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

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**ORDER R4-2013-0172-A01**
**NPDES NO. CA0056651**

# WASTE DISCHARGE REQUIREMENTS FOR THE UNIVERSITY OF SOUTHERN CALIFORNIA, WRIGLEY MARINE SCIENCE CENTER DISCHARGE TO THE PACIFIC OCEAN

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

**Table 1. Discharger Information**

| | |
|---|---|
| **Discharger** | University of Southern California |
| **Name of Facility** | Wrigley Marine Science Center, Avalon |
| **Facility Address** | No. 1 Big Fisherman Cove, Catalina Island |
| | Avalon, CA 90704 |
| | Los Angeles County |

**Table 2. Discharge Location**

| Discharge Point | Effluent Description | Discharge Point Latitude | Discharge Point Longitude | Receiving Water |
|---|---|---|---|---|
| 001 | Waste Seawater | 33º 26' 42" N | 118º 29' 00" W | Pacific Ocean |
| 002 | Storm Water Runoff | 33º 26' 42" N | 118º 29' 00" W | Pacific Ocean |

**Table 3. Administrative Information**

| | |
|---|---|
| This Order was adopted ~~by the Regional Water Quality Control Board~~ on: | **November 7, 2013** |
| This Order shall become effective on: | **December 26, 2013** |
| This Order was amended on: | **December 10, 2015** |
| This amended Order shall become effective on: | **December 10, 2015** |
| This Order shall expire on: | **December 26, 2018** |
| The Discharger shall file a Report of Waste Discharge as an application for renewal of waste discharge requirements 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: | **June 30, 2018** |
| The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as follows: | **Minor** |

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 November 7, 2013, and amended on December 10, 2015.

Samuel Unger, P.E.
Executive Officer

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## Tables



## Attachments



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## I. FACILITY INFORMATION

Information describing the Wrigley Marine Science Center (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 Waste Discharge Requirements (WDR's) pursuant to article 4, chapter 4, division 7 of the California Water Code (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 I are also incorporated into this Order.

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

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

THEREFORE, IT IS HEREBY ORDERED that this Order supersedes Order No. R4-2008-0017 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 CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Regional Water Board from taking enforcement action for past violations of the previous Order. ~~If any part of this Order is subject to a temporary stay of enforcement, unless otherwise specified, the Discharger shall comply with the analogous portions of the previous Order, which shall remain in effect for all purposes during the pendency of the stay.~~

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## III. DISCHARGE PROHIBITIONS

**A.** ~~Wastes discharged~~Discharges from Discharge Point No. 001 shall be limited to a maximum of 0.3600.180 million gallons per day (MGD) of waste seawater ~~and 0.61 MGD of storm water~~.

**B.** Discharges from Discharge Point No. 002 shall be limited to a maximum of 0.61 MGD of storm water runoff ~~as described in the findings~~.

**C.** The discharge of wastes from accidental spills or other sources is prohibited.

**D.** Discharges of non-storm water runoff, except those associated with emergency firefighting are prohibited.

**E.** Discharges of chemical additives, including antibiotics, in the seawater system effluent are prohibited.

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

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

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

**I.** The discharge shall not cause a violation of any applicable water quality standards for receiving waters adopted by the Regional Water Board or the California 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 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.

**J.** The discharge of any radiological, chemical, or biological warfare agent or high level radiological waste into the waters of the state is prohibited under Water Code section 13375.

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

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## IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

### A. Final Effluent Limitations

#### 1. Final Effluent Limitations – Discharge Point No. 001 (Waste Seawater Discharge)

**a.** The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program, Attachment E:

**Table 4. Final Effluent Limitations – Discharge Point No. 001**

| Parameter | Units | Effluent Limitations | | | | |
|---|---|---|---|---|---|---|
| | | 6-Month Median[1,2] | Average Monthly[2] | Average Weekly | Maximum Daily | Instantaneous Maximum |
| Biochemical Oxygen Demand (BOD 5-day@20°C) | mg/L | -- | 20 | -- | 60 | -- |
| | lbs/day[3] | -- | ~~30~~60 | -- | ~~90~~180 | -- |
| Oil and Grease | mg/L | -- | 10 | -- | 15 | -- |
| | lbs/day[3] | -- | ~~15~~30 | -- | ~~23~~45 | -- |
| pH | standard units | 6.0 - 9.0[4] | | | | |
| Settleable Solids | mL/L | -- | 1.0 | 1.5 | -- | 3.0 |
| Total Suspended Solids (TSS) | mg/L | -- | 50 | -- | 150 | -- |
| | lbs/day[3] | -- | ~~75~~150 | -- | ~~225~~450 | -- |
| Temperature | °F | -- | -- | -- | -- | 86 |
| Turbidity | NTU | -- | 50 | 100 | 150 | 225 |
| Copper, Total Recoverable | µg/L | 3 | -- | -- | 12 | 30 |
| | lbs/day[3] | 0.00905 | -- | -- | 0.03618 | ~~0.045~~ |
| Chronic Toxicity[5] | Pass or Fail, % Effect | -- | Pass[6] | -- | Pass or % Effect < 50 | -- |
| Total coliform | CFU/100 mL or MPN/100 mL | [7] | | | | |
| Fecal coliform | CFU/100 mL or MPN/100 mL | [7] | | | | |
| *Enterococcus* | CFU/100 mL or MPN/100 mL | [7] | | | | |

1. The 6-month median shall apply as a moving median of daily values for any 180-day period in which daily values represent flow weighted average concentrations within a 24-hour period. For intermittent discharges, the daily value shall be considered to equal zero for days on which no discharge occurred.
2. If only one sample is collected during the time period associated with the water quality objective (e.g., monthly average or 6-month median), the single measurement shall be used to determine compliance with the effluent limitation for the entire time period.
3. These mass-based effluent limitations are calculated using the following formula:

   Mass-based effluent limitation (lbs/day) = C * Q * 8.34

   Where: C = concentration-based effluent limitation (mg/L)

   Q = maximum discharge flow rate (MGD) = 0.360~~0.180~~ MGD
4. Within limit of 6.0 to 9.0 at all times.
5. "Pass" or "Fail" for Median Monthly Effluent Limitation (MMEL). "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL). The MMEL for chronic toxicity shall only apply when there is a discharge more than one day in a calendar month period. During such calendar months, exactly three independent toxicity tests are required when one toxicity test results in "Fail".
6. This is a Median Monthly Effluent Limitation.
7. 30-day Geometric Mean Limits (based on no less than five samples over a 30-day period):
   a) Total coliform density shall not exceed 1,000/100 mL;
   b) Fecal coliform density shall not exceed 200/100 mL;and
   c) Enterococcus density shall not exceed 35/100 mL.

