No	Y	N
8	Mercury	ug/L	0.60	0.06300	Reserved	Reserved			0.05000	0.05100	0.05000	Yes	Yes	Y	Y
9	Nickel	ug/L		2.2	477.10	53.04			610.00	4600.00	53.04	No	No	Y	N
10	Selenium	ug/L		0.59	20.00	5.00				Narrative	5.00	No	No	Y	N
11	Silver	ug/L		0.008	4.20						4.20	No	No	Y	Y
12	Thallium	ug/L		0.009					1.70	6.30	1.70	No	No	Y	Y
13	Zinc	ug/L		53	121.84	121.84					121.8	No	No	Y	N
14	Cyanide	ug/L		0.48	22.00	5.20			700.00	220000.0	5.20	No	No	Y	Y
15	Asbestos	MFL		0.2					7.00		7.00	No	No	Y	Y
16	2,3,7,8 TCDD	ug/L		DNQ					0.000000013	1.4E-08	1.30E-08	Yes	Yes	Y	Y
	TCDD Equivalents	ug/L		DNQ					0.000000013	1.4E-08	1.30E-08	Yes	Yes	Y	Y
17	Acrolein	ug/L		0.44					320	780.0	320	No	No	Y	Y
18	Acrylonitrile	ug/L							0.059	0.66	0.059			Y	Y
19	Benzene	ug/L		0.15					1.2	71	1.2	No	No	Y	Y
20	Bromoform	ug/L		0.17					4.3	360	4.3	No	No	Y	Y
21	Carbon Tetrachloride	ug/L		0.12					0.25	4.4	0.25	No	No	Y	Y
22	Chlorobenzene	ug/L		0.15					680	21000	680	No	No	Y	Y
23	Chlorodibromomethane	ug/L		0.19					0.41	34	0.41	No	No	Y	Y
24	Chloroethane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y
25	2-Chloroethylvinyl ether	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y
26	Chloroform	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y
27	Dichlorobromomethane	ug/L		0.09					0.56	46	0.56	No	No	Y	Y
28	1,1-Dichloroethane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y
29	1,2-Dichloroethane	ug/L		0.12					0.38	99	0.38	No	No	Y	Y
30	1,1-Dichloroethylene	ug/L							0.057	3.2	0.057			Y	Y
31	1,2-Dichloropropane	ug/L		0.13					0.52	39	0.52	No	No	Y	Y
32	1,3-Dichloropropylene	ug/L		0.15					10	1700	10	No	No	Y	Y
33	Ethylbenzene	ug/L		0.17					3100	29000	3100	No	No	Y	Y
34	Methyl Bromide	ug/L		0.21					48	4000	48	No	No	Y	Y
35	Methyl Chloride	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y
36	Methylene Chloride	ug/L		0.14					4.7	1600	4.7	No	No	Y	Y
37	1,1,2,2-Tetrachloroethane	ug/L							0.17	11	0.17			Y	Y
38	Tetrachloroethylene	ug/L		0.18					0.8	8.85	0.8	No	No	Y	Y
39	Toluene	ug/L		0.14					6800	200000	6800	No	No	Y	Y
40	1,2-Trans-Dichloroethylene	ug/L		0.11					700	140000	700	No	No	Y	Y
41	1,1,1-Trichloroethane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y
42	1,1,2-Trichloroethane	ug/L		0.19					0.6	42	0.6	No	No	Y	Y
43	Trichloroethylene	ug/L		0.64					2.7	81	2.7	No	No	Y	Y
44	Vinyl Chloride	ug/L		0.18					2	525	2	No	No	Y	Y
45	2-Chlorophenol	ug/L		0.28					120	400	120	No	No	Y	Y
46	2,4-Dichlorophenol	ug/L		0.26					93	790	93	No	No	Y	Y
47	2,4-Dimethylphenol	ug/L		0.3					540	2300	540	No	No	Y	Y
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	ug/L		0.33					13.4	765	13.4	No	No	Y	Y

		REASONABLE POTENTIAL ANALYSIS (RPA)							HUMAN HEALTH CALCULATIONS		
CTR#	Parameters	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?	Reason	Water & Organisms		
									AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh
1	Antimony	0.008		N	No detected value of B, Step 7		No	MEC<C & B is ND			
2	Arsenic		6.7		B<=C, Step 7		No	MEC<C & B<=C			
3	Beryllium	0.015		N	No Criteria	No Criteria	Uc	No Criteria			
4	Cadmium	0.013		N	No detected value of B, Step 7		No	MEC<C & B is ND			
5a	Chromium (III)		0.71		B<=C, Step 7		No	MEC<C & B<=C			
5b	Chromium (VI)		1.6		B<=C, Step 7		No	MEC<C & B<=C			
6	Copper		4.4		B<=C, Step 7		Yes	MEC>=C	1300	2.61	3395
7	Lead		0.78		B<=C, Step 7		No	MEC<C & B<=C			
8	Mercury	0.00390		N	No detected value of B, Step 7		Yes	MEC>=C	0.05000	2.00619	0.10031
9	Nickel		8.9		B<=C, Step 7		No	MEC<C & B<=C			
10	Selenium		0.63		B<=C, Step 7		No	MEC<C & B<=C			
11	Silver	0.008		N	No detected value of B, Step 7		No	MEC<C & B is ND			
12	Thallium	0.009		N	No detected value of B, Step 7		No	MEC<C & B is ND			
13	Zinc		12		B<=C, Step 7		No	MEC<C & B<=C			
14	Cyanide	0.48		N	No detected value of B, Step 7		No	MEC<C & B is ND			
15	Asbestos	0.2		N	No detected value of B, Step 7		No	MEC<C & B is ND			
16	2,3,7,8 TCDD	0.00000055		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
	TCDD Equivalents	0.00000055		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
17	Acrolein	0.44		N	No detected value of B, Step 7		No	MEC<C & B is ND			
18	Acrylonitrile	0.27		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
19	Benzene	0.15		N	No detected value of B, Step 7		No	MEC<C & B is ND			
20	Bromoform	0.17		N	No detected value of B, Step 7		No	MEC<C & B is ND			
21	Carbon Tetrachloride	0.12		N	No detected value of B, Step 7		No	MEC<C & B is ND			
22	Chlorobenzene	0.15		N	No detected value of B, Step 7		No	MEC<C & B is ND			
23	Chlorodibromomethane	0.19		N	No detected value of B, Step 7		No	MEC<C & B is ND			
24	Chloroethane	0.17		N	No Criteria	No Criteria	Uc	No Criteria			
25	2-Chloroethylvinyl ether	0.35		N	No Criteria	No Criteria	Uc	No Criteria			
26	Chloroform				No Criteria	No Criteria	Uc	No Criteria			
27	Dichlorobromomethane	0.09		N	No detected value of B, Step 7		No	MEC<C & B is ND			
28	1,1-Dichloroethane	0.12		N	No Criteria	No Criteria	Uc	No Criteria			
29	1,2-Dichloroethane	0.12		N	No detected value of B, Step 7		No	MEC<C & B is ND			
30	1,1-Dichloroethylene	0.16		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
31	1,2-Dichloropropane	0.13		N	No detected value of B, Step 7		No	MEC<C & B is ND			
32	1,3-Dichloropropylene	0.15		N	No detected value of B, Step 7		No	MEC<C & B is ND			
33	Ethylbenzene	0.17		N	No detected value of B, Step 7		No	MEC<C & B is ND			
34	Methyl Bromide	0.21		N	No detected value of B, Step 7		No	MEC<C & B is ND			
35	Methyl Chloride	0.11		N	No Criteria	No Criteria	Uc	No Criteria			
36	Methylene Chloride	0.14		N	No detected value of B, Step 7		No	MEC<C & B is ND			
37	1,1,2,2-Tetrachloroethane	0.18		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
38	Tetrachloroethylene	0.18		N	No detected value of B, Step 7		No	MEC<C & B is ND			
39	Toluene	0.14		N	No detected value of B, Step 7		No	MEC<C & B is ND			
40	1,2-Trans-Dichloroethylene	0.11		N	No detected value of B, Step 7		No	MEC<C & B is ND			
41	1,1,1-Trichloroethane	0.11		N	No Criteria	No Criteria	Uc	No Criteria			
42	1,1,2-Trichloroethane	0.19		N	No detected value of B, Step 7		No	MEC<C & B is ND			
43	Trichloroethylene	0.18		N	No detected value of B, Step 7		No	MEC<C & B is ND			
44	Vinyl Chloride	0.18		N	No detected value of B, Step 7		No	MEC<C & B is ND			
45	2-Chlorophenol	0.28		N	No detected value of B, Step 7		No	MEC<C & B is ND			
46	2,4-Dichlorophenol	0.26		N	No detected value of B, Step 7		No	MEC<C & B is ND			
47	2,4-Dimethylphenol	0.3		N	No detected value of B, Step 7		No	MEC<C & B is ND			
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	0.33		N	No detected value of B, Step 7		No	MEC<C & B is ND			

