**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD**
**LOS ANGELES REGION**

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# ORDER NO. R4-2015-XXXX
# NPDES NO. CA0001139

# WASTE DISCHARGE REQUIREMENTS FOR AES ALAMITOS LLC ALAMITOS GENERATING STATION

The following Discharger is subject to waste discharge requirements (WDRs) set forth in this Order:

**Table 1. Discharger Information**

| | |
|---|---|
| Discharger | **AES Alamitos LLC** |
| Name of Facility | **Alamitos Generating Station** |
| Facility Address | **690 N. Studebaker Road** |
| | **Long Beach, CA 90815** |
| | **Los Angeles County** |

**Table 2. Discharge Location**

| Discharge Point | Effluent Description | Discharge Point Latitude (North) | Discharge Point Longitude (West) | Receiving Water |
|---|---|---|---|---|
| 001 | Once-through cooling water, process wastewater and treated sanitary wastewater | 33.768611° N | -118.097222º W | San Gabriel River Estuary |
| 002 | | 33.770000° N | -118.097222º W | |
| 003 | | 33.764762° N | -118.097222º W | |
| O-48 | Storm water runoff | 33.768394° N | -118.100725º W | Los Cerritos Channel Estuary |
| O-76 | | 33.765778° N | -118.099464º W | |
| O-84 | | 33.765078° N | -118.100347º W | |

**Table 3. Administrative Information**

| | |
|---|---|
| This Order was adopted on: | **September 10, 2015** |
| This Order shall become effective on: | **November 1, 2015** |
| This Order shall expire on: | **October 31, 2020** |
| The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDRs 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 (USEPA) 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 September 10, 2015.

_____
Samuel Unger, P.E., Executive Officer

TENTATIVE REQUIREMENTS SENT: JULY 22, 2015

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## I. FACILITY INFORMATION

Information describing Alamitos Generating Station (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 (hereinafter Regional Water Board), finds:

**A. Legal Authorities.** This Order serves as WDRs 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 USEPA 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. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections IV.B, IV.C, and V.B are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

**D. Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs 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.

**E. 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 Order No. 00-082, is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger is authorized to discharge from the identified facility and outfalls into waters of the United States and shall comply with the requirements in this Order.

## III. DISCHARGE PROHIBITIONS

**A.** Wastes discharged shall be limited to 208.2 million gallons per day (MGD) of commingled wastewater (consisting of once-through cooling water, metal cleaning wastes, low volume wastewater, treated sanitary wastes and storm water) from Discharge Point 001, 398.0 MGD at Discharge Point 002 and 674.1 MGD at Discharge Point 003. The discharge of wastes from accidental spills or other sources is prohibited.

**B.** Discharges of water, materials, thermal wastes, elevated temperature wastes, toxic wastes, deleterious substances, or wastes other than those authorized by this Order, to a storm drain

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system, the San Gabriel River Estuary, the Los Cerritos Channel Estuary, or other waters of the state, are prohibited.

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

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

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

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

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

## IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

### A. Effluent Limitations – Discharge Points No. 001, 002 and 003

#### 1. Final Effluent Limitations – Discharge Points No. 001, 003 and 003

The Discharger shall maintain compliance with the following effluent limitations at Discharge Points No. 001, 002, 003, O-48, O-76 and O-84 with compliance measured at Monitoring Locations EFF-001, EFF-002, EFF-003, D1, D2 and D3 as described in the attached Monitoring and Reporting Program (MRP) (Attachment E):

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**Table 4. Effluent Limitations**

| Parameter | Units | Effluent Limitations | | |
|---|---|---|---|---|
| | | Average Monthly | Maximum Daily | Instantaneous Minimum/ Maximum |
| ***Effluent Limitations for All Discharges from Discharge Points 001, 002 and 003*** | | | | |
| pH | S.U. | -- | -- | 6.5/8.5 |
| Ammonia Nitrogen, Total (as N) | mg/L | 0.567 | 1.333 | -- |
| | lbs/day[1] | 001: 984<br>002: 1,839<br>003: 3,187 | 001: 2,315<br>002: 4,325<br>003: 7,497 | -- |
| Free Available Chlorine[3] | mg/L | -- | 0.20[2]/0.50 | -- |
| Total Residual Chlorine[3,4] | mg/L | -- | 0.1 | -- |
| | lbs/day[1] | -- | 001: 174<br>002: 325<br>003: 562 | -- |
| Copper, Total Recoverable, Dry Weather[5] | µg/L | 2.7 | 4.6 | -- |
| | lbs/day[1] | 001: 4.7<br>002: 8.7<br>003: 15 | 001: 8.0<br>002: 15<br>003: 26 | -- |
| Copper, Total Recoverable, Wet Weather[6] | µg/L | 3.2 | 5.5 | -- |
| | lbs/day[1] | 001: 5.6<br>002: 11<br>003: 18 | 001: 9.6<br>002: 18<br>003: 31 | -- |
| Nickel, Total Recoverable | µg/L | 5.3 | 15 | -- |
| | lbs/day[1] | 001: 9.2<br>002: 17<br>003: 30 | 001: 26<br>002: 49<br>003: 85 | -- |
| 2,3,7,8-TCDD | µg/L | $1.4 \times 10^{-8}$ | $2.8 \times 10^{-8}$ | -- |
| | lbs/day[1] | 001: $2.4 \times 10^{-8}$<br>002: $4.5 \times 10^{-8}$<br>003: $7.9 \times 10^{-8}$ | 001: $4.9 \times 10^{-8}$<br>002: $9.1 \times 10^{-8}$<br>003: $1.6 \times 10^{-7}$ | -- |
| Bis(2-ethylhexyl) phthalate | µg/L | 5.9 | 19 | -- |
| | lbs/day[1] | 001: 10<br>002: 19<br>003: 33 | 001: 33<br>002: 62<br>003: 108 | -- |
| Chronic Toxicity | Pass or Fail and % Effect for TST approach | Pass[7,8] | Pass or % Effect <50[7] | -- |
| Radioactivity | [9] | | | |
| Bacteria | [10] | | | |
| Temperature | [11] | | | |
| ***Technology-Based Effluent Limitations for Low Volume Wastes*** | | | | |
| pH | S.U. | -- | -- | 6.0/9.0 |
| Total Suspended Solids | mg/L | 30 | 100 | -- |
| Oil and Grease | mg/L | 15 | 20 | -- |

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| Parameter | Units | Effluent Limitations | | |
|---|---|---|---|---|
| | | Average Monthly | Maximum Daily | Instantaneous Minimum/ Maximum |
| ***Technology-Based Effluent Limitations for Metal Cleaning Wastes*** | | | | |
| pH | S.U. | -- | -- | 6.0/9.0 |
| Total Suspended Solids | mg/L | 30 | 100 | -- |
| Oil and Grease | mg/L | 15 | 20 | -- |
| Copper, Total Recoverable | mg/L | 1.0 | 1.0 | -- |
| Iron, Total Recoverable | mg/L | 1.0 | 1.0 | -- |
| ***Technology-Based Effluent Limitations for Treated Sanitary Wastes*** | | | | |
| pH | S.U. | -- | -- | 6.0/9.0 |
| Biochemical Oxygen Demand (5-day, 20°C) | mg/L | 30 | 45 | -- |
| Total Suspended Solids | mg/L | 30 | 45 | -- |
| ***Water Quality-Based Effluent Limitations for Treated Sanitary Wastes*** | | | | |
| Oil and Grease | mg/L | 10 | 15 | -- |
| Settleable Solids | mL/L | 0.1 | 0.3 | -- |
| ***Technology-Based Effluent Limitations for Storm Water (Los Cerritos Channel Estuary)*** | | | | |
| pH | S.U. | -- | -- | 6.5/8.5 |
| Temperature | °F | -- | -- | 86 |
| Oil and Grease | mg/L | -- | 15 | -- |
| Total Suspended Solids | mg/L | -- | 75 | -- |

[1] The mass (lbs/day) limitations are based on the permitted discharge flow for each discharge point (208.2 MGD for Discharge Point 001, 389.0 for Discharge Point 002, and 674.1 for Discharge Point 003) and are calculated as follows:
Mass (lbs/day) = Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor)

[2] Applied as a daily average.

[3] Total residual chlorine and free available chlorine may not be discharged from any single generating unit for more than two hours per day unless the Discharger demonstrates to the permitting authority that discharge for more than two hours per day is required for macroinvertebrate control.

[4] If other oxidants are used, this shall be the total of all oxidants reported as residual chlorine.

[5] Dry weather is assumed for any discharge that occurs when the flow is less than 156 cubic feet per second (101 MGD) as measured at flow gauge F354-R in Coyote Creek operated by the Los Angeles County Department of Public Works.

[6] Wet weather is assumed for any discharge that occurs when the flow is equal to or greater than 156 cubic feet per second (101 MGD) as measured at flow gauge F354-R in Coyote Creek operated by the Los Angeles County Department of Public Works.

[7] Report "Pass" or "Fail" for Median Monthly Effluent Limitation (MMEL). Report "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL). During a calendar month, exactly three independent toxicity tests are required for routine monitoring when one toxicity test results in "Fail".

[8] This is a Median Monthly Effluent Limitation.

[9] Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

[10] Effluent limitations for total and fecal coliform bacteria are described below:

a. Geometric Mean Limits
   i. Total coliform density shall not exceed 1,000/100 ml.
   ii. Fecal coliform density shall not exeed 200/100 ml.
   iii. Enterococcus shall not exceed 35/100 ml.

b. Single Sample Limits
   i. Total coliform density shall not exceed 10,000/100 ml.
   ii. Fecal coliform density shall not exeed 400/100 ml.
   iii. Enterococcus shall not exceed 104/100 ml.

Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.

[11] The maximum temperature shall not exceed the natural receiving water temperature by more than 20°F. The maximum temperature of thermal waste discharges shall not exceed 86°F.

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**2. Interim Effluent Limitations—Not Applicable**

**B. Land Discharge Specifications—Not Applicable**

**C. Recycling Specifications—Not Applicable**

## V. RECEIVING WATER LIMITATIONS

### A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. The discharge shall not cause the following in the San Gabriel River Estuary:

**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 4°F above the natural temperature of the receiving waters at any time or place. Elevated temperature waste discharges either individually or combined with other discharges shall not create a zone, defined by water temperature of more than 1°F above natural receiving water temperature, which exceeds 25 percent of the cross-sectional area of a main river channel at any point.

**3.** Water Contact Standards: In waters designated for non-contact recreation (REC-2) and not designated for water contact recreation (REC-1), the fecal coliform concentration shall not exceed a log mean of 200/100 ml (based on a minimum of not less than four samples for any 30 day period), nor shall more than 10 percent of samples collected during any 30-day period exceed 400/100 ml.

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

**5.** Exceedance of the total ammonia (as N) concentrations specified in the Los Angeles Regional Water Board Resolution 2004-022, adopted on March 4, 2004, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters Not Characteristic of Freshwater (including Enclosed Bays, Estuaries, and Wetlands) with the Beneficial Use Designations for Protection of "Aquatic Life"*.

**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.

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12. The presence of substances that result in increases of BOD that adversely affect beneficial uses.
13. Taste or odor-producing substances in concentrations that alter the natural taste, odor, and/or color of fish, shellfish, or other edible aquatic resources; cause nuisance; or adversely affect beneficial uses.
14. Alteration of turbidity, or apparent color beyond present natural background levels.
15. Damage, discolor, nor cause formation of sludge deposits on flood control structures or facilities, nor overload the design capacity.
16. Degrade surface water communities and populations including vertebrate, invertebrate, and plant species.
17. Problems associated with breeding of mosquitoes, gnats, black flies, midges, or other pests.
18. Create nuisance, or adversely 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. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA, or amendments thereto, the Regional Water Board will revise or modify this Order in accordance with such standards.

### B. Groundwater Limitations

The discharge shall not cause the underlying groundwater to be degraded, to exceed water quality objectives, unreasonably effect beneficial uses, or cause a condition of pollution or nuisance.

## VI. PROVISIONS

### A. Standard Provisions

1. **Federal Standard Provisions.** The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.
2. **Regional Water Board Standard Provisions.** The Discharger shall comply with the following provisions.
   - **a.** This Order may be modified, revoked, reissued, or terminated in accordance with the provisions of 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 waste water to storm drain systems or other water courses under their jurisdiction; including applicable requirements in the municipal storm water management program developed to comply with NPDES permits issued by the Regional Water Board to local agencies.

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**c.** A discharge of waste 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 facility from compliance with any other laws, regulations, or ordinances which may be applicable; they do not legalize this 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 waste materials shall not be stored or deposited in areas where they may be picked up by rainfall and carried off of the property and/or discharged to surface waters. Any such spill of such materials shall be contained and removed immediately.

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

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

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

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

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

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

**j.** The Discharger shall notify the Regional Water Board not later than 120 days in advance of implementation of any plans to alter the operation and treatment capacity by more than ten percent. Such notification shall include estimates of proposed treatment capacity, and projected effects on effluent quality. Notification shall include submittal of a new report of waste discharge appropriate filing fee.

**k.** 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 an intermediate or final product or byproduct of any toxic pollutant that was not reported on their application.

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

**m.** 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

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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.

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

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

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

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

- **i.** Name and general composition of the chemical,
- **ii.** Frequency of use,
- **iii.** Quantities to be used,
- **iv.** Proposed discharge concentrations, and
- **v.** USEPA registration number, if applicable.

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

**s.** In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, Average Monthly Effluent Limitation (AMEL), Maximum Daily Effluent Limitation (MDEL), 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 section 1211).

### B. Monitoring and Reporting Program (MRP) Requirements

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

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## C. Special Provisions

### 1. Reopener Provisions

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

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

**c.** This Order may be reopened and modified 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 Minimum Levels (MLs).

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

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

**f.** This Order may be reopened and modified to revise limitations or provisions as a result of future updates or amendments to the OTC Policy.

**g.** 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 Toxicity Reduction Evaluation (TRE) workplan (1-2 pages) **within 90 days** of the effective date of this permit. If the Executive Director does not disapprove of the workplan within 60 days, the workplan shall become effective. The Discharger shall use USEPA manual EPA/600/2-88/070 (industrial) as guidance. This plan shall describe the steps the permittee intends to follow in the event that a violation of the acute or chronic toxicity limits occurs, and should include at a minimum:

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

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

**iii.** If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside

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contractor) (Section V of the MRP, Attachment E, provides references for the guidance manuals that should be used for performing TIEs).

**3. Storm Water Pollution Prevention Plan (SWPPP), Best Management Practices Plan (BMPP), and Spill Contingency Plan (SCP)**

The Discharger shall submit to the Regional Water Board, within 90 days of the effective date of this Order:

**a.** An updated SWPPP that describes site-specific management practices for minimizing contamination of storm water runoff and for preventing contaminated storm water runoff from being discharged directly to waters of the state. The SWPPP shall be developed in accordance with the requirements in Attachment G.

**b.** An updated BMPP that will be implemented to reduce the discharge of pollutants to the receiving water. The BMPP may be included within the SWPPP. The BMPP shall include site-specific plans and procedures implemented and/or to be implemented to prevent hazardous waste/material from being discharged to waters of the state. Further, the Discharger shall assure that the storm water discharges from the Facility would neither cause, nor contribute to the exceedance of water quality standards and objectives, nor create conditions of nuisance in the receiving water, and that any potential unauthorized discharges (i.e., spills) to the receiving water have been effectively prohibited. 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. The BMPP shall be developed in accordance with requirements in Attachment G.

**c.** A Pollutant Minimization Program (PMP) to maintain effluent concentrations at or below the receiving water limitations for these constituents. The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

**i.** An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;

**ii.** Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;

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

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

**v.** An annual status report that shall be sent to the Regional Water Board including:

(a) All PMP monitoring results for the previous year;

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

(c) A summary of all actions undertaken pursuant to the control strategy; and

(d) A description of actions to be taken in the following year.

**d.** A Spill Contingency Plan SCP that includes 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.

TENTATIVE

Plans shall cover all areas of the Facility and shall include an updated drainage map for the Facility. The Discharger shall identify on a map of appropriate scale the areas that contribute runoff to the permitted discharge points. The Discharger shall describe the activities in each area and the potential for contamination of storm water runoff and the discharge of hazardous waste/material.

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 SWPPP and the BMPP shall be reviewed annually and at the same time; and the SCP shall also be reviewed annually. Updated information shall be submitted to the Regional Water Board within 30 days of revision.

**4. Construction, Operation and Maintenance Specifications**

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

**b.** The Discharger shall develop and maintain a record of all spills from the facility. This record shall be made available to the Regional Water Board and USEPA upon request. The Discharger shall submit to the Regional Water Board and USEPA a report listing all spills, overflows or bypasses occurring during the previous quarter in the quarterly monitoring reports. The reports shall provide the date and time of each spill, the location of each spill, the estimated volume of each spill, including gross volume, amount recovered and amount not recovered; the cause of each spill, whether each spill, entered a receiving water and, if so, the name of the water body and whether it entered via storm drains or other man-made conveyances; mitigation measures implemented; corrective measures implemented or proposed to be implemented to prevent/minimize future occurrences; and beneficial uses impacted.

**5. Special Provisions for Municipal Facilities—Not Applicable**

**6. Other Special Provisions—Once-Through Cooling Water Compliance Schedule**

**a. Compliance Date and Alternatives**

The Discharger submitted an implementation plan for compliance with the State Water Board's *Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling* (OTC Policy) on April 1, 2011, which was later amended on Jun 17, 2011. According to its implementation plan, the Facility consists of six oil/natural gas electric generating units (Units 1, 2, 3, 4, 5, and 6).

Per its implementation plan, its amendment, and further correspondence, the Discharger has proposed to bring Units 1, 2, 3, 4, 5, and 6, into compliance using Track 1 with the construction of either simple cycle or combined cycle gas turbine generation (CCGT) facilities to replace the 6 units. The construction is to be completed in three phases.

The first phase would consist of shutting down Units 5 and 6 and replacing them with two CCGT power blocks of approximately 500 MW each. The second phase would consist of shutting down Units 3 and 4 and replacing them with a third 500 MW power block, and the final phase would be retiring Units 1 and 2 and also replacing them with a fourth 500 MW power block. All replacement technology will be gas turbine based, with an anticipated total repowering of about 2,000 MW.

Compliance with the OTC Policy shall be in accordance with the following schedule:

TENTATIVE

**Table 5. Schedule of Compliance with OTC Policy**

| Task | Compliance Date |
|---|---|
| 1. Submit Workplan for OTC compliance under Track 1 and/or Track 2. | December 1, 2015 |
| 2. Submit first progress Report on compliance actions. | December 1, 2016 |
| 3. Submit second progress Report. | December 1, 2017 |
| 4. Submit third progress Report. | December 1, 2018 |
| 5. Submit fourth progress Report. | December 1, 2019 |
| 6. Achieve full compliance with Units 1, 2, 3, 4, 5, and 6. | December 31, 2020 |

**b. Immediate and Interim Requirements**

**i.** As of **October 1, 2011**, any unit that is not directly engaged in power-generating activities or critical system maintenance shall cease intake flows unless it has been demonstrated to the State Water Board that a reduced minimum flow is necessary for operations.

**ii.** Commencing on **October 1, 2015** implement measures to mitigate interim impingement and entrainment impacts until full compliance is achieved by December 31, 2020. With regards to the mitigating measures, the Discharger has indicated that as of October 1, 2015 and until the Facility achieves full OTC compliance, it will provide funding to the Coastal Conservancy to be used for mitigation projects directed toward increases in marine life associated with the State's Marine Protected Areas in the local region of the Facility. The amount to be provided shall be determined by the Deputy Director of the Division of Water Quality of the State Water Board.

**7. 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 = [$X_{n/2}$ + $X_{(n/2)+1}$], i.e., the midpoint between the n/2 and n/2+1 data points.

TENTATIVE

**D. Mass-based Effluent Limitations**

In calculating mass emission rates from the monthly average concentrations, use one half of the method detection limit for "Not Detected" (ND) and the estimated concentration for "Detected, but Not Quantified" (DNQ) for the calculation of the monthly average concentration. To be consistent with Limitations and Discharge Requirements, Section VII.B, if all pollutants belonging to the same group are reported as ND or DNQ, the sum of the individual pollutant concentration should be considered as zero for the calculation of the monthly average concentration.

**E. 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.

**F. Average Monthly Effluent Limitation (AMEL)**

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

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

1. If the analytical result of a single sample, monitored monthly, quarterly, semiannually, or annually, does not exceed the AMEL for that constituent, the Discharger has demonstrated compliance with the AMEL for that month.
2. If the analytical result of a single sample, monitored monthly, quarterly, semiannually, or annually, exceeds the AMEL for any constituent, the Discharger shall collect four additional samples at approximately equal intervals during the month. All five analytical results shall be reported in the monitoring report for that month, or 45 days after results for the additional samples were received, whichever is later.

   When all sample results are greater than or equal to the reported ML (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.

TENTATIVE

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.

**G. Maximum Daily Effluent Limitations (MDEL)**

If a daily discharge on a calendar day exceeds the MDEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for that day for that parameter. If no sample (daily discharge) is taken over a calendar day, no compliance determination can be made for that day with respect to an effluent violation determination, but compliance determination can be made for that day with respect to reporting violation determination.

**H. 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).

**I. Instantaneous Maximum Effluent Limitation**

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

**J. Chronic Toxicity**

This 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) 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.

Accelerated monitoring for chronic toxicity is triggered when a chronic toxicity test, analyzed using the TST approach, results in “Fail”.

TENTATIVE

## ATTACHMENT A – DEFINITIONS

**Arithmetic Mean ($\mu$)**
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: $\Sigma x$ 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.

**Best Management Practices (BMPs)**
BMPs are methods, measures, or practices designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and nonpoint source discharges including storm water. BMPs include structural and non-structural control, and operation maintenance procedures, which can be applied before, during, and/or after pollution-producing activities.

**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.

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

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

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

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

**Estuaries**
Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the appropriate areas of the Ventura River, Santa Clara River, Calleguas Creek, Ballona Creek, Dominguez Channel, Los Angeles River and San Gabriel River. Estuaries do not include inland surface waters or ocean waters.

**Existing Discharger**
Any discharger that is not a new discharger. An existing discharger includes an "increasing discharger" (i.e., any existing facility with treatment systems in place for its current discharge that is or will be expanding, upgrading, or modifying its permitted discharge after the effective date of this Order).

**Infeasible**
Not capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

**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).

TENTATIVE

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

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

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

**Method Detection Limit (MDL)**
MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 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.

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**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 the 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.

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

**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;
$\mu$ 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.)

TENTATIVE

## ACRONYMS AND ABBREVIATIONS

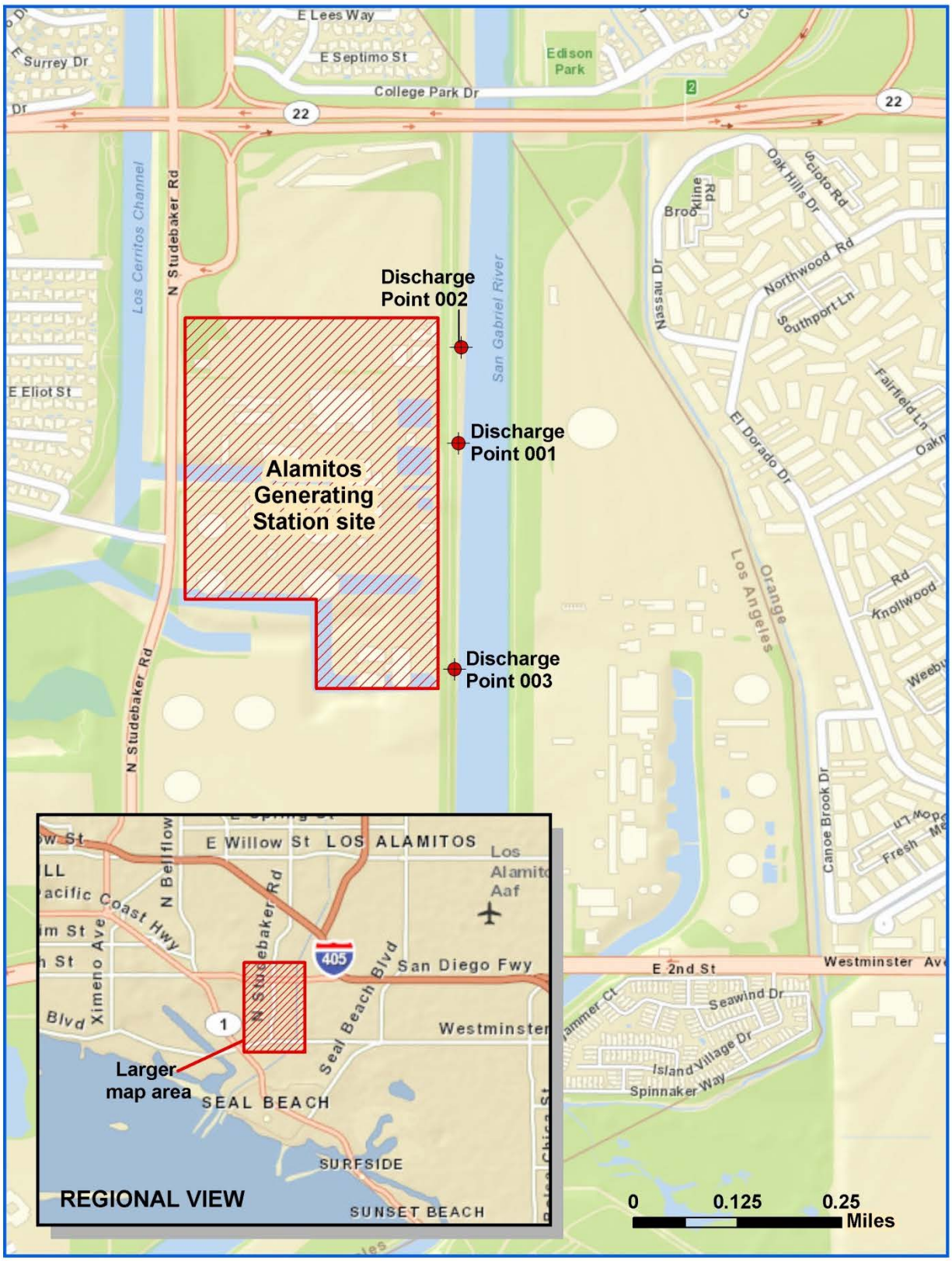
| | |
|---|---|
| AMEL | Average Monthly Effluent Limitation |
| B | Background Concentration |
| BAT | Best Available Technology Economically Achievable |
| Basin Plan | *Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* |
| BCT | Best Conventional Pollutant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