   Single Sample Limits:
   a) Total coliform density shall not exceed 10,000/100 mL;
   b) Fecal coliform density shall not exceed 400/100 mL;

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c) *Enterococcus* density shall not exceed 104/100 mL; and

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

## 2. Final Effluent Limitations – Discharge Point No. 002 (Storm Water Discharge)

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

**Table 5. Final Effluent Limitations – Discharge Point No. 002**

| Parameter | Units | Effluent Limitations | | | | |
|---|---|---|---|---|---|---|
| | | 6-Month Median | Average Monthly[1] | Average Weekly | Maximum Daily | Instantaneous Maximum |
| BOD (5-day@20°C) | mg/L | -- | -- | -- | 60 | -- |
| | lbs/day[2] | -- | -- | -- | 310 | -- |
| Oil and Grease | mg/L | -- | -- | -- | 15 | -- |
| | lbs/day[2] | -- | -- | -- | 76 | -- |
| pH | standard units | 6.0 - 9.0[3] | | | | |
| Settleable Solids | mL/L | -- | -- | -- | -- | 3.0 |
| TSS | mg/L | -- | -- | -- | 150 | -- |
| | lbs/day[2] | -- | -- | -- | 760 | -- |
| Temperature | °F | -- | -- | -- | -- | 86 |
| Turbidity | NTU | -- | -- | -- | 150 | -- |
| Arsenic, Total Recoverable | µg/L | -- | -- | -- | 32 | -- |
| | lbs/day[2] | -- | -- | -- | 0.16 | -- |
| Beryllium, Total Recoverable | µg/L | -- | 0.033 | -- | -- | -- |
| | lbs/day[2] | -- | 0.00017 | -- | -- | -- |
| Copper, Total Recoverable | µg/L | -- | -- | -- | 12 | -- |
| | lbs/day[2] | -- | -- | -- | 0.061 | -- |
| Lead, Total Recoverable | µg/L | -- | -- | -- | 8 | -- |
| | lbs/day[2] | -- | -- | -- | 0.04 | -- |
| Nickel, Total Recoverable | µg/L | -- | -- | -- | 20 | -- |
| | lbs/day[2] | -- | -- | -- | 0.10 | -- |
| Zinc, Total Recoverable | µg/L | -- | -- | -- | 80 | -- |
| | lbs/day[2] | -- | -- | -- | 0.41 | -- |
| TCDD Equivalents[4] | µg/L | -- | 3.9E-09 | -- | -- | -- |
| | lbs/day[2] | -- | 2.0E-11 | -- | -- | -- |
| Chronic Toxicity[5] | Pass or Fail, % Effect | -- | -- | -- | Pass or % Effect < 50 | -- |
| Total coliform | CFU/100 mL or MPN/100 mL | 6 | | | | |
| Fecal coliform | CFU/100 mL or MPN/100 mL | 6 | | | | |
| *Enterococcus* | CFU/100 mL or MPN/100 mL | 6 | | | | |

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1. If only one sample is collected during the time period associated with the monthly average, the single measurement shall be used to determine compliance with the effluent limitation for the entire time period.
2. These mass-based effluent limitations are calculated using the following formula:

   Mass-based effluent limitation (lbs/day) = C * Q * 8.34

   Where: C = concentration-based effluent limitation (µg/L)

   Q = maximum discharge flow rate (MGD) = 0.61 MGD (10-year 24 hours storm event)
3. Within limit of 6.0 to 9.0 at all times.
4. TCDD Equivalents shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below. USEPA method 1613 may be used to analyze dioxin and furan congeners.

   Dioxin-TEQ (TCDD Equivalents) = $\Sigma$ ($C_x$ x $TEF_x$)

   Where:

   $C_x$ = concentration of dioxin or furan congener x

   $TEF_x$ = TEF for congener x

**Toxicity Equivalency Factors**

| Isomer Group | Toxicity Equivalency Factor (TEF) |
|---|---|
| 2,3,7,8-tetra CDD | 1.0 |
| 2,3,7,8-penta CDD | 0.5 |
| 2,3,7,8-hexa CDDs | 0.1 |
| 2,3,7,8-hepta CDD | 0.01 |
| Octa CDD | 0.001 |
| 2,3,7,8 tetra CDF | 0.1 |
| 1,2,3,7,8 penta CDF | 0.05 |
| 2,3,4,7,8 penta CDF | 0.5 |
| 2,3,7,8 hexa CDFs | 0.1 |
| 2,3,7,8 hepta CDFs | 0.01 |
| Octa CDF | 0.001 |

5. "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation.
6. 30-day Geometric Mean Limits (based on no less than five samples over a 30-day period):
   a) Total coliform density shall not exceed 1,000/100 mL;
   b) Fecal coliform density shall not exceed 200/100 mL; and
   c) Enterococcus density shall not exceed 35/100 mL.

   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* density shall not exceed 104/100 mL; and
   d) Total coliform density shall not exceed 1,000/100 mL, if the ratio of fecal-to-total coliform exceeds 0.1.

## V. RECEIVING WATER LIMITATIONS

The Discharger shall not cause a violation of the following water quality objectives. Compliance with these water quality objectives shall be determined by samples collected at stations representative of the area within the waste field where initial dilution is completed.