CTR#	Parameters	AQUATIC LIFE CALCULATIONS Saltwater / Freshwater / Basin Plan ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life	LIMITS Lowest AMEL	Lowest MDEL	Recommendation	Comment
1	Antimony												No Limit	
2	Arsenic												No Limit	
3	Beryllium												No Limit	
4	Cadmium												No Limit	
5a	Chromium (III)												No Limit	
5b	Chromium (VI)												No Limit	
6	Copper	0.19	17.87	0.35	17.73	17.73	2.04	36.13	5.32	94.37354	36	94		
7	Lead												No Limit	
8	Mercury						1.55242		3.11446		0.050	0.10		
9	Nickel												No Limit	
10	Selenium												No Limit	
11	Silver												No Limit	
12	Thallium												No Limit	
13	Zinc												No Limit	
14	Cyanide												No Limit	
15	Asbestos												No Limit	
16	2,3,7,8 TCDD												No Limit	
	TCDD Equivalents												No Limit	
17	Acrolein												No Limit	
18	Acrylonitrile												No Limit	
19	Benzene												No Limit	
20	Bromoform												No Limit	
21	Carbon Tetrachloride												No Limit	
22	Chlorobenzene												No Limit	
23	Chlorodibromomethane												No Limit	
24	Chloroethane												No Limit	
25	2-Chloroethylvinyl ether												No Limit	
26	Chloroform												No Limit	
27	Dichlorobromomethane												No Limit	
28	1,1-Dichloroethane												No Limit	
29	1,2-Dichloroethane												No Limit	
30	1,1-Dichloroethylene												No Limit	
31	1,2-Dichloropropane												No Limit	
32	1,3-Dichloropropylene												No Limit	
33	Ethylbenzene												No Limit	
34	Methyl Bromide												No Limit	
35	Methyl Chloride												No Limit	
36	Methylene Chloride												No Limit	
37	1,1,2,2-Tetrachloroethane												No Limit	
38	Tetrachloroethylene												No Limit	
39	Toluene												No Limit	
40	1,2-Trans-Dichloroethylene												No Limit	
41	1,1,1-Trichloroethane												No Limit	
42	1,1,2-Trichloroethane												No Limit	
43	Trichloroethylene												No Limit	
44	Vinyl Chloride												No Limit	
45	2-Chlorophenol												No Limit	
46	2,4-Dichlorophenol												No Limit	
47	2,4-Dimethylphenol												No Limit	
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)												No Limit	

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)						Lowest C or WLAs	MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?
					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					
49	2,4-Dinitrophenol	ug/L		1.6					70	14000	70	No	No	Y	Y
50	2-Nitrophenol	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y
51	4-Nitrophenol	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y
53	Pentachlorophenol	ug/L		0.19	5.28	4.05			0.28	8.2	0.28	No	No	Y	Y
54	Phenol	ug/L		0.16					21000	4600000	21000	No	No	Y	Y
55	2,4,6-Trichlorophenol	ug/L		0.22					2.1	6.5	2.1	No	No	Y	Y
56	Acenaphthene	ug/L		0.31					1200	2700	1200	No	No	Y	Y
57	Acenaphthylene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y
58	Anthracene	ug/L		0.28					9600	110000	9600	No	No	Y	Y
59	Benzidine	ug/L							0.00012	0.00054	0.00012			Y	Y
60	Benzo(a)Anthracene	ug/L							0.00	0.049	0.004			Y	Y
61	Benzo(a)Pyrene	ug/L							0.00	0.049	0.004			Y	Y
62	Benzo(b)Fluoranthene	ug/L							0.0044	0.049	0.0044			Y	Y
63	Benzo(ghi)Perylene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y
64	Benzo(k)Fluoranthene	ug/L							0.0044	0.049	0.0044			Y	Y
65	Bis(2-Chloroethoxy)Methane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y
66	Bis(2-Chloroethyl)Ether	ug/L							0.031	1.4	0.031			Y	Y
67	Bis(2-Chloroisopropyl)Ether	ug/L		0.38					1400	170000	1400	No	No	Y	Y
68	Bis(2-Ethylhexyl)Phthalate	ug/L	0.6						1.8	5.9	1.8			Y	Y
69	4-Bromophenyl Phenyl Ethe	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y
70	Butylbenzyl Phthalate	ug/L		0.18					3000	5200	3000	No	No	Y	Y
71	2-Chloronaphthalene	ug/L		0.26					1700	4300	1700	No	No	Y	Y
72	4-Chlorophenyl Phenyl Ethe	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y
73	Chrysene	ug/L							0.00	0.049	0.004			Y	N
74	Dibenzo(a,h)Anthracene	ug/L							0.0044	0.049	0.0044			Y	Y
75	1,2-Dichlorobenzene	ug/L		0.19					2700	17000	2700	No	No	Y	Y
76	1,3-Dichlorobenzene	ug/L		0.14					400	2600	400	No	No	Y	Y
77	1,4-Dichlorobenzene	ug/L		0.18					400	2600	400	No	No	Y	Y
78	3,3 Dichlorobenzidine	ug/L							0.04	0.077	0.04			Y	Y
79	Diethyl Phthalate	ug/L		0.15					23000	120000	23000	No	No	Y	Y
80	Dimethyl Phthalate	ug/L		0.18					313000	2900000	313000	No	No	Y	Y
81	Di-n-Butyl Phthalate	ug/L		0.24					2700	12000	2700	No	No	Y	Y
82	2,4-Dinitrotoluene	ug/L							0.11	9.10	0.11			Y	Y
83	2,6-Dinitrotoluene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y
84	Di-n-Octyl Phthalate	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y
85	1,2-Diphenylhydrazine	ug/L							0.040	0.54	0.040			Y	Y
86	Fluoranthene	ug/L		0.16					300	370	300	No	No	Y	Y
87	Fluorene	ug/L		0.28					1300	14000	1300	No	No	Y	Y
88	Hexachlorobenzene	ug/L							0.00075	0.00077	0.00075			Y	Y
89	Hexachlorobutadiene	ug/L		0.16					0.44	50	0.44	No	No	Y	Y
90	Hexachlorocyclopentadiene	ug/L		1.5					240	17000	240	No	No	Y	Y
91	Hexachloroethane	ug/L		0.36					1.9	8.9	1.9	No	No	Y	Y
92	Indeno(1,2,3-cd)Pyrene	ug/L							0.0044	0.049	0.0044			Y	Y
93	Isophorone	ug/L		0.21					8.4	600	8.4	No	No	Y	Y
94	Naphthalene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y
95	Nitrobenzene	ug/L		0.36					17	1900	17	No	No	Y	Y
96	N-Nitrosodimethylamine	ug/L							0.00069	8.10	0.00069			Y	Y
97	N-Nitrosodi-n-Propylamine	ug/L							0.005	1.40	0.005			Y	Y
98	N-Nitrosodiphenylamine	ug/L		0.19					5.0	16	5.0	No	No	Y	Y