TENTATIVE

| | |
|---|---|
| POTW | Publicly Owned Treatment Works |
| QA | Quality Assurance |
| QA/QC | Quality Assurance/Quality Control |
| Ocean Plan | *Water Quality Control Plan for Ocean Waters of California* |
| Regional Water Board | California Regional Water Quality Control Board, Los Angeles Region |
| RPA | Reasonable Potential Analysis |
| SCP | Spill Contingency Plan |
| Sediment Quality Plan | *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality* |
| SIP | State Implementation Policy (*Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*) |
| SMR | Self-Monitoring Reports |
| State Water Board | California State Water Resources Control Board |
| SWPPP | Storm Water Pollution Prevention Plan |
| TAC | Test Acceptability Criteria |
| Thermal Plan | *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* |
| TIE | Toxicity Identification Evaluation |
| TMDL | Total Maximum Daily Load |
| TOC | Total Organic Carbon |
| TRE | Toxicity Reduction Evaluation |
| TSD | Technical Support Document |
| TSS | Total Suspended Solid |
| TST | Test of Significant Toxicity |
| $TU_c$ | Chronic Toxicity Unit |
| USEPA | United States Environmental Protection Agency |
| WDR | Waste Discharge Requirements |
| WET | Whole Effluent Toxicity |
| WLA | Waste Load Allocations |
| WQBELs | Water Quality-Based Effluent Limitations |
| WQS | Water Quality Standards |
| % | Percent |

TENTATIVE

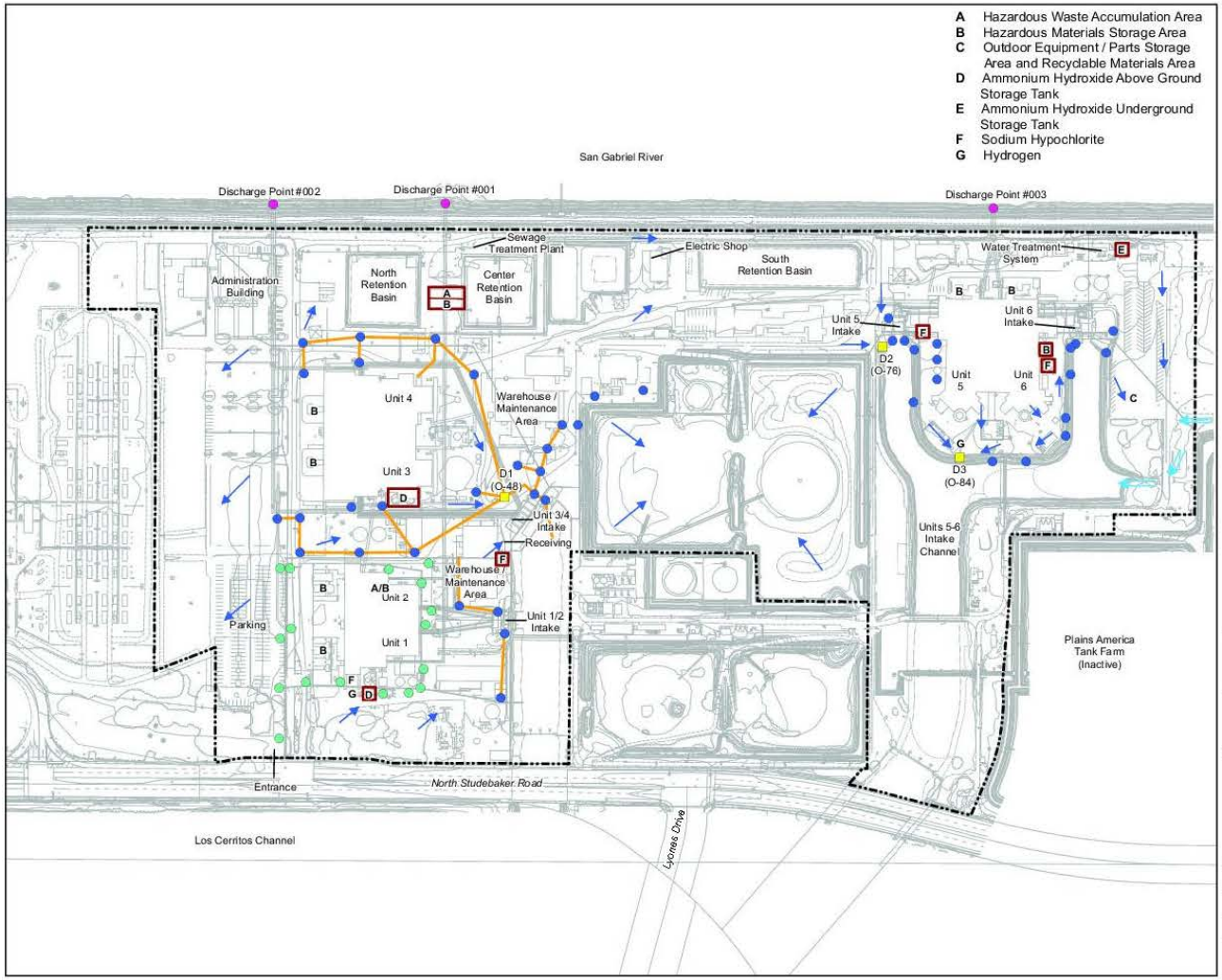
## ATTACHMENT B – MAP




TENTATIVE

# ATTACHMENT B – SITE PLAN






**LEGEND**

- Storm Water Discharge Point (Regulated Under Industrial General Permit)
- NPDES No. CA0001139 Outfall (Not Covered Under Industrial General Permit)
- Storm Water Drain
- Drains to NPDES Outfall
- Drainage Pipe
- Storm Water Flow Direction
- Off-Site Run-On
- Property Boundary
- Covered and Berm Area

**Note**

Basemap provided by AES, May 2015.

Feet 0 125 250

Projected Coordinate System
Datum: NAD 83
State Plane California Zone V
Units: Feet

GSI ENVIRONMENTAL

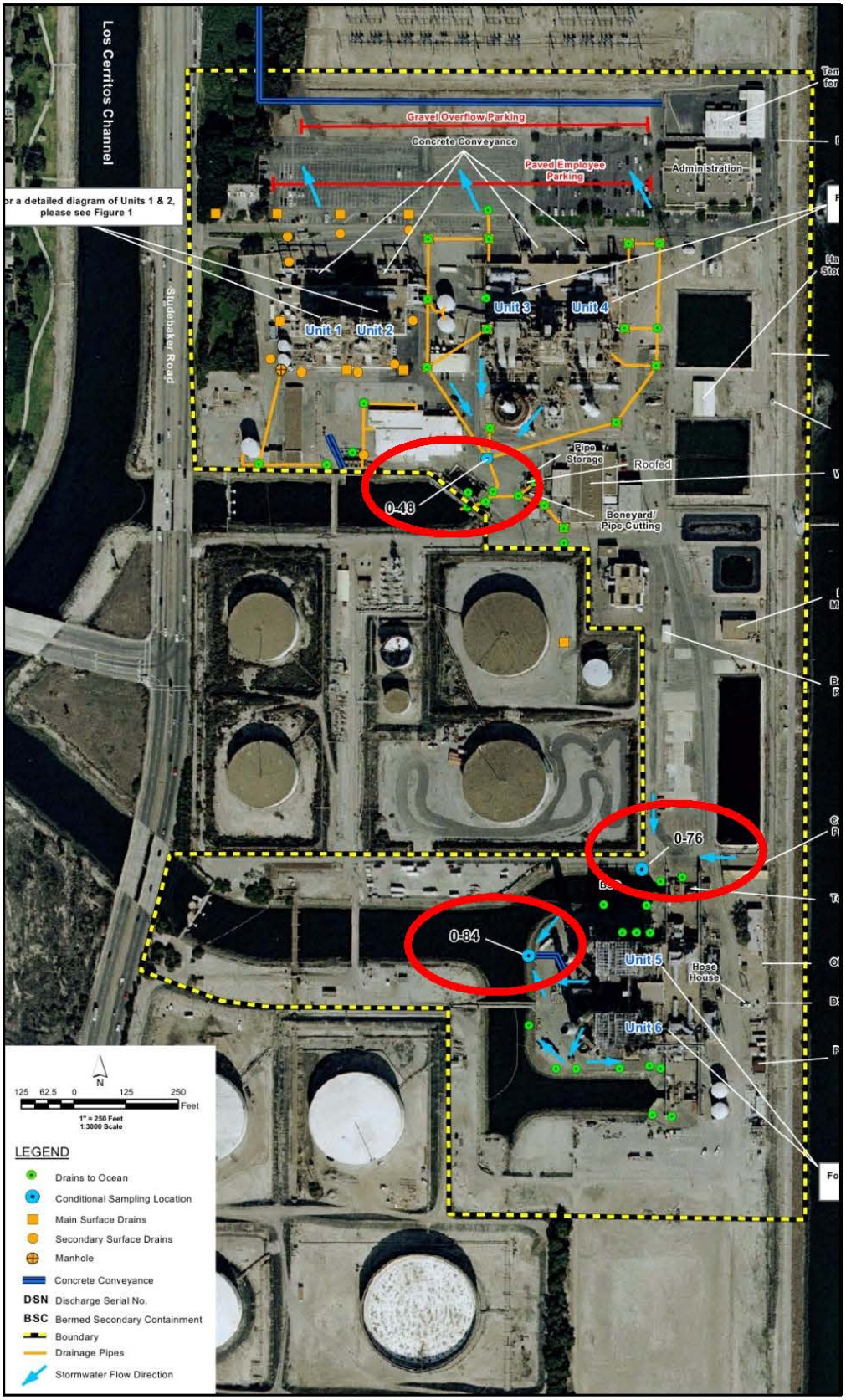
**SITE MAP**

AES Alamitos
690 Studebaker Road, Long Beach, California

| | | | |
|---|---|---|---|
| GSI Job No. | 4222 | Drawn By: | AVR |
| Issued: | 8-Jul-2015 | Chk'd By: | CH |
| Map ID: | Alamitos_SiteMap | Appv'd By: | AES |

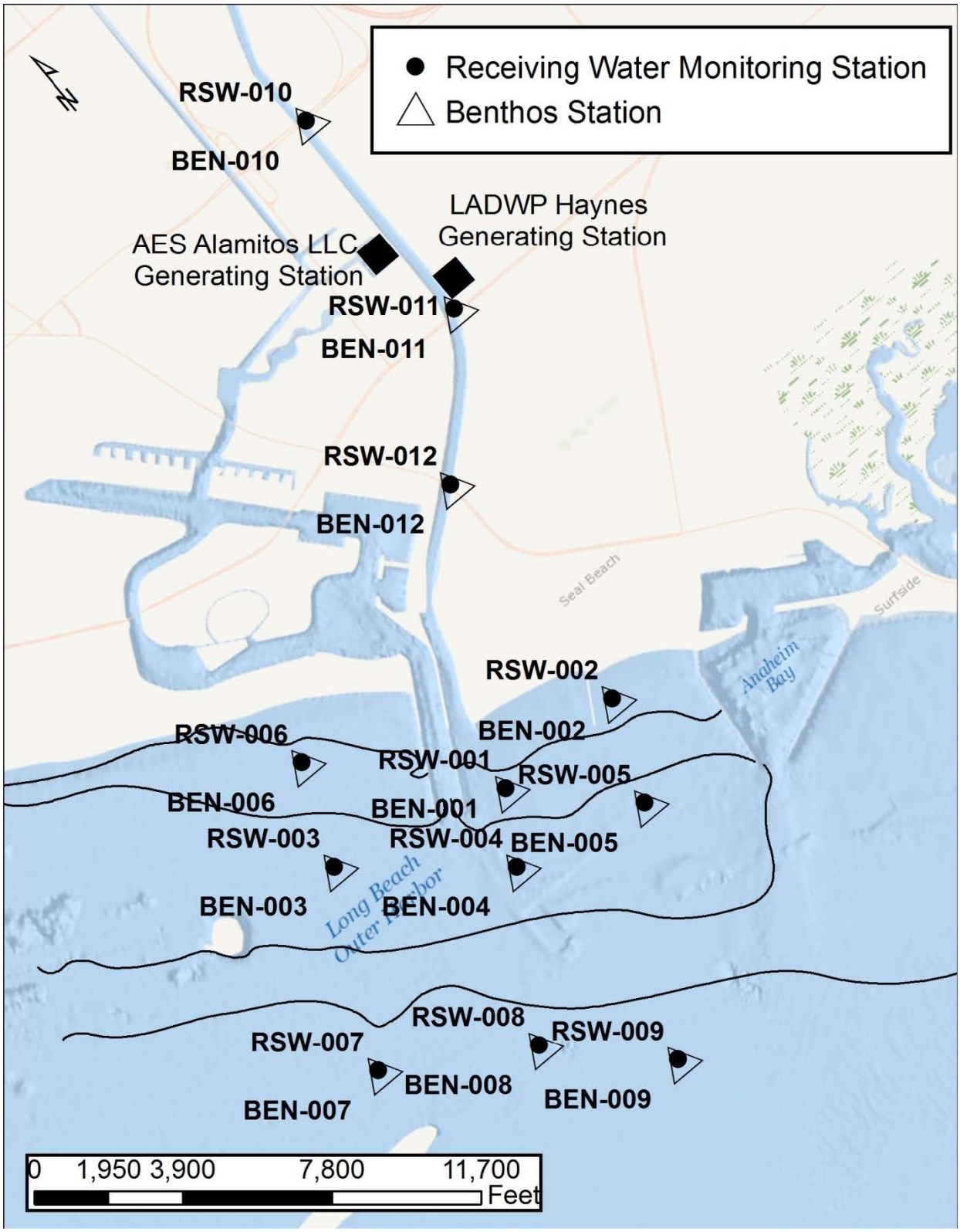
**FIGURE 2**

## ATTACHMENT B – STORM WATER SAMPLING POINTS




TENTATIVE

**ATTACHMENT B – RECEIVING WATER MONITORING STATION LOCATIONS**

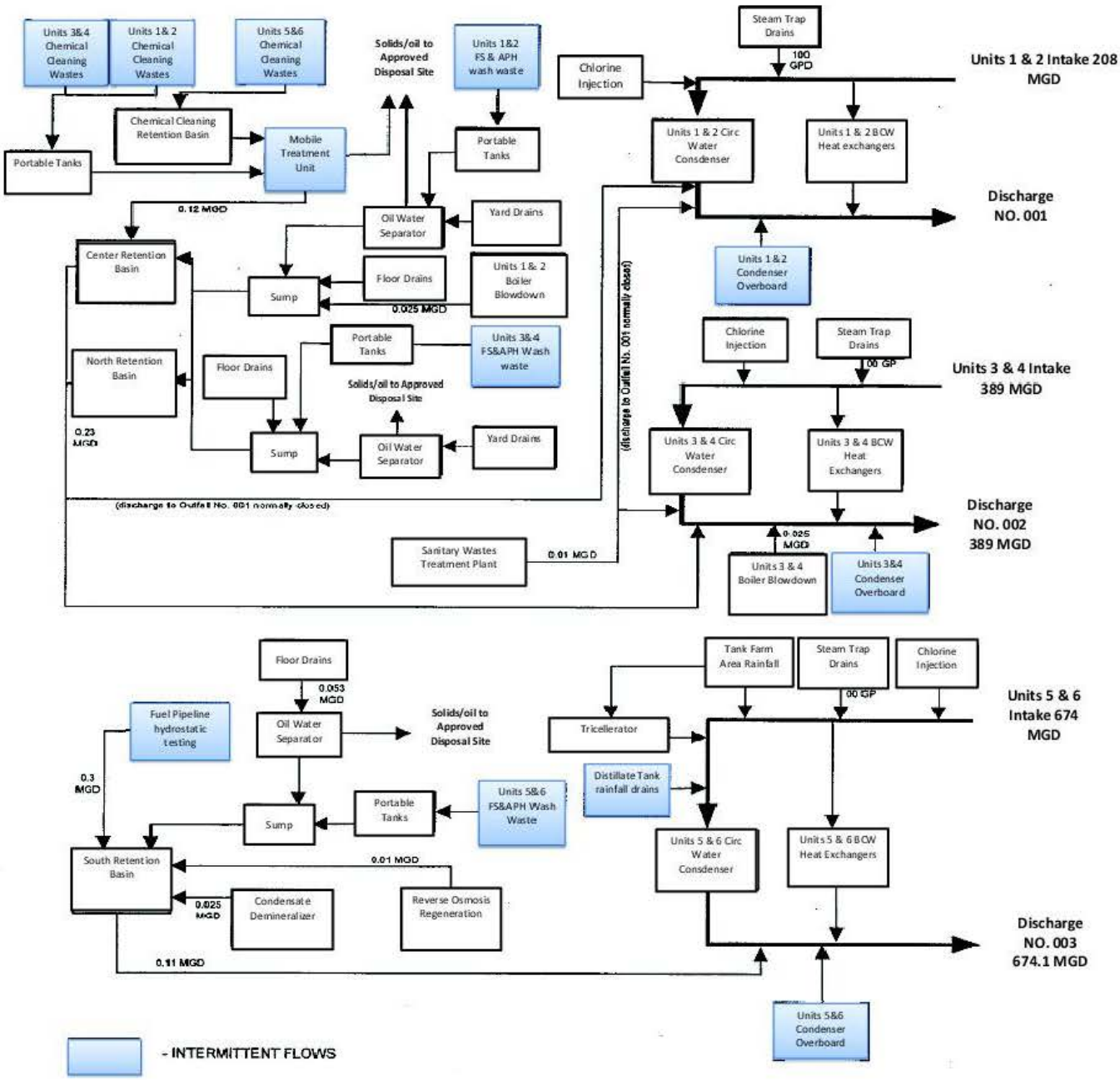



TENTATIVE

## ATTACHMENT C – FLOW SCHEMATIC

### Schematic of Water Flow

Aes Alamitos LLC
Long Beach, California

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# 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, USEPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i); Wat. Code, §§ 13267, 13383):

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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).)

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**5.** Notice

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

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

### H. Upset

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

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

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

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

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

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

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

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

## II. STANDARD PROVISIONS – PERMIT ACTION

### A. General

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

### B. Duty to Reapply

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

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

## IV. STANDARD PROVISIONS – RECORDS

**A.** Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 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 USEPA within a reasonable time, any information which the Regional Water Board, State Water

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Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, §§ 13267, 13383.)

**B. Signatory and Certification Requirements**

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

**2.** All permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 C.F.R. § 122.22(a)(1).)

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

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

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

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

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

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

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

**C. Monitoring Reports**

**1.** Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.41(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 results of monitoring of sludge use or disposal practices. (40 C.F.R. § 122.41(l)(4)(i).)

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

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

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

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

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

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**F. Planned Changes**

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

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)
3. The alteration or addition 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).)
4. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R.§ 122.41(l)(1)(iii).)

**G. Anticipated Noncompliance**

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with 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. (40 C.F.R. § 122.41(l)(7).)

**I. Other Information**

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

## VI. STANDARD PROVISIONS – ENFORCEMENT

**A.** The Regional Water Board is authorized to enforce the terms of this 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

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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)):

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**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).)

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# ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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## ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP No. 6113)

The Code of Federal Regulations (40 C.F.R. § 122.48) requires that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement federal and California regulations.

### I. GENERAL MONITORING PROVISIONS

**A.** Effluent sampling stations shall be established for Discharge Point No. 001 (Latitude 33.768611º North, Longitude -118.097222º West), Discharge Point No. 002 (Latitude 33.770000º North, Longitude -118.097222º West), and Discharge Point No. 003 (Latitude 33.764722º North, Longitude -118.097222º West). Storm water runoff sampling stations shall be established at outfall O-48 (Latitude 33.768394º North, Longitude -118.100725º West), outfall O-76 (Latitude 33.765778º North, Longitude -118.099464º West), and outfall O-84 (Latitude 33.765078º North, Longitude -118.100347º West). These sampling stations shall be located where representative samples of that effluent can be obtained.

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

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

**D.** Pollutants shall be analyzed using the analytical methods described in 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 Resources Control Board (State Water Board).

**E.** Laboratories analyzing effluent samples and receiving water samples shall be certified by the State Water Board 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.

**F.** For any analyses performed for which no procedure is specified in the United States Environmental Protection Agency (USEPA) guidelines or in the MRP, the constituent or parameter analyzed and the method or procedure used must be specified in the monitoring report.

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

1. An actual numerical value for sample results greater than or equal to the ML; or
2. "Detected, but Not Quantified (DNQ)" if results are greater than or equal to the laboratory's MDL but less than the ML; 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.

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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.** Water/wastewater samples must be analyzed using USEPA-approved "sufficiently sensitive" test methods approved under 40 C.F.R. part 136 for the analysis of pollutants or pollutant parameters or required under 40 C.F.R. chapter I, subchapter N or O. As specified in 40 C.F.R. section 122.44(i)(1)(iv), a test method is defined as "sufficiently sensitive" where:

**1.** The method ML is at or below the level of the applicable water quality criterion or permit limitation for the measured pollutant or pollutant parameter; 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 I, subchapter N or O for the measured pollutant or pollutant parameter.

**I.** Where no USEPA-approved method exists, 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 USEPA-approved method 1613 for dioxins and furans, method 1624 for volatile organic substances, and method 1625 for semi-volatile organic substances. In such cases, the Discharger, the Regional Water Board, and the State Water Board shall agree on a lowest quantifiable limit and that limit will substitute for the ML for reporting and compliance determination purposes.

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

**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 statement, under penalty of perjury, executed by the person responsible for the laboratory.

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

**M.** Field analyses for parameters that require short sample holding times such as pH, total residual chlorine and temperature may be performed on-site by properly-trained personnel

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acting on behalf of the Discharger. These analyses shall be performed using properly-calibrated and maintained portable instruments in accordance with the methods found at 40 C.F.R. part 136. Records of these analyses shall be maintained at the discharge facility so as to be available at all times to operating personnel and Regional Water Board staff. These records shall include the standard operating and quality-control procedures for all field analyses, records of personnel proficiency training and records of instrument calibration and maintenance. Results of these analyses shall be submitted to the Regional Water Board as part of the corresponding periodic monitoring report. Documentation of the results shall include measurement values, data and time of sample collection, name of analyst and instrument calculation information.

**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 to finish. A similar frequency shall be maintained for analyzing spiked samples.

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

**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 shall 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.

**S.** Laboratories analyzing monitoring samples shall be certified by the State Water Board, in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports.

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## 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. Effluent Monitoring Station Locations**

| Discharge Point Name | Monitoring Location Name | Monitoring Location Description |
|---|---|---|
| 001 | EFF-001 | At a location where a representative sample of the commingled wastewater can be obtained after treatment but prior to discharge to the San Gabriel River via Discharge Point 001. |
| 002 | EFF-002 | At a location where a representative sample of the commingled wastewater can be obtained after treatment but prior to discharge to the San Gabriel River via Discharge Point 002. |
| 003 | EFF-003 | At a location where a representative sample of the commingled wastewater can be obtained after treatment but prior to discharge to the San Gabriel River via Discharge Point 003. |
| 001A | INT-001A | At a location where a representative sample of all low volume wastes can be obtained after treatment but prior to commingling with other internal process waste streams or once-through cooling water. |
| 001B | INT-001B | At a location where a representative sample of all metal cleaning wastes (chemical and non-chemical) can be obtained after treatment but prior to commingling with other internal process waste streams or once-through cooling water. |
| 00C | INT-001C | At a location where a representative sample of all treated sanitary wastes can be obtained after treatment but prior to commingling with other internal process waste streams or once-through cooling water. |
| O-48 | D1 | At a location where a representative sample of the storm water runoff from the area around Units 1-4 can be obtained. |
| O-76 | D2 | At a location where a representative sample of the storm water runoff from the area around the retention basins can be obtained. |
| O-84 | D3 | At a location where a representative sample of the storm water runoff from the area around Units 5-6 can be obtained. |

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**Table E-2. Receiving Water Monitoring Station Locations**

| Type | Monitoring Location Name | Monitoring Location Description |
|---|---|---|
| Receiving water station | RSW-001 (previously RW1) | Seaward of the southeast San Gabriel River Jetty, at a depth of 12 feet. (33.735667° N, -118.117167° W) |
| Receiving water station | RSW-002 (previously RW2) | 500 feet downcoast of the Seal Beach Pier, at a depth of 12 feet. (33.735500° N, -118.106667° W) |
| Receiving water station | RSW-003 (previously RW1) | Directly offshore of Monitoring Location RSW-006, at a depth of 20 feet. (33.738833° N, -118.130167° W) |
| Receiving water station | RSW-004 (previously RW4) | Directly offshore of Monitoring Location RSW-001, at a depth of 20 feet. (33.731667° N, -118.120167° W) |
| Receiving water station | RSW-005 (previously RW5) | Directly offshore of Monitoring Location RSW-002, at a depth of 20 feet. (33.729667° N, -118.110333° W) |
| Receiving water station | RSW-006 (previously RW6) | 2,600 feet upcoast of the northwest Alamitos Bay Jetty at a depth of 12 feet. (33.744500° N, -118.127333° W) |
| Receiving water station | RSW-007 (previously RW7) | Directly offshore of Monitoring Location RSW-003, at a depth of 40 feet. (33.727667° N, -118.137333° W) |
| Receiving water station | RSW-008 (previously RW8) | Directly offshore of Monitoring Location RSW-004, at a depth of 40 feet. (33.722500° N, -118.127333° W) |
| Receiving water station | RSW-009 (previously RW9) | Directly offshore of Monitoring Location RSW-005, at a depth of 40 feet. (33.717333° N, -118.119667° W) |
| Receiving water station | RSW-010 (previously RW10) | At the 7th Street Bridge, at a point midway between the banks of the San Gabriel River. (33.773667° N, -118.097667° W) |
| Receiving water station | RSW-011 (previously RW11) | At the Westminster Avenue Bridge, at a point midway between the banks of the San Gabriel River. (33.759667° N, -118.098667° W) |
| Receiving water station | RSW-012 (previously RW12) | At the Pacific Coast Highway Bridge, at a point midway between the banks of the San Gabriel River. (33.752167° N, -118.106167° W) |
| Benthic station | BEN-001 – BEN-012 (previously B1 - B12) | Located directly beneath Monitoring Locations RSW-001 through RSW-012, respectively. |

## III. INFLUENT MONITORING REQUIREMENTS—NOT APPLICABLE

## IV. EFFLUENT MONITORING REQUIREMENTS

### A. Monitoring Locations EFF-001, EFF-002, EFF-003, INT-001A, INT-001B and INT-001C

1. The Discharger shall monitor discharges of commingled wastewater, low volume wastes, chemical and non-chemical cleaning wastes, and treated sanitary wastes as follows:

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**Table E-3. Effluent Monitoring**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| ***Effluent Monitoring at Locations EFF-001, EFF-002 and EFF-003*** | | | | |
| Flow | MGD | Flow Meter | Continuous[1] | [2] |
| Temperature | °F | Meter | Continuous[3] | [2] |
| pH | standard units | Grab | 1/week | [2] |
| Ammonia, Total (as N) | mg/L and mass[4] | Grab | 1/year | [2] |
| Nitrate (as N) | mg/L and mass[4] | Grab | 1/year | [2] |
| Chronic Toxicity[5] | Pass or Fail and % effect for TST approach | 24-hour composite | 1/quarter | [2] |
| Total Residual Chlorine | mg/L | Grab | 1/day[6] | [2] |
| Free Available Chlorine | mg/L | Grab | 1/day[6] | [2] |
| Arsenic, Total Recoverable | µg/L and mass[4] | Grab | 2/year | [2] |
| Copper, Total Recoverable[7] | µg/L and mass[4] | Grab | 2/year | [2] |
| Nickel, Total Recoverable | µg/L and mass[4] | Grab | 2/year | [2] |
| 2,3,7,8-TCDD | µg/L and mass[4] | Grab | 1/quarter | [2] |
| Benzo(a) anthracene | µg/L and mass[4] | Grab | 1/quarter | [2] |
| Bis( 2-ethylhexyl) phthalate | µg/L and mass[4] | Grab | 1/quarter | [2] |
| Dibenzo(a,h) anthracene | µg/L and mass[4] | Grab | 2/year | [2] |
| Indeno(1,2,3-cd) pyrene | µg/L and mass[4] | Grab | 2/year | [2] |
| PCBs[8] | µg/L | Grab | 2/year | [2] |
| Remaining Priority Pollutants[9] | µg/L | Grab | 1/year | [2] |
| Radioactivity (including gross alpha, gross beta, combined radium-226 and radium-228, tritium, strontium-90 and uranium) | pCi/L | Grab | 1/year | [10] |
| Total Coliform[11,12] | MPN/ 100 mL | Grab | 4/Year | [2] |
| Fecal Coliform[11,12] | MPN/ 100 mL | Grab | 4/Year | [2] |
| Enterococcus[11,12] | MPN/ 100 mL | Grab | 4/Year | [2] |
| ***Low-Volume Wastes Monitoring at Location INT-001A*** | | | | |
| Flow | MGD | -- | Continuous[1] | [2] |
| pH | standard units | Grab | 1/Month | [2] |
| Total Suspended Solids | mg/L | Grab | 1/Month | [2] |
| Oil and Grease | mg/L | Grab | 1/Month | [2] |
| ***Chemical and Non-Chemical Metal Cleaning Wastes Monitoring at Location INT-001B*** | | | | |
| Flow | MGD | -- | Continuous[1] | [2] |
| pH | standard units | Grab | 1/Month | [2] |
| Total Suspended Solids | mg/L | Grab | 1/Month | [2] |
| Oil and Grease | mg/L | Grab | 1/Month | [2] |
| Copper, Total Recoverable | mg/L | Grab | 1/Month | [2] |
| Iron, Total Recoverable | mg/L | Grab | 1/Month | [2] |

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| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| ***Treated Sanitary Wastes Monitoring at Location INT-001C*** | | | | |
| Flow | MGD | -- | Continuous[1] | [2] |
| Temperature | °F | Meter | Continuous[3] | [2] |
| pH | standard units | Grab | 1/Month | [2] |
| Biochemical Oxygen Demand (BOD) (5-day; 20 deg. C) | mg/L | Grab | 1/Month | [2] |
| Total Suspended Solids | mg/L | Grab | 1/Month | [2] |
| Oil and Grease | mg/L | Grab | 1/Month | [2] |
| Settleable Solids | mL/L | Grab | 1/Month | [2] |
| Total Coliform[11,12] | MPN/ 100 mL | Grab | 1/Month | [2] |
| Fecal Coliform[11,12] | MPN/ 100 mL | Grab | 1/Month | [2] |
| ***Storm Water Monitoring at Locations D1, D2, and D3*** | | | | |
| Flow | MGD | -- | Continuous[1] | [2] |
| Temperature | °F | Meter | Continuous[3] | [2] |
| pH | standard units | Grab | 1/Month | [2] |
| BOD (5-day; 20 deg. C) | mg/L | Grab | 1/Month | [2] |
| Total Suspended Solids | mg/L | Grab | 1/Month | [2] |
| Oil and Grease | mg/L | Grab | 1/Month | [2] |
| Total Coliform[12] | MPN/ 100 mL | Grab | 2/year | [2] |
| Fecal Coliform[12] | MPN/ 100 mL | Grab | 2/year | [2] |
| *Enterococcus*[12] | MPN/ 100 mL | Grab | 2/year | [2] |
| Priority Pollutants[9] | µg/L | Grab | 1/year | [2] |

1 When continuous monitoring is required, the total daily flow shall be reported. Periods of no flow shall also be reported.