## A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Ocean Plan and State Water Board Resolution No. 2006-0013 and are a required part of this Order. Compliance with water quality objectives contained in the Ocean Plan and Resolution No. 2006-0013 shall be determined from samples collected at stations representative of the area within the waste field; and for natural / background water quality, for constituents other than indicator bacteria, samples shall be collected at the reference station in the ocean in the vicinity of Goat Harbor or Italian Gardens near Twin Rocks Point on the northern coast of Santa Catalina Island. In situations where water quality objectives from the Ocean Plan and from Resolution No. 2006-0013 may both be applicable, the more stringent water quality objective shall apply. Receiving water conditions not in conformance with the limitation are not necessarily a violation of this Order. The Regional Water Board may require an investigation to determine cause and culpability prior to asserting a violation has occurred.

If monitoring indicates that natural ocean water quality is not maintained, but there is sufficient evidence that this discharge is not contributing to the alteration of natural water quality, then the Regional Water Board may make that determination. In this case, sufficient information must include runoff and seawater system effluent data that has equal or lower concentrations for the range of constituents at the applicable reference area(s).

Discharges from the Facility shall not cause the following in the receiving water:

### 1. State Water Resources Control Board Resolution No. 2006-0013

Natural water quality conditions in the receiving water must not be altered as a result of the discharge(s), and marine communities must be protected from pollution. Natural ocean water quality will be determined by a comparison to the range of constituent concentrations at REF-001, or in reference areas agreed upon by participants in an approved regional monitoring program.

### 2. Bacterial Characteristics

#### a. Water-Contact Standards

Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone used for water contact sports, as determined by the Regional Water Board, but including all kelp beds, the following bacterial objectives shall be maintained throughout the water column:

30-day Geometric Mean – The following standards are based on the geometric mean of the five most recent samples from each site:

i. Total coliform density shall not exceed 1,000 per 100 mL;

ii. Fecal coliform density shall not exceed 200 per 100 mL; and

iii. *Enterococcus* density shall not exceed 35 per 100 mL.

Single Sample Maximum:

i. Total coliform density shall not exceed 10,000 per 100 mL;

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ii. Fecal coliform density shall not exceed 400 per 100 mL;

iii. Enterococcus density shall not exceed 104 per 100 mL; and

iv. Total coliform density shall not exceed 1,000 per 100 mL when the fecal coliform/total coliform ratio exceeds 0.1.

The Initial Dilution Zone for any wastewater outfall shall be excluded from designation as kelp beds for purposes of bacterial standards. Adventitious assemblages of kelp plants on waste discharge structures (e.g., outfall pipes and diffusers) do not constitute kelp beds for purposes of bacterial standards.

**b. Shellfish Harvesting Standards**

At all areas where shellfish may be harvested for human consumption, as determined by the Regional Board, the following bacteria objectives shall be maintained throughout the water column:

The median total coliform density (for any 6-month period) shall not exceed 70 per 100 ml, and not more than 10 percent of the samples shall exceed 230 per 100 mL.

**3. Physical Characteristics**

The waste discharged shall not:

**a.** Cause floating particulates and grease and oil to be visible;

**b.** Cause aesthetically undesirable discoloration of the ocean surface;

**c.** Significantly reduce the transmittance of natural light at any point outside the initial dilution zone as a result of the discharge of waste; or,

**d.** Change the rate of deposition of inert solids and the characteristics of inert solids in ocean sediments such that benthic communities are degraded.

**4. Chemical Characteristics**

The waste discharged shall not:

**a.** Cause the dissolved oxygen concentration at any time to be depressed more than 10 percent from that which occurs naturally, as a result of the discharge of oxygen demanding waste materials;

**b.** Change the pH of the receiving waters at any time more than 0.2 units from that which occurs naturally;

**c.** Cause the dissolved sulfide concentration of waters in and near sediments to be significantly increased above that present under natural conditions;

**d.** Cause the concentration of substances set forth in Chapter II, Table 1 of the 2012 Ocean Plan, in marine sediments to be increased to levels that would degrade indigenous biota;

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**e.** Cause the concentration of organic materials in marine sediments to be increased to levels that would degrade marine life;

**f.** Contain nutrients at levels that will cause objectionable aquatic growths or degrade indigenous biota; or,

**g.** Cause exceedances of Ocean Plan Table 1 water quality objectives. Unless otherwise specified, all metal concentrations are expressed as total recoverable concentrations.

**5. Biological Characteristics**

The waste discharged shall not:

**a.** Degrade marine communities, including vertebrate, invertebrate, and plant species;

**b.** Alter the natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption; or,

**c.** Cause the concentration of organic materials in fish, shellfish or other marine resources used for human consumption to bioaccumulate to levels that are harmful to human health.

**d.** At any time result in physical evidence of wastes discharged on beaches, shore, rocks, or structures.

**6. Radioactivity**

**a.** Discharge of radioactive waste shall not degrade marine life.

## VI. PROVISIONS

### A. Standard Provisions

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

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

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

**b.** The Discharger must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges of storm water to storm

drain systems or other water courses under their jurisdiction; including applicable requirements in the municipal storm water management program developed to comply with NPDES permits issued by the Regional Water Board to local agencies.

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

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

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

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

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

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

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

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

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

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

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

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

**l.** All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Regional Water Board as soon as they know or have reason to believe that they

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have begun or expect to begin to use or manufacture intermediate or final product or byproduct of any toxic pollutant that was not reported on their application.

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

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

**o.** 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.

**p.** 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.

**q.** 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.

**r.** 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.

**s.** 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.

**t.** In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, average monthly effluent limitation, maximum daily effluent limitation, instantaneous minimum effluent limitation, instantaneous maximum effluent

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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.

**u.** 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 of this Order.

## C. Special Provisions

### 1. Reopener Provisions

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

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

**c.** This Order may be reopened and modified, to incorporate in accordance with the provisions set forth in 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 Ocean Plan Amendments.