		REASONABLE POTENTIAL ANALYSIS (RPA)							HUMAN HEALTH CALCULATIONS		
CTR#	Parameters	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?	Reason	Water & Organisms		
									AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh
49	2,4-Dinitrophenol	1.6		N	No detected value of B, Step 7		No	MEC<C & B is ND			
50	2-Nitrophenol	0.26		N	No Criteria	No Criteria	Uc	No Criteria			
51	4-Nitrophenol	0.45		N	No Criteria	No Criteria	Uc	No Criteria			
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	0.23		N	No Criteria	No Criteria	Uc	No Criteria			
53	Pentachlorophenol	0.19		N	No detected value of B, Step 7		No	MEC<C & B is ND			
54	Phenol	0.16		N	No detected value of B, Step 7		No	MEC<C & B is ND			
55	2,4,6-Trichlorophenol	0.22		N	No detected value of B, Step 7		No	MEC<C & B is ND			
56	Acenaphthene	0.31		N	No detected value of B, Step 7		No	MEC<C & B is ND			
57	Acenaphthylene	0.26		N	No Criteria	No Criteria	Uc	No Criteria			
58	Anthracene	0.28		N	No detected value of B, Step 7		No	MEC<C & B is ND			
59	Benzidine	0.7		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
60	Benzo(a)Anthracene	0.19		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
61	Benzo(a)Pyrene	0.13		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
62	Benzo(b)Fluoranthene	0.14		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
63	Benzo(ghi)Perylene	0.1		N	No Criteria	No Criteria	Uc	No Criteria			
64	Benzo(k)Fluoranthene	0.22		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
65	Bis(2-Chloroethoxy)Methane	0.25		N	No Criteria	No Criteria	Uc	No Criteria			
66	Bis(2-Chloroethyl)Ether	0.27		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
67	Bis(2-Chloroisopropyl)Ether	0.38		N	No detected value of B, Step 7		No	MEC<C & B is ND			
68	Bis(2-Ethylhexyl)Phthalate	2.3		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
69	4-Bromophenyl Phenyl Ethe	0.23		N	No Criteria	No Criteria	Uc	No Criteria			
70	Butylbenzyl Phthalate	0.18		N	No detected value of B, Step 7		No	MEC<C & B is ND			
71	2-Chloronaphthalene	0.26		N	No detected value of B, Step 7		No	MEC<C & B is ND			
72	4-Chlorophenyl Phenyl Ethe	0.24		N	No Criteria	No Criteria	Uc	No Criteria			
73	Chrysene		0.21		B>C & eff ND, Step 7		no	ud; effluent ND, MDL>C & B>			
74	Dibenzo(a,h)Anthracene	0.08		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
75	1,2-Dichlorobenzene	0.19		N	No detected value of B, Step 7		No	MEC<C & B is ND			
76	1,3-Dichlorobenzene	0.14		N	No detected value of B, Step 7		No	MEC<C & B is ND			
77	1,4-Dichlorobenzene	0.18		N	No detected value of B, Step 7		No	MEC<C & B is ND			
78	3,3 Dichlorobenzidine	0.23		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
79	Diethyl Phthalate	0.15		N	No detected value of B, Step 7		No	MEC<C & B is ND			
80	Dimethyl Phthalate	0.18		N	No detected value of B, Step 7		No	MEC<C & B is ND			
81	Di-n-Butyl Phthalate	0.24		N	No detected value of B, Step 7		No	MEC<C & B is ND			
82	2,4-Dinitrotoluene	0.18		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
83	2,6-Dinitrotoluene	0.24		N	No Criteria	No Criteria	Uc	No Criteria			
84	Di-n-Octyl Phthalate	0.19		N	No Criteria	No Criteria	Uc	No Criteria			
85	1,2-Diphenylhydrazine	0.25		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
86	Fluoranthene	0.16		N	No detected value of B, Step 7		No	MEC<C & B is ND			
87	Fluorene	0.28		N	No detected value of B, Step 7		No	MEC<C & B is ND			
88	Hexachlorobenzene	0.15		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
89	Hexachlorobutadiene	0.16		N	No detected value of B, Step 7		No	MEC<C & B is ND			
90	Hexachlorocyclopentadiene	1.5		N	No detected value of B, Step 7		No	MEC<C & B is ND			
91	Hexachloroethane	0.36		N	No detected value of B, Step 7		No	MEC<C & B is ND			
92	Indeno(1,2,3-cd)Pyrene	0.12		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
93	Isophorone	0.21		N	No detected value of B, Step 7		No	MEC<C & B is ND			
94	Naphthalene	0.21		N	No Criteria	No Criteria	Uc	No Criteria			
95	Nitrobenzene	0.36		N	No detected value of B, Step 7		No	MEC<C & B is ND			
96	N-Nitrosodimethylamine	0.14		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
97	N-Nitrosodi-n-Propylamine	0.26		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
98	N-Nitrosodiphenylamine	0.19		N	No detected value of B, Step 7		No	MEC<C & B is ND			

CTR#	Parameters	AQUATIC LIFE CALCULATIONS Saltwater / Freshwater / Basin Plan ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life	LIMITS Lowest AMEL	Lowest MDEL	Recommendation	Comment
49	2,4-Dinitrophenol												No Limit	
50	2-Nitrophenol												No Limit	
51	4-Nitrophenol												No Limit	
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)												No Limit	
53	Pentachlorophenol												No Limit	
54	Phenol												No Limit	
55	2,4,6-Trichlorophenol												No Limit	
56	Acenaphthene												No Limit	
57	Acenaphthylene												No Limit	
58	Anthracene												No Limit	
59	Benzidine												No Limit	
60	Benzo(a)Anthracene												No Limit	
61	Benzo(a)Pyrene												No Limit	
62	Benzo(b)Fluoranthene												No Limit	
63	Benzo(ghi)Perylene												No Limit	
64	Benzo(k)Fluoranthene												No Limit	
65	Bis(2-Chloroethoxy)Methane												No Limit	
66	Bis(2-Chloroethyl)Ether												No Limit	
67	Bis(2-Chloroisopropyl)Ether												No Limit	
68	Bis(2-Ethylhexyl)Phthalate												No Limit	
69	4-Bromophenyl Phenyl Ethe												No Limit	
70	Butylbenzyl Phthalate												No Limit	
71	2-Chloronaphthalene												No Limit	
72	4-Chlorophenyl Phenyl Ethe												No Limit	
73	Chrysene												No Limit	
74	Dibenzo(a,h)Anthracene												No Limit	
75	1,2-Dichlorobenzene												No Limit	
76	1,3-Dichlorobenzene												No Limit	
77	1,4-Dichlorobenzene												No Limit	
78	3,3 Dichlorobenzidine												No Limit	
79	Diethyl Phthalate												No Limit	
80	Dimethyl Phthalate												No Limit	
81	Di-n-Butyl Phthalate												No Limit	
82	2,4-Dinitrotoluene												No Limit	
83	2,6-Dinitrotoluene												No Limit	
84	Di-n-Octyl Phthalate												No Limit	
85	1,2-Diphenylhydrazine												No Limit	
86	Fluoranthene												No Limit	
87	Fluorene												No Limit	
88	Hexachlorobenzene												No Limit	
89	Hexachlorobutadiene												No Limit	
90	Hexachlorocyclopentadiene												No Limit	
91	Hexachloroethane												No Limit	
92	Indeno(1,2,3-cd)Pyrene												No Limit	
93	Isophorone												No Limit	
94	Naphthalene												No Limit	
95	Nitrobenzene												No Limit	
96	N-Nitrosodimethylamine												No Limit	
97	N-Nitrosodi-n-Propylamine												No Limit	
98	N-Nitrosodiphenylamine												No Limit	