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 minimum levels (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 MLs.

3 Only maximum temperatures for each calendar day shall be reported.

4 The mass emission (lbs/day) for the discharge shall be calculated and reported using the limitation concentration and the actual flow rate measured at the time of discharge, using the formula:

Mass (lbs/day) = Actual Flow (MGD) x Reported Concentration (mg/L) x 8.34 (conversion factor)

5 Refer to section V, Whole Effluent Toxicity Testing Requirements.

6 Monitoring is only applicable during periods of chlorine addition. A statement certifying that chlorination did not occur during the day may be submitted in lieu of an analysis.

7 On days when copper sampling occurs, the Discharger shall report the corresponding flow rate measured at flow gage F354-R in Coyote Creek which is operated by the Los Angeles County Department of Public Works.

8 PCBs shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

9 Priority pollutants as defined by the CTR defined in Attachment I of this Order.

10 Analyze these radiochemicals by the following USEPA methods: method 900.0 for gross alpha and gross beta, method 903.0 or 903.1 for radium-226, method 904.0 for radium-228, method 906.0 for tritium, method 905.0 for strontium-90, and method 908.0 for uranium. Analysis for combined radium-226 & 228 shall be conducted only if gross alpha results for the same sample exceed 15 pCi/L or beta greater than 50 pCi/L. If radium-226 & 228 exceeds the stipulated criteria, analyze for tritium, strontium-90 and uranium.

A statement certifying that radioactive pollutants were not added to the discharge may be submitted in lieu of monitoring.

11 Bacteria samples shall be obtained at some point in the treatment process at a time when wastewater flow and characteristics are most demanding on the treatment facilities and disinfection procedures. For Discharge Points 001, 002, and 003 bacteria sampling shall be required only for those discharge points receiving a sanitary waste discharge.

12 The geometric mean values should be calculated based on a statistically sufficient number of samples (generally not less than 5 samples equally spaced over a 30-day period).

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## V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

### A. Definition of Chronic Toxicity

Chronic toxicity measures a sublethal effect (e.g., reduced growth, reproduction) to experimental test organisms exposed to an effluent or ambient waters compared to that of the control organisms. Chronic toxicity test results shall be measured using the two concentration (i.e., discharge in-stream waste concentration and laboratory water control) Test of Significant Toxicity (TST) statistical approach and reported in units of Pass or Fail and % Effect.

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

The chronic toxicity IWC for discharge at Discharge Points 001, 002 and 003 is 100 percent effluent. For receiving water monitoring, the IWC shall be 100% of the sample collected at the specified station location for receiving water monitoring.

### C. 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 Toxicity Identification Evaluation (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.

### D. Chronic Marine and Estuarine 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 West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995). Artificial sea salts shall be used to increase sample salinity. In no case shall these species be substituted with another test species unless written authorization from the Executive Officer is received.

1. A static renewal toxicity test with the topsmelt, *Atherinops affinis* (Larval Survival and Growth Test Method 1006.01).
2. A static non-renewal toxicity test with the purple sea urchin, *Strongylocentrotus purpuratus*, or the sand dollar, *Dendraster excentricus* (Fertilization Test Method 1008.0); or a static non-renewal toxicity test with the red abalone, *Haliotis rufescens* (Larval Shell Development Test Method).
3. A static non-renewal toxicity test with the giant kelp, *Macrocystis pyrifera* (Germination and Growth Test Method 1009.0).

### E. Species Sensitivity Screening

Species sensitivity screening shall be conducted monthly for a period of three months. Once each month, the Discharger shall collect a single effluent sample and concurrently conduct three toxicity tests using the fish, an invertebrate, and the alga species previously referenced. The species that exhibits the highest “Percent (%) Effect” at the discharge IWC during species sensitivity screening shall be used for routine annual monitoring.

Rescreening is required every 24 months. 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 suite of tests. If a different species is the

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most sensitive, or if there is ambiguity, then the Discharger shall proceed with suites of screening tests for a minimum of three, but not to exceed five suites.

**F. 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.

1. 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) 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.
2. 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, exactly three independent toxicity tests are required when one toxicity test results in "Fail".
3. 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.
4. 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.
5. 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.
6. 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 C.F.R. section 136) (EPA 821-B-00-004, 2000).
7. 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 rational is explained in the Fact Sheet (Attachment F).

**G. Preparation of an Initial Investigation TRE Workplan**

The Discharger shall prepare or update and submit a generic Initial Investigation TRE Work Plan 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 minimum, the work plan shall include:

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

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2. A description of methods for maximizing in-house treatment system efficiency, good housekeeping practices, and a list of all chemicals used in operations at the facility.

3. If a Toxicity Identification Evaluation (TIE) is necessary, an indication of who would conduct the TIEs (i.e., an in-house expert or outside contractor).

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

**I. Toxicity Reduction Evaluation (TRE) Process**

1. **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 *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (EPA/833/B-99/002, 1999) or EPA manual *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, 1989). Within 30 days, the Discharger shall submit to the Regional Water Board 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:

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

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

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

2. **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.

3. 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

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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.

4. 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.

5. 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.

### J. 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:

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

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

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

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

## VI. LAND DISCHARGE MONITORING REQUIREMENTS—NOT APPLICABLE

## VII. RECYCLING MONITORING REQUIREMENTS—NOT APPLICABLE

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## VIII. RECEIVING WATER MONITORING REQUIREMENTS

### A. Surface Water Monitoring at Monitoring Locations RSW-001 through RSW-012

The Discharger shall monitor the receiving water at Monitoring Locations RSW-001 through RSW-012 as follows:

**Table E-4. Receiving Water Monitoring Requirements for RSW-001 through RSW-012**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| Ammonia, Total as N[1] | mg/L | Grab | 1/year | [2] |
| pH | Standard units | Grab | 2/year[3,4] | [2] |
| Temperature | °F | Grab | 2/year[3,5] | [2] |
| Salinity | ppm | Grab | 2/year[3] | [2] |
| Dissolved Oxygen | mg/L | Grab | 2/year[3] | [2] |
| Chronic Toxicity[6,7] | Pass or Fail and % effect for TST approach | 24-hour composite | 1/year | [2] |
| Priority pollutants[1,8] | µg/L | Grab | 1/year | [2] |
| Total Coliform[9] | MPN/ 100 mL | Grab | 1/year | [2] |
| Fecal Coliform[9] | MPN/ 100 mL | Grab | 1/year | [2] |
| Enterococcus[9] | MPN/ 100 mL | Grab | 1/year | [2] |

1 Monitoring is required solely at Monitoring Locations RSW-010 and RSW-011. pH, temperature, and salinity must be collected at the same time as ammonia samples.
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 minimum levels (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 MLs.
3 Dissolved oxygen levels, temperature, salinity, and pH shall be measured semi-annually at the surface, mid-depth and bottom at each monitoring location, at a minimum.
4 Semi-annual monitoring shall be conducted in summer and in winter. All monitoring locations shall be sampled on both the flood and ebb tides during each semi-annual survey, as near to the start of the flood and ebb tides as is practicable.
5 Temperature profiles shall be measured semi-annually (summer and winter) each year at each monitoring location from surface to bottom at a minimum of one-meter intervals.
6 Refer to section V, Whole Effluent Toxicity Testing Requirements.
7 Monitoring is required solely at Monitoring Location RSW-011.
8 Priority pollutants as defined by the CTR defined in Attachment I of this Order.
9 The geometric mean values should be calculated based on a statistically sufficient number of samples (generally not less than 5 samples equally spaced over a 30-day period).

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**Harbor Toxics TMDL Monitoring Requirements**. As discussed in section III.G of the Fact Sheet (Attachment F), the Discharger is responsible for conducting water column monitoring at the mouth of the San Gabriel River as required in the Harbor Toxics TMDL. Therefore the Discharger shall monitor the receiving water at Monitoring Location RSW-001 as follows:

**Table E-5. Harbor Toxics TMDL Monitoring Requirements for RSW-001**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| Temperature | °F | Grab | 3/year[1] | [2] |
| pH | Standard units | Grab | 3/year[1] | [2] |
| Total Suspended Solids | mg/L | Grab | 3/year[1] | [2] |
| Temperature | °F | Grab | 3/year[1] | [2] |
| Dissolved Oxygen | mg/L | Grab | 3/year[1] | [2] |
| Electrical conductivity | umho/cm | Grab | 3/year[1] | [2] |
| Copper | µg/L | Grab | 3/year[1] | [2] |
| Lead | µg/L | Grab | 3/year[1] | [2] |
| Zinc | µg/L | Grab | 3/year[1] | [2] |
| Mercury | µg/L | Grab | 3/year[1] | [2] |
| 4,4'-DDT | µg/L | Grab | 3/year[1] | [2] |
| PCBs[3] | µg/L | Grab | 3/year[1] | [2] |
| Benzo(a) anthracene | µg/L | Grab | 3/year[1] | [2] |
| Benzo(a) pyrene | µg/L | Grab | 3/year[1] | [2] |
| Chrysene | µg/L | Grab | 3/year[1] | [2] |

[1] Water samples shall be collected during two wet weather events and one dry weather events each year. The first large storm event of the season shall be included as one of the wet weather monitoring events.

[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 minimum levels (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 MLs.

[3] PCBs (polychlorinated biphenyls) include chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

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**B. Benthic Monitoring (Monitoring Locations BEN-001, BEN-003, BEN-004, BEN-005, BEN-007, BEN-008, BEN-009, BEN-010, BEN-011 and BEN-012)**

**1. Sediment Samples for Assessment of Benthic Infauna**

**a.** The Discharger shall collect and analyze samples for benthic fauna once per year at Monitoring Locations BEN-001, BEN-003, BEN-004, BEN-005, BEN-007, BEN-008, BEN-009, BEN-010, BEN-011 and BEN-012. Receiving water monitoring for benthic fauna is not required at monitoring locations BEN-002 and BEN-006.

**b.** One liter sediment core samples shall be collected by divers at each of the benthic stations for biological examination and determination of biomass and diversity. Four replicates shall be obtained at each station for benthic analyses, and each shall be analyzed separately. A fifth sample shall be taken at each station for sediment analyses and general description.

**c.** Each benthic replicate sample shall be sieved through a 1.0 mm standard mesh screen. All organisms recovered shall be enumerated and identified below to the lowest taxon possible. Infaunal organisms shall be reported as concentrations per liter for each replicate and each station. Total abundance, number of species and Shannon-Weiner diversity indices shall be calculated (using natural logs) for each replicate and each station. Biomass shall be determined as the wet weight in grams or milligrams retained on a 0.5 millimeter screen per unit volume (e.g., 1 liter) of sediment. Biomass shall be reported for each major taxonomic group (e.g., polychaetes, crustaceans, mollusks) for each replicate and each station.

**d.** Procedures and test methods shall adhere to the following federal guidelines when applicable: Macroinvertebrate Field and Laboratory Methods for Evaluation the Biological Integrity of Surface Waters (1990) –EPA/600/4-90/030 (PB91-171363). This manual describes guidelines and standardized procedures for the use of macroinvertebrates in evaluating the biological integrity of surface waters.

**e.** The following general observations or measurements at the benthic stations shall be reported:

**2. Sediments Samples for Grain Size and Chemical Analyses**

The Discharger shall collect and analyze sediment samples for parameters in the following table:

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**Table E-6. Receiving Water Monitoring Requirements for Monitoring Locations BEN-001, BEN-003, BEN-004, BEN-005, BEN-007, BEN-008, BEN-009, BEN-010, BEN-011 and BEN-012**

| Parameter | Units[1] | Sample Type | Minimum Sampling Frequency |
|---|---|---|---|
| Sediment Grain Size[2] | -- | Core | 1/year |
| Arsenic | mg/kg | Core[3] | 1/Year |
| Beryllium | mg/kg | Core[3] | 1/Year |
| Cadmium | mg/kg | Core[3] | 1/Year |
| Copper | mg/kg | Core[3] | 1/Year |
| Chromium, Total | mg/kg | Core[3] | 1/Year |
| Chromium (III) | mg/kg | Core[3] | 1/Year |
| Lead | mg/kg | Core[3] | 1/Year |
| Mercury | mg/kg | Core[3] | 1/Year |
| Nickel | mg/kg | Core[3] | 1/Year |
| Selenium | mg/kg | Core[3] | 1/Year |
| Silver | mg/kg | Core[3] | 1/Year |
| Thallium | mg/kg | Core[3] | 1/Year |
| Zinc | mg/kg | Core[3] | 1/Year |
| Acid Soluble Sulfides | mg/kg | Core[3] | 1/Year |
| Pesticides[4] | mg/kg | Core[3] | 1/Year |
| PAHs[5] | mg/kg | Core[3] | 1/Year |

1 Dry weight basis.
2 Sediment grain size analyses shall be performed on each sediment sample (sufficiently detailed to calculate weight in relation to phi size).
3 Three replicate samples shall be taken from the upper two centimeters at each monitoring location and analyzed separately.
4 Pesticides shall mean aldrin, chlordane, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, dieldrin, alpha-endosulfan, beta-endosulfan, endosulfan sulfate, endrin, heptachlor, heptachlor epoxide, and toxaphene.
5 PAHs shall mean acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene and pyrene.

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### C. Bioaccumulation Monitoring (Monitoring Location MUS-001)

Native California mussels (*Mytilus Californianus*) shall be collected during the summer from the discharge conduit, as close to the point of discharge as possible, for bioaccumulation monitoring. If mussels are unavailable near the discharge site, source mussels may be transplanted from nearby locations. Mussel tissue shall be analyzed for the parameters listed in the Table below.

**Table E-7. Mussels Bioaccumulation (Monitoring Location MUS-001)**

| Parameter | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|
| Arsenic | Tissue | 1/(2 years) | [1] |
| Berylium | Tissue | 1/(2 years) | [1] |
| Cadmium | Tissue | 1/(2 years) | [1] |
| Chromium (III) | Tissue | 1/(2 years) | [1] |
| Lead | Tissue | 1/(2 years) | [1] |
| Mercury | Tissue | 1/(2 years) | [1] |
| Nickel | Tissue | 1/(2 years) | [1] |
| Selenium | Tissue | 1/(2 years) | [1] |
| Silver | Tissue | 1/(2 years) | [1] |
| Thallium | Tissue | 1/(2 years) | [1] |
| Zinc | Tissue | 1/(2 years) | [1] |
| Pesticides[2] | Tissue | 1/(2 years) | [1] |
| PAHs[3] | Tissue | 1/(2 years) | [1] |

[1] Procedures used to determine compliance with bioaccumulation monitoring should use the *USEPA. Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories* (November 2000, EPA 823-B-00-007), NOAA Technical Memorandum NOS ORCA 130, *Sampling and Analytical Methods of the National Status and Trends Program Mussel Watch Project* (1998 update), and/or State Mussel Watch Program, 1987-1993 Data Report, State Water Resources Control Board 94-1WQ.

[2] Pesticides shall mean aldrin, chlordane, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, dieldrin, alpha-endosulfan, beta-endosulfan, endosulfan sulfate, endrin, heptachlor, heptachlor epoxide, and toxaphene.

[3] PAHs shall mean acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene and pyrene.

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### D. Regional Monitoring Program

**1.** Joint Effort Monitoring

The receiving water monitoring program (i.e., Surface Water Monitoring Requirements and Benthic Monitoring Requirements) shall consist of periodic biological surveys of the area surrounding the discharge, and shall include studies of those physical and chemical characteristics of the receiving waters which may be impacted by the discharge. This program may be performed as a joint effort with the Los Angeles Department of Water and Power in connection with the receiving water monitoring program for the Haynes Generating Station.

**2.** Southern California Bight

Regular regional monitoring for the Southern California Bight has been established, occurring at five-year intervals, and is coordinated through the Southern California Coastal Water Research Project with discharger agencies and numerous other entities. The fifth regional monitoring program (Bight'13) occurred primarily during summer 2013. The next (sixth) regional monitoring program (Bight'16) is expected to take place during 2016.

Discharger participation in each Bight Regional Monitoring Program is required as a condition of this Order/Permit. The Discharger shall complete collection and analysis of samples in accordance with the schedule established by the Steering Committee directing the Bight-wide regional monitoring surveys. The level of participation shall be similar to that provided by the Discharger in previous regional surveys conducted in 1998, 2003, 2008 and 2013.

Revisions to the Discharger's monitoring program (which may include a reduction or increase in the number of parameters to be monitored, the frequency of monitoring, or the number and size of samples to be collected) may be necessary to accomplish the goals of regional monitoring via a monitoring resource exchange (e.g., temporary suspension of normal receiving water monitoring requirements to dedicate monitoring resources for implementation of the regional monitoring program). Such changes may be authorized by the Regional Water Board Executive Officer and USEPA Director upon written notification to the Discharger.

## IX. OTHER MONITORING REQUIREMENTS

### A. Visual Monitoring of Receiving Water Sampling Point

**1.** A visual observation station shall be established in the vicinity of the discharge point to the receiving water.

**2.** General observations of the receiving water shall be made at each discharge point when discharges occur. During months of no discharge, the receiving water observations shall be made on a monthly basis. All receiving water observations shall be reported in the quarterly monitoring report. If no discharge occurred during the observation period, this shall be reported. Observations shall be descriptive where applicable, such that colors, approximate amounts, or types of materials apparent. The following observations shall be made:

**a.** Tidal stage, time and date of monitoring.

**b.** General water and weather conditions.

**c.** Color of water.

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

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**e.** Extent of visible turbidity or color patches.

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

**g.** Depth at each station for each sample point.

**h.** Presence of absence of red tide.

**i.** Presence of marine life.

**j.** Presence and activity of the California least term and the California brown pelican.

### B. Monitoring for Discharge of Calcareous Material

During the discharge of calcareous material (excluding heat treatment discharge) to the receiving waters, the following observations or measurements shall be recorded and reported in the next monitoring report:

**1.** Date and times of discharge(s).

**2.** Estimate of the volume and weight of discharge(s).

**3.** Composition of discharge(s).

**4.** General water conditions and weather conditions.

**5.** Appearance and extent of any oil films or grease, floatable materials or odors.

**6.** Appearance and extent of visible turbidity or color patches.

**7.** Presence of marine life.

**8.** Presence and activity of the California least turn and the California brown pelican.

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

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

### B. Self-Monitoring Reports (SMRs)

**1.** The Discharger shall electronically submit SMRs using the State Water 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 will be a planned service interruption for electronic submittal.

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

3. Monitoring periods and reporting for all required monitoring shall be completed according to the schedule in Table E-5 below. The schedule will commence on the closest monitoring period start date following or on the permit effective date.

**Table E-8. Monitoring Periods and Reporting Schedule**

| Sampling Frequency | Monitoring Period | Start Date | Duration | SMR Due Date |
|---|---|---|---|---|
| Continuous | All | Permit effective date | Ongoing | Submit with quarterly SMR |
| 1/month | Monthly | First day of each calendar month | First day of calendar month through last day of calendar month | Submit with quarterly SMR |
| 1/quarter | 1st Quarter | January 1 | January 1 through March 31 | May 1 |
| | 2nd Quarter | April 1 | April 1 through June 30 | August 1 |
| | 3rd Quarter | July 1 | July 1 through September 30 | November 1 |
| | 4th Quarter | October 1 | October 1 through December 31 | February 1 |
| 2/year | 1st Semiannual | January 1 | January 1 through June 30 | August 1 |
| | 2nd Semiannual | July 1 | July 1 through December 31 | February 1 |
| 1/year | Annual | January 1 | January 1 through December 31 | February 1 |

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.

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

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

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

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

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

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

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

**7. 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.

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

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

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

**C. Discharge Monitoring Reports (DMRs)**

**1.** The Permittee shall submit DMRs electronically via CIWQS and will discontinue submitting paper DMRs.

**2.** DMRs must be signed and certified as required by the standard provisions (Attachment D).

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

**D. Other Reports**

1. The Discharger shall report the results of the TRE/TIE, SWPP, BMP Plan, and SCP required by Special Provisions – IX.C of this Order. The Discharger shall submit reports with the first quarterly SMR scheduled to be submitted on or immediately following the report due date.
2. 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
   b. Updated SWPPP
   c. Updated BMPP
   d. Updated SCP

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# ATTACHMENT F – FACT SHEET

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# ATTACHMENT F – FACT SHEET

As described in section II.B of this Order, the California Regional Water Quality Control Board, Los Angeles Region (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.

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## I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

**Table F-1. Facility Information**

| | |
|---|---|
| **WDID** | 4B192111006 |
| **Discharger** | AES Alamitos LLC |
| **Name of Facility** | Alamitos Generating Station |
| **Facility Address** | 690 N. Studebaker Road<br>Long Beach, CA 90803<br>Los Angeles County |
| **Facility Contact, Title and Phone** | Jeff Evans, Plant Manager, 562-493-7784 |
| **Authorized Person to Sign and Submit Reports** | Jeff Evans, Plant Manager, 562-493-7784 |
| **Mailing Address** | 690 N. Studebaker Road, Long Beach, CA 90803 |
| **Billing Address** | 690 N. Studebaker Road, Long Beach, CA 90803 |
| **Type of Facility** | Electric Power Generation (*SIC 4911: Electric Services Steam Generation*) |
| **Major or Minor Facility** | Major |
| **Threat to Water Quality** | 1 |
| **Complexity** | A |
| **Pretreatment Program** | Not Applicable |
| **Recycling Requirements** | Not Applicable |
| **Facility Permitted Flow** | Total: 1,275 million gallons per day (MGD)<br>Discharge Point 001: 208.2 MGD<br>Discharge Point 002: 389.0 MGD<br>Discharge Point 003: 674.1 MGD |
| **Facility Design Flow** | Same as above |
| **Watershed** | San Gabriel River Watershed |
| **Receiving Water** | San Gabriel River Estuary |
| **Receiving Water Type** | Estuary |

**A.** AES Alamitos LLC is the owner and operator of the Alamitos Generating Station, a steam-electric generating facility located at 690 N. Studebaker Road in Long Beach, California. AES Alamitos LLC, is hereinafter referred to as Discharger. Alamitos Generating Station is hereinafter referred to as Facility. Attachment B of this Order includes a map of the Facility location and a site plan.

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 once-through cooling water, process wastewater and treated sanitary wastewater to the San Gabriel Estuary, a water of the United States within the San Gabriel River Watershed. The Facility also discharges storm water runoff to the Los Cerritos Channel Estuary, a water of the United States within the Los Cerritos Channel Watershed. The Discharger was previously regulated by Order No. 00-082 which was adopted on June 29, 2000, and expired on May 10, 2005.

**C.** The Discharger filed a Report of Waste Discharge (ROWD) and submitted an application for reissuance of its WDRs and NPDES permit on November 12, 2004. The renewal of the permits for coastal power plants was delayed as a result of efforts to develop and implement the Statewide Water Quality Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling. The Policy was adopted on October 1, 2010, and amended on June 18, 2013. The amendment specified that the Regional Water Board would review, update and renew these permits. On August 7, 2014, the Regional Water Board requested an updated ROWD to reflect the current conditions/operations at the Facility. The Discharger filed an updated ROWD on September 29, 2014. Supplemental information was requested and received on November 7, 2014. The application was deemed complete on November 12, 2014.