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

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**2. Special Studies, Technical Reports and Additional Monitoring Requirements**

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

**b. Benthic Marine Life Survey.** Within six months before the end of the permit (permit expiration), the Discharger must submit the results of the quantitative survey of benthic marine life to the Regional Water Board. The Regional Water Board, in consultation with the State Water Board's Division of Water Quality, shall approve the survey design. The survey design is due to the Regional Water Board within **one year** of the effective date of this Order. (State Water Board Resolution No. 2006-0013, condition 2.j)

During the last permit cycle, the Discharger fulfilled this requirement by participation in the Bight '13 Rocky Intertidal Study in lieu of conducting a benthic marine life survey. The consensus of the Bight '13 stakeholder and regulatory work group has identified the Rocky Intertidal Biology as an important indicator of near shore water quality and the benefit of participation in this element of the Bight '13 regional study provides better leverage of information than would be gathered by a site specific Benthic Marine Life Survey.

**c. Metals Bioaccumulation Study.** The Discharger must conduct a bioaccumulation study using mussels (*Mytilus californianus*) to determine the concentration of metals near field (within Big Fisherman Cove) and far field (at the reference station). The results of the survey must be submitted to the Regional Water Board at least six months prior to the end of the permit (permit expiration, August 10, 2018). The Regional Water Board, in consultation with the State Water Board's Division of Water Quality, shall approve the study design. The study design is due to the Regional Water Board within **one year** of the effective date of this Order. Based on the study results, the Regional Water Board, in consultation with the State Water Board's Division of Water Quality, may adjust the study design in subsequent permits and/or may require additional test organisms. (State Water Board Resolution No. 2006-0013, condition 2.k)

As required in Order No. R4-2008-0017, the Discharger conducted the Metals Bioaccumulation Study in March 2012 and submitted a final report to the Regional Water Board in March 2013. The final report indicates following results:

- Overall metals concentrations are remaining the same or showing significant decreases over time in mussel tissues. Metal concentrations found in this study were consistent with long term metal trends observed in the National Oceanic and Atmospheric Administration (NOAA) Status and Trends (S&T) Mussel Watch program.

- All mussel tissues concentrations for metals collected at the near field Wrigley Marine Science Center station location are below the 85 percent guideline as outlined by the State Board (2009) study.

- With few exception (e.g. cadmium), the western coast of Santa Catalina Island (ASBS No. 25) is showing no elevated levels of bioaccumulation of heavy metals in

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mussel tissues. There is no indication that storm water runoff is contributing to the observed cadmium based on the water quality data collected under the dischargers permit. The long term average concentration measured for cadmium from the EFF-001 seawater return is approximately 20 parts per trillion. (Ocean Plan 6-month median water quality objective for cadmium is 1 µg/L or 1 part per billion).

**d. Regional ASBS Monitoring.** Participation in a collaborative regional or statewide ASBS monitoring effort is encouraged. After the first year (2014) of monitoring results are reviewed, the Regional Water Board, in consultation with the State Water Board's Division of Water Quality, may adjust the sediment, receiving water, and bioaccumulation monitoring required under this exception, based on the Facility's participation in an appropriate regional or statewide monitoring program.

During the last permit cycle, in addition to participation in the Bight '13 Rocky Intertidal Study, the Discharger was also a key contributor to the Bight '08 program.

**e. Subtidal Sediment Monitoring.** Once annually, the Discharger is required to collect samples of the subtidal sediment near the seawater discharge system and storm water outfall in Big Fisherman Cove and analyze the sample for Ocean Plan Table 1 constituents. For sediment toxicity testing, only an acute toxicity test using the amphipod *Eohaustorius estuarius* shall be performed. Based on the first year (2014) sample results, the Regional Water Board will determine specific constituents to be tested during the remainder of the permit cycle, except that acute toxicity for sediment shall be tested annually. (State Water Board Resolution No. 2006-0013, condition 2.n.)

The Discharger conducted three monitorings for Ocean Plan Table 1 constituents in 2011 and 2012. Concentrations of constituents in sediment were generally not detected, with the exception of most metals, which were found in relatively low but detectable concentrations. No toxicity were observed in sediments using amphipod *Eohaustorius estuaries.*

**f. Receiving Water Monitoring Report.** Within 30 days of becoming aware that receiving water monitoring results indicate that storm water discharges are causing or contributing to an alteration of natural water quality in the ASBS, as measured at the reference station (REF-001), the Discharger must submit a report to the Regional Water Board. The report shall include the following:

**i.** Identify those constituents in storm water that alter natural water quality;

**ii.** Describe the Best Management Practices (BMPs) that are currently being implemented;

**iii.** Describe the BMPs that are planned for in the Storm Water Management Plan/Program (SWMP), and additional BMPs that may be added to the SWMP;

**iv.** Include a new or modified implementation schedule;

The Regional Water Board may require modifications to the report. Within 30 days following approval of the report by the Regional Water Board, the Discharger shall revise its SWMP to incorporate any new or modified BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring required. If the Discharger has complied with the procedures described above and is implementing the revised SWMP, then the Discharge does not have to repeat the same procedure for

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continuing or recurring exceedances of the same constituent. (State Water Board Resolution No. 2006-0013, condition 2.p)

The Discharger indicated that no alteration of natural water quality measured based on the results of routine monitoring during the last permit period. Therefore, no receiving water monitoring report was required to be submitted.

### 3. Best Management Practices and Pollution Prevention

#### a. Storm Water Management Plan

The Permittee developed and submitted the Draft Storm Water Management Plan in September 2011. The Permittee shall continue to implement the SWMP to comply with the conditions of State Water Board Resolution No. 2006-0013. Specifically, the SWMP must be developed and implemented as follows:

**i.** The Discharger must specifically address the prohibition of non-storm water runoff and the reduction of pollutants in storm water discharges draining to the ASBS.