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)						Lowest C or WLAs	MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?
					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					
99	Phenanthrene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y
100	Pyrene	ug/L		0.16					960.00	11000	960	No	No	Y	Y
101	1,2,4-Trichlorobenzene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y
102	Aldrin	ug/L			3.00				0.00013	0.00014	0.00013			Y	Y
103	alpha-BHC	ug/L		0.0018					0.0039	0.013	0.0039	No	No	Y	Y
104	beta-BHC	ug/L		0.0031					0.014	0.046	0.014	No	No	Y	Y
105	gamma-BHC	ug/L		0.0021	0.95				0.019	0.063	0.019	No	No	Y	Y
106	delta-BHC	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y	Y
107	Chlordane	ug/L			2.40	0.00			0.00	0.00059	0.00057			Y	Y
108	4,4'-DDT	ug/L			1.10	0.00			0.00	0.00059	0.00059			Y	Y
109	4,4'-DDE (linked to DDT)	ug/L							0.00059	0.00059	0.00059			Y	Y
110	4,4'-DDD	ug/L							0.00083	0.00084	0.00083			Y	Y
111	Dieldrin	ug/L			0.24	0.06			0.00	0.00014	0.00014			Y	Y
112	alpha-Endosulfan	ug/L		0.0017	0.22	0.056			110	240	0.0560	No	No	Y	Y
113	beta-Endolsulfan	ug/L		0.0019	0.22	0.056			110	240	0.0560	No	No	Y	Y
114	Endosulfan Sulfate	ug/L		0.008					110	240	110	No	No	Y	Y
115	Endrin	ug/L		0.0028	0.086	0.036			0.76	0.81	0.0360	No	No	Y	Y
116	Endrin Aldehyde	ug/L		0.003					0.76	0.81	0.76	No	No	Y	Y
117	Heptachlor	ug/L			0.52	0.0038			0.00021	0.00021	0.00021			Y	Y
118	Heptachlor Epoxide	ug/L			0.52	0.0038			0.00010	0.00011	0.00010			Y	Y
119-125	PCBs sum (2)	ug/L				0.01			0.00	0.00017	0.00017			Y	Y
126	Toxaphene	ug/L			0.73	0.0002			0.00073	0.00075	0.0002			Y	Y

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

		REASONABLE POTENTIAL ANALYSIS (RPA)							HUMAN HEALTH CALCULATIONS		
CTR#	Parameters	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?	Reason	Water & Organisms		
									AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh
99	Phenanthrene	0.25		N	No Criteria	No Criteria	Uc	No Criteria			
100	Pyrene	0.16		N	No detected value of B, Step 7		No	MEC<C & B is ND			
101	1,2,4-Trichlorobenzene	0.17		N	No Criteria	No Criteria	Uc	No Criteria			
102	Aldrin				No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
103	alpha-BHC				No detected value of B, Step 7		No	MEC<C & B is ND			
104	beta-BHC	0.0031		N	No detected value of B, Step 7		No	MEC<C & B is ND			
105	gamma-BHC	0.0021		N	No detected value of B, Step 7		No	MEC<C & B is ND			
106	delta-BHC	0.0025		N	No Criteria	No Criteria	Uc	No Criteria			
107	Chlordane	0.08		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
108	4,4'-DDT	0.0031		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
109	4,4'-DDE (linked to DDT)	0.0025		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
110	4,4'-DDD	0.003		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
111	Dieldrin	0.0021		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
112	alpha-Endosulfan	0.0017		N	No detected value of B, Step 7		No	MEC<C & B is ND			
113	beta-Endolsulfan	0.0019		N	No detected value of B, Step 7		No	MEC<C & B is ND			
114	Endosulfan Sulfate	0.008		N	No detected value of B, Step 7		No	MEC<C & B is ND			
115	Endrin	0.0028		N	No detected value of B, Step 7		No	MEC<C & B is ND			
116	Endrin Aldehyde	0.003		N	No detected value of B, Step 7		No	MEC<C & B is ND			
117	Heptachlor	0.0017		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
118	Heptachlor Epoxide	0.0019		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
119-125	PCBs sum (2)	0.04		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
126	Toxaphene	0.12		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			

Notes:
Ud = Undetermined due to lack of data
Uc = Undetermined due to lack of CTR
C = Water Quality Criteria
B = Background receiving water data

		AQUATIC LIFE CALCULATIONS									LIMITS			
CTR#		Saltwater / Freshwater / Basin Plan												
	Parameters	ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life	Lowest AMEL	Lowest MDEL	Recommendation	Comment
99	Phenanthrene												No Limit	
100	Pyrene												No Limit	
101	1,2,4-Trichlorobenzene												No Limit	
102	Aldrin												No Limit	
103	alpha-BHC												No Limit	
104	beta-BHC												No Limit	
105	gamma-BHC												No Limit	
106	delta-BHC												No Limit	
107	Chlordane												No Limit	
108	4,4'-DDT												No Limit	
109	4,4'-DDE (linked to DDT)												No Limit	
110	4,4'-DDD												No Limit	
111	Dieldrin												No Limit	
112	alpha-Endosulfan												No Limit	
113	beta-Endolsulfan												No Limit	
114	Endosulfan Sulfate												No Limit	
115	Endrin												No Limit	
116	Endrin Aldehyde												No Limit	
117	Heptachlor												No Limit	
118	Heptachlor Epoxide												No Limit	
119-125	PCBs sum (2)												No Limit	
126	Toxaphene												No Limit	

Notes:
Ud = Undetermined due to lack of data
Uc = Undetermined due to lack of CTR
C = Water Quality Criteria
B = Background receiving water data

Attachment J
Reasonable Potential Analysis and Effluent Limitations
CA Dept. of Water Resources, William E Warne Power Plant (CA0059188), Discharge Point 002