**D.** Pursuant to the provisions of the Code of Federal Regulations (CFR) [40 C.F.R. Section 122.6] and the California Code of Regulations [Title 23, Section 2235.4], Order No. 00-082 was administratively extended until the adoption of a new order.

**E.** A site visit was conducted on June 24, 2014, to observe operations and collect additional data to develop permit limitations and requirements for waste discharge.

## II. FACILITY DESCRIPTION

The Facility is a generating station with a capacity of 2,093 megawatts. There are six active fossil-fueled, steam-powered electric generating units on site. The generating units operate using once-through-cooling (OTC) water drawn from the Alamitos Bay using circulation pumps.

The Facility discharges OTC water, metal cleaning wastes, treated sanitary wastewater and low volume wastewater to the San Gabriel River Estuary through three discharge outfalls (Discharge Points 001, 002 and 003) located along the eastern boundary of the property and the west bank of the river. OTC water accounts for greater than 99 percent of the total discharge from the Facility. Process wastewaters and sanitary wastewater are combined with OTC water prior to discharge. The ROWD submitted by the Discharger indicated a maximum discharge of 1,275 million gallons per day (MGD) from the three outfalls combined. The flows represent the maximum capacities of the cooling water systems combined with the maximum flows of all contributing in-plant waste streams.

### A. Description of Wastewater and Biosolids Treatment and Controls

Wastewater treatment units at the plant consist of three oil/water separators and three retention basins (i.e., the north, central, and south basins). Low volume wastes generated at Units 1 – 4 are treated in the north basin and those generated at Units 5 and 6 are treated in the south basin. The central basin was used to treat metal cleaning wastes but has not been in service for several years. Effluent from any of the basins may be discharged to any of the three final discharge locations.

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**1. Once-Through Cooling Water**

Cooling water for the Facility is drawn from the Los Cerritos channel and is discharged to the San Gabriel River. Units 1 – 4 withdraw cooling water from a shared cooling water intake structure located in a canal connected to the Los Cerritos channel. Units 5 and 6 withdraw cooling water from a second canal on the south end of the Facility site which is similarly connected to the Los Cerritos Channel. Units 1 - 6 possess a total of twelve intake forebays—two per unit—all of which are equipped with curtain walls and traveling water screens which prevent debris from entering the cooling water system. Traveling water screens are installed behind the trash racks to strain out smaller debris. Circulating water pumps are located downstream of the traveling water screens to convey screened flow to the condensers. The total maximum cooling water pumping capacity of the Facility is 1,271 million gallons per day (MGD).

Marine biofouling of the cooling water conduits and forebay is controlled by chlorine injection. Biofouling is the formation of an insulating layer of slime-producing organisms. The Facility removes calcareous shell debris that accumulates within the intake screen structure by performing manual pick and cleans when the circulation pumps are non-operative. Heat treatment was previously used to remove the calcareous shell debris but the Facility has not heat treated since 2002.

In addition to biofouling of the intake structure, the use of ocean water as a matrix for heat removal can result in biofouling of conduits and heat-transfer structures within the Facility. Biological growths which accumulate within the structures of the once-through cooling water system reduce the heat transfer efficiency of the condensers. Periodic chlorination of intake water is performed to control biological growths on the condenser tubes.

**2. Internal Process Wastewater**

The Facility is permitted to discharge a number of process wastewaters which are commingled with once-through cooling water prior to discharge. These permitted waste streams include: low volume wastes and metal cleaning wastes.

**a. Low Volume Wastes**

Low-volume wastes include wastes from boiler blowdown, boiler condensate overboard, reverse osmosis reject water and in-plant drains. Low volume wastes are collected in three retention basins. The North Basin has a capacity of 825,000 gallons and discharges to outfalls 1 and 2. The South Basin has a capacity of 750,000 gallons and discharges to outfall 3. The Center Basin has a capacity of 825,000 gallons and is currently not discharging.

i. **Boiler Blowdown.** Water is occasionally removed from the boilers using steam pressure. This process is known as boiler blowdown and is used to control the buildup of total dissolved solids in the boiler. The sources of impurities in the boiler are the intake water; internal corrosion of the boiler; and chemicals added to the boiler system to control scale formation, corrosion, pH and solids deposition. Blowdown is necessary during startup, shutdown, and occasionally necessary during normal operation. The flow rate and duration of the discharge water from the blowdown process can vary considerably. Boiler blowdown water from Units 1 and 2 is discharged to the retention basins while that from Units 3 – 6 is discharged directly to the receiving water.

ii. **Boiler Condensate Overboard.** Under normal operating conditions there is no condensate overboard discharge. Condensate overboard discharges, which

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generally occur only during unit start-up, are primarily composed of condensed steam. Condensate overboard is directly discharged to the receiving water and does not undergo treatment.

iii. **Reverse Osmosis Reject Water and Regeneration Wastes.** This discharge consists of reverse osmosis reject water and condensate demineralizer regeneration wastes used to purify water used in Facility processes. These wastes are stabilized in the retention basins then discharged to the receiving water.

iv. **In-Plant Drains.** Power block floor drains from Units 1 – 6 primarily collect equipment wash water and residual oil and detergent. Wastes collected within each power block are treated in the oil/water separators and retention basins prior to discharge.

b. **Metal Cleaning Wastes.** Metal cleaning wastes, both chemical and non-chemical, are periodically generated when the metallic surfaces of Facility systems are cleaned. Air preheater and boiler fireside washes are conducted manually without the use of chemical cleaning agents. Other Facility equipment (i.e., boilers) require chemical-based cleanings to remove scale, rust, and corrosion accumulated during normal operation. Typically, these wastes are collected and transferred off-site for treatment and disposal. The Facility, however, retains the capacity to discharge these wastes to the receiving water and may resume discharges in the future.

i. **Non-Chemical Metal Cleaning Wastes.** Air pre-heaters for Units 1 – 6 are periodically washed to remove accumulated deposits. Fossil fuels with significant sulfur content produce sulfur oxides that are absorbed by the deposits on the air pre-heater, and cause low pH and corrosion. Boiler firesides are washed by spraying high-pressure water against boiler tubes while they are still hot. Wastes from this washing operation may contain dissolved and suspended solids. As discussed in section VI.B.2.b of this Fact Sheet, 40 C.F.R. section 423.12 includes applicable effluent limitation guidelines for total suspended solids but not for total dissolved solids. Acidic wastes are common for boilers fired with high sulfur fuels. Sulfur oxides absorb onto fireside deposits causing low pH and a high sulfate content in the wastewater. These wastes are stabilized in the retention basins then discharged to the receiving water.

ii. **Chemical Metal Cleaning Wastes.** Chemical metal cleaning wastes are generated when metallic surfaces in the boilers are treated and cleaned with chemical-based cleaning wastes. Chemical metal cleaning wastes are treated with lime in a belt filter press prior to commingling with other wastes in the retention basins.

c. **Treated Sanitary Wastewater.** Sanitary wastes are treated on-site in an activated sludge package plant capable of providing secondary treatment and ultraviolet light disinfection of all wastes.

3. **Storm Water.** Storm water runoff at the Facility is predominantly collected in a conveyance system with berms where it is allowed to evaporate or manually released into the Los Cerritos Channel Estuary. Storm water discharges are monitored through three sampling points O-48, O-76, and O-84. As the retention basins are uncovered storm water that falls directly onto the basins is comingled with the other wastewater and discharged through outfalls 001, 002, and 003 into the San Gabriel River Estuary.

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### B. Discharge Points and Receiving Waters

The Facility discharges once-through cooling (OTC) water commingled with internal process wastewater and to the San Gabriel River Estuary through three channel bank outfalls along the western bank of the river. Discharge Point 001 discharges OTC water from Units 1 and 2. Discharge Point 002 discharges OTC water from Units 3 and 4. Discharge Point 003 discharges OTC water from Units 5 and 6.

The San Gabriel River Estuary is a concrete-lined channel located along the heavily urbanized Los Angeles-Orange County Line. Order No. 00-082 considered the receiving waters adjacent to the plant site as ocean waters and therefore established permit limitations and conditions to protect beneficial uses and water quality objectives for ocean waters as described by the California Ocean Plan (1997). The Basin Plan (Figure 2-9), however, classifies the receiving waters as part of the San Gabriel River Estuary. The State Water Board, in a memo dated July 18, 2001, identifies the receiving waters for the Alamitos Generating Station as subject to requirements of the State Implementation Policy (SIP), which is applicable only to the inland surface waters, enclosed bays and estuaries of the state. In a letter dated January 21, 2003, the Regional Water Board notified the Discharger of reclassification of the Facility from an ocean discharger to an estuarine discharger. This Order reflects the reclassification of the Facility and therefore implements the SIP.

The Facility discharges storm water runoff to the Los Cerritos Channel Estuary through several outfalls. Storm water monitoring is conducted at three sampling points. Point O-48 is representative of the storm water runoff from the area around Units 1-4, Point O-76 is representative of the the storm water runoff from the area around the retention basins and Point O-84 is representative of the storm water runoff from the area around Units 5 and 6.

The Los Cerritos Channel Estuary is a concrete lined channel located in heavily urbanized areas within the cities of Lakewood and Long Beach. The storm water runoff discharge was previously regulated under statewide General Permit No. CAS000001. Coverage under the general permit was terminated on October 29, 2002. This Order incorporates the discharge of storm water runoff to the Los Cerritos Channel Estuary and implements the SIP.

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

Order No. 00-082 included effluent limitations for all discharges from Discharge Points 001, 002, and 003 as well as specific effluent limitations for discharges of low volume wastes, metal cleaning wastes and treated sanitary wastes. For the purpose of the renewal of an existing permit, Regional Water Board staff considers SMR data submitted during the term of the prior permit, typically a five-year period. Due to the delay in the renewal of the permits for coastal power plants discussed in Section I.C above the prior Order has been in effect for a period of more than thirteen years. For the purpose of development of this Order, SMR data from only the last five years was analyzed as would typically be the case for permit renewal. SMR data collected between January, 2009 and January, 2015 were analyzed. As explained in section II.B above, the effluent limitations from the prior order were based on the California Ocean Plan (1997). The effluent limitations from the prior order for discharges from Discharge Points 001, 002, and 003 and representative monitoring data are as follows:

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**Table F-2. Historic Effluent Limitations and Monitoring Data**

| Parameter | Units | Effluent Limitations | | | Monitoring Data | |
|---|---|---|---|---|---|---|
| | | Average Monthly | Maximum Daily | Instantaneous Minimum/ Maximum | Average Monthly | Maximum Daily |
| ***Effluent Limitations and Monitoring Data for All Discharges*** | | | | | | |
| pH | S.U. | -- | -- | 6.0/9.0 | -- | 7.0-9.1 |
| Temperature | °F | -- | -- | [1] | -- | 120 |
| Fecal Coliform | MPN/ 100 mL | [2] | | | 103 | |
| Total Residual Chlorine | mg/L | -- | 0.45 | -- | -- | 0.2 |
| Free Available Chlorine | mg/L | -- | 0.20[3]/0.50 | -- | -- | 0.16[3]/0.16 |
| Arsenic, Total Recoverable | µg/L | 31 | 162 | -- | 3.99 | 3.99 |
| Cadmium, Total Recoverable | µg/L | 6 | 24 | -- | 1.78 | 1.78 |
| Chromium (VI) | µg/L | 11 | 44 | -- | 2.2 | 2.2 |
| Copper, Total Recoverable | µg/L | 8 | 57 | -- | 9.4 | 9.4 |
| Lead, Total Recoverable | µg/L | 11 | 44 | -- | 1.23 | 1.23 |
| Mercury, Total Recoverable | µg/L | 0.22 | 0.88 | -- | 0.035 | 0.035 |
| Nickel, Total Recoverable | µg/L | 28 | 112 | -- | 16.3 | 16.3 |
| Selenium, Total Recoverable | µg/L | 83 | 332 | -- | 8.83 | 8.83 |
| Silver, Total Recoverable | µg/L | 3 | 14.5 | -- | 1.31 | 1.31 |
| Zinc, Total Recoverable | µg/L | 74 | 404 | -- | 83.2 | 83.2 |
| Chronic Toxicity | $TU_c$ | -- | 5.5 | -- | -- | 4 |
| Radioactivity | pCi/L | [4] | | | -- | NR |
| ***Effluent Limitations and Monitoring Data for Low Volume Wastes*** | | | | | | |
| Total Suspended Solids | mg/L | 30 | 100 | -- | 46 | 46 |
| Oil and Grease | mg/L | 15 | 20 | -- | 13.7 | 13.7 |
| ***Effluent Limitations and Monitoring Data for Metal Cleaning Wastes*** | | | | | | |
| Total Suspended Solids | mg/L | 30 | 100 | -- | [5] | |
| Oil and Grease | mg/L | 15 | 20 | -- | | |
| Copper, Total Recoverable | mg/L | 1.0 | 1.0 | -- | | |
| Iron, Total Recoverable | mg/L | 1.0 | 1.0 | -- | | |
| ***Effluent Limitations and Monitoring Data for Treated Sanitary Wastes*** | | | | | | |
| Biochemical Oxygen Demand (5-day, 20°C) | mg/L | 30 | 45 | -- | 17 | 17 |
| Total Suspended Solids | mg/L | 30 | 45 | -- | 50 | 50 |
| Settleable Solids | mL/L | 0.1 | 0.3 | -- | 0.6 | 0.6 |
| Oil and Grease | mg/L | 10 | 15 | -- | 11.8 | 11.8 |

NR: Not Reported

[1] The temperature of wastes discharged shall not exceed 105°F during normal operation of the facility. During heat treatment, the temperature of wastes discharged shall not exceed 125°F except during adjustment of the recirculation gate at which time the temperature of wastes discharged shall not exceed: 135°F. Temperature fluctuations during gate adjustment above 125°F shall not 'last for more than thirty (30) minutes.

[2] The fecal coliform concentration shall not exceed a log mean of 200/100 mL (based on a minimum of not less than four samples for any 30-day period), nor shall more than 10 percent of the total samples during any 30-day period exceed 400/100 mL.

[3] Applied as a daily average.

[4] Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30269 of the California Code of Regulations or subsequent revisions.

[5] No discharge of metal cleaning wastes occurred between January, 2009 and January, 2015.

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### D. Compliance Summary

Data submitted to the Regional Water Board during the last five years of the term of Order 00-082 indicate that the Discharger has experienced violation of numeric permit limits as outlined in the table below:

| Date | Type of Limitation | Pollutant | Units | Effluent Limitation | Result |
|---|---|---|---|---|---|
| 8/31/2009 | AMEL[1] | Oil and Grease | mg/L | 10 | 11.8 |
| 4/9/2012 | Instantaneous Max | Temperature (Discharge Point 001) | °F | 105 | 107.1 |
| 4/16/2012 | Instantaneous Max | Temperature (Discharge Point 001) | °F | 105 | 120 |
| 11/4/2013 | MDEL[1] | Settleable Solids | mL/L | 0.3 | 0.6 |
| 11/16/2013 | AMEL[1] | Settleable Solids | mL/L | 0.1 | 0.575 |
| 11/16/2013 | AMEL[1] | Total Suspended Solids | mg/L | 30 | 45 |
| 4/14/2014 | AMEL[1] | Settleable Solids | mL/L | 0.1 | 0.18 |
| 8/15/2014 | Instantaneous Max | Temperature (Discharge Point 002) | °F | 105 | 105.2 |

[1] Effluent limitation for discharge of treated sanitary wastes.

All of the violations in the table above have been classified as Class 2 (moderate) violations. The Regional Water Board has also identified multiple instances of deficient monitoring, deficient reporting, and a late report. These instances of non-compliance have been addressed through Notice of Violation letters sent May 4, 2011, and December 21, 2011; and California Water Code Section 13267 Orders sent June 6, 2012, and July 14, 2014.

### E. Planned Changes

The Discharger indicates that changes are planned to comply with the requirements of Clean Water Act Section 316(b). These changes are discussed in Section III.C.5 below.

## 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 WDRs 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 USEPA 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 Los Angeles Region Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (hereinafter Basin Plan) on June 13, 1994, that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan. In addition, the Basin Plan

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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 applicable to the San Gabriel River Estuary and Los Cerritos Channel Estuary are as follows:

**Table F-3. Basin Plan Beneficial Uses**

| Discharge Point | Receiving Water Name | Beneficial Use(s) |
|---|---|---|
| 001, 002, 003 | San Gabriel River Estuary | Existing:<br>Industrial service supply (IND); navigation (NAV); water contact recreation (REC-1); non-contact water recreation (REC-2); commercial and sport fishing (COMM); estuarine habitat (EST); marine habitat (MAR); wildlife habitat (WILD); rare, threatened, or endangered species (RARE); migration of aquatic organisms (MIGR); spawning, reproduction, and/or early development (SPWN)<br><br>Potential:<br>Shellfish harvesting (SHELL) |
| O-48, O-76, O-87 | Los Cerritos Channel Estuary | Existing:<br>Industrial service supply (IND); navigation (NAV); water contact recreation (REC-1); non-contact water recreation (REC-2); commercial and sport fishing (COMM); estuarine habitat (EST); marine habitat (MAR); wildlife habitat (WILD); rare, threatened, or endangered species (RARE); migration of aquatic organisms (MIGR); spawning, reproduction, and/or early development (SPWN); shellfish harvesting (SHELL) |

2. **Enclosed Bays and Estuaries Policy.** The Water Quality Control Policy for the Enclosed Bays and Estuaries of California (Enclosed Bay and Estuaries Policy), adopted by the State Water Resources Control Board (State Water Board) as Resolution No. 95-84 on November 16, 1995, states that:

   *It is the policy of the State Water Board that the discharge of municipal wastewaters and industrial process waters (exclusive of cooling water discharges) to enclosed bays and estuaries, other than the San Francisco Bay- Delta system, shall be phased out at the earliest practicable date. Exceptions to this provision may be granted by a Regional Water Board only when the Regional Water Board finds that the wastewater in question would consistently be treated and discharged in such a manner that it would enhance the quality of receiving waters above that which would occur in the absence of the discharge.*

   While the Facility discharges to the San Gabriel River Estuary, the wastewater is comprised primarily of once-through cooling water (approximately 99 percent). Nonetheless, this Order contains provisions necessary to protect all beneficial uses of the receiving water.

3. **Thermal Plan.** The State Water Board adopted the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan) on January 7, 1971, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. The Facility, as presently operating, is considered an existing discharge per Definition 10 of the Thermal Plan. Water Quality Objective 5A of the Thermal Plan is applicable to

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existing thermal discharges to the estuaries of California and therefore applicable to discharges from the Facility:

*5A(1) Elevated temperature waste discharges shall comply with the following:*

*a. The maximum temperature shall not exceed the natural receiving water temperature by more than 20°F.*

*b. Elevated temperature waste discharges either individually or combined with other discharges shall not create a zone, defined by water temperature of more than 1°F above natural receiving water temperature, which exceeds 25 percent of the cross-sectional area of a main river channel at any point.*

*c. No discharge shall cause a surface water temperature rise greater than 4°F above the natural temperature of the receiving waters at any time or place.*

*d. Additional limitations shall be imposed when necessary to assure protection of beneficial uses.*

*5A(2) Thermal waste discharges shall comply with the provisions of 5A(1) above and, in addition, the maximum temperature of thermal waste discharges shall not exceed 86°F.*

Requirements of this Order implement the Thermal Plan.

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

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

6. **Clean Water Act Section 316(b) – Impingement and Entrainment.** CWA section 316(b) requires that the location, design, construction, and capacity of cooling water intake structures reflect the Best Technology Available (BTA) for minimizing adverse environmental impacts related to entrainment (drawing organisms into the cooling water system) and impingement (trapping organisms against the intake screens).

On May 4, 2010 the State Water Board adopted a Statewide Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling (OTC Policy). The administrative record for the OTC Policy was approved by the Office of

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Administrative Law (OAL) on September 27, 2010. The OTC Policy became effective on October 1, 2010.

The OTC Policy establishes technology-based standards to implement federal CWA section 316(b) and reduce the harmful effects associated with cooling water intake structures on marine and estuarine life. The OTC Policy applies to existing power plants that currently have the ability to withdraw water from the State's coastal and estuarine waters using a single-pass system, also known as once-through cooling. Closed-cycle wet cooling has been selected as BTA.

The Policy requires compliance under two alternatives:

**a.** Track 1, where an owner or operator of an existing power plant must reduce intake flow rate at each unit, at a minimum, to a level commensurate with that which can be attained by a closed-cycle wet cooling system. A minimum 93 percent reduction in intake flow rate for each unit is required for Track 1 compliance, compared to the unit's design intake flow rate. The through-screen intake velocity must not exceed 0.5 foot per second. The installation of closed cycle dry cooling systems meets the intent and minimum reduction requirements of this compliance alternative, or

**b.** Track 2, where an owner or operator of an existing power plant demonstrates to the State Water Board's satisfaction that compliance with Track 1 is not feasible, the owner or operator of an existing power plant must reduce impingement mortality and entrainment of marine life for the facility, on a unit-by-unit basis, to a comparable level to that which would be achieved under Track 1, using operational or structural controls, or both.

All owners or operators of existing power plants were required to submit an implementation plan identifying the OTC compliance alternative selected by April 1, 2011. The Discharger submitted an implementation plan on April 1, 2011. A revised implementation plan was later submitted on June 17, 2011. Additional implementation information was submitted on March 31, 2013 and November 8, 2013. Per the submitted information, the Discharger has indicated that the proposed mechanism to bring all of its units (1, 2, 3, 4, 5, and 6) into OTC compliance will be via Track 1.

The Track 1 compliance will be completed in three phases and will consist in the construction of dry-cooled natural gas fired combined cycle gas turbine (CCGT) power blocks. The OTC Policy includes a final completion date of December 31, 2020 for the completion of all three phases. Phase 1, the conversion of Units 5 and 6 to CCGT power blocks, will be completed by December 31, 2018. This complies with the final compliance date included in the OTC Policy. The Discharger has requested an extension of the final compliance date to December 31, 2022 for Phase 2 (Units 3 and 4), and December 31, 2026 for Phase 3 (Units 1 and 2). The OTC Policy, however, has not been amended to allow a change in the OTC final compliance date. Therefore, the established OTC Policy compliance date of December 31, 2020 is the final compliance date for the completion of Phases 2 and 3.

**7. 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

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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.

8. **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 prior permit, with some exceptions in which limitations may be relaxed.

9. **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. The discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

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

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

The USEPA approved the State's 2010 CWA section 303(d) list of impaired water bodies on November 12, 2010. 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 2010 CWA section 303(d) list and have been scheduled for TMDL development.

The Facility discharges once-through cooling water commingled with internal process wastewater into San Gabriel Estuary. The 2010 State Water Board's California CWA section 303(d) List classifies San Gabriel Estuary as impaired. The pollutants of concern include: copper, dioxin, dissolved oxygen, and nickel. The inclusion of the San Gabriel Estuary on the 2010 CWA section 303(d) list documents the waterbody's lack of assimilative capacity for the pollutants of concern.

The Facility also discharges storm water runoff to the Los Cerritos Channel Estuary. The 2010 State Water Board's California CWA section 303(d) List does not classify the Los Cerritos Channel Estuary as impaired. The Los Cerritos Channel Estuary is tributary to Alamitos Bay. The 2010 State Water Board's California CWA section 303(d) List classifies Alamitos Bay as impaired. The pollutant of concern is indicator bacteria. The inclusion of Alamitos Bay on the 2010 CWA section 303(d) list documents the waterbody's lack of assimilative capacity for the pollutant of concern. The 2010 State Water Board's California CWA section 303(d) List classifies the freshwater portion of Los Cerritos Channel as impaired. The pollutants of concern are: aluminum, ammonia, bis(2-ethylhexyl) phthalate, chlordane (sediment), coliform bacteria, copper, lead, pH, trash, and zinc. The freshwater portion of Los Cerritos Channel is upstream of the storm water discharge from this Facility.

**E. San Gabriel River Metals and Selenium TMDL**

The Regional Water Board adopted Resolution No. 2006-014 on July 13, 2006, that amended the Basin Plan to incorporate the *Total Maximum Daily Loads for Metals and Selenium, San*

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*Gabriel River and Impaired Tributaries* (San Gabriel River Metals and Selenium TMDL). The San Gabriel River Metals and Selenium TMDL was approved by the USEPA on March 26, 2007. The TMDL contains requirements applicable to this discharge. Therefore, this Order contains effluent limitations and monitoring requirements based on the TMDL.

**F. Los Cerritos Channel Metals TMDL**

The USEPA established the *Los Cerritos Channel Total Maximum Daily Loads for Metals* (Los Cerritos Channel Metals TMDL) on March 17, 2010. The Regional Water Board adopted Resolution No. R13-004 on June 6, 2013 that amended the Basin Plan to incorporate the Implementation Plan for the Los Cerritos Channel Metals TMDL. The Los Cerritos Channel Metals TMDL Implementation Plan was approved by the Office of Administrative Law on October 13, 2014. The TMDL contains requirements applicable to the freshwater portion of Los Cerritos Channel. The discharge from this Facility is to the Los Cerritos Estuary downstream of the portion of Los Cerritos Channel addressed by the TMDL. Therefore, this Order does not contain effluent limitations and monitoring requirements based on the TMDL.

**G. Harbor Toxics TMDL**

The Regional Water Board adopted Resolution No. R11-008 on May 5, 2011, that amended the Basin Plan to incorporate the *TMDL for Toxic Pollutants in Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters* (Harbor Toxics TMDL). The Harbor Toxics TMDL was approved by the State Water Board on February 7, 2012, the OAL on March 21, 2012, and the USEPA on March 23, 2012. The Harbor Toxics TMDL contains requirements applicable to this discharge. Therefore, this Order contains monitoring requirements based on the TMDL.

Responsible parties identified in the San Gabriel River Metals and Selenium TMDL are responsible for conducting water and sediment monitoring at the mouth of the San Gabriel River to determine the river's contribution to impairments in the Greater Harbor waters.

**1.** Water Column Monitoring

Water samples and total suspended solids samples (TSS) shall be collected at, at least one site during two wet weather events and one dry weather event each year. The first large storm event of the season shall be included as one of the wet weather monitoring events. Water samples and TSS samples shall be analyzed for metals, DDT, PCBs, and PAHs. Sampling shall be designed to collect sufficient volumes of suspended solids to allow for analysis of the listed pollutants in the bulk sediment.

General water chemistry (temperature, dissolved oxygen, pH, and electrical conductivity) and a flow measurement shall be required at each sampling event. General chemistry measurements may be taken in the laboratory immediately following sample collection if auto samplers are used for sample collection or if weather conditions are unsuitable for field measurements.

Monitoring station RSW-001 is located at the mouth of the San Gabriel River. Therefore, this Order establishes Harbor Toxics TMDL water column monitoring requirements at monitoring station RSW-001.

**2.** Sediment Monitoring

The Harbor Toxics TMDL states that sediment samples shall be collected at, at least one site every two years for analysis of general sediment quality constituents and the full chemical suite as specified in State Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality (SQO Part 1). All samples shall be collected in accordance with SWAMP protocols.