**ii.** The SWMP must include a map of surface drainage of storm water runoff, including areas of sheet runoff, and any structural BMPs employed. The map must also show the storm water conveyances in relation to other facility features such as the laboratory seawater system and discharges, service areas, sewage treatment, and waste and hazardous materials storage areas. The SWMP must also include a procedure for updating the map and plan when other changes are made to the facilities.

**iii.** The SWMP must describe the measures by which non-storm water discharges have been eliminated, how these measures will be maintained over time, and how these measures are monitored and documented.

**iv.** The SWMP must address storm water discharges and how pollutants have been and will be reduced in storm water runoff into the ASBS through the implementation of BMPs. The SWMP must describe the BMPs currently employed and BMPs planned (including those for construction activities) and an implementation schedule. The BMPs and implementation schedule must be designed to ensure natural water quality conditions in the receiving water due to either a reduction in flows from impervious surfaces or reduction in pollutants or some combination thereof.

**v.** The BMP implementation schedule must be developed to ensure that the BMPs are implemented within one year of the approval date of the SWMP by the Los Angeles Water Board.

Within **90 days** of the effective date of this permit, the Discharger must submit an updated SWMP to the Regional Water Board.

### 4. Construction, Operation and Maintenance Specifications

#### a. Construction Activities

The Discharger shall notify the Regional Water Board within 180 days prior to any construction activity that could result in the discharge or habitat modification in the ASBS. Further, the Discharger shall receive approval and appropriate conditions from the Regional Water Board prior to performing any significant modification, rebuilding, or

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renovation of the waterfront facilities, including the pier and dock, that could result in any discharge or habitat modification in the ASBS, according to the requirements of section III.E.2 of the Ocean Plan. (State Water Board Resolution No. 2006-0013, condition 2.s)

**5. Other Special Provisions**

**a. Nonpoint Source Management Plan**

The Discharger developed and submitted a waterfront and marine operations nonpoint source management plan containing appropriate management practices to address nonpoint source pollutant discharges in 2012. Appropriate management measures include those described in the State's Nonpoint Source Program Implementation Plan for marinas and recreational boating, as applicable. An updated waterfront and marine operations nonpoint source management plan must be submitted to the Regional Water Board within 90 days of the effective date of this permit. The Discharger shall implement the plan within six month of its approval. (State Water Board Resolution No. 2006-0013, condition 2.r)

**b. Program for Prevention of Biological Pollutants**

The Discharger shall implement a Program for Prevention of Biological Pollutants (non-native invasive species) in consultation with the California Department of Fish and Game Marine Resources Division. This program must be submitted to the State and the Regional Water Board within **one year** of the effective date of this permit. Any non-native species found in the Santa Catalina ASBS must be reported to the State and Regional Water Boards and the California Department of Fish and Game. (State Water Board Resolution No. 2006-0013, condition 2.q)

**6. Compliance Schedules** – Not Applicable

## VII. COMPLIANCE DETERMINATION

### A. Compliance with Effluent Limitations expressed as Single Constituents

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. Compliance with Effluent Limitations expressed as Sum of Several Constituents

Dischargers are out of compliance with an effluent limitation which applies to the sum of a group of chemicals (e.g., PCB's) if the sum of the individual pollutant concentrations is greater than the effluent limitation. Individual pollutants of the group will be considered to have a concentration of zero if the constituent is reported as "Not Detected" (ND) or "Detected, but Not Quantified" (DNQ).

### C. Multiple Sample Data Reduction

The concentration of the pollutant in the effluent may be estimated from the result of a single sample analysis or by a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses when all sample results are quantifiable (i.e., greater than or equal to the reported Minimum Level). When one or more sample results are reported

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as ND or DNQ, the central tendency concentration of the pollutant shall be the median (middle) value of the multiple samples, where DNQ is lower than a quantified value and ND is lower than DNQ. If, in an even number of samples, one or both of the middle values is ND or DNQ, the median will be the lower of the two middle values.

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

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

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.** Additional sampling requirements at Discharge Point No. 001:

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

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

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

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.

**3.** 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.

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**E. Average Weekly Effluent Limitation (AWEL)**

If the average of daily discharges over a calendar week exceeds the AWEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that week for that parameter (e.g., resulting in seven days of non-compliance). However, an alleged violation of the AWEL will be considered one violation for the purpose of assessing mandatory minimum penalties. The average of daily discharges over a calendar week that exceeds the AWEL for a parameter will be considered out of compliance for that week only. If only a single sample (daily discharge) is taken over a calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that week. If no sample (daily discharge) is taken over a calendar week, no compliance determination can be made for that week with respect to effluent violation determination, but compliance determination can be made for that week with respect to reporting violation determination.

A calendar week will begin on Sunday and end on Saturday. Partial calendar weeks at the end of the calendar month will be carried forward to the next month in order to calculate and report a consecutive seven-day average value on Saturday.

**F. Maximum Daily Effluent Limitation (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 effluent violation determination, but compliance determination can be made for that day with respect to reporting violation determination.

**G. Instantaneous Minimum Effluent Limitation**

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

**H. Instantaneous Maximum Effluent Limitation**

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

**I. Six-Month Median Effluent Limitation**

If the median of daily discharges over any 180-day period exceeds the six-month median effluent limitation for a given parameter, an alleged violation will be flagged and the discharger

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will be considered out of compliance for each day of that 180-day period for that parameter. The next assessment of compliance will occur after the next sample is taken. If only a single sample is taken during a given 180-day period and the analytical result for that sample exceeds the six-month median, the discharger will be considered out of compliance for the 180-day period. For any 180-period during which no sample is taken, no compliance determination can be made for the six-month median limitation.

The six-month median shall apply as a moving median of daily values for any 180-day period in which daily values represent flow weighted average concentrations within a 24-hour period. For intermittent discharges, the daily value shall be considered to equal zero for days on which no discharge occurred. If only one sample is collected during the time period associated with the 6-month median water quality objective, the single measurement shall be used to determine compliance with the effluent limitation for the entire time period.