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)						Lowest C or WLAs	MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?
					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		0.008					14.00	4300.00	14.00	No	No	Y
2	Arsenic	ug/L		6.2	340.00	150.00					150.00	No	No	Y
3	Beryllium	ug/L		No Criteria						Narrative	No Criteria	No Criteria	No Criteria	Y
4	Cadmium	ug/L		0.013	4.62	2.50				Narrative	2.50	No	No	Y
5a	Chromium (III)				1764.91	210.37				Narrative	210.37			N
5b	Chromium (VI)	ug/L		0.94	16.00	11.00				Narrative	11.00	No	No	Y
6	Copper	ug/L	3.116	840	14.26	9.49			1300.00		9.49	Yes	Yes	Y
7	Lead	ug/L	2.076	12	83.73	3.26				Narrative	3.26	Yes	Yes	Y
8	Mercury	ug/L	0.60	0.05100	Reserved	Reserved			0.05000	0.05100	0.05000	Yes	Yes	Y
9	Nickel	ug/L		3.7	477.10	53.04			610.00	4600.00	53.04	No	No	Y
10	Selenium	ug/L		0.58	20.00	5.00				Narrative	5.00	No	No	Y
11	Silver	ug/L		0.008	4.20						4.20	No	No	Y
12	Thallium	ug/L		0.009					1.70	6.30	1.70	No	No	Y
13	Zinc	ug/L	2.559	450	121.84	121.84					121.8	Yes	Yes	Y
14	Cyanide	ug/L		0.48	22.00	5.20			700.00	220000.0	5.20	No	No	Y
15	Asbestos	MFL		0.2					7.00		7.00	No	No	Y
16	2,3,7,8 TCDD	ug/L		DNQ					0.000000013	1.4E-08	1.30E-08	Yes	Yes	Y
	TCDD Equivalents	ug/L		DNQ					0.000000013	1.4E-08	1.30E-08	Yes	Yes	Y
17	Acrolein	ug/L		0.44					320	780.0	320	No	No	Y
18	Acrylonitrile	ug/L							0.059	0.66	0.059			Y
19	Benzene	ug/L		0.15					1.2	71	1.2	No	No	Y
20	Bromoform	ug/L	3.358	25					4.3	360	4.3	Yes	Yes	Y
21	Carbon Tetrachloride	ug/L		0.12					0.25	4.4	0.25	No	No	Y
22	Chlorobenzene	ug/L		0.06					680	21000	680	No	No	Y
23	Chlorodibromomethane	ug/L	1.363	11					0.41	34	0.41	Yes	Yes	Y
24	Chloroethane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
25	2-Chloroethylvinyl ether	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
26	Chloroform	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
27	Dichlorobromomethane	ug/L	1.02	3.8					0.56	46	0.56	Yes	Yes	Y
28	1,1-Dichloroethane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
29	1,2-Dichloroethane	ug/L		0.12					0.38	99	0.38	No	No	Y
30	1,1-Dichloroethylene	ug/L							0.057	3.2	0.057			Y
31	1,2-Dichloropropane	ug/L		0.13					0.52	39	0.52	No	No	Y
32	1,3-Dichloropropylene	ug/L		0.15					10	1700	10	No	No	Y
33	Ethylbenzene	ug/L		0.17					3100	29000	3100	No	No	Y
34	Methyl Bromide	ug/L		0.21					48	4000	48	No	No	Y
35	Methyl Chloride	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
36	Methylene Chloride	ug/L		0.14					4.7	1600	4.7	No	No	Y
37	1,1,2,2-Tetrachloroethane	ug/L							0.17	11	0.17			Y
38	Tetrachloroethylene	ug/L	0.6	26					0.8	8.85	0.8	Yes	Yes	Y
39	Toluene	ug/L		0.14					6800	200000	6800	No	No	Y
40	1,2-Trans-Dichloroethylene	ug/L		0.11					700	140000	700	No	No	Y
41	1,1,1-Trichloroethane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
42	1,1,2-Trichloroethane	ug/L		0.19					0.6	42	0.6	No	No	Y
43	Trichloroethylene	ug/L		0.98					2.7	81	2.7	No	No	Y
44	Vinyl Chloride	ug/L		0.18					2	525	2	No	No	Y
45	2-Chlorophenol	ug/L		0.28					120	400	120	No	No	Y
46	2,4-Dichlorophenol	ug/L		0.26					93	790	93	No	No	Y
47	2,4-Dimethylphenol	ug/L		0.3					540	2300	540	No	No	Y
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	ug/L		0.33					13.4	765	13.4	No	No	Y
49	2,4-Dinitrophenol	ug/L		1.6					70	14000	70	No	No	Y

		REASONABLE POTENTIAL ANALYSIS (RPA)								HUMAN HEALTH CALCULATIONS		
CTR#	Parameters	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?	Reason	Water & Organisms		
										AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh
1	Antimony	Y	0.008		N	No detected value of B, Step 7		No	MEC<C & B is ND			
2	Arsenic	N		6.7		B<=C, Step 7		No	MEC<C & B<=C			
3	Beryllium	Y	0.015		N	No Criteria	No Criteria	Uc	No Criteria			
4	Cadmium	Y	0.013		N	No detected value of B, Step 7		No	MEC<C & B is ND			
5a	Chromium (III)					No detected value of B, Step 7		Ud	No effluent data & no B			
5b	Chromium (VI)	N		1.6		B<=C, Step 7		No	MEC<C & B<=C			
6	Copper	N		4.4		B<=C, Step 7		Yes	MEC>=C	1300	3.27	4257
7	Lead	N		0.78		B<=C, Step 7		Yes	MEC>=C		3.09	
8	Mercury	Y	0.00390		N	No detected value of B, Step 7		Yes	MEC>=C	0.05000	2.00619	0.10031
9	Nickel	N		8.9		B<=C, Step 7		No	MEC<C & B<=C			
10	Selenium	N		0.63		B<=C, Step 7		No	MEC<C & B<=C			
11	Silver	Y	0.008		N	No detected value of B, Step 7		No	MEC<C & B is ND			
12	Thallium	Y	0.009		N	No detected value of B, Step 7		No	MEC<C & B is ND			
13	Zinc	N		12		B<=C, Step 7		Yes	MEC>=C		3.19	
14	Cyanide	Y	0.48		N	No detected value of B, Step 7		No	MEC<C & B is ND			
15	Asbestos	Y	0.2		N	No detected value of B, Step 7		No	MEC<C & B is ND			
16	2,3,7,8 TCDD	Y	0.00000055		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
	TCDD Equivalents	Y	0.00000055		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
17	Acrolein	Y	0.44		N	No detected value of B, Step 7		No	MEC<C & B is ND			
18	Acrylonitrile	Y	0.27		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
19	Benzene	Y	0.15		N	No detected value of B, Step 7		No	MEC<C & B is ND			
20	Bromoform	Y	0.17		N	No detected value of B, Step 7		Yes	MEC>=C	8.017	3.30	26.49262
21	Carbon Tetrachloride	Y	0.12		N	No detected value of B, Step 7		No	MEC<C & B is ND			
22	Chlorobenzene	Y	0.15		N	No detected value of B, Step 7		No	MEC<C & B is ND			
23	Chlorodibromomethane	Y	0.19		N	No detected value of B, Step 7		Yes	MEC>=C	9.144	2.81	25.69704
24	Chloroethane	Y	0.17		N	No Criteria	No Criteria	Uc	No Criteria			
25	2-Chloroethylvinyl ether	Y	0.35		N	No Criteria	No Criteria	Uc	No Criteria			
26	Chloroform	Y				No Criteria	No Criteria	Uc	No Criteria			
27	Dichlorobromomethane	Y	0.09		N	No detected value of B, Step 7		Yes	MEC>=C	4.602	2.54	11.69051
28	1,1-Dichloroethane	Y	0.12		N	No Criteria	No Criteria	Uc	No Criteria			
29	1,2-Dichloroethane	Y	0.12		N	No detected value of B, Step 7		No	MEC<C & B is ND			
30	1,1-Dichloroethylene	Y	0.16		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
31	1,2-Dichloropropane	Y	0.13		N	No detected value of B, Step 7		No	MEC<C & B is ND			
32	1,3-Dichloropropylene	Y	0.15		N	No detected value of B, Step 7		No	MEC<C & B is ND			
33	Ethylbenzene	Y	0.17		N	No detected value of B, Step 7		No	MEC<C & B is ND			
34	Methyl Bromide	Y	0.21		N	No detected value of B, Step 7		No	MEC<C & B is ND			
35	Methyl Chloride	Y	0.11		N	No Criteria	No Criteria	Uc	No Criteria			
36	Methylene Chloride	Y	0.14		N	No detected value of B, Step 7		No	MEC<C & B is ND			
37	1,1,2,2-Tetrachloroethane	Y	0.18		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
38	Tetrachloroethylene	Y	0.18		N	No detected value of B, Step 7		Yes	MEC>=C	2.418473684	2.01	4.85192
39	Toluene	Y	0.14		N	No detected value of B, Step 7		No	MEC<C & B is ND			
40	1,2-Trans-Dichloroethylene	Y	0.11		N	No detected value of B, Step 7		No	MEC<C & B is ND			
41	1,1,1-Trichloroethane	Y	0.11		N	No Criteria	No Criteria	Uc	No Criteria			
42	1,1,2-Trichloroethane	Y	0.19		N	No detected value of B, Step 7		No	MEC<C & B is ND			
43	Trichloroethylene	Y	0.18		N	No detected value of B, Step 7		No	MEC<C & B is ND			
44	Vinyl Chloride	Y	0.18		N	No detected value of B, Step 7		No	MEC<C & B is ND			
45	2-Chlorophenol	Y	0.28		N	No detected value of B, Step 7		No	MEC<C & B is ND			
46	2,4-Dichlorophenol	Y	0.26		N	No detected value of B, Step 7		No	MEC<C & B is ND			
47	2,4-Dimethylphenol	Y	0.3		N	No detected value of B, Step 7		No	MEC<C & B is ND			
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	Y	0.33		N	No detected value of B, Step 7		No	MEC<C & B is ND			
49	2,4-Dinitrophenol	Y	1.6		N	No detected value of B, Step 7		No	MEC<C & B is ND			