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This Order retains annual sediment monitoring requirements from the prior order at monitoring stations BEN-001 to BEN-008. Monitoring station BEN-001 is located at the mouth of the San Gabriel River directly beneath monitoring station RSW-001. The sediment monitoring requirements retained from the prior order for monitoring station BEN-001 exceed and therefore satisfy the sediment monitoring requirements established in the Harbor Toxics TMDL.

### H. 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.

Pollutants of concern for the discharges covered under this Order were based on effluent monitoring data, constituents regulated under Order No. 00-082, and the pollutants on the 303(d) list for the San Gabriel Estuary. Order No. 00-082 included effluent limitations for arsenic, cadmium, chromium (VI), copper, lead, mercury, nickel, selenium, silver, zinc, chronic toxicity, radioactivity and fecal coliform. The San Gabriel Estuary is listed as impaired for copper, dioxin, dissolved oxygen, and nickel.

### A. Discharge Prohibitions

Discharge prohibitions in this Order are based on the Federal Clean Water Act, Basin Plan, Water Code, State Water Resources Control Board's plans and policies, USEPA guidance and regulations, and previous permit provisions. As discussed in Sections IV.B.3 of the Fact Sheet, the discharge of PCBs is prohibited based on the standards applicable to steam-electric generating facilities contained in 40 C.F.R. part 423.

### B. Technology-Based Effluent Limitations

#### 1. Scope and Authority

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

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

**a.** Best practicable treatment control technology (BPT) represents the average of the best 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

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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, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering the "cost reasonableness" of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and also the cost effectiveness of additional industrial treatment beyond BPT.

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

The CWA requires USEPA to develop Effluent Limitations Guidelines (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 best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the Regional Water Board must consider specific factors outlined in 40 C.F.R. section 125.3.

**2. Applicable Technology-Based Effluent Limitations**

Pursuant to CWA section 306 (b) (1) (B), USEPA has established standards of performance for the steam electric power point source category, for existing and new sources at 40 C.F.R part 423. These regulations apply to the Facility as "*an establishment primarily engaged in the generation of electricity for distribution and sale which results primarily from a process utilizing fossil-type fuel … in conjunction with a thermal cycle employing the steam water system as the thermodynamic medium*" (40 C.F.R section 423.10). Standards of performance for existing facilities (instead of new source performance standards) are applicable to the Facility, because its construction was commenced before the publication of regulations on November 19, 1982, which proposed standards of performance for the industry.

The following are applicable technology-based standards of performance (BPT and BAT) applicable to the Facility from the ELGs for existing sources at 40 C.F.R part 423. The guidelines do not include standards of performance based on BCT.

The table below lists the Facility's waste streams subject to the ELGs for steam electric power generating point sources.

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**Table F-4. Plant Waste Streams Subject to Effluent Limitation Guidelines**

| Waste Stream | ELG Classification |
|---|---|
| Units 1 – 6 once-through cooling water | Once-through cooling water |
| Yard, steam trap, and floor drains | Low-volume waste source |
| Reverse osmosis membrane reject | Low-volume waste source |
| Condensate demineralizer regeneration wastes | Low-volume waste source |
| Units 1 – 6 boiler blowdown | Low-volume waste source |
| Units 1 – 6 condensate overboard | Low-volume waste source |
| Units 1 – 6 air pre-heater wash water | Metal cleaning waste source |
| Units 1 – 6 chemical boiler/metal cleaning wash water | Chemical metal cleaning waste source |
| Treated sanitary wastes | Sanitary Waste[1] |
| Storm water runoff | Not subject to ELG |

[1] Sanitary wastes are not subject to the ELG at 40 C.F.R part 423, but are instead subject to Secondary Treatment Standards at 40 C.F.R part 133 based on BPJ.

40 C.F.R. part 423 contains ELGs applicable to the following process waters: low volume wastes, fly ash transport water, bottom ash transport water, metal cleaning wastes (both chemical and non-chemical), once through cooling water, cooling tower blowdown, and discharges of coal pile runoff. Of these, the ELGs that apply to discharges from this Facility include: low volume wastes, metal cleaning wastes, and once-through cooling water. In addition, discharges of treated sanitary wastes are subject to Secondary Treatment Standards at 40 C.F.R part 133.

**a. Standards of Performance Based on BPT**

Applicable effluent limitations established on the basis of BPT are summarized as follows:

**i.** The pH of all discharges, except once-through cooling water, shall be within the range of 6.0 – 9.0 standard units [40 C.F.R section 423.12 (b) (1)].

**ii.** There shall be no discharge of polychlorinated biphenyl (PCB) compounds such as those commonly used for transformer fluid [40 C.F.R. section 423.12 (b) (2)].

**iii.** *Low volume wastes* are defined as wastewater sources for which specific limitations are not established by the effluent limitation guidelines at 40 C.F.R. part 423. The quantity of pollutants discharged from low volume waste sources shall not exceed the quantity determined by multiplying the flow of the low volume waste sources times the concentration listed in Table F-5 below [40 C.F.R. section 423.12 (b) (3)].

**iv.** *Metal cleaning wastes* are defined as any wastewater resulting from cleaning [with or without chemical cleaning compounds] any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning, and air preheater cleaning. The quantity of pollutants discharged in metal cleaning wastes shall not exceed the quantity determined by multiplying the flow of metal cleaning wastes times the concentration listed in Table F-5 below.

**v.** *Once-through cooling water* is defined as water passed through the main cooling condensers in one or two passes for the purpose of removing waste heat. The quantity of pollutants discharged in once through cooling water shall

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not exceed the quantity determined by multiplying the flow of once through cooling water sources times the concentration listed in Table F-5 below [40 C.F.R. section 423.12 (b) (6)].

**vi.** Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit may discharge free available or total residual chlorine at any one time unless the utility can demonstrate to the Los Angeles Water Board that the units in a particular location cannot operate at or below this level or chlorination [40 C.F.R. section 423.12 (b) (8)].

**vii.** In the event that waste streams from various sources are combined for treatment or discharge, the quantity of each pollutant attributable to each controlled waste source shall not exceed the specified limitations for that waste source.

**Table F-5. BPT Effluent Limitation Guidelines from 40 C.F.R. section 423.12**

| Parameter | Units | Effluent Limitations | | | |
|---|---|---|---|---|---|
| | | Average Monthly | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum |
| ***Effluent Limitations for Low Volume Wastes*** | | | | | |
| Total Suspended Solids | mg/L | 30 | 100 | -- | -- |
| Oil and Grease | mg/L | 15 | 20 | -- | -- |
| ***Effluent Limitations and Monitoring Data for Metal Cleaning Wastes*** | | | | | |
| Total Suspended Solids | mg/L | 30[1] | 100 | -- | -- |
| Oil and Grease | mg/L | 15[1] | 20 | -- | -- |
| Copper, Total Recoverable | mg/L | 1.0[1] | 1.0 | -- | -- |
| Iron, Total Recoverable | mg/L | 1.0[1] | 1.0 | -- | -- |
| ***Effluent Limitations for Once-through Cooling Water*** | | | | | |
| Free Available Chlorine | mg/L | -- | 0.2[2] | -- | 0.5 |

[1] Applied as a 30-day average concentration.
[2] Applied as an average daily concentration.

**b. Standards of Performance Based on BAT**

Applicable effluent limitations established on the basis of BPT are summarized as follows:

**i.** There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid [40 C.F.R section 423.13 (a)].

**ii.** For any plant with a total rated electric generating capacity of 25 or more megawatts:

(a) The quantity of pollutants discharged in once through cooling water from each discharge point shall not exceed the quantity determined by multiplying the flow of once through cooling water from each discharge point times the concentration listed in Table F-6 below [40 C.F.R. section 423.13 (b) (1)].

(b) Total residual chlorine may not be discharged from any single generating unit for more than two hours per day unless the Discharger demonstrates to the permitting authority that discharge for more than two hours per day is required for macroinvertebrate control [40 C.F.R. section 423.13 (b) (2)].

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**iii.** The quantity of pollutants discharged in chemical metal cleaning wastes shall not exceed the quantity determined by multiplying the flow of chemical metal cleaning wastes times the concentration listed in Table F-6 below [40 C.F.R. section 423.13 (e)].

**iv.** At the permitting authority's discretion, the quantity of pollutant allowed to be discharged may be expressed as a concentration limitation instead of the mass based limitations specified in paragraphs (ii) and (iii) of this section. Concentration limitations shall be those concentrations specified in this section.

**Table F-6. BAT Effluent Limitation Guidelines from 40 C.F.R. section 423.13**

| Parameter | Units | Effluent Limitations | | | |
|---|---|---|---|---|---|
| | | Average Monthly | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum |
| ***Effluent Limitations for Once-through Cooling Water*** | | | | | |
| Total Residual Chlorine | mg/L | -- | 0.2 | -- | -- |
| ***Effluent Limitations and Monitoring Data for Metal Cleaning Wastes*** | | | | | |
| Copper, Total Recoverable | mg/L | 1.0[1] | 1.0 | -- | |
| Iron, Total Recoverable | mg/L | 1.0[1] | 1.0 | -- | |
| [1] Applied as a 30-day average concentration. | | | | | |

**c. Standards of Performance for Secondary Treatment of Sanitary Waste**

The Discharger owns and operates a sanitary wastewater treatment system on site that discharges secondary treated wastewater through Discharge Points 001 or 002. Sanitary wastes are treated in a biological waste treatment system prior to discharge to the San Gabriel River Estuary. Limitations based on the minimum level of effluent quality attainable by secondary treatment are established at 40 C.F.R. part 133. These secondary treatment standards are applicable to all publically owned treatment works. Although this Facility is not a publically owned treatment works, the level of treatment attained by the sanitary wastewater system on-site should be comparable to publically owned treatment facilities treating similar sanitary waste. Therefore, based on BPJ, the Los Angeles Water Board has determined that secondary treatment standards at 40 CFR part 133 are applicable to discharges of sanitary wastes in the Facility.

Limitations for effluent resulting from secondary treatment of sanitary wastes are contained in the following table:

**Table F-7. Effluent Limitation Guidelines for Sanitary Wastes from 40 C.F.R. part 133**

| Parameter | Units | Effluent Limitations | | | |
|---|---|---|---|---|---|
| | | Average Monthly | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum |
| Biochemical Oxygen Demand (5-day, 20°C) | mg/L | 30 | 45 | -- | -- |
| Total Suspended Solids | mg/L | 30 | 45 | -- | -- |
| pH | s.u. | -- | -- | 6.0 | 9.0 |

**d. 301(g) Variance from BAT Standards for Total Residual Chlorine**

The prior order contained a proposed modified effluent limitation (PMEL) for total residual chlorine which was based on a USEPA-approved variance from BAT standards. This PMEL has not been retained in this Order and effluent limitations for

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total residual chlorine are instead based on the BAT standards contained in 40 C.F.R. part 423. The variance from BAT standards is no longer applicable to the discharge because this variance was developed based on a marine receiving water classification, and not on an estuarine receiving water classification. As discussed in Sections II.B and III.C.1 of the Fact Sheet, since the adoption of Order 00-082, the receiving water has been re-categorized as an estuary which possesses a set of beneficial uses which were not contemplated during the development of the variance. The Los Angeles Water Board views State Water Board Resolution Nos. 86-42 and 88-80 and USEPA's approval of a variance to BAT requirements for chlorine as contemplating an ocean discharge, not an estuarine discharge. This is evidenced by language that specifically addresses an "exception to the Ocean Plan" by the consideration of:

- Water quality standards for ocean, not estuarine waters.
- Receiving water beneficial uses from the Ocean Plan that include marine habitat, not estuarine habitat.
- Toxicity implications to marine, not estuarine organisms.

In addition, the USEPA 301(g) variance was premised on the inclusion of a mixing zone and associated dilution credit which is no longer applicable to this discharge (see discussion in section II.B of the Fact Sheet).

Therefore, the Los Angeles Water Board finds that due to the re-classification of the discharge from an ocean discharge to an estuarine discharge, the exceptions and variance no longer apply. Consequently, the PMEL contained in Order 00-082 has not been retained in this Order and BAT standards contained in 40 C.F.R. part 423 are applicable to the discharge.

**e. Technology-Based Effluent Limitations for Storm Water Runoff**

There are no applicable ELGs for the discharge of storm water runoff from this Facility to the Los Cerritos Channel Estuary. Where USEPA has not yet developed technology-based standards for a particular industry or a particular pollutant, CWA section 402(a)(1) and 40 C.F.R. section 125.3 authorize the use of BPJ to derive technology-based effluent limitations (TBELs) on a case-by-case basis. When BPJ is used, the permit must reflect specific factors outlined at 40 C.F.R. section 125.3.

The Basin Plan includes water quality objectives (WQOs) for the following parameters:

**Biochemical Oxygen Demand (BOD)**: *Waters shall be free of substances that result in increases in the BOD which adversely affect beneficial uses*.

**Oil and Grease**: *Waters shall not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses*.

**Solids, Suspended, or Settleable Materials**: *Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses*.

For storm water runoff at other industrial facilities within the Region the Regional Water Board has addressed these WQOs through the use of BPJ to derive TBELs as authorized under CWA section 402(a)(1) and 40 C.F.R. section 125.3. TBELs are typically established for BOD, oil and grease, and total suspended solids (TSS). Due

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to the intermittent nature of storm water discharges, maximum daily effluent limitations are appropriate. The values typically established for these parameters are shown in the following table:

**Table F-8. Technology-Based Effluent Limitations for Storm Water**

| Parameter | Units | Maximum Daily |
|---|---|---|
| Biochemical Oxygen Demand (5-day, 20°C) | mg/L | 30 |
| Oil and Grease | mg/L | 15 |
| Total Suspended Solids | mg/L | 75 |

The Discharger has been monitoring the storm water discharge at sampling points O-48, O-76 and O-84. Parameters analyzed have included total suspended solids (TSS) and oil and grease. Data from annual monitoring reports submitted to the Regional Water Board for the years 2009 through 2013 indicate that 14 of 20 samples were within the above limits for TSS and 19 of 20 samples were within the above limits for oil and grease. The storm water has not been analyzed for BOD.

The TBELs for BOD, TSS, and oil and grease are based on BPT and BCT. In setting these limitations, the Regional Water Board considered the factors listed in 40 C.F.R. sections 125.3(d)(1) and 125.3(d)(2), respectively. These factors include: cost of application of technology, age of equipment and facilities used, process employed, engineering aspects/control techniques, process changes and non-water quality environmental impacts.

The Discharger's past performance indicates the ability to meet the TBELs for TSS and oil and grease using current technology. 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 incurring no additional costs or non-water quality environmental impacts. The Discharger has not analyzed the storm water for BOD and therefore the factors listed above cannot be assessed and an effluent limitation for BOD is not established in this Order. This Order requires monitoring of the storm water for BOD in order to assess the efficiency of the current technology.

This Order therefore establishes the above effluent limitations for oil and grease, and TSS that are applicable to the discharge of storm water runoff from this Facility to the Los Cerritos Channel Estuary.

### 3. Summary of Technology-based Effluent Limitations

Effluent limitations in 40 C.F.R. section 423.12(b)(11) and section 423.13(g) specify that, at the permitting authority's discretion, effluent limitations may be expressed as a concentration-based limitation instead of the mass-based limitations otherwise specified. Consistent with the prior order, technology-based effluent limitations in this Order are expressed as concentration-based limitations.

Effluent limitations are specific to the type of discharge. The discharge of PCBs is prohibited for all types of discharge. A summary of the technology-based effluent limitations applicable to this Facility is shown in Table F-9.

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

| Parameter | Units | Effluent Limitations | | | |
|---|---|---|---|---|---|
| | | Average Monthly | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum |
| ***Effluent Limitations for Once-through Cooling Water*** | | | | | |
| Free Available Chlorine[1,2] | mg/L | -- | 0.2[3] | -- | 0.5 |
| Total Residual Chlorine[1,2] | mg/L | -- | 0.2 | -- | -- |
| ***Effluent Limitations for Low Volume Wastes*** | | | | | |
| Total Suspended Solids | mg/L | 30 | 100 | -- | -- |
| Oil and Grease | mg/L | 15 | 20 | -- | -- |
| pH | s.u. | -- | -- | 6.0 | 9.0 |
| ***Effluent Limitations and Monitoring Data for Metal Cleaning Wastes*** | | | | | |
| Total Suspended Solids | mg/L | 30[4] | 100 | -- | -- |
| Oil and Grease | mg/L | 15[4] | 20 | -- | -- |
| Copper, Total Recoverable | mg/L | 1.0[4] | 1.0 | -- | -- |
| Iron, Total Recoverable | mg/L | 1.0[4] | 1.0 | -- | -- |
| ***Effluent Limitations for Treated Sanitary Wastes*** | | | | | |
| Biochemical Oxygen Demand (5-day, 20°C) | mg/L | 30 | 45 | -- | -- |
| Total Suspended Solids | mg/L | 30 | 45 | -- | -- |
| pH | s.u. | -- | -- | 6.0 | 9.0 |
| ***Effluent Limitations for Storm Water (Los Cerritos Channel Estuary)*** | | | | | |
| Oil and Grease | mg/L | -- | 15 | -- | -- |
| Total Suspended Solids | mg/L | -- | 75 | -- | -- |

1 If other oxidants are used, this shall be the total of all oxidants reported as residual chlorine.
2 Total residual and free available chlorine may not be discharged from any single generating unit for more than two hours per day unless the Discharger demonstrates to the permitting authority that discharge for more than two hours per day is required for macroinvertebrate control.
3 Applied as an average daily concentration.
4 Applied as a 30-day average concentration.

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### 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, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

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

The specific procedures for determining reasonable potential for discharges from the Facility, and if necessary for calculating WQBELs, are contained in the USEPA Technical Support Document for Water Quality-Based Toxics Control (TSD) for storm water discharges and in the State Implementation Policy (SIP) for non-storm water discharges. The TSD in Section 3.3.8, the first paragraph on page 64 states: "The statistical approach shown in Box 3-2 or an analogous approach developed by a regulatory authority can be used to determine the reasonable potential." The Regional Water Board has determined the procedures for determining reasonable potential and calculating WQBELs contained in the SIP for non-storm water discharges may also be used to evaluate reasonable potential and to calculate WQBELs for storm water discharges as well. Therefore, in this Order the SIP methodology is used to evaluate reasonable potential for storm water discharges through Discharge Points O-48, O-76 and O-84.

#### 2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

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 San Gabriel River Estuary are summarized in section III.C.1 of this Fact Sheet. The discharge goes to the San Gabriel River Estuary. 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 San Gabriel River Estuary. The CTR contains both saltwater and freshwater criteria. Because a distinct separation generally does not exist between freshwater and saltwater aquatic communities, the following apply, in accordance with 40 C.F.R. section 131.38(c)(3): freshwater criteria apply at salinities of 1 part per thousand (ppt) and below at locations where this occurs 95 percent or more of the time. The CTR criteria for saltwater, or human health for consumption of organisms, whichever is more stringent, are used to

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prescribe the effluent limitations to protect the beneficial uses of the San Gabriel River Estuary.

Table F-9 summarizes the applicable water quality criteria/objective for priority pollutants reported in detectable concentrations in the effluent or receiving water during the most recent discharges.

**Table F-10. Applicable Water Quality Criteria**

| CTR No. | Constituent | Selected Criteria | CTR/NTR Water Quality Criteria | | | TMDL Waste Load Allocation[1] |
|---|---|---|---|---|---|---|
| | | | Saltwater | | Human Health for Consumption of: Organisms only | |
| | | | Acute | Chronic | | |
| | | µg/L | µg/L | µg/L | µg/L | µg/L |
| 2 | Arsenic[2] | 36 | 69 | 36 | -- | -- |
| 4 | Cadmium[2] | 9.4 | 42 | 9.4 | -- | -- |
| 5b | Chromium VI | 50 | 1100 | 50 | -- | -- |
| 6 | Copper[2] | 3.1/3.7 | 5.8 | 3.7 | -- | 3.7 |
| 7 | Lead[2] | 8.5 | 220 | 8.5 | -- | -- |
| 8 | Mercury | 0.051 | -- | -- | 0.051 | -- |
| 9 | Nickel[2] | 8.3 | 75 | 8.3 | 4600 | -- |
| 10 | Selenium[2] | 71 | 290 | 71 | -- | -- |
| 11 | Silver[2] | 2.2 | 2.2 | -- | -- | -- |
| 13 | Zinc[2] | 86 | 95 | 86 | -- | -- |
| 16 | 2,3,7,8-TCDD | 0.000000014 | 22 | 5.2 | 0.000000014 | -- |
| 68 | Bis(2-ethylhexyl) phthalate | 5.9 | -- | -- | 5.9 | -- |

NC = no criteria
[1] Total Maximum Daily Loads for Metals and Selenium, San Gabriel River and Impaired Tributaries (Page 43).
[2] CTR dissolved criteria converted to total recoverable using CTR standard conversion factors.

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### 3. Determining the Need for WQBELs

#### a. Reasonable Potential Analysis Methodology

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. To conduct the RPA, the Regional Water Board identifies the MEC and maximum background concentration in the receiving water for each constituent, based on data provided by the Discharger.

Section 1.3 specifies three triggers to complete a RPA:

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

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

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

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

The RPA was performed for the priority pollutants regulated in the CTR for which data are available. Effluent data for Discharge Points 001, 002 and 003 was collected from February, 2009 through May, 2014. A single RPA was performed for the Facility based upon pooled effluent data from each discharge location since the Discharger has the capability to direct treated wastes from the three retention basins to any of the three outfalls. Upstream receiving water data collected in 2009 and 2011 through 2014 was utilized as background data in the RPA.

**b. Assimilative Capacity and Dilution Credit**

Order 00-082 established a dilution credit for the discharges from the Facility based on the policies and procedures contained in the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan). However, as discussed in section II.B of the Fact Sheet, the receiving water is no longer categorized as an ocean discharge and is now regulated as an inland surface water. The dilution credit determined for the Facility under the Ocean Plan is no longer applicable, instead dilution shall be determined based on the policies and procedures contained in the SIP.

Insufficient information is available to assess the appropriateness of establishing dilution credit in relation to requirements in the SIP; therefore, this Order has established WQBELs on the assumption of zero assimilative capacity. The impact of assuming zero assimilative capacity within the receiving water is that discharge limitations are end-of-pipe limits with no allowance for dilution within the receiving water.

**c. Intake Credits**

Section 1.4.4 of the SIP, which applies to toxic pollutants with criteria/objectives established by the NTR, CTR, and the Basin Plans, allows intake credits on a pollutant-by-pollutant or discharge-by-discharge basis, if the following conditions are met:

**i.** Both the observed maximum background and the intake concentration of the pollutant exceed the most stringent applicable criterion,

**ii.** Intake water credits are consistent with any applicable TMDL,

**iii.** Intake water is from the same water body as the receiving water body, which may be demonstrated by showing that:

(a) The ambient background concentration of the pollutant in the receiving water, excluding any amount 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

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

**iv.** The intake water pollutant is not altered chemically or physically in a manner that adversely affects water quality and beneficial uses, and

**v.** 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.

Intake water for the Facility is drawn from the Los Cerritos Channel. The receiving water for discharge from the Facility is the San Gabriel River. Therefore, condition iii above is not met and the Los Angeles Water Board does not support the granting of intake credits for discharges from the Facility.

**d. Reasonable Potential Analysis Results**

As discussed in section II.A of this Fact Sheet, process flows within the Facility are commingled and split between the discharge locations. On this basis and consistent with Order No. 00-082, a single RPA was performed using data collected from Discharge Points 001, 002 and 003. The RPA was performed for the priority pollutants included in the Basin Plan and the CTR criteria. Based on the RPA, pollutants that demonstrate reasonable potential are bis(2-ethylhexyl) phthalate, copper, nickel, and 2,3,7,8-TCDD.

Bis(2-ethylhexyl) phthalate, copper, nickel and 2,3,7,8-TCDD show Tier 1 reasonable potential because the MEC was greater than C. Effluent limitations contained in Order No. 00-082 for pollutants which do not display reasonable potential were not retained in this Order (see section IV.D.1 for further discussion of compliance with anti-backsliding requirements).

As discussed in section III.D of the Fact Sheet, discharges from the Facility are subject to the *TMDL for Metals and Selenium in the San Gabriel River and Impaired Tributaries*. This TMDL provides a concentration-based dry weather copper WLA for the Facility equal to 3.1 µg/L. The TMDL does not assign a wet-weather WLA for copper; however, if the existing effluent data demonstrates reasonable potential for copper to exceed the CTR criteria, effluent limits based on SIP methodology and CTR criteria are required during wet weather conditions.

The TMDL assigns freshwater final concentration-based WLAs for copper for discharges to the San Gabriel River Estuary. This WLA was developed based on dry-weather conditions and is applicable when flow, as measured at flow gauge F354-R in Coyote Creek operated by the Los Angeles County Department of Public Works, is less than 156 cubic feet per second (101 MGD). This flow is the 90th percentile flow rate between 1990 and 2005.

The following table summarizes results from the RPA.

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**Table F-11. Reasonable Potential Analysis Summary**

| CTR No. | Constituent | Applicable Water Quality Criteria (C) | Maximum Effluent Conc. (MEC) | Maximum Detected Receiving Water Conc. (B) | RPA Result - Need Limit? | Reason[1] |
|---|---|---|---|---|---|---|
| 2 | Arsenic | 36 | 3.99 | 1.3 | No | MEC<C |
| 4 | Cadmium | 9.4 | 1.78 | 2.0 | No | MEC<C |
| 5b | Chromium (VI) | 50 | 2.2 | 0.12 | No | MEC<C |
| 6 | Copper | 3.1/3.7[2] | 9.4 | 12 | **Yes** | **Trigger 1** |
| 7 | Lead | 8.5 | 1.23 | 2.5 | No | MEC<C |
| 8 | Mercury | 0.051 | 0.035 | 0.030 | No | MEC<C |
| 9 | Nickel | 8.3 | 16.3 | 10 | **Yes** | **Trigger 1** |
| 10 | Selenium | 71 | 8.83 | 0.64 | No | MEC<C |
| 11 | Silver | 2.2 | 1.31 | 0.020 | No | MEC<C |
| 13 | Zinc | 86 | 83.2 | 50 | No | MEC<C |
| 16 | 2,3,7,8-TCDD | $1.4 \times 10^{-8}$ | $1.4 \times 10^{-6}$ | $6.0 \times 10^{-6}$ | **Yes** | **Trigger 1** |
| 68 | Bis(2-Ethylhexyl) Phthalate | 5.9 | 75 | 0.34 | **Yes** | **Trigger 1** |

[1] Section 1.3 of the SIP specifies three triggers to complete an RPA:
Trigger 1 – If the MEC ≥ C, a limit is needed.
Trigger 2 – If B > C and the pollutant is detected in the effluent, a limit is needed.
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.

[2] The discharge is subject to a concentration-based copper WLA equal to 3.1 µg/L during dry weather conditions as defined in the TMDL. For wet weather conditions, the CTR criterion of 3.7 µg/L applies.

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**4. WQBEL Calculations**

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

**i.** If applicable and available, use of the WLA established as part of a TMDL.

**ii.** Use of a steady-state model to derive MDELs and 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.** The final WQBELs for copper, nickel; 2,3,7,8-TCDD and bis(2-ethylhexyl) phthalate are based on monitoring results and following the procedure based on the steady-state model, available in Section 1.4 of the SIP.