**J. Median Monthly Effluent Limitation (MMEL)**

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

**K. Chronic Toxicity**

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 ($H_o$) 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.

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

The Median Monthly Effluent Limitation (MMEL) for chronic toxicity is exceeded and a violation will be flagged when the median of no more than three independent chronic toxicity tests, conducted within the same calendar month and analyzed using the TST approach, results in “Fail”. The MMEL for chronic toxicity shall only apply when there is a discharge more than one day in a calendar month period. During such calendar months, exactly three independent toxicity tests are required when one toxicity test results in “Fail”.

**L. Mass and Concentration Limitations**

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

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

**M. Bacterial Standards and Analyses**

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

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

where n is the number of days samples were collected during the period and C is the concentration of bacteria (MPN/100 mL or CFU/100 mL) found on each day of sampling.

**1.** For bacterial analyses, sample dilutions should be performed so the expected range of values is bracketed (for example, with multiple tube fermentation method or membrane filtration method, 2 to 16,000 per 100 mL for total and fecal coliform, at a minimum, and 1 to 1000 per 100 mL for *Enterococcus*). The detection method used for each analysis shall be reported with the results of the analysis.

**2.** Detection methods used for coliforms (total and fecal) and *Enterococcus* shall be those presented in Table 1A of 40 CFR Part~~section~~ 136 (revised May 18, 2012), unless alternate methods have been approved by USEPA pursuant to 40 CFR Part~~section~~ 136, or improved methods have been determined by the Executive Officer and/or USEPA.

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## ATTACHMENT A – DEFINITIONS

**Acute Toxicity:**

a Acute Toxicity (TUa)

Expressed in Toxic Units Acute (TUa)

$$TUa = \frac{100}{\text{96-hr LC 50\%}}$$

b Lethal Concentration 50% (LC 50)

LC 50 (percent waste giving 50% survival of test organisms) shall be determined by static or continuous flow bioassay techniques using standard marine test species as specified in Appendix III of the 2012 Ocean Plan. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the LC 50 may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hour LC 50 due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$TUa = \frac{\log (100 - S)}{1.7}$$

where:
S = percentage survival in 100% waste. If S > 99, TUa shall be reported as zero.

**Areas of Special Biological Significance (ASBS)**
Areas of Special Biological Significance are those areas designated by the State Water Board as ocean areas requiring protection of species or biological communities to the extent that maintenance of natural water quality is assured. All Areas of Special Biological Significance are also classified as a subset of STATE WATER QUALITY PROTECTION AREAS. ASBS are also referred to as State Water Quality Protection Areas – Areas of Special Biological Significance (SWQPA-ASBS).

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

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

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

**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.

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

**Chlordane**
Chlordane shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma and oxychlordane.

**Chlorinated Phenolic Compounds**
Chlorinated Phenolic Compounds shall mean, at a minimum, the sum of 2-Chlorophenol, 2,4-Dichlorophenol, 4-Chloro-3-methylphenol, 2,4,6-Trichlorophenol, and Pentachlorophenol.

**Chronic Toxicity**
This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response.

a Chronic Toxicity (TUc)

Expressed as Toxic Units Chronic (TUc)

$$TUc = \frac{100}{NOEL}$$

b No Observed Effect Level (NOEL)

The NOEL is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test listed in Appendix III of the Ocean Plan.

**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.

**Composite Sample**
Composite Sample, for flow rate measurements, means the arithmetic mean of no fewer than eight individual measurements taken at equal intervals for 24 hours or for the duration of discharge, whichever is shorter.

Composite sample, for other than flow rate measurement, means:

a No fewer than eight individual sample portions taken at equal time intervals for 24 hours, or the duration of the discharge, whichever is shorter. The volume of each individual sample portion shall be directly proportional to the discharge flow rate at the time of sampling; or,

b No fewer than eight individual sample portions taken of equal time volume taken over a 24 hour period. The time interval between each individual sample portion shall vary such that the volume of the discharge between each individual sample portion remains constant.

The compositing period shall equal the specified sampling period, or 24 hours, if no period is specified.

For a composite sample, if the duration of the discharge is less than 24 hours but greater than 8 hours, at least eight flow-weighted individual sample portions shall be taken during the duration of the discharge and composited. For a discharge duration of 8 hours or less, eight individual "grab samples" may be substituted and composited.

The composite sample result shall be reported for the calendar day during which composite sampling ends.

**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.

**DDT**
DDT shall mean the sum of 4,4'-DDT, 2,4'-DDT, 4,4'-DDE, 2,4'-DDE, 4,4'-DDD and 2,4'-DDD.

**Degrade (Degredation)**
Degradation shall be determined by comparison of the waste field and reference site(s) for characteristic species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species. Degradation occurs if there are significant differences in any of three major biotic groups, namely, demersal fish, benthic invertebrates, or attached algae. Other groups may be evaluated where benthic species are not affected, or are not the only ones affected.

**Detected, but Not Quantified (DNQ)**
Sample results that are less than the reported Minimum Level, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

**Dichlorobenzenes**
Dichlorobenzenes shall mean the sum of 1,2- and 1,3-dichlorobenzene.

**Downstream Ocean Waters**
Waters downstream with respect to ocean currents.

**Dredged Material**
Any material excavated or dredged from the navigable waters of the United States, including material otherwise referred to as "spoil".

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**Enclosed Bays**
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 headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

**Endosulfan**
Endosulfan shall mean the sum of endosulfan-alpha, endosulfan-beta, and endosulfan sulfate.

**Grab Sample**
Grab Sample means an individual sample collected during a period of time not to exceed 15 minutes. Grab samples shall be collected during normal peak loading conditions for the parameter of interest, which may or may not occur during hydraulic peaks.

**Halomethanes**
Halomethanes shall mean the sum of bromoform, bromomethane (methyl bromide) and chloromethane (methyl chloride).