CTR#	Parameters	AQUATIC LIFE CALCULATIONS Saltwater / Freshwater / Basin Plan									LIMITS		Recommendation	Comment
		ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life	Lowest AMEL	Lowest MDEL		
1	Antimony												No Limit	
2	Arsenic												No Limit	
3	Beryllium												No Limit	
4	Cadmium												No Limit	
5a	Chromium (III)												No Limit	
5b	Chromium (VI)												No Limit	
6	Copper	0.09	8.66	0.14	7.17	7.17	3.35	24.05	10.98	78.75836	24	79		
7	Lead	0.11	87.16	0.20	4.66	4.66	2.83	13.20	8.76	40.83415	13	41		
8	Mercury						1.55242		3.11446		0.050	0.10		
9	Nickel												No Limit	
10	Selenium												No Limit	
11	Silver												No Limit	
12	Thallium												No Limit	
13	Zinc	0.10	102.90	0.16	168.08	102.90	3.11	320.15	9.94	1022.562	320	1023		
14	Cyanide												No Limit	
15	Asbestos												No Limit	
16	2,3,7,8 TCDD												No Limit	
	TCDD Equivalents												No Limit	
17	Acrolein												No Limit	
18	Acrylonitrile												No Limit	
19	Benzene												No Limit	
20	Bromoform						3.44		11.35		8.0	26		
21	Carbon Tetrachloride												No Limit	
22	Chlorobenzene												No Limit	
23	Chlorodibromomethane						2.28		6.42		9	26		
24	Chloroethane												No Limit	
25	2-Chloroethylvinyl ether												No Limit	
26	Chloroform												No Limit	
27	Dichlorobromomethane						1.96		4.99		4.6	12		
28	1,1-Dichloroethane												No Limit	
29	1,2-Dichloroethane												No Limit	
30	1,1-Dichloroethylene												No Limit	
31	1,2-Dichloropropane												No Limit	
32	1,3-Dichloropropylene												No Limit	
33	Ethylbenzene												No Limit	
34	Methyl Bromide												No Limit	
35	Methyl Chloride												No Limit	
36	Methylene Chloride												No Limit	
37	1,1,2,2-Tetrachloroethane												No Limit	
38	Tetrachloroethylene						1.55		3.11		2.4	4.9		
39	Toluene												No Limit	
40	1,2-Trans-Dichloroethylene												No Limit	
41	1,1,1-Trichloroethane												No Limit	
42	1,1,2-Trichloroethane												No Limit	
43	Trichloroethylene												No Limit	
44	Vinyl Chloride												No Limit	
45	2-Chlorophenol												No Limit	
46	2,4-Dichlorophenol												No Limit	
47	2,4-Dimethylphenol												No Limit	
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)												No Limit	
49	2,4-Dinitrophenol												No Limit	

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)						Lowest C or WLAs	MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?
					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				
50	2-Nitrophenol	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
51	4-Nitrophenol	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
53	Pentachlorophenol	ug/L		0.19	5.28	4.05			0.28	8.2	0.28	No	No	Y
54	Phenol	ug/L		0.16					21000	4600000	21000	No	No	Y
55	2,4,6-Trichlorophenol	ug/L		0.22					2.1	6.5	2.1	No	No	Y
56	Acenaphthene	ug/L		0.31					1200	2700	1200	No	No	Y
57	Acenaphthylene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
58	Anthracene	ug/L		0.28					9600	110000	9600	No	No	Y
59	Benzidine	ug/L							0.00012	0.00054	0.00012			Y
60	Benzo(a)Anthracene	ug/L							0.00	0.049	0.004			Y
61	Benzo(a)Pyrene	ug/L							0.00	0.049	0.004			Y
62	Benzo(b)Fluoranthene	ug/L							0.0044	0.049	0.0044			Y
63	Benzo(ghi)Perylene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
64	Benzo(k)Fluoranthene	ug/L							0.0044	0.049	0.0044			Y
65	Bis(2-Chloroethoxy)Methane	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
66	Bis(2-Chloroethyl)Ether	ug/L							0.031	1.4	0.031			Y
67	Bis(2-Chloroisopropyl)Ether	ug/L		0.38					1400	170000	1400	No	No	Y
68	Bis(2-Ethylhexyl)Phthalate	ug/L	0.6						1.8	5.9	1.8			Y
69	4-Bromophenyl Phenyl Ether	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
70	Butylbenzyl Phthalate	ug/L		0.18					3000	5200	3000	No	No	Y
71	2-Chloronaphthalene	ug/L		0.26					1700	4300	1700	No	No	Y
72	4-Chlorophenyl Phenyl Ether	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
73	Chrysene	ug/L							0.00	0.049	0.004			Y
74	Dibenzo(a,h)Anthracene	ug/L							0.0044	0.049	0.0044			Y
75	1,2-Dichlorobenzene	ug/L		0.19					2700	17000	2700	No	No	Y
76	1,3-Dichlorobenzene	ug/L		0.14					400	2600	400	No	No	Y
77	1,4-Dichlorobenzene	ug/L		0.18					400	2600	400	No	No	Y
78	3,3 Dichlorobenzidine	ug/L							0.04	0.077	0.04			Y
79	Diethyl Phthalate	ug/L		5.7					23000	120000	23000	No	No	Y
80	Dimethyl Phthalate	ug/L		0.18					313000	2900000	313000	No	No	Y
81	Di-n-Butyl Phthalate	ug/L		0.24					2700	12000	2700	No	No	Y
82	2,4-Dinitrotoluene	ug/L							0.11	9.10	0.11			Y
83	2,6-Dinitrotoluene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
84	Di-n-Octyl Phthalate	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
85	1,2-Diphenylhydrazine	ug/L							0.040	0.54	0.040			Y
86	Fluoranthene	ug/L		0.16					300	370	300	No	No	Y
87	Fluorene	ug/L		0.28					1300	14000	1300	No	No	Y
88	Hexachlorobenzene	ug/L							0.00075	0.00077	0.00075			Y
89	Hexachlorobutadiene	ug/L		0.16					0.44	50	0.44	No	No	Y
90	Hexachlorocyclopentadiene	ug/L		1.5					240	17000	240	No	No	Y
91	Hexachloroethane	ug/L		0.36					1.9	8.9	1.9	No	No	Y
92	Indeno(1,2,3-cd)Pyrene	ug/L							0.0044	0.049	0.0044			Y
93	Isophorone	ug/L		0.21					8.4	600	8.4	No	No	Y
94	Naphthalene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
95	Nitrobenzene	ug/L		0.36					17	1900	17	No	No	Y
96	N-Nitrosodimethylamine	ug/L							0.00069	8.10	0.00069			Y
97	N-Nitrosodi-n-Propylamine	ug/L							0.005	1.40	0.005			Y
98	N-Nitrosodiphenylamine	ug/L		0.19					5.0	16	5.0	No	No	Y
99	Phenanthrene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
100	Pyrene	ug/L		0.16					960.00	11000	960	No	No	Y