**c.** Since many of the streams in the Region have minimal upstream flows, mixing zones and dilution credits are usually not appropriate. Therefore, in this Order, no dilution credit is being allowed. However, in accordance with the reopener provision in Section VI.C.1.e, this Order may be reopened upon the submission by the

Discharger of adequate information to establish appropriate dilution credits or a mixing zone, as determined by the Regional Water Board.

**d.** WQBELs Calculation Example

Using nickel as an example, the following demonstrates how WQBELs were established for this Order. The tables in Attachment J summarize the development and calculation of all WQBELs for this Order using the process described below.

The process for developing these limits is in accordance with Section 1.4 of the SIP. Attachment J summarizes the development and calculation of all WQBELs for this Order using the process described below.

*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 $C \leq B$,

Where

C = The priority pollutant criterion/objective, adjusted if necessary for hardness, pH and translators.
D = The dilution credit, and
B = The ambient background concentration

As discussed above, this Order does not allow dilution; therefore

$ECA = C$

For nickel, the applicable water quality criteria are:

$ECA = WLA_{acute} = 75\ \mu g/L$

$ECA = WLA_{chronic} = 8.3\ \mu g/L$

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

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

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

The CV for the data set must be determined before the multipliers can be selected and will vary depending on the number of samples and the standard deviation of a data set. If the data set is less than 10 samples, or at least 80% of the samples in the data set are reported as non-detect, the CV shall be set equal to 0.6. If the data set is greater than 10 samples, and at least 20% of all the samples in the data set are reported as detected, the CV shall be equal to the standard deviation (σ) of the data set divided by the average of the data set. For nickel there were 45 samples

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and 42 were reported as detected, therefore a calculated CV applies. For effluent data points below the detection limit, a value of one-half of the detection limit was used in the calculations per SIP instructions. For nickel the calculated average was 2.63 with a σ value of 3.87. Therefore the CV was determined as follows:

CV = σ/average = 3.87/2.63 = 1.5

For nickel, 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 $Multiplier_{chronic}$ |
|---|---|---|---|
| 45 | 1.5 | 0.145 | 0.266 |

$LTA_{acute}$ = 75 µg/L x 0.145 = 10.8 µg/L

$LTA_{chronic}$ = 8.3 µg/L x 0.266 = 2.2 µg/L

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

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

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

$LTA_{selenium}$ = $LTA_{chronic}$ = 2.2 µg/L

**Step 4:** Calculate the WQBELs by multiplying the LTA by a factor (multiplier). WQBELs are expressed as Maximum Daily Effluent Limit (MDEL) or Average Monthly Effluent Limit (AMEL). Due to the intermittent nature of the storm water only discharge from this facility only the MDEL applies. 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.

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

For nickel the following data were used to develop the MDEL using equations provided in section 1.4, Step 5 of the SIP:

| No. of Samples Per Month | CV | $Multiplier_{MDEL99}$ | $Multiplier_{AMEL95}$ |
|---|---|---|---|
| 4 | 1.45 | 6.9 | 2.4 |

ADEL= 2.2 µg/L x 2.4 = 5.3 µg/L

MDEL= 2.2 µg/L x 6.9 = 15 µg/L

**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 nickel:

$AMEL_{human\ health}$ = 4600 µg/L

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**Step 6:** Calculate the MDEL for human health by multiplying the AMEL by the ratio of $Multipler_{MDEL}$ 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 nickel, the following data were used to develop the $MDEL_{human\ health}$:

| No. of Samples Per Month | CV | $Multiplier_{MDEL\ 99}$ | $Multiplier_{AMEL\ 95}$ | Ratio |
|---|---|---|---|---|
| 4 | 2.97 | 11 | 3.3 | 3.3 |

For nickel:

$MDEL_{human\ health}$= 4,600 µg/L x 3.3 = 13,250 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. For nickel the AMEL for aquatic life applies.

**5. WQBELs Based on Basin Plan Objectives**

These Basin Plan Objectives were evaluated with respect to effluent monitoring data and Facility operations:

**a. pH.** Instantaneous maximum and minimum effluent limitations for pH based on Basin Plan objectives (6.5 – 8.5) are more stringent than pH limitations based on applicable ELGs (6.0 – 9.0; see Section IV.B of the Fact Sheet). This Order establishes the more stringent limitations based on Basin Plan objectives.

**b. Bacteria.** Order 00-082 included effluent limitations for fecal coliform that were based on requirements of the Ocean Plan. These limitations have not been retained in this Order due to the recategorization of the discharge from a marine discharge to an estuarine discharge.

The Basin Plan establishes water quality objectives for bacteria in receiving waters designated for water contact recreation (REC-1) that are applicable to the discharge from this Facility. As the discharge is to the San Gabriel River Estuary, the following water quality objectives for marine waters apply:

**i.** *Geometric Mean Limits*

(a) *Total coliform density shall not exceed 1,000/100 ml.*

(b) *Fecal coliform density shall not exceed 200/100 ml.*

(c) *Enterococcus shall not exceed 35/100 ml.*

**ii.** *Single Sample Limits*

(a) *Total coliform density shall not exceed 10,000/100 ml.*

(b) *Fecal coliform density shall not exceed 400/100 ml.*

(c) *Enterococcus shall not exceed 104/100 ml.*

(d) *Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.*

This Order establishes the applicable Basin Plan water quality objectives for bacteria as effluent limitations.

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c. **Ammonia.** The discharge was evaluated for the potential to exceed the Basin Plan objective for ammonia as specified in Resolution No. 2002-011. The Basin Plan objectives for ammonia are expressed as a function of salinity, pH and temperature. The toxicity of ammonia to aquatic organisms increases with increasing pH and temperature. In turn, objectives calculated from higher pH and temperature values results in lower (more stringent) objectives. The ammonia objectives were calculated using the 10th percentile for salinity, 90th percentile pH and 90th percentile temperature monitoring results obtained from the downstream receiving water Monitoring Location RSW-011. The calculations resulted in effluent limitations for ammonia as N of 1.333 mg/L (MDEL) and 0.567 mg/L (AMEL). Therefore, this Order establishes effluent limitations at Discharge Points 001, 002, and 003. In addition, this Order requires the Discharger to conduct upstream and downstream ammonia monitoring and upstream and downstream pH and temperature monitoring in order to provide data necessary to calculate ammonia objectives and conduct future RPAs. Details regarding the calculations for the ammonia effluent limitations are found in Attachment J.

d. **Dissolved Oxygen.** This Order addresses dissolved oxygen through receiving water limitations.

e. **Total Residual Chlorine.** Disinfection of wastewaters with chlorine produces residual chlorine. Chlorine and its reaction products are toxic to aquatic life. The limit for residual chlorine is based on the Basin Plan (page 3-9) narrative, "*Chlorine residual shall not be present in surface water discharges at concentrations that exceed 0.1 mg/L and shall not persist in receiving waters at any concentration that causes impairment of beneficial uses.*" As discussed in Section IV.B of the Fact Sheet, TBELs for total residual chlorine are applicable to the combined discharge at Discharge Points 001, 002, and 003. However, the applicable TBEL is less stringent than the WQBEL of 0.1 mg/L based on the water quality objective contained in the Basin Plan. Therefore, this Order establishes the more stringent total residual chlorine effluent limitation based on Basin Plan objectives.

f. **Radioactivity.** Order 00-082 included effluent limitations specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30269 of the California Code of Regulations. These limitations were based on requirements of the Ocean Plan. These limitations have not been retained in this Order due to the recategorization of the discharge from a marine discharge to an estuarine discharge. The Basin Plan states that "Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life." Therefore, this Order establishes the Basin Plan narrative effluent limitation for radionuclides.

g. **Oil and Grease.** Order 00-082 included technology-based effluent limitations for oil and grease for treated sanitary wastes that were based on requirements of the Ocean Plan. These limitations have not been retained in this Order due to the recategorization of the discharge from an ocean discharge to an estuarine discharge.

The Discharger experienced violations of the effluent limitations in the prior order for oil and grease in sanitary wastes. The Basin Plan states that "Waters shall not contain oils, greases, waxes or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses." For treated

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sanitary wastes at other industrial facilities within the Region the Regional Water Board has addressed this narrative water quality objective by establishing numeric effluent limitations. The values typically established are a maximum daily effluent limitation of 15 mg/L and an average monthly effluent limitation of 10 mg/L. These values are consistent with the technology-based effluent limitations from the prior order. Therefore, based on BPJ this Order incorporates the Basin Plan water quality objective for oil and grease for treated sanitary wastes by establishing a maximum daily effluent limitation of 15 mg/L and an average monthly effluent limitation of 10 mg/L.

**h. Settleable Solids.** Order 00-082 included technology-based effluent limitations for settleable solids for sanitary wastes that were based on requirements of the Ocean Plan. These limitations have not been retained in this Order due to the recategorization of the discharge from an ocean discharge to an estuarine discharge.

The Discharger experienced violations of the effluent limitations in the prior order for settleable solids in sanitary wastes. The Basin Plan states that "Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses." For sanitary wastes at other industrial facilities within the Region,the Regional Water Board has addressed this narrative water quality objective by establishing numeric effluent limitations. The values typically established are a maximum daily effluent limitation of 0.3 mL/L and an average monthly effluent limitation of 0.1 mL/L. These values are consistent with the technology-based effluent limitations from the prior order. Therefore, based on BPJ this Order incorporates the Basin Plan water quality objective for settleable solids for treated sanitary wastes by establishing a maximum daily effluent limitation of 0.3 mL/L and an average monthly effluent limitation of 0.1 mL/L.

**i. Temperature.** The Basin Plan lists temperature requirements for the receiving waters and references the Thermal Plan. The Basin Plan limit of 86°F applies to the storm water discharge to the Los Cerritos Channel Estuary.

The Facility also discharges once-through cooling water, process wastewater and treated sanitary wastewater to the San Gabriel River Estuary, This discharge is considered an existing discharge per Definition 10 of the Thermal Plan. Water Quality Objective 5A of the Thermal Plan is applicable to existing thermal discharges to the estuaries of California and therefore applicable to discharges from the Facility:

*5A(1) Elevated temperature waste discharges shall comply with the following:*

a. *The maximum temperature shall not exceed the natural receiving water temperature by more than 20°F.*

b. *Elevated temperature waste discharges either individually or combined with other discharges shall not create a zone, defined by water temperature of more than 1°F above natural receiving water temperature, which exceeds 25 percent of the cross-sectional area of a main river channel at any point.*

c. *No discharge shall cause a surface water temperature rise greater than 4°F above the natural temperature of the receiving waters at any time or place.*

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*d. Additional limitations shall be imposed when necessary to assure protection of beneficial uses.*

*5A(2) Thermal waste discharges shall comply with the provisions of 5A(1) above and, in addition, the maximum temperature of thermal waste discharges shall not exceed 86°F.*

This Order establishes the applicable Thermal Plan water quality objectives for temperature as 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 measures mortality. A chronic toxicity test 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 in aquatic organisms. Detrimental response includes but is not limited to decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota.

In accordance with the Basin Plan, Order No. 00-082 contained a maximum daily effluent limitation for chronic toxicity of 5.5 $TU_c$. The Regional Water Board has determined that chronic toxicity demonstrates reasonable potential based on Step 7 of the RPA procedure described in the SIP which states that other information may be considered to determine whether a WQBEL is needed. Such information includes, among other aspects, the facility type, the discharge type, and the potential toxic impacts of the discharge. The Facility discharges large volumes of chlorinated water, such that slight instances of toxicity may potentially result in widespread impacts. A chronic toxicity effluent limitation is included in this Order to ensure that the receiving water meets the Basin Plan narrative water quality objective for toxicity.

The USEPA Regions 8, 9 and 10 Toxicity Training Tool (January 2010) (Toxicity Tool) recommends that permitting authorities establish a monthly median effluent limit (MML) of 1.0 $TU_c$ as the monthly compliance level for chronic WET for NPDES dischargers without a mixing zone or dilution allowance (Section 2.6.2). The use of the MML of 1.0 $TU_c$ for chronic WET is recommended only in conjunction with the following permit conditions as defined in the USEPA's Technical Support Document For Water Quality-based Toxics Control (March 1991) (TSD):

- A statistically calculated maximum daily effluent limit (MDL) for chronic WET (TSD Section 5.4.1); and
- Routine WET monitoring using the most sensitive test species identified through screening using species representing three different phyla (TSD Section 1.3.4).

This Order establishes a MMEL of "Pass", as the monthly chronic toxicity effluent limit, and a MDEL of "Pass" or "% Effect <50", as the daily chronic toxicity effluent limit. While the chronic toxicity TMDL uses USEPA's multi-concentration NOEC-LOEC statistical approach and recommended numeric water quality criterion of 1.0 TUc to set and measure the toxicity target, the numeric chronic toxicity effluent limits use USEPA's two-

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concentration TST statistical approach. Both of these approaches are scientifically valid and provide comparable levels of water quality protection. However, the TST approach is superior in that it improves test power, provides the incentive for toxicity laboratories to generate high quality data, streamlines toxicity test data analysis, and is more likely to correctly classify toxic and not toxic samples (USEPA, 2010; Diamond et al, 2013). The TST-based effluent limits derive from and comply with the underlying water quality standard for chronic toxicity in the Basin Plan, and are consistent with the assumptions and requirements of the available final WLA for chronic toxicity approved by USEPA (40 C.F.R. 122.44(d)(1)(vii)). These effluent limits are feasible and fully comply with applicable NPDES regulations (e.g., 40 C.F.R. 122.44(d)(1) and 122.45(d)(1)). The routine WET monitoring requirements have been established in Section V.B of Attachment E – Monitoring and Reporting Requirements of this Order.

**7. Final WQBELs**

A summary of the WQBELs are described in Table F-7.

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**Table F-12. Summary of Water Quality-based Effluent Limitations**

| Parameter | Units | Effluent Limitations | | | |
|---|---|---|---|---|---|
| | | Average Monthly | Maximum Daily | Instantaneous | |
| | | | | Minimum | Maximum |
| ***Effluent Limitations for All Discharges from Discharge Points 001, 002 and 003*** | | | | | |
| Copper, Total Recoverable, Dry Weather[1] | µg/L | 2.7 | 4.6 | -- | -- |
| Copper, Total Recoverable, Wet Weather[2] | µg/L | 3.2 | 5.5 | -- | -- |
| Nickel, Total Recoverable | µg/L | 5.3 | 15 | -- | -- |
| 2,3,7,8-TCDD | µg/L | $1.4 \times 10^{-8}$ | $2.8 \times 10^{-8}$ | -- | -- |
| Bis(2-ethylhexyl) phthalate | µg/L | 5.9 | 19 | -- | -- |
| Chronic Toxicity | Pass or Fail and % Effect for TST approach | Pass[3,4] | Pass or % Effect <50[3] | -- | -- |
| Ammonia Nitrogen, Total (as N) | mg/L | 0.567 | 1.333 | -- | -- |
| Total Residual Chlorine[5,6,] | mg/L | -- | 0.1 | -- | -- |
| Radioactivity | [7] | | | | |
| Bacteria | [8] | | | | |
| Temperature | [9] | | | | |
| ***Effluent Limitations for Treated Sanitary Wastes*** | | | | | |
| Oil and Grease | mg/L | 10 | 15 | -- | -- |
| Settleable Solids | mL/L | 0.1 | 0.3 | -- | -- |

1 Dry weather is assumed for any discharge that occurs when the flow is less than 156 cubic feet per second (101 MGD) as measured at flow gauge F354-R in Coyote Creek operated by the Los Angeles County Department of Public Works.

2 Wet weather is assumed for any discharge that occurs when the flow is equal to or greater than 156 cubic feet per second (101 MGD) as measured at flow gauge F354-R in Coyote Creek operated by the Los Angeles County Department of Public Works.

3 Report "Pass" or "Fail" for Median Monthly Effluent Limitation (MMEL). Report "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL). During a calendar month, exactly three independent toxicity tests are required for routine monitoring when one toxicity test results in "Fail".

4 This is a Median Monthly Effluent Limitation.

5 Total residual chlorine and free available chlorine may not be discharged from any single generating unit for more than two hours per day unless the Discharger demonstrates to the permitting authority that discharge for more than two hours per day is required for macroinvertebrate control.

6 If other oxidants are used, this shall be the total of all oxidants reported as residual chlorine.

7 Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

8 Effluent limitations for total and fecal coliform bacteria are described below:

a. Geometric Mean Limits
   i. Total coliform density shall not exceed 1,000/100 ml.
   ii. Fecal coliform density shall not exceed 200/100 ml.
   iii. Enterococcus shall not exceed 35/100 ml.

b. Single Sample Limits
   i. Total coliform density shall not exceed 10,000/100 ml.
   ii. Fecal coliform density shall not exceed 400/100 ml.
   iii. Enterococcus shall not exceed 104/100 ml.
   iv. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.

9 The maximum temperature shall not exceed the natural receiving water temperature by more than 20°F. The maximum temperature of thermal waste discharges shall not exceed 86°F.

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## D. Final Effluent Limitation Considerations

### 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. The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, with the exception of effluent limitations for fecal coliform, arsenic, cadmium, chromium (VI), lead, mercury, selenium, silver and zinc. As discussed below, this relaxation of effluent limitations is consistent with exceptions allowed under CWA sections 402(o) and 303(d)4.

The effluent limitations from Order No. 00-082 for arsenic, cadmium, chromium (VI), lead, mercury, selenium, silver, and zinc have been removed in this Order. The removal of these effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations, based on the consideration of new information obtained since the prior permit was issued [CWA section 402(o)(2)(B)(i)]. New information obtained includes data from self-monitoring reports that were used to conduct a new reasonable potential analysis (RPA). The result of the RPA was that reasonable potential to cause or contribute to an excursion above water quality objectives was not demonstrated for these constituents. This resulted in the removal of effluent limitations for these constituents. As addressed in section IV.D.2 of this Fact Sheet, relaxation of these effluent limitations is not expected to result in degradation of the receiving water and therefore is consistent with CWA section 303(d)(4).

### 2. Antidegradation Policies

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

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 SIP and hold the Discharger to performance levels that will not cause or contribute to water quality impairment. Further, 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 No. 68-16.

### 3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on free available chlorine, total residual chlorine, TSS, oil and grease, pH, copper (total recoverable), iron (total recoverable), and BOD at Discharge Points 001, 002, and 003. Restrictions on these parameters are discussed in section IV.B.2 of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

This Order includes water quality-based effluent limitations (WQBELs) for copper, nickel, 2,3,7,8-TCDD, bis(2-ethylhexyl) phthalate, and chronic toxicity. WQBELs have been

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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 USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

### E. Mass-based Effluent Limitations

Mass-based effluent limitations are established using the following formula:
Mass (lbs/day) = flow rate (MGD) x 8.34 x effluent limitation (mg/L)

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

The flow rate is defined as the permitted flow rate from each discharge point as follows:

Discharge Point 001 = 208.2 MGD

Discharge Point 002 = 389.0 MGD

Discharge Point 003 = 674.1 MGD

### F. Summary of Final Effluent Limitations

**Table F-13.Summary of Final Effluent Limitations**

| Parameter | Units | Effluent Limitations | | | Basis[1] |
|---|---|---|---|---|---|
| | | Average Monthly | Maximum Daily | Instantaneous Minimum/ Maximum | |
| ***Effluent Limitations for All Discharges from Discharge Points 001, 002 and 003*** | | | | | |
| pH | S.U. | -- | -- | 6.5/8.5 | BP |
| Ammonia Nitrogen, Total (as N) | mg/L | 0.567 | 1.333 | -- | BP |
| | lbs/day[2] | 001: 984<br>002: 1,839<br>003: 3,187 | 001: 2,315<br>002: 4,325<br>003: 7,494 | -- | |
| Free Available Chlorine[5] | mg/L | -- | 0.20[3]/0.50 | -- | ELG |
| Total Residual Chlorine[4,5,] | mg/L | -- | 0.1 | -- | BP |
| | lbs/day[2] | -- | 001: 174<br>002: 325<br>003: 562 | -- | |

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| Parameter | Units | Effluent Limitations | | | Basis[1] |
|---|---|---|---|---|---|
| | | Average Monthly | Maximum Daily | Instantaneous Minimum/ Maximum | |
| Copper, Total Recoverable, Dry Weather[6] | µg/L | 2.7 | 4.6 | -- | TMDL, SIP |
| | lbs/day[2] | 001: 4.7<br>002: 8.7<br>003: 15 | 001: 8.0<br>002: 15<br>003: 26 | -- | |
| Copper, Total Recoverable, Wet Weather[7] | µg/L | 3.2 | 5.5 | -- | CTR, SIP |
| | lbs/day[2] | 001: 5.6<br>002: 11<br>003: 18 | 001: 9.6<br>002: 18<br>003: 31 | -- | |
| Nickel, Total Recoverable | µg/L | 5.3 | 15 | -- | CTR, SIP |
| | lbs/day[2] | 001: 9.2<br>002: 17<br>003: 30 | 001: 26<br>002: 49<br>003: 85 | -- | |
| 2,3,7,8-TCDD | µg/L | $1.4 \times 10^{-8}$ | $2.8 \times 10^{-8}$ | -- | CTR, SIP |
| | lbs/day[2] | 001: $2.4 \times 10^{-8}$<br>002: $4.5 \times 10^{-8}$<br>003: $7.9 \times 10^{-8}$ | 001: $4.9 \times 10^{-8}$<br>002: $9.1 \times 10^{-8}$<br>003: $1.6 \times 10^{-7}$ | -- | |
| Bis(2-ethylhexyl) phthalate | µg/L | 5.9 | 19 | -- | CTR, SIP |
| | lbs/day[2] | 001: 10<br>002: 19<br>003: 33 | 001: 33<br>002: 62<br>003: 108 | -- | |
| Chronic Toxicity | Pass or Fail and % Effect for TST approach | Pass[8,9] | Pass or % Effect <50[8] | -- | BP |
| Radioactivity | [10] | | | | BP |
| Bacteria | [11] | | | | BP |
| Temperature | [12] | | | | BP, TP |
| ***Technology-Based Effluent Limitations for Low Volume Wastes*** | | | | | |
| pH | S.U. | -- | -- | 6.0/9.0 | ELG, PO |
| Total Suspended Solids | mg/L | 30 | 100 | -- | ELG, PO |
| Oil and Grease | mg/L | 15 | 20 | -- | ELG, PO |
| ***Technology-Based Effluent Limitations for Metal Cleaning Wastes*** | | | | | |
| pH | S.U. | -- | -- | 6.0/9.0 | ELG, PO |
| Total Suspended Solids | mg/L | 30 | 100 | -- | ELG, PO |
| Oil and Grease | mg/L | 15 | 20 | -- | ELG, PO |
| Copper, Total Recoverable | mg/L | 1.0 | 1.0 | -- | ELG, PO |
| Iron, Total Recoverable | mg/L | 1.0 | 1.0 | -- | ELG, PO |
| ***Technology-Based Effluent Limitations for Treated Sanitary Wastes*** | | | | | |
| pH | S.U. | -- | -- | 6.0/9.0 | ELG, PO |
| Biochemical Oxygen Demand (5-day, 20°C) | mg/L | 30 | 45 | -- | ELG, PO |
| Total Suspended Solids | mg/L | 30 | 45 | -- | ELG, PO |

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| Parameter | Units | Effluent Limitations | | | Basis[1] |
|---|---|---|---|---|---|
| | | Average Monthly | Maximum Daily | Instantaneous Minimum/ Maximum | |
| ***Water Quality-Based Effluent Limitations for Treated Sanitary Wastes*** | | | | | |
| Oil and Grease | mg/L | 10 | 15 | -- | BP, BPJ |
| Settleable Solids | mL/L | 0.1 | 0.3 | -- | BP, BPJ |
| ***Technology-Based Effluent Limitations for Storm Water (Los Cerritos Channel Estuary)*** | | | | | |
| pH | S.U. | -- | -- | 6.5/8.5 | BP |
| Temperature | °F | -- | -- | 86 | BP, TP |
| Oil and Grease | mg/L | -- | 15 | -- | BPJ |
| Total Suspended Solids | mg/L | -- | 75 | -- | BPJ |

[1] BP = Basin Plan; BPJ = Best Professional Judgment; CTR = California Toxics Rule; ELG = Effluent Limitations Guidelines and Standards; PO = Prior Order; SIP = State Implementation Policy; TP = Thermal Plan; TMDL = Total Maximum Daily Loads for Metals and Selenium, San Gabriel River and Impaired Tributaries

[2] The mass (lbs/day) limitations are based on the permitted discharge flow for each discharge point (208.2 MGD for Discharge Point 001, 389.0 for Discharge Point 002, and 674.1 for Discharge Point 003) and are calculated as follows:

Mass (lbs/day) = Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor)

[3] Applied as a daily average.

[4] Total residual chlorine and free available chlorine may not be discharged from any single generating unit for more than two hours per day unless the Discharger demonstrates to the permitting authority that discharge for more than two hours per day is required for macroinvertebrate control.

[5] If other oxidants are used, this shall be the total of all oxidants reported as residual chlorine.

[6] Dry weather is assumed for any discharge that occurs when the flow is less than 156 cubic feet per second (101 MGD) as measured at flow gauge F354-R in Coyote Creek operated by the Los Angeles County Department of Public Works.

[7] Wet weather is assumed for any discharge that occurs when the flow is equal to or greater than 156 cubic feet per second (101 MGD) as measured at flow gauge F354-R in Coyote Creek operated by the Los Angeles County Department of Public Works.

[8] Report "Pass" or "Fail" for Median Monthly Effluent Limitation (MMEL). Report "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL). During a calendar month, exactly three independent toxicity tests are required for routine monitoring when one toxicity test results in "Fail".

[9] This is a Median Monthly Effluent Limitation.

[10] Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

[11] Effluent limitations for total and fecal coliform bacteria are described below:

a. Geometric Mean Limits
   i. Total coliform density shall not exceed 1,000/100 ml.
   ii. Fecal coliform density shall not exceed 200/100 ml.
   iii. Enterococcus shall not exceed 35/100 ml.

b. Single Sample Limits
   i. Total coliform density shall not exceed 10,000/100 ml.
   ii. Fecal coliform density shall not exceed 400/100 ml.
   iii. Enterococcus shall not exceed 104/100 ml.

[12] The maximum temperature shall not exceed the natural receiving water temperature by more than 20°F. The maximum temperature of thermal waste discharges shall not exceed 86°F.

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## G. Interim Effluent Limitations—Not Applicable

## H. Land Discharge Specifications—Not Applicable

## I. 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. § 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. section 123 and the previous Order. The Regional Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new federal regulations, modification in toxicity requirements, or adoption of new regulations by the State Water Board or Regional Water Board, including revisions to the Basin Plan.

#### 2. Special Studies and Additional Monitoring Requirements

**Initial Investigation Toxicity Reduction Evaluation 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 or the OTC policy.