**HCH**
HCH shall mean the sum of alpha, beta, gamma (lindane), and delta isomers of hexachlorocyclohexane.

**Initial Dilution**
Initial Dilution is the process which results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

For a submerged buoyant discharge, characteristic of most municipal wastes that are released from the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

For shallow water submerged discharges, surface discharges, and nonbuoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the discharge ceases to produce significant mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the Regional Water Board, whichever results in the lower estimate for initial dilution.

**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).

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

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

**Kelp Beds**
Kelp Beds, for purposes of the bacteriological standards of the Ocean Plan, are significant aggregations of marine algae of the genera Macrocystis and Nereocystis. Kelp beds include the total foliage canopy of Macrocystis and Nereocystis plants throughout the water column. Adventitious assemblages of kelp plants on waste discharge structures (e.g., outfall pipes and diffusers) do not constitute kelp beds for purposes of bacteriological standards.

**Mariculture**
Mariculture is the culture of plants and animals in marine waters independent of any pollution source.

**Material**
(a) In common usage: (1) the substance or substances of which a thing is made or composed (2) substantial; (b) For purposes of the Ocean Plan relating to waste disposal, dredging and the disposal of dredged material and fill, MATERIAL means matter of any kind or description which is subject to regulation as waste, or any material dredged from the navigable waters of the United States. See also, DREDGED MATERIAL.

**Maximum Daily Effluent Limitation (MDEL)**
The maximum allowable discharge of a pollutant during a calendar day. Where MDELs are expressed in units of mass, the daily discharge is the total mass discharged over the course of the day. Where MDELs are expressed in terms of a concentration, the daily discharge is the arithmetic average measurement of the pollutant concentration derived from all measurements taken that day. For pollutant measurements, unless otherwise specified, the results to be compared to the MDEL are usually based on composite samples. However, it may apply to grab samples if the collection of composite samples for those constituents is not appropriate because of instability of the constituents.

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

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

**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.

**Natural Light**
Reduction of natural light may be determined by the Regional Water Board by measurement of light transmissivity or total irradiance, or both, according to the monitoring needs of the Regional Water Board.

**Nonchlorinated Phenolic Compounds**
Nonchlorinated Phenolic Compounds shall mean, at a minimum, the sum of Phenol, 2, 4-Dimethylphenol, 2-Nitrophenol, and 4-Nitrophenol, 2,4-Dinitrophenol and 4,6-Dinitro-2-Methylphenol.

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

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

**PAHs (polynuclear aromatic hydrocarbons)**
PAHs shall mean the sum of 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.

**PCBs (polychlorinated biphenyls)**
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.

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

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

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

**Reported Minimum Level**
The reported ML (also known as the Reporting Level or 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 Name> either from Appendix II of the Ocean Plan in accordance with section III.C.5.a. of the Ocean Plan or established in accordance with section III.C.5.b. of the Ocean Plan. 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 reported ML.

**Shellfish**
Shellfish are organisms identified by the California Department of Public Health as shellfish for public health purposes (i.e., mussels, clams, and oysters).

**Significant Difference**
Defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

**Six-month Median Effluent Limitation:**
Six-month Median Effluent Limitation: the highest allowable moving median of all daily discharges for any 180-day period. For intermittent discharges, the daily value shall be considered to equal zero for days on which no discharge occurred.

**Standard Deviation ($\sigma$)**
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.

**State Water Quality Protection Areas (SWQPAs)**
SWQPAs are nonterrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality. All AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS) that were previously designated by the State Water Board in Resolution Nos. 74-28, 74-32, and 75-61 are now classified as a subset of State Water Quality Protection Areas and require special protections afforded by the California Ocean Plan.

**TCDD Equivalents**
TCDD Equivalents shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below:

| Isomer Group | Toxicity Equivalence Factor |
|---|---|
| 2,3,7,8-tetra CDD | 1.0 |
| 2,3,7,8-penta CDD | 0.5 |
| 2,3,7,8-hexa CDDs | 0.1 |

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| Isomer Group | Toxicity Equivalence Factor |
|---|---|
| 2,3,7,8-hepta CDD | 0.01 |
| octa CDD | 0.001 |
| 2,3,7,8-tetra CDF | 0.1 |
| 1,2,3,7,8-penta CDF | 0.05 |
| 2,3,4,7,8-penta CDF | 0.5 |
| 2,3,7,8-hexa CDFs | 0.1 |
| 2,3,7,8-hepta CDFs | 0.01 |
| octa CDF | 0.001 |

**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.)

**Waste**
As used in the Ocean Plan, waste includes a Discharger's total discharge, of whatever origin, i.e., gross, not net, discharge.

**Water Quality-Based Effluent Limit (WQBEL)**
A value determined by selecting the most stringent of the effluent limits calculated using all applicable water quality criteria (e.g., aquatic life, human health, and wildlife) for a specific point source to a specific receiving water for a given pollutant.

**Water Quality Criteria**
Comprised of numeric and narrative criteria. Numeric criteria are scientifically derived ambient concentrations developed by USEPA or States for various pollutants of concern to protect human health and aquatic life. Narrative criteria are statements that describe the desired water quality goal.

**Water Quality Standard**
A law or regulation that consists of the beneficial use or uses of a waterbody, the numeric and narrative water quality criteria that are necessary to protect the use or uses of that particular waterbody, and an antidegradation statement.

**Whole Effluent Toxicity (WET)**
The total toxic effect of an effluent measured directly with a toxicity test.

**Zone of Initial Dilution (ZID)**
Zone of Initial Dilution (ZID) means, for purposes of designating monitoring stations, the region within a horizontal distance equal to a specified water depth (usually depth of outfall or average depth of diffuser) from any point of the diffuser or end of the outfall and the water column above and below that region, including the underlying seabed.