		REASONABLE POTENTIAL ANALYSIS (RPA)								HUMAN HEALTH CALCULATIONS		
CTR#	Parameters	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?	Reason	Water & Organisms		
										AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh
50	2-Nitrophenol	Y	0.26		N	No Criteria	No Criteria	Uc	No Criteria			
51	4-Nitrophenol	Y	0.45		N	No Criteria	No Criteria	Uc	No Criteria			
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	Y	0.23		N	No Criteria	No Criteria	Uc	No Criteria			
53	Pentachlorophenol	Y	0.19		N	No detected value of B, Step 7		No	MEC<C & B is ND			
54	Phenol	Y	0.16		N	No detected value of B, Step 7		No	MEC<C & B is ND			
55	2,4,6-Trichlorophenol	Y	0.22		N	No detected value of B, Step 7		No	MEC<C & B is ND			
56	Acenaphthene	Y	0.31		N	No detected value of B, Step 7		No	MEC<C & B is ND			
57	Acenaphthylene	Y	0.26		N	No Criteria	No Criteria	Uc	No Criteria			
58	Anthracene	Y	0.28		N	No detected value of B, Step 7		No	MEC<C & B is ND			
59	Benzidine	Y	0.7		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
60	Benzo(a)Anthracene	Y	0.19		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
61	Benzo(a)Pyrene	Y	0.13		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
62	Benzo(b)Fluoranthene	Y	0.14		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
63	Benzo(ghi)Perylene	Y	0.1		N	No Criteria	No Criteria	Uc	No Criteria			
64	Benzo(k)Fluoranthene	Y	0.22		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
65	Bis(2-Chloroethoxy)Methane	Y	0.25		N	No Criteria	No Criteria	Uc	No Criteria			
66	Bis(2-Chloroethyl)Ether	Y	0.27		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
67	Bis(2-Chloroisopropyl)Ether	Y	0.38		N	No detected value of B, Step 7		No	MEC<C & B is ND			
68	Bis(2-Ethylhexyl)Phthalate	Y	2.3		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
69	4-Bromophenyl Phenyl Ethe	Y	0.23		N	No Criteria	No Criteria	Uc	No Criteria			
70	Butylbenzyl Phthalate	Y	0.18		N	No detected value of B, Step 7		No	MEC<C & B is ND			
71	2-Chloronaphthalene	Y	0.26		N	No detected value of B, Step 7		No	MEC<C & B is ND			
72	4-Chlorophenyl Phenyl Ethe	Y	0.24		N	No Criteria	No Criteria	Uc	No Criteria			
73	Chrysene	N		0.21		B>C & eff ND, Step 7		no	ud; effluent ND, MDL>C & B>			
74	Dibenzo(a,h)Anthracene	Y	0.08		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
75	1,2-Dichlorobenzene	Y	0.19		N	No detected value of B, Step 7		No	MEC<C & B is ND			
76	1,3-Dichlorobenzene	Y	0.14		N	No detected value of B, Step 7		No	MEC<C & B is ND			
77	1,4-Dichlorobenzene	Y	0.18		N	No detected value of B, Step 7		No	MEC<C & B is ND			
78	3,3 Dichlorobenzidine	Y	0.23		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
79	Diethyl Phthalate	Y	0.15		N	No detected value of B, Step 7		No	MEC<C & B is ND			
80	Dimethyl Phthalate	Y	0.18		N	No detected value of B, Step 7		No	MEC<C & B is ND			
81	Di-n-Butyl Phthalate	Y	0.24		N	No detected value of B, Step 7		No	MEC<C & B is ND			
82	2,4-Dinitrotoluene	Y	0.18		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
83	2,6-Dinitrotoluene	Y	0.24		N	No Criteria	No Criteria	Uc	No Criteria			
84	Di-n-Octyl Phthalate	Y	0.19		N	No Criteria	No Criteria	Uc	No Criteria			
85	1,2-Diphenylhydrazine	Y	0.25		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
86	Fluoranthene	Y	0.16		N	No detected value of B, Step 7		No	MEC<C & B is ND			
87	Fluorene	Y	0.28		N	No detected value of B, Step 7		No	MEC<C & B is ND			
88	Hexachlorobenzene	Y	0.15		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
89	Hexachlorobutadiene	Y	0.16		N	No detected value of B, Step 7		No	MEC<C & B is ND			
90	Hexachlorocyclopentadiene	Y	1.5		N	No detected value of B, Step 7		No	MEC<C & B is ND			
91	Hexachloroethane	Y	0.36		N	No detected value of B, Step 7		No	MEC<C & B is ND			
92	Indeno(1,2,3-cd)Pyrene	Y	0.12		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
93	Isophorone	Y	0.21		N	No detected value of B, Step 7		No	MEC<C & B is ND			
94	Naphthalene	Y	0.21		N	No Criteria	No Criteria	Uc	No Criteria			
95	Nitrobenzene	Y	0.36		N	No detected value of B, Step 7		No	MEC<C & B is ND			
96	N-Nitrosodimethylamine	Y	0.14		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
97	N-Nitrosodi-n-Propylamine	Y	0.26		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
98	N-Nitrosodiphenylamine	Y	0.19		N	No detected value of B, Step 7		No	MEC<C & B is ND			
99	Phenanthrene	Y	0.25		N	No Criteria	No Criteria	Uc	No Criteria			
100	Pyrene	Y	0.16		N	No detected value of B, Step 7		No	MEC<C & B is ND			