#### 3. Best Management Practices and Pollution Prevention

a. **Storm Water Pollution Prevention Plan (SWPPP).** The prior permit required the Discharger to develop and implement a SWPPP. This Order requires the Discharger to update 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 San Gabriel River Estuary. At a minimum, the management practices should ensure that raw materials and chemicals do not come into contact with storm

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water. SWPPP requirements are included as Attachment G, based on 40 C.F.R. section 122.44(k).

**b. Best Management Practices Plan (BMPP).** This Order requires the Discharger to develop and implement a BMPP. The purpose of the BMPP is to establish site-specific procedures that ensure proper operation and maintenance of equipment, to ensure that unauthorized non-storm water discharges (i.e. spills) do not occur at the Facility.

Special Provision V.C.3.b requires the Discharger to update and maintain a BMPP, as a component of the SWPPP, that incorporates requirements contained in Appendix G. Appendix G requires a discussion on the effectiveness of each BMP to reduce or prevent pollutants in storm water discharges. The Special Provision V.C.3.b and Appendix G requirements satisfy the TMDL component to address BMP performance.

**c. Spill Contingency Plan (SCP**). This Order requires the Discharger to develop and implement a SCP. 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 40 C.F.R. section 122.41(e).

**5. Special Provisions for Municipal Facilities (POTWs Only)—Not Applicable**

**6. Other Special Provisions**

**Once-Through Cooling Water Compliance Schedule.** Under Track 1 of the OTC Policy, an existing power plant must reduce the intake flow rate to a level commensurate with closed-cycle wet cooling such that the through-screen intake velocity does not exceed 0.5 foot per second.

Track 2 is available to existing plants that demonstrate that Track 1 is infeasible, and such plants must reduce impingement and entrainment by 90 percent unless the California Independent System Operator, California Energy Commission, or Public Utilities Commission determines there is continued need for the plant, in which event the State Water Board will hold a hearing to consider suspension of the compliance date. In the interim, the OTC Policy requires plants to implement measures to mitigate impingement and entrainment impacts.

The Discharger submitted an implementation plan for compliance with the OTC Policy on April 1, 2011, and revised it on June 17, 2011. Additional implementation information was requested and submitted on March 31, 2013 and November 8, 2013. Per its revised implementation plan, and subsequent information, the Discharger has proposed to bring Units 1, 2, 3, 4, 5, and 6, into compliance using Track 1. The Track 1 compliance will be completed in three phases and will consist of the construction of dry-cooled natural gas fired combined cycle gas turbine (CCGT) power blocks. The conversion of Units 5 and 6 to CCGT power blocks will be completed by December 31, 2018. This complies with the final compliance date included in the OTC Policy of December 31, 2020. The Discharger has requested an extension of the final compliance date to December 31, 2022 for Units 3 and 4, and December 31, 2026 for Units 1 and 2. The OTC Policy, however, has not been amended to allow a change in the OTC final compliance date. Therefore, compliance with the OTC Policy shall be in accordance with the following schedule:

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**Table F-14. Schedule of Compliance with OTC Policy**

| Task | Compliance Date |
|---|---|
| 1. Submit Workplan for OTC compliance under Track 1 and/or Track 2. | December 1, 2015 |
| 2. Submit first progress Report on compliance actions. | December 1, 2016 |
| 3. Submit second progress Report. | December 1, 2017 |
| 4. Submit third progress Report. | December 1, 2018 |
| 5. Submit fourth progress Report. | December 1, 2019 |
| 6. Achieve full compliance with Units 1, 2, 3, 4, 5, and 6. | December 31, 2020 |

**Immediate and Interim Requirements.** The OTC Policy further requires the immediate and interim requirements:

**a.** As of October 1, 2011, the owner or operator of an existing power plant with an offshore intake shall install large organism exclusion devices having a distance between exclusion bars of no greater that nine inches, or install other exclusion devices, deemed equivalent by the State Water Board.

**b.** As of October 1, 2011, any unit that is not directly engaged in power-generating activities or critical system maintenance shall cease intake flows unless it has been demonstrated to the State Water Board that a reduced minimum flow is necessary for operations.

**c.** Commencing on October 1, 2015 and continuing up and until achieving final compliance with the OTC Policy, the owner or operator of the existing power plant must implement measures to mitigate the interim impingement and entrainment impacts resulting from the discharge.

Per the submitted implementation plan and subsequent correspondence, the large organism exclusion device requirement does not apply to the Facility because it does not have an offshore intake.

With regards to intake flows when the generating units are offline and no longer generating power, a minimal flow rate of circulating water is continuously required for safe operation of critical plant systems and to ensure that the plant is maintained at the required level of readiness. These critical plant systems include sewage water treatment and retention basin discharge, and a bearing cooling water system that also serves the service/instrument air system, air conditioners, and generator hydrogen sealing system. The water treatment systems use ocean water as part of the system design while the remaining critical plant systems all require cooling water from the bearing cooling water system. Pumps serving Units 5 and 6 service their own bearing cooling water system. When not generating power, one 117,000-GPM pump will cycle on for 3 hours every 48 hours to maintain these critical systems. Units 1 through 4 share common services and supply water for the sewage treatment system. When Units 1 through 4 are not generating power, at a minimum one of the smaller-capacity circulating water pumps (36,000 GPM) is required for critical plant systems at all times to reduce bearing cooling water temperatures and supply the sewage treatment system. Current and past operating data demonstrate that there are no months when intake flows at the Facility are likely to cease completely.

With regards to the mitigating measures, the Discharger has indicated that as of October 1, 2015 and until the Facility achieves full OTC compliance, it will provide funding to the Coastal Conservancy to be used for mitigation projects directed toward increases in marine life associated with the State's Marine Protected Areas in the local region of the

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Facility. The amount to be provided shall be determined by the Deputy Director of the Division of Water Quality of the State Water Board.

**7. Compliance Schedules—Not Applicable**

## VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

40 C.F.R. section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. 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

Section 316(b) of the CWA requires the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact. Cooling water intake monitoring requirements have been retained from the Order 00-082. These monitoring requirements for flow and temperature are necessary to evaluate compliance with effluent limitations contained in this Order and compliance with the requirements of the Thermal Plan. Periodic monitoring of the biological impacts caused by the operation of the intake structure is required to ensure compliance with the determination that the design, construction, and operation of the intake structure to be Best Available Technology Economically Achievable consistent with the OTC Policy, as amended June 18, 2013.

Order 00-082 contained semi-annual monitoring for a variety of metals in the intake water which has not been retained in the MRP (Attachment E). Although this monitoring is not required, the Discharger may elect to continue monitoring intake for metals for purposes of monitoring in-plant additions and removals.

### B. Effluent Monitoring

**1. Discharge Points 001, 002, and 003 (Monitoring Locations EFF-001, EFF-002, and EFF-003)**

Semi-annual monitoring has been established for those pollutants where effluent limitations at Discharge Points 001 – 003 (Monitoring Locations EFF-001 through EFF-003) have been established in the Order (i.e., ammonia, arsenic, 2,3,7,8-TCDD, bis(2-ethylhexyl) phthalate, copper, free available chlorine, total residual chlorine, nickel, PCBs, pH, radioactivity, and temperature). This monitoring is necessary to determine compliance with effluent limitations and to provide data for evaluating reasonable potential for the discharge to cause or contribute to an exceedance of applicable water quality objectives during future permit reissuances.

Monitoring for all other priority pollutants which do not possess effluent limitations have not been retained in the MRP (Attachment E). Instead, monitoring for all priority pollutants not possessing effluent limitations shall be conducted once per year during the permit term. Data generated from this monitoring is necessary for evaluating reasonable potential for the new discharge to cause or contribute to an exceedance of applicable water quality objectives contained in the SIP during future permit reissuances.

Quarterly monitoring for total coliform, fecal coliform, and enterococcus established in Order 00-082 have been retained in this MRP (Attachment E) in order to assess the impact of the discharge on the beneficial uses of the receiving water.

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**2. Low Volume Wastes (Discharge Point 001A; Monitoring Location INT-001A)**

Monitoring requirements for low volume wastes included in Order 00-082 have been retained in the MRP (Attachment E). These monitoring requirements are necessary to determine compliance with effluent limitations established in this Order.

**3. Metal Cleaning Wastes (Discharge Point 001B; Monitoring Location INT-001B)**

Monitoring requirements for metal cleaning wastes (both chemical and non-chemical) included in Order 00-082 have been retained in the MRP (Attachment E). These monitoring requirements are necessary to determine compliance with effluent limitations established in this Order.

**4. Treated Sanitary Wastes (Discharge Point 001C; Monitoring Location INT-001C)**

Monitoring requirements for treated sanitary wastes included in Order 00-082 have been retained in the MRP (Attachment E). The monitoring requirements that address sanitary wastes are necessary to determine compliance with effluent limitations established in this Order.

**5. Storm Water Runoff (Discharge Points O-48, O-74 and O-84)**

Monitoring requirements for storm water runoff to the Los Cerritos Channel have been included in the MRP (Attachment E). These monitoring requirements are necessary to determine compliance with effluent limitations established in this Order.

**C. Whole Effluent Toxicity Testing Requirements**

Whole effluent toxicity (WET) testing protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. This Order requires annual monitoring for chronic toxicity which is a more stringent measure of the aggregate toxic properties of the discharge than acute toxicity. 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.

Annual monitoring for ammonia and priority pollutants in the receiving water has been established in order to conduct a reasonable potential analysis for these pollutants during the next permit reissuance.

**2. Visual Monitoring of Receiving Water Sampling Point**

The Discharger is required to perform general observations of the receiving water when discharges occur and report the observations in the monitoring report. Attention shall be given to the presence or absence of floating or suspended matter, discoloration, aquatic life, visible film, sheen or coating, and fungi, slime, or objectionable growths.

**3. Groundwater—Not Applicable**

**E. Other Monitoring Requirements—Not Appplicable**

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## VIII. PUBLIC PARTICIPATION

The Regional Water Board has considered the issuance of WDRs that will serve as an NPDES permit for the Alamitos Generating Station. As a step in the WDR adoption process, 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 through email and public notice.

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

### B. Written Comments

Interested parties were invited to submit written comments concerning the tentative WDRs as provided through the notification process. Comments were required to be submitted either in person or by mail to the Executive Office at the Regional Water Board at 320 West 4th Street, Suite 200, Los Angeles, CA 90013 or by email to losangeles@waterboards.ca.gov with a copy to thomas.siebels@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 5:00 p.m. on **August 21, 2015**.

### 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: | September 10, 2015 |
| Time: | 9:00 AM |
| Location: | The Metropolitan Water District of Southern California Board Room<br>700 North Alameda Street<br>Los Angeles, CA 90012 |

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.

### D. Reconsideration of Waste Discharge Requirements

Any person aggrieved by this action of the Regional Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must *receive* the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

http://www.waterboards.ca.gov/public_notices/petitions/water_quality

or will be provided upon request.

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The State Water Board's mailing address is the following:

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

**E. Information and Copying**

The Report of Waste Discharge, tentative WDRs, comments received, other information are on file and may be inspected at the Regional Water Board's office at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Viewing and copying of documents may be arranged through the Regional Water Board by calling (213) 576-6600.

**F. Register of Interested Persons**

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

**G. Additional Information**

Requests for additional information or questions regarding this order should be directed to Thomas Siebels at (213) 576-6756.

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# ATTACHMENT G – STORM WATER POLLUTION PREVENTION PLAN REQUIREMENTS

## I. IMPLEMENTATION SCHEDULE

A storm water pollution prevention plan (SWPPP) shall be developed and submitted to the Regional Water Board within 90 days following the adoption of this Order. The SWPPP shall be implemented for each facility covered by this Permit within 10 days of approval from the Regional Water Board, or 6-months from the date of the submittal of the SWPPP to the Regional Water Board (whichever comes first).

## II. OBJECTIVES

The SWPPP has two major objectives: (a) to identify and evaluate sources of pollutants associated with industrial activities that may affect the quality of storm water discharges and authorized non-storm water discharges from the facility; and (b) to identify and implement site-specific best management practices (BMPs) to reduce or prevent pollutants associated with industrial activities in storm water discharges and authorized non-storm water discharges. BMPs may include a variety of pollution prevention measures or other low-cost and pollution control measures. They are generally categorized as non-structural BMPs (activity schedules, prohibitions of practices, maintenance procedures, and other low-cost measures) and as structural BMPs (treatment measures, run-off controls, over-head coverage.) To achieve these objectives, facility operators should consider the five phase process for SWPPP development and implementation as shown in Table A.

The SWPPP requirements are designed to be sufficiently flexible to meet the needs of various facilities. SWPPP requirements that are not applicable to a facility should not be included in the SWPPP.

A facility's SWPPP is a written document that shall contain a compliance activity schedule, a description of industrial activities and pollutant sources, descriptions of BMPs, drawings, maps, and relevant copies or references of parts of other plans. The SWPPP shall be revised whenever appropriate and shall be readily available for review by facility employees or Regional Water Board inspectors.

## III. PLANNING AND ORGANIZATION

### A. Pollution Prevention Team

The SWPPP shall identify a specific individual or individuals and their positions within the facility organization as members of a storm water pollution prevention team responsible for developing the SWPPP, assisting the facility manager in SWPPP implementation and revision, and conducting all monitoring program activities required in Attachment E of this Permit. The SWPPP shall clearly identify the Permit related responsibilities, duties, and activities of each team member. For small facilities, storm water pollution prevention teams may consist of one individual where appropriate.

### B. Review Other Requirements and Existing Facility Plans

The SWPPP may incorporate or reference the appropriate elements of other regulatory requirements. Facility operators should review all local, State, and Federal requirements that impact, complement, or are consistent with the requirements of this General permit. Facility operators should identify any existing facility plans that contain storm water pollutant control measures or relate to the requirements of this Permit. As examples, facility operators whose facilities are subject to Federal Spill Prevention Control and Countermeasures' requirements should already have instituted a plan to control spills of certain hazardous materials. Similarly,

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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<br>Review other plans |

| **ASSESSMENT PHASE** |
|---|
| Develop a site map<br>Identify potential pollutant sources<br>Inventory of materials and chemicals<br>List significant spills and leaks<br>Identify non-storm water discharges<br>Assess pollutant risks |

| **BEST MANAGEMENT PRACTICES IDENTIFICATION PHASE** |
|---|
| Non-structural BMPs<br>Structural BMPs<br>Select activity and site-specific BMPs |

| **IMPLEMENTATION PHASE** |
|---|
| Train employees<br>Implement BMPs<br>Conduct recordkeeping and reporting |

| **EVALUATION / MONITORING** |
|---|
| Conduct annual site evaluation<br>Review monitoring information<br>Evaluate BMPs<br>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

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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 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.

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

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the facility boundaries; and a description of the primary areas of the facility where dust and particulate pollutants would settle.

4. **Significant Spills and Leaks.** Describe materials that have spilled or leaked in significant quantities in storm water discharges or non-storm water discharges since April 17, 1994. Include toxic chemicals (listed in 40 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 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 contain significant quantities of pollutants or that do not meet the conditions provided in Special Conditions D of the storm water general permit are prohibited by this Permit (Examples of prohibited non-storm water discharges are contact and non-contact cooling water, rinse water, wash water, etc.). Non-storm water discharges that meet the conditions provided in Special Condition D of the general storm water permit are authorized by this Permit. The SWPPP must include BMPs to prevent or reduce contact of non-storm water discharges with significant materials or equipment.

6. **Soil Erosion.** Describe the facility locations where soil erosion may occur as a result of industrial activity, storm water discharges associated with industrial activity, or authorized non-storm water discharges.

**B.** The SWPPP shall include a summary of all areas of industrial activities, potential pollutant sources, and potential pollutants. This information should be summarized similar to Table B. The last column of Table B, "Control Practices", should be completed in accordance with section 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.

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**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.

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**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.<br><br>Spills caused by topping off fuel tanks.<br><br>Hosing or washing down fuel oil fuel area.<br><br>Leaking storage tanks.<br><br>Rainfall running off fuel oil, and rainfall running onto and off fueling area. | fuel oil | Use spill and overflow protection.<br><br>Minimize run-on of storm water into the fueling area.<br><br>Cover fueling area.<br><br>Use dry cleanup methods rather than hosing down area.<br><br>Implement proper spill prevention control program.<br><br>Implement adequate preventative maintenance program to preventive tank and line leaks.<br><br>Inspect fueling areas regularly to detect problems before they occur.<br><br>Train employees on proper fueling, cleanup, and spill response techniques. |

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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.

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4. **Secondary Containment Structures.** This generally includes containment structures around storage tanks and other areas for the purpose of collecting any leaks or spills.

5. **Treatment.** This includes inlet controls, infiltration devices, oil/water separators, detention ponds, vegetative swales, etc. that reduce the pollutants in storm water discharges and authorized non-storm water discharges.

## IX. ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION

The facility operator shall conduct one comprehensive site compliance evaluation (evaluation) in each reporting period (July 1-June 30). Evaluations shall be conducted within 8-16 months of each other. The SWPPP shall be revised, as appropriate, and the revisions implemented within 90 days of the evaluation. Evaluations shall include the following:

**A.** A review of all visual observation records, inspection records, and sampling and analysis results.

**B.** A visual inspection of all potential pollutant sources for evidence of, or the potential for, pollutants entering the drainage system.

**C.** A review and evaluation of all BMPs (both structural and non-structural) to determine whether the BMPs are adequate, properly implemented and maintained, or whether additional BMPs are needed. A visual inspection of equipment needed to implement the SWPPP, such as spill response equipment, shall be included.

**D.** An evaluation report that includes, (i) identification of personnel performing the evaluation, (ii) the date(s) of the evaluation, (iii) necessary SWPPP revisions, (iv) schedule, as required in section 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 General Permit. The evaluation report shall be submitted as part of the annual report, retained for at least five years, and signed and certified in accordance with Standard Provisions V.D.5 of Attachment D.

## X. SWPPP GENERAL REQUIREMENTS

**A.** The SWPPP shall be retained on site and made available upon request of a representative of the Regional Water Board and/or local storm water management agency (local agency) which receives the storm water discharges.

**B.** The Regional Water Board and/or local agency may notify the facility operator when the SWPPP does not meet one or more of the minimum requirements of this section. As requested by the Regional Water Board and/or local agency, the facility operator shall submit an SWPPP revision and implementation schedule that meets the minimum requirements of this section to the Regional Water Board and/or local agency that requested the SWPPP revisions. Within 14 days after implementing the required SWPPP revisions, the facility operator shall provide written certification to the Regional Water Board and/or local agency that the revisions have been implemented.

**C.** The SWPPP shall be revised, as appropriate, and implemented prior to changes in industrial activities which (i) may significantly increase the quantities of pollutants in storm water discharge, (ii) cause a new area of industrial activity at the facility to be exposed to storm water, or (iii) begin an industrial activity which would introduce a new pollutant source at the facility.

**D.** The SWPPP shall be revised and implemented in a timely manner, but in no case more than 90 days after a facility operator determines that the SWPPP is in violation of any requirement(s) of this Permit.

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**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.

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## ATTACHMENT H – STATE WATER RESOURCES CONTROL BOARD MINIMUM LEVELS

The Minimum Levels (MLs) in micrograms/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 |

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*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 | | |
| 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 | | |

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| Table 2b - SEMI-VOLATILE SUBSTANCES* | GC | GCMS | LC | COLOR |
|---|---|---|---|---|
| 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.

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| 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

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## ATTACHMENT I – LIST OF PRIORITY POLLUTANTS

| CTR Number | Parameter | CAS Number | Suggested 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] |
| 10 | Selenium | 7782492 | [1] |
| 11 | Silver | 7440224 | [1] |
| 12 | Thallium | 7440280 | [1] |
| 13 | Zinc | 7440666 | [1] |
| 14 | Cyanide | 57125 | [1] |
| 15 | Asbestos | 1332214 | [1] |
| 16 | 2,3,7,8-TCDD | 1746016 | [1] |
| 17 | Acrolein | 107028 | [1] |
| 18 | Acrylonitrile | 107131 | [1] |
| 19 | Benzene | 71432 | [1] |
| 20 | Bromoform | 75252 | [1] |
| 21 | Carbon Tetrachloride | 56235 | [1] |
| 22 | Chlorobenzene | 108907 | [1] |
| 23 | Chlorodibromomethane | 124481 | [1] |
| 24 | Chloroethane | 75003 | [1] |
| 25 | 2-Chloroethylvinyl Ether | 110758 | [1] |
| 26 | Chloroform | 67663 | [1] |
| 27 | Dichlorobromomethane | 75274 | [1] |
| 28 | 1,1-Dichloroethane | 75343 | [1] |
| 29 | 1,2-Dichloroethane | 107062 | [1] |
| 30 | 1,1-Dichloroethylene | 75354 | [1] |
| 31 | 1,2-Dichloropropane | 78875 | [1] |
| 32 | 1,3-Dichloropropylene | 542756 | [1] |
| 33 | Ethylbenzene | 100414 | [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 | 108883 | [1] |
| 40 | 1,2-Trans-Dichloroethylene | 156605 | [1] |
| 41 | 1,1,1-Trichloroethane | 71556 | [1] |
| 42 | 1,12-Trichloroethane | 79005 | [1] |

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| CTR Number | Parameter | CAS Number | Suggested Analytical Methods |
|---|---|---|---|
| 43 | Trichloroethylene | 79016 | [1] |
| 44 | Vinyl Chloride | 75014 | [1] |
| 45 | 2-Chlorophenol | 95578 | [1] |
| 46 | 2,4-Dichlorophenol | 120832 | [1] |
| 47 | 2,4-Dimethylphenol | 105679 | [1] |
| 48 | 2-Methyl-4,6-Dinitrophenol | 534521 | [1] |
| 49 | 2,4-Dinitrophenol | 51285 | [1] |
| 50 | 2-Nitrophenol | 88755 | [1] |
| 51 | 4-Nitrophenol | 100027 | [1] |
| 52 | 3-Methyl-4-Chlorophenol | 59507 | [1] |
| 53 | Pentachlorophenol | 87865 | [1] |
| 54 | Phenol | 108952 | [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 | 108601 | [1] |
| 68 | Bis(2-Ethylhexyl)Phthalate | 117817 | [1] |
| 69 | 4-Bromophenyl Phenyl Ether | 101553 | [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 | 106467 | [1] |
| 78 | 3,3'-Dichlorobenzidine | 91941 | [1] |
| 79 | Diethyl Phthalate | 84662 | [1] |
| 80 | Dimethyl Phthalate | 131113 | [1] |
| 81 | Di-n-Butyl Phthalate | 84742 | [1] |
| 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] |

TENTATIVE

| CTR Number | Parameter | CAS Number | Suggested Analytical Methods |
|---|---|---|---|
| 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] |
| 100 | Pyrene | 129000 | [1] |
| 101 | 1,2,4-Trichlorobenzene | 120821 | [1] |
| 102 | Aldrin | 309002 | [1] |
| 103 | alpha-BHC | 319846 | [1] |
| 104 | beta-BHC | 319857 | [1] |
| 105 | gamma-BHC | 58899 | [1] |
| 106 | delta-BHC | 319868 | [1] |
| 107 | Chlordane | 57749 | [1] |
| 108 | 4,4'-DDT | 50293 | [1] |
| 109 | 4,4'-DDE | 72559 | [1] |
| 110 | 4,4'-DDD | 72548 | [1] |
| 111 | Dieldrin | 60571 | [1] |
| 112 | alpha-Endosulfan | 959988 | [1] |
| 113 | beta-Endosulfan | 33213659 | [1] |
| 114 | Endosulfan Sulfate | 1031078 | [1] |
| 115 | Endrin | 72208 | [1] |
| 116 | Endrin Aldehyde | 7421934 | [1] |
| 117 | Heptachlor | 76448 | [1] |
| 118 | Heptachlor Epoxide | 1024573 | [1] |
| 119 | PCB-1016 | 12674112 | [1] |
| 120 | PCB-1221 | 11104282 | [1] |
| 121 | PCB-1232 | 11141165 | [1] |
| 122 | PCB-1242 | 53469219 | [1] |
| 123 | PCB-1248 | 12672296 | [1] |
| 124 | PCB-1254 | 11097691 | [1] |
| 125 | PCB-1260 | 11096825 | [1] |
| 126 | Toxaphene | 8001352 | [1] |

[1] Pollutants shall be analyzed using the methods described in 40 C.F.R. part 136.