CTR#	Parameters	AQUATIC LIFE CALCULATIONS — Saltwater / Freshwater / Basin Plan									LIMITS		Recommendation	Comment
		ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life	Lowest AMEL	Lowest MDEL		
50	2-Nitrophenol												No Limit	
51	4-Nitrophenol												No Limit	
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)												No Limit	
53	Pentachlorophenol												No Limit	
54	Phenol												No Limit	
55	2,4,6-Trichlorophenol												No Limit	
56	Acenaphthene												No Limit	
57	Acenaphthylene												No Limit	
58	Anthracene												No Limit	
59	Benzidine												No Limit	
60	Benzo(a)Anthracene												No Limit	
61	Benzo(a)Pyrene												No Limit	
62	Benzo(b)Fluoranthene												No Limit	
63	Benzo(ghi)Perylene												No Limit	
64	Benzo(k)Fluoranthene												No Limit	
65	Bis(2-Chloroethoxy)Methane												No Limit	
66	Bis(2-Chloroethyl)Ether												No Limit	
67	Bis(2-Chloroisopropyl)Ether												No Limit	
68	Bis(2-Ethylhexyl)Phthalate												No Limit	
69	4-Bromophenyl Phenyl Ether												No Limit	
70	Butylbenzyl Phthalate												No Limit	
71	2-Chloronaphthalene												No Limit	
72	4-Chlorophenyl Phenyl Ether												No Limit	
73	Chrysene												No Limit	
74	Dibenzo(a,h)Anthracene												No Limit	
75	1,2-Dichlorobenzene												No Limit	
76	1,3-Dichlorobenzene												No Limit	
77	1,4-Dichlorobenzene												No Limit	
78	3,3 Dichlorobenzidine												No Limit	
79	Diethyl Phthalate												No Limit	
80	Dimethyl Phthalate												No Limit	
81	Di-n-Butyl Phthalate												No Limit	
82	2,4-Dinitrotoluene												No Limit	
83	2,6-Dinitrotoluene												No Limit	
84	Di-n-Octyl Phthalate												No Limit	
85	1,2-Diphenylhydrazine												No Limit	
86	Fluoranthene												No Limit	
87	Fluorene												No Limit	
88	Hexachlorobenzene												No Limit	
89	Hexachlorobutadiene												No Limit	
90	Hexachlorocyclopentadiene												No Limit	
91	Hexachloroethane												No Limit	
92	Indeno(1,2,3-cd)Pyrene												No Limit	
93	Isophorone												No Limit	
94	Naphthalene												No Limit	
95	Nitrobenzene												No Limit	
96	N-Nitrosodimethylamine												No Limit	
97	N-Nitrosodi-n-Propylamine												No Limit	
98	N-Nitrosodiphenylamine												No Limit	
99	Phenanthrene												No Limit	
100	Pyrene												No Limit	

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)						Lowest C or WLAs	MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?
					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				
101	1,2,4-Trichlorobenzene	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
102	Aldrin	ug/L			3.00				0.00013	0.00014	0.00013			Y
103	alpha-BHC	ug/L		0.0018					0.0039	0.013	0.0039	No	No	Y
104	beta-BHC	ug/L		0.0031					0.014	0.046	0.014	No	No	Y
105	gamma-BHC	ug/L		0.0021	0.95				0.019	0.063	0.019	No	No	Y
106	delta-BHC	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	Y
107	Chlordane	ug/L			2.40	0.00			0.00	0.00059	0.00057			Y
108	4,4'-DDT	ug/L			1.10	0.00			0.00	0.00059	0.00059			Y
109	4,4'-DDE (linked to DDT)	ug/L							0.00059	0.00059	0.00059			Y
110	4,4'-DDD	ug/L							0.00083	0.00084	0.00083			Y
111	Dieldrin	ug/L			0.24	0.06			0.00	0.00014	0.00014			Y
112	alpha-Endosulfan	ug/L		0.0017	0.22	0.056			110	240	0.0560	No	No	Y
113	beta-Endolsulfan	ug/L		0.0019	0.22	0.056			110	240	0.0560	No	No	Y
114	Endosulfan Sulfate	ug/L		0.008					110	240	110	No	No	Y
115	Endrin	ug/L		0.0028	0.086	0.036			0.76	0.81	0.0360	No	No	Y
116	Endrin Aldehyde	ug/L		0.003					0.76	0.81	0.76	No	No	Y
117	Heptachlor	ug/L			0.52	0.0038			0.00021	0.00021	0.00021			Y
118	Heptachlor Epoxide	ug/L			0.52	0.0038			0.00010	0.00011	0.00010			Y
119-125	PCBs sum (2)	ug/L				0.01			0.00	0.00017	0.00017			Y
126	Toxaphene	ug/L			0.73	0.0002			0.00073	0.00075	0.0002			Y

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 and Effluent Limitations
CA Dept. of Water Resources, William E Warne Power Plant (CA0059188), Discharge Point 002

		REASONABLE POTENTIAL ANALYSIS (RPA)								HUMAN HEALTH CALCULATIONS		
CTR#	Parameters	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?	Reason	Water & Organisms		
										AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh
101	1,2,4-Trichlorobenzene	Y	0.17		N	No Criteria	No Criteria	Uc	No Criteria			
102	Aldrin	Y				No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
103	alpha-BHC	Y				No detected value of B, Step 7		No	MEC<C & B is ND			
104	beta-BHC	Y	0.0031		N	No detected value of B, Step 7		No	MEC<C & B is ND			
105	gamma-BHC	Y	0.0021		N	No detected value of B, Step 7		No	MEC<C & B is ND			
106	delta-BHC	Y	0.0025		N	No Criteria	No Criteria	Uc	No Criteria			
107	Chlordane	Y	0.08		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
108	4,4'-DDT	Y	0.0031		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
109	4,4'-DDE (linked to DDT)	Y	0.0025		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
110	4,4'-DDD	Y	0.003		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
111	Dieldrin	Y	0.0021		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
112	alpha-Endosulfan	Y	0.0017		N	No detected value of B, Step 7		No	MEC<C & B is ND			
113	beta-Endolsulfan	Y	0.0019		N	No detected value of B, Step 7		No	MEC<C & B is ND			
114	Endosulfan Sulfate	Y	0.008		N	No detected value of B, Step 7		No	MEC<C & B is ND			
115	Endrin	Y	0.0028		N	No detected value of B, Step 7		No	MEC<C & B is ND			
116	Endrin Aldehyde	Y	0.003		N	No detected value of B, Step 7		No	MEC<C & B is ND			
117	Heptachlor	Y	0.0017		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
118	Heptachlor Epoxide	Y	0.0019		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
119-125	PCBs sum (2)	Y	0.04		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			
126	Toxaphene	Y	0.12		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and			

Notes:
Ud = Undetermined due to lack of data
Uc = Undetermined due to lack of CTR
C = Water Quality Criteria
B = Background receiving water data

CTR#	Parameters	AQUATIC LIFE CALCULATIONS Saltwater / Freshwater / Basin Plan: ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life	LIMITS: Lowest AMEL	Lowest MDEL	Recommendation	Comment
101	1,2,4-Trichlorobenzene												No Limit	
102	Aldrin												No Limit	
103	alpha-BHC												No Limit	
104	beta-BHC												No Limit	
105	gamma-BHC												No Limit	
106	delta-BHC												No Limit	
107	Chlordane												No Limit	
108	4,4'-DDT												No Limit	
109	4,4'-DDE (linked to DDT)												No Limit	
110	4,4'-DDD												No Limit	
111	Dieldrin												No Limit	
112	alpha-Endosulfan												No Limit	
113	beta-Endolsulfan												No Limit	
114	Endosulfan Sulfate												No Limit	
115	Endrin												No Limit	
116	Endrin Aldehyde												No Limit	
117	Heptachlor												No Limit	
118	Heptachlor Epoxide												No Limit	
119-125	PCBs sum (2)												No Limit	
126	Toxaphene												No Limit	

Notes:
Ud = Undetermined due to lack of data
Uc = Undetermined due to lack of CTR
C = Water Quality Criteria
B = Background receiving water data