TENTATIVE

# ATTACHMENT J – REASONABLE POTENTIAL ANALYSIS AND CALCULATION OF EFFLUENT LIMITATIONS

TENTATIVE

| CTR# | Parameters | Units | CV | MEC | CTR Water Quality Criteria (ug/L) | | | | | | Lowest C or dry weather WLAs | REASONABLE POTENTIAL ANALYSIS (RPA) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 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 | | MEC >= Lowest C | Tier 1 - Need limit? | B Available (Y/N)? | Are all B data points non-detects (Y/N)? | points ND Enter the min detection limit (MDL) (ug/L) | 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 |
| 1 | Antimony | ug/L | | 1.96 | | | | | | 4300.0 | 4300.00 | No | No | Y | N | | 1.67 | | B<=C, Step 7 | | No | MEC<C & B<=C |
| 2 | Arsenic | ug/L | | 3.99 | | | 69.00 | 36.00 | | | 36.00 | No | No | Y | N | | 1.3 | | B<=C, Step 7 | | No | MEC<C & B<=C |
| 3 | Beryllium | ug/L | | No Criteria | | | | | | Narrative | No Criteria | No Criteria | No Criteria | Y | Y | 0.02 | | N | No Criteria | No Criteria | Uc | No Criteria |
| 4 | Cadmium | ug/L | | 1.78 | | | 42.25 | 9.36 | | Narrative | 9.36 | No | No | Y | N | | 2 | | B<=C, Step 7 | | No | MEC<C & B<=C |
| 5a | Chromium (III) | | | No Criteria | | | | | | Narrative | No Criteria | No Criteria | No Criteria | N | | | | | No Criteria | No Criteria | Uc | No Criteria |
| 5b | Chromium (VI) | ug/L | | 2.2 | | | 1100.00 | 50.00 | | Narrative | 50.00 | No | No | Y | N | | 0.12 | | B<=C, Step 7 | | No | MEC<C & B<=C |
| 6 | Copper (Wet Weather) | ug/L | 0.41 | 9.4 | | | 5.78 | 3.73 | | | 3.73 | Yes | Yes | Y | N | | 12.36 | | Limit required, B>C & pollutant detected in effluent | | Yes | MEC>=C |
| 7 | Lead | ug/L | | 1.23 | | | 220.82 | 8.52 | | Narrative | 8.52 | No | No | Y | N | | 2.5 | | B<=C, Step 7 | | No | MEC<C & B<=C |
| 8 | Mercury | ug/L | | 0.035 | | | Reserved | Reserved | | 0.051 | 0.051 | No | No | Y | N | | 0.03 | | B<=C, Step 7 | | No | MEC<C & B<=C |
| 9 | Nickel | ug/L | 1.5 | 16.3 | | | 74.75 | 8.28 | | 4600.00 | 8.28 | Yes | Yes | Y | N | | 10 | | Limit required, B>C & pollutant detected in effluent | | Yes | MEC>=C |
| 10 | Selenium | ug/L | | 8.83 | | | 290.58 | 71.14 | | Narrative | 71.14 | No | No | Y | N | | 0.64 | | B<=C, Step 7 | | No | MEC<C & B<=C |
| 11 | Silver | ug/L | | 1.31 | | | 2.24 | | | | 2.24 | No | No | Y | N | | 0.02 | | B<=C, Step 7 | | No | MEC<C & B<=C |
| 12 | Thallium | ug/L | | 0.132 | | | | | | 6.30 | 6.30 | No | No | Y | Y | 0.01 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 13 | Zinc | ug/L | | 83.2 | | | 95.14 | 85.62 | | | 85.62 | No | No | Y | N | | 50.4 | | B<=C, Step 7 | | No | MEC<C & B<=C |
| 14 | Cyanide | ug/L | | 0.69 | | | 1.00 | 1.00 | | 220000.00 | 1.00 | No | No | Y | N | | 4.13 | | B>C & eff ND, Step 7 | | No | ud; B>C & effluent ND |
| 15 | Asbestos | Fibers/L | | No Criteria | | | | | | | No Criteria | No Criteria | No Criteria | Y | N | | 0 | | No Criteria | No Criteria | Uc | No Criteria |
| 16 | 2,3,7,8 TCDD | ug/L | 0.60 | 0.0000014 | | | | | | 0.000000014 | 0.000000014 | Yes | Yes | Y | N | | 0.000006 | | Limit required, B>C & pollutant detected in effluent | | Yes | MEC>=C |
| | TCDD Equivalents | ug/L | 0 | | | | | | | 0.000000014 | 0.000000014 | | | N | | | | | No detected value of B, Step 7 | | Ud | No effluent data & no B |
| 17 | Acrolein | ug/L | | 2.2 | | | | | | 780 | 780 | No | No | Y | Y | 0.49 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 18 | Acrylonitrile | ug/L | | 0.49 | | | | | | 0.66 | 0.660 | No | No | Y | Y | 0.2 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 19 | Benzene | ug/L | | 0.16 | | | | | | 71 | 71.0 | No | No | Y | Y | 0.11 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 20 | Bromoform | ug/L | | 0.26 | | | | | | 360 | 360.0 | No | No | Y | N | | 0.23 | | B<=C, Step 7 | | No | MEC<C & B<=C |
| 21 | Carbon Tetrachloride | ug/L | | 0.13 | | | | | | 4.4 | 4.40 | No | No | Y | Y | 0.07 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 22 | Chlorobenzene | ug/L | | 0.052 | | | | | | 21000 | 21000 | No | No | Y | Y | 0.09 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 23 | Chlorodibromomethane | ug/L | | 0.13 | | | | | | 34 | 34.00 | No | No | N | | | | | No detected value of B, Step 7 | | No | Ud;MEC<C & no B |
| 24 | Chloroethane | ug/L | | No Criteria | | | | | | | No Criteria | No Criteria | No Criteria | Y | Y | 0.13 | | N | No Criteria | No Criteria | Uc | No Criteria |
| 25 | 2-Chloroethylvinyl ether | ug/L | | No Criteria | | | | | | | No Criteria | No Criteria | No Criteria | Y | Y | 0.07 | | N | No Criteria | No Criteria | Uc | No Criteria |
| 26 | Chloroform | ug/L | | No Criteria | | | | | | | No Criteria | No Criteria | No Criteria | Y | N | 7.8 | 7.8 | N | No Criteria | No Criteria | Uc | No Criteria |
| 27 | Dichlorobromomethane | ug/L | | 0.12 | | | | | | 46 | 46.00 | No | No | Y | N | | 3.4 | | B<=C, Step 7 | | No | MEC<C & B<=C |
| 28 | 1,1-Dichloroethane | ug/L | | No Criteria | | | | | | | No Criteria | No Criteria | No Criteria | Y | Y | 0.08 | | N | No Criteria | No Criteria | Uc | No Criteria |
| 29 | 1,2-Dichloroethane | ug/L | | 0.077 | | | | | | 99 | 99.00 | No | No | Y | Y | 0.09 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 30 | 1,1-Dichloroethylene | ug/L | | 0.16 | | | | | | 3.2 | 3.200 | No | No | Y | Y | 0.1 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 31 | 1,2-Dichloropropane | ug/L | | 0.14 | | | | | | 39 | 39.00 | No | No | Y | Y | 0.09 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 32 | 1,3-Dichloropropylene | ug/L | | 0.082 | | | | | | 1700 | 1700 | No | No | Y | Y | 0 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 33 | Ethylbenzene | ug/L | | 0.096 | | | | | | 29000 | 29000 | No | No | Y | Y | 0.06 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 34 | Methyl Bromide | ug/L | | 0.27 | | | | | | 4000 | 4000 | No | No | N | | | | | No detected value of B, Step 7 | | No | Ud;MEC<C & no B |
| 35 | Methyl Chloride | ug/L | | No Criteria | | | | | | | No Criteria | No Criteria | No Criteria | N | | | | | No Criteria | No Criteria | Uc | No Criteria |
| 36 | Methylene Chloride | ug/L | | 0.2 | | | | | | 1600 | 1600.0 | No | No | Y | N | | 0.7 | | B<=C, Step 7 | | No | MEC<C & B<=C |
| 37 | 1,1,2,2-Tetrachloroethane | ug/L | | 0.091 | | | | | | 11 | 11.00 | No | No | Y | Y | 0.08 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 38 | Tetrachloroethylene | ug/L | | 0.094 | | | | | | 8.85 | 8.9 | No | No | N | | | | | No detected value of B, Step 7 | | No | Ud;MEC<C & no B |
| 39 | Toluene | ug/L | | 0.068 | | | | | | 200000 | 200000 | No | No | Y | Y | 0.09 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 40 | 1,2-Trans-Dichloroethylene | ug/L | | 0.12 | | | | | | 140000 | 140000 | No | No | N | | | | | No detected value of B, Step 7 | | No | Ud;MEC<C & no B |
| 41 | 1,1,1-Trichloroethane | ug/L | | No Criteria | | | | | | | No Criteria | No Criteria | No Criteria | Y | Y | 0.08 | | N | No Criteria | No Criteria | Uc | No Criteria |
| 42 | 1,1,2-Trichloroethane | ug/L | | 0.19 | | | | | | 42 | 42.0 | No | No | Y | Y | 0.09 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 43 | Trichloroethylene | ug/L | | 0.14 | | | | | | 81 | 81.0 | No | No | N | | | | | No detected value of B, Step 7 | | No | Ud;MEC<C & no B |
| 44 | Vinyl Chloride | ug/L | | 0.086 | | | | | | 525 | 525 | No | No | Y | Y | 0.12 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 45 | 2-Chlorophenol | ug/L | | 0.05 | | | | | | 400 | 400 | No | No | Y | Y | 0.15 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 46 | 2,4-Dichlorophenol | ug/L | | 0.05 | | | | | | 790 | 790 | No | No | Y | Y | 0.15 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 47 | 2,4-Dimethylphenol | ug/L | | 0.1 | | | | | | 2300 | 2300 | No | No | Y | Y | 0.11 | | 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) | ug/L | | 0.1 | | | | | | 765 | 765.0 | No | No | N | | | | | No detected value of B, Step 7 | | No | Ud;MEC<C & no B |
| 49 | 2,4-Dinitrophenol | ug/L | | 0.1 | | | | | | 14000 | 14000 | No | No | Y | Y | 1.7 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 50 | 2-Nitrophenol | ug/L | | No Criteria | | | | | | | No Criteria | No Criteria | No Criteria | Y | Y | 0.2 | | N | No Criteria | No Criteria | Uc | No Criteria |
| 51 | 4-Nitrophenol | ug/L | | No Criteria | | | | | | | No Criteria | No Criteria | No Criteria | Y | Y | 0.55 | | N | No Criteria | No Criteria | Uc | No Criteria |
| 52 | 3-Methyl-4-Chlorophenol (aka P-chloro-m-resol) | ug/L | | No Criteria | | | | | | | No Criteria | No Criteria | No Criteria | N | | | | | No Criteria | No Criteria | Uc | No Criteria |
| 53 | Pentachlorophenol | ug/L | | 0.05 | | | 13.00 | 7.90 | | 8.2 | 7.90 | No | No | Y | Y | 0.38 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 54 | Phenol | ug/L | | 0.057 | | | | | | 4600000 | 4600000 | No | No | Y | N | | 3.1 | | B<=C, Step 7 | | No | MEC<C & B<=C |
| 55 | 2,4,6-Trichlorophenol | ug/L | | 0.05 | | | | | | 6.5 | 6.5 | No | No | Y | N | | 0.35 | | B<=C, Step 7 | | No | MEC<C & B<=C |
| 56 | Acenaphthene | ug/L | | 0.001 | | | | | | 2700 | 2700 | No | No | Y | Y | 0.15 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 57 | Acenaphthylene | ug/L | | No Criteria | | | | | | | No Criteria | No Criteria | No Criteria | Y | Y | 0.14 | | N | No Criteria | No Criteria | Uc | No Criteria |
| 58 | Anthracene | ug/L | | 0.001 | | | | | | 110000 | 110000 | No | No | Y | Y | 0.18 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 59 | Benzidine | ug/L | | | | | | | | 0.00054 | 0.00054 | | | Y | Y | 1.7 | | Y | No detected value of B, Step 7 | | No | UD; effluent ND, MDL>C, and B is ND |
| 60 | Benzo(a)Anthracene | ug/L | 0.60 | 0.17 | | | | | | 0.049 | 0.0490 | Yes | Yes | Y | Y | 0.19 | | Y | No detected value of B, Step 7 | | Yes | MEC>=C |
| 61 | Benzo(a)Pyrene | ug/L | | 0.001 | | | | | | 0.049 | 0.0490 | No | No | Y | N | | 0.15 | | B>C & eff ND, Step 7 | | No | ud; B>C & effluent ND |
| 62 | Benzo(b)Fluoranthene | ug/L | | 0.001 | | | | | | 0.049 | 0.0490 | No | No | Y | N | | 0.13 | | B>C & eff ND, Step 7 | | No | ud; B>C & effluent ND |
| 63 | Benzo(ghi)Perylene | ug/L | | No Criteria | | | | | | | No Criteria | No Criteria | No Criteria | Y | Y | 0.19 | | N | No Criteria | No Criteria | Uc | No Criteria |
| 64 | Benzo(k)Fluoranthene | ug/L | | 0.001 | | | | | | 0.049 | 0.0490 | No | No | Y | N | | 0.2 | | B>C & eff ND, Step 7 | | No | ud; B>C & effluent ND |
| 65 | Bis(2-Chloroethoxy)Methane | ug/L | | No Criteria | | | | | | | No Criteria | No Criteria | No Criteria | Y | Y | 0.13 | | N | No Criteria | No Criteria | Uc | No Criteria |
| 66 | Bis(2-Chloroethyl)Ether | ug/L | | 0.05 | | | | | | 1.4 | 1.400 | No | No | Y | Y | 0.19 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 67 | Bis(2-Chloroisopropyl)Ether | ug/L | | 0.05 | | | | | | 170000 | 170000 | No | No | Y | Y | 0.16 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 68 | Bis(2-Ethylhexyl)Phthalate | ug/L | 3.0 | 75 | | | | | | 5.9 | 5.9 | Yes | Yes | Y | N | | 0.34 | | B<=C, Step 7 | | Yes | MEC>=C |
| 69 | 4-Bromophenyl Phenyl Ether | ug/L | | No Criteria | | | | | | | No Criteria | No Criteria | No Criteria | Y | Y | 0.21 | | N | No Criteria | No Criteria | Uc | No Criteria |
| 70 | Butylbenzyl Phthalate | ug/L | | 2.9 | | | | | | 5200 | 5200 | No | No | Y | Y | 0.16 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 71 | 2-Chloronaphthalene | ug/L | | 0.05 | | | | | | 4300 | 4300 | No | No | Y | Y | 0.16 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 72 | 4-Chlorophenyl Phenyl Ether | ug/L | | No Criteria | | | | | | | No Criteria | No Criteria | No Criteria | Y | Y | 0.17 | | N | No Criteria | No Criteria | Uc | No Criteria |
| 73 | Chrysene | ug/L | | 0.001 | | | | | | 0.049 | 0.0490 | No | No | Y | N | | 0.18 | | B>C & eff ND, Step 7 | | No | ud; B>C & effluent ND |
| 74 | Dibenzo(a,h)Anthracene | ug/L | 0.6 | 0.52 | | | | | | 0.049 | 0.0490 | Yes | Yes | Y | N | | 0.75 | | Limit required, B>C & pollutant det | | Yes | MEC>=C |

| CTR# | Parameters | HUMAN HEALTH CALCULATIONS | | | AQUATIC LIFE CALCULATIONS | | | | | | | | | LIMITS | | Recommendation | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Organisms only | | | Saltwater / Freshwater / Basin Plan | | | | | | | | | | | | |
| | | AMEL hh = ECA = C hh O only | MDEL/AMEL multiplier | MDEL hh | 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 (Wet Weather) | | 1.70 | | 0.43 | 2.48 | 0.63 | 2.37 | 2.37 | 1.37 | 3.25 | 2.33 | 5.5 | 3.2 | 5.5 | | |
| 7 | Lead | | | | | | | | | | | | | | | No Limit | |
| 8 | Mercury | | | | | | | | | | | | | | | No Limit | |
| 9 | Nickel | 4600 | 2.88 | 13250.53 | 0.15 | 10.85 | 0.27 | 2.20 | 2.20 | 2.39 | 5.27 | 6.89 | 15 | 5.3 | 15 | | |
| 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 | 0.000000014 | 2.01 | 0.00 | | | | | | 1.55 | | 3.11 | | 1.4E-08 | 2.8E-08 | | |
| | 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 | |
| 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 | 0.049 | 2.01 | 0.10 | | | | | | 1.55 | | 3.11 | | 0.049 | 0.098 | | |
| 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 | 5.9 | 3.26 | 19.21 | | | | | | 3.30 | | 10.74 | | 5.9 | 19 | | |
| 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 | 0.049 | 2.01 | 0.10 | | | | | | 1.55 | | 3.11 | | 0.049 | 0.10 | | |

| | | | | | CTR Water Quality Criteria (ug/L) | | | | | | | REASONABLE POTENTIAL ANALYSIS (RPA) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Freshwater | | Saltwater | | Human Health for consumption of: | | | | | | | | | | | | | |
| CTR# | Parameters | Units | CV | MEC | C acute = CMC tot | C chronic = CCC tot | C acute = CMC tot | C chronic = CCC tot | Water & organisms | Organisms only | Lowest C or dry weather WLAs | MEC >= Lowest C | Tier 1 - Need limit? | B Available (Y/N)? | Are all B data points non-detects (Y/N)? | If all B data points ND Enter the min detection limit (MDL) (ug/L) | 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 |
| 75 | 1,2-Dichlorobenzene | ug/L | | 0.1 | | | | | | 17000 | 17000 | No | No | Y | Y | 0.07 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 76 | 1,3-Dichlorobenzene | ug/L | | 0.078 | | | | | | 2600 | 2600 | No | No | Y | Y | 0.07 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 77 | 1,4-Dichlorobenzene | ug/L | | 0.11 | | | | | | 2600 | 2600 | No | No | Y | Y | 0.07 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 78 | 3,3 Dichlorobenzidine | ug/L | | 0.05 | | | | | | 0.077 | 0.08 | No | No | Y | Y | 0.31 | | Y | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 79 | Diethyl Phthalate | ug/L | | 0.09301 | | | | | | 120000 | 120000 | No | No | Y | Y | 0.21 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 80 | Dimethyl Phthalate | ug/L | | 0.01 | | | | | | 2900000 | 2900000 | No | No | Y | Y | 0.19 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 81 | Di-n-Butyl Phthalate | ug/L | | 0.21 | | | | | | 12000 | 12000 | No | No | Y | Y | 0.16 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 82 | 2,4-Dinitrotoluene | ug/L | | 0.05 | | | | | | 9.10 | 9.10 | No | No | Y | Y | 0.2 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 83 | 2,6-Dinitrotoluene | ug/L | | No Criteria | | | | | | | No Criteria | No Criteria | No Criteria | Y | Y | 0.22 | | N | No Criteria | No Criteria | Uc | No Criteria |
| 84 | Di-n-Octyl Phthalate | ug/L | | No Criteria | | | | | | | No Criteria | No Criteria | No Criteria | Y | Y | 0.16 | | N | No Criteria | No Criteria | Uc | No Criteria |
| 85 | 1,2-Diphenylhydrazine | ug/L | | 0.05 | | | | | | 0.54 | 0.540 | No | No | Y | Y | 0.13 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 86 | Fluoranthene | ug/L | | 0.001 | | | | | | 370 | 370 | No | No | Y | Y | 0.19 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 87 | Fluorene | ug/L | | 0.001 | | | | | | 14000 | 14000 | No | No | Y | Y | 0.18 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 88 | Hexachlorobenzene | ug/L | | | | | | | | 0.00077 | 0.00077 | | | Y | Y | 0.18 | | Y | No detected value of B, Step 7 | | No | UD; effluent ND, MDL>C, and B is ND |
| 89 | Hexachlorobutadiene | ug/L | | 0.05 | | | | | | 50 | 50.00 | No | No | Y | Y | 0.14 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 90 | Hexachlorocyclopentadiene | ug/L | | 0.05 | | | | | | 17000 | 17000 | No | No | Y | Y | 0.75 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 91 | Hexachloroethane | ug/L | | 0.05 | | | | | | 8.9 | 8.9 | No | No | Y | Y | 0.14 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 92 | Indeno(1,2,3-cd)Pyrene | ug/L | 0.6 | 0.53 | | | | | | 0.049 | 0.0490 | Yes | Yes | Y | N | | 0.19 | | Limit required, B>C & pollutant det | | Yes | MEC>=C |
| 93 | Isophorone | ug/L | | 0.05 | | | | | | 600 | 600.0 | No | No | Y | Y | 0.13 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 94 | Naphthalene | ug/L | | No Criteria | | | | | | | No Criteria | No Criteria | No Criteria | Y | Y | 0.18 | | N | No Criteria | No Criteria | Uc | No Criteria |
| 95 | Nitrobenzene | ug/L | | 0.05 | | | | | | 1900 | 1900 | No | No | Y | Y | 0.22 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 96 | N-Nitrosodimethylamine | ug/L | | 0.05 | | | | | | 8.10 | 8.10000 | No | No | Y | Y | 0.14 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 97 | N-Nitrosodi-n-Propylamine | ug/L | | 0.05 | | | | | | 1.40 | 1.400 | No | No | Y | Y | 0.12 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 98 | N-Nitrosodiphenylamine | ug/L | | 0.05 | | | | | | 16 | 16.0 | No | No | Y | Y | 0.15 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 99 | Phenanthrene | ug/L | | No Criteria | | | | | | | No Criteria | No Criteria | No Criteria | Y | Y | 0.19 | | N | No Criteria | No Criteria | Uc | No Criteria |
| 100 | Pyrene | ug/L | | 0.001 | | | | | | 11000 | 11000 | No | No | Y | Y | 0.19 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 101 | 1,2,4-Trichlorobenzene | ug/L | | No Criteria | | | | | | | No Criteria | No Criteria | No Criteria | Y | Y | 0.17 | | N | No Criteria | No Criteria | Uc | No Criteria |
| 102 | Aldrin | ug/L | | | | | 1.30 | | | 0.00014 | 0.00014 | | | Y | Y | | | | No detected value of B, Step 7 | | No | UD; effluent ND, MDL>C, and B is ND |
| 103 | alpha-BHC | ug/L | | 0.00063 | | | | | | 0.013 | 0.0130 | No | No | Y | Y | | | | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 104 | beta-BHC | ug/L | | 0.001 | | | | | | 0.046 | 0.046 | No | No | Y | Y | 0.002 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 105 | gamma-BHC | ug/L | | 0.00088 | | | 0.16 | | | 0.063 | 0.063 | No | No | Y | Y | 0.0009 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 106 | delta-BHC | ug/L | | No Criteria | | | | | | | No Criteria | No Criteria | No Criteria | Y | Y | 0.001 | | N | No Criteria | No Criteria | Uc | No Criteria |
| 107 | Chlordane | ug/L | | | | | 0.09 | 0.004 | | 0.00059 | 0.00059 | | | Y | Y | 0.01 | | Y | No detected value of B, Step 7 | | No | UD; effluent ND, MDL>C, and B is ND |
| 108 | 4,4'-DDT | ug/L | | 0.00056 | | | 0.13 | 0.001 | | 0.00059 | 0.00059 | No | No | Y | Y | 0.29 | | Y | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 109 | 4,4'-DDE (linked to DDT) | ug/L | | | | | | | | 0.00059 | 0.00059 | | | Y | Y | 0.001 | | Y | No detected value of B, Step 7 | | No | UD; effluent ND, MDL>C, and B is ND |
| 110 | 4,4'-DDD | ug/L | | 0.00058 | | | | | | 0.00084 | 0.00084 | No | No | Y | Y | 0.001 | | Y | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 111 | Dieldrin | ug/L | | | | | 0.71 | 0.0019 | | 0.00014 | 0.00014 | | | Y | Y | 0.001 | | Y | No detected value of B, Step 7 | | No | UD; effluent ND, MDL>C, and B is ND |
| 112 | alpha-Endosulfan | ug/L | | 0.0043 | | | 0.034 | 0.0087 | | 240 | 0.0087 | No | No | Y | Y | 0.001 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 113 | beta-Endolsulfan | ug/L | | 0.00062 | | | 0.034 | 0.0087 | | 240 | 0.0087 | No | No | Y | Y | 0.001 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 114 | Endosulfan Sulfate | ug/L | | 0.00057 | | | | | | 240 | 240 | No | No | Y | Y | 0.002 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 115 | Endrin | ug/L | | 0.00059 | | | 0.037 | 0.0023 | | 0.81 | 0.0023 | No | No | Y | Y | 0.001 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 116 | Endrin Aldehyde | ug/L | | 0.0006 | | | | | | 0.81 | 0.81 | No | No | Y | Y | 0.001 | | N | No detected value of B, Step 7 | | No | MEC<C & B is ND |
| 117 | Heptachlor | ug/L | | | | | 0.053 | 0.0036 | | 0.00021 | 0.00021 | | | Y | Y | 0.0008 | | Y | No detected value of B, Step 7 | | No | UD; effluent ND, MDL>C, and B is ND |
| 118 | Heptachlor Epoxide | ug/L | | | | | 0.053 | 0.0036 | | 0.00011 | 0.00011 | | | Y | Y | 0.001 | | Y | No detected value of B, Step 7 | | No | UD; effluent ND, MDL>C, and B is ND |
| 119-125 | **PCBs sum (2)** | ug/L | | | | | | 0.03 | | 0.00017 | 0.00017 | | | Y | Y | 0.01 | | Y | No detected value of B, Step 7 | | No | UD; effluent ND, MDL>C, and B is ND |
| 126 | Toxaphene | ug/L | | | | | 0.21 | 0.0002 | | 0.00075 | 0.0002 | | | Y | Y | 0.04 | | Y | No detected value of B, Step 7 | | No | UD; effluent ND, MDL>C, and B is ND |
| 6 | Copper (Dry Weather) | ug/L | 0.41 | 9.4 | | | | 3.1 | | | 3.1000 | Yes | Yes | Y | N | | 12.36 | | Limit required, B>C & pollutant det | | Yes | MEC>=C |

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

| | | HUMAN HEALTH CALCULATIONS | | | AQUATIC LIFE CALCULATIONS | | | | | | | | | LIMITS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CTR# | | Organisms only | | | Saltwater / Freshwater / Basin Plan | | | | | | | | | | | | |
| | Parameters | AMEL hh = ECA = C hh O only | MDEL/AMEL multiplier | MDEL hh | 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 |
| 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 | 0.049 | 2.01 | 0.10 | | | | | | 1.55 | | 3.11 | | 0.049 | 0.10 | | |
| 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 | |
| 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 | |
| 6 | Copper (Dry Weather) | | 1.70 | | 0.43 | | 0.63 | 1.97 | 1.97 | 1.37 | 2.70 | 2.33 | 4.6 | 2.7 | 4.6 | | |

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

# DRAFT AMMONIA EFFLUENT LIMITATION CALCULATIONS
# AES ALAMITOS LLC
# ALAMITOS GENERATING STATION
# CA0001139

| | Receiving Water | | |
|---|---|---|---|
| | pH (s.u.) | Temperature (℃) | Salinity (ppt) |
| 50th percentile | **8.03** | **21.62** | **32.20** |
| 90th percentile | **8.33** | **23.79** | **33.26** |
| 10th Percentile | | | **28.95** |

**Calculations for Total Ammonia Water Quality Objective (WQO) Based on Un-ionized Ammonia Objective**

| | Un-ionized-Ammonia Objective (mg/L $NH_3$) | P (atm) | pH (s.u.) | Temperature (K) | Salinity (ppt) | Molal Iconic Strength (i) | $pK_a^s$ | Total Ammonia WQO (mg/L $NH_3$) |
|---|---|---|---|---|---|---|---|---|
| One-hour Average | 0.233 | 1 | 8.33 | 296.94 | 28.95 | 0.594 | 9.313925 | 2.664 |
| 4-day Average | 0.035 | 1 | 8.03 | 294.77 | 32.20 | 0.663 | 9.321910 | 0.908 |

Molal iconic strength (i) = $19.9273\ S\ (1000 - 1.005109\ S)^{-1}$

$pK_a = 0.116 * i + 9.245$

Total Ammonia = $[NH_4^+] + [NH_3] = [NH_3] + [NH_3]*10\ ^\wedge\ (pK_a^s + 0.0324\ (298-T) + 0.0415\ P/T - pH)$

**Calculations for Final Effluent Monthly Average (AMEL) and Daily Maximum (MDEL) Limitations for Ammonia Nitrogen**

Calculation using n (Sampling Frequency) = 4

| | Total Ammonia WQO (mg/L NH3) | ECA=WQO (No dilution allowed) | Coefficient of Variation (CV) | Effluent Concentration Allowance (ECA) Multiplier (Table 3-6) | Long-term average discharge condition (LTA) | Multiplier (Table 3-7) n = 4 | Conversion Factor (mg /L $NH_3$) to (mg/L $NH_3$-N) | MDEL (mg/L $NH_3$-N) | AMEL (mg/L $NH_3$-N) |
|---|---|---|---|---|---|---|---|---|---|
| One-hour Average | 2.664 | 2.664 | 0.847 | 0.237 | **0.6307** | **4.2237** | **0.824** | **1.333** | |
| 4-day Average | 0.908 | 0.908 | 0.847 | 0.422 | **0.3831** | **1.7963** | **0.824** | | **0.567** |

**MDEL = (most limiting LTA) x (Table 3-7 multiplier) x (conversion factor) = 0.3831 x 4.2237 x 0.824 = 1.333**
**AMEL = (most limiting LTA) x (Table 3-7 multiplier) x (conversion factor) = 0.3831 x 1.7963 x 0.824 = 0.567**

| | |
|---|---|
| Input data: | Receiving water pH, temperature, and salinity ("RW Data" tab) |
| | CV (Coefficient of Variation) and ECA, MDEL and AMEL multipliers ("EFF Data" tab) |