**ATTACHMENT B – MAP**


Data Source: SCCRWP/SWRCB dishcarge survey 2000
Map Created October 19, 2005 State Water Resources Control Board

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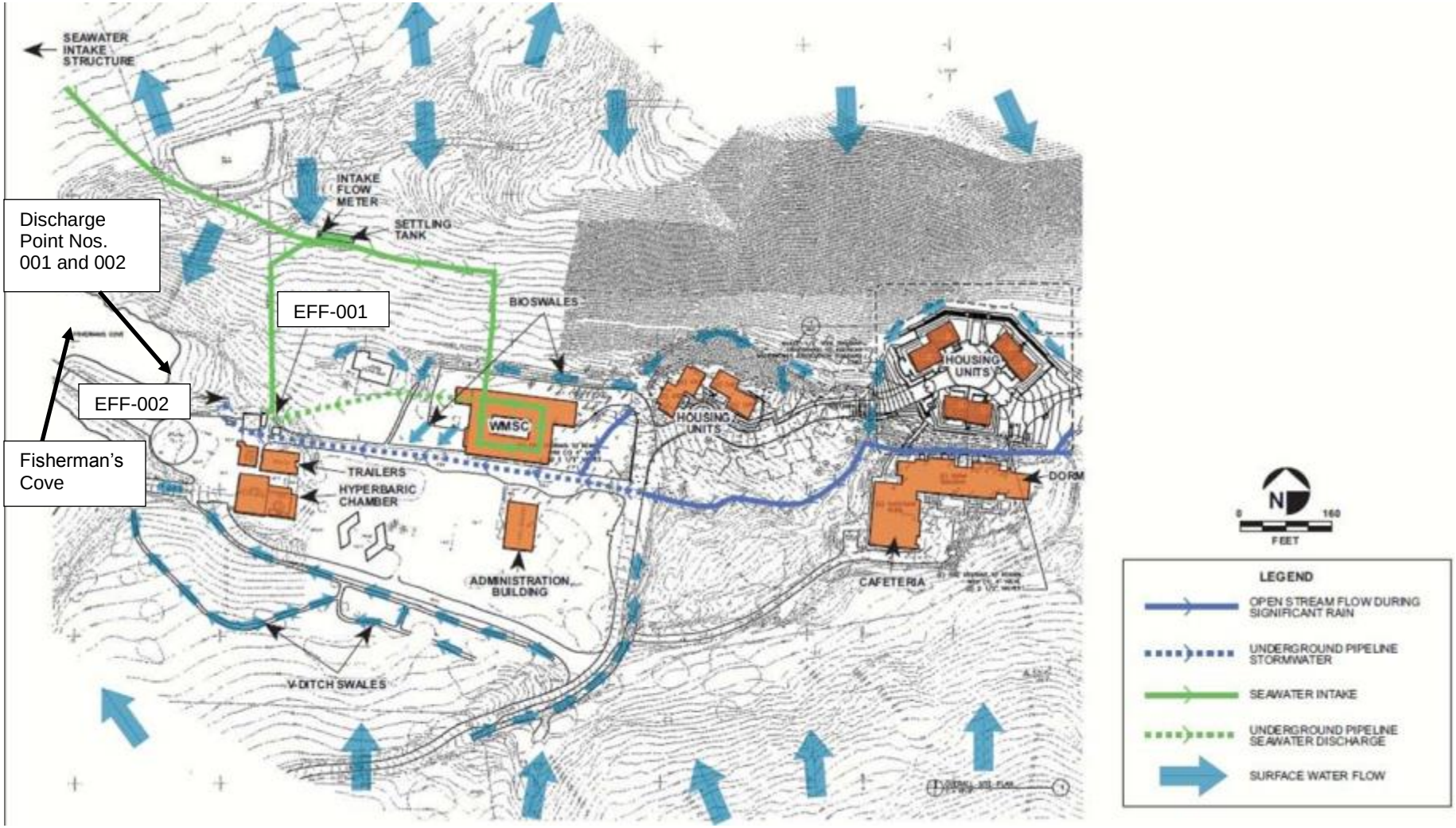
## ATTACHMENT C – FLOW SCHEMATIC




T E N T A T I V E

# ATTACHMENT D – STANDARD PROVISIONS

## I. STANDARD PROVISIONS – PERMIT COMPLIANCE

### A. Duty to Comply

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

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

### B. Need to Halt or Reduce Activity Not a Defense

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

### C. Duty to Mitigate

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

### D. Proper Operation and Maintenance

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

### E. Property Rights

**1.** This Order does not convey any property rights of any sort or any exclusive privileges. (40 CFR section 122.41(g).)

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

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## F. Inspection and Entry

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

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

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

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

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

## G. Bypass

**1.** Definitions

**a.** "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR section 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 CFR section 122.41(m)(1)(ii).)

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

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

**a.** Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR section 122.41(m)(4)(i)(A));

**b.** There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of

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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 CFR section 122.41(m)(4)(i)(B)); and

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

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

**5.** Notice

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

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

## H. Upset

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

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

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

**a.** An upset occurred and that the Discharger can identify the cause(s) of the upset (40 CFR section 122.41(n)(3)(i));

**b.** The permitted facility was, at the time, being properly operated (40 CFR section 122.41(n)(3)(ii));

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

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

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

## II. STANDARD PROVISIONS – PERMIT ACTION

### A. General

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

### B. Duty to Reapply

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

### C. Transfers

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

## III. STANDARD PROVISIONS – MONITORING

**A.** Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 CFR section 122.41(j)(1).)

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

## IV. STANDARD PROVISIONS – RECORDS

**A.** Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Ppart 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 CFR section 122.41(j)(2).)

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**B. Records of monitoring information shall include:**

**1.** The date, exact place, and time of sampling or measurements (40 CFR section 122.41(j)(3)(i));

**2.** The individual(s) who performed the sampling or measurements (40 CFR section 122.41(j)(3)(ii));

**3.** The date(s) analyses were performed (40 CFR section 122.41(j)(3)(iii));

**4.** The individual(s) who performed the analyses (40 CFR section 122.41(j)(3)(iv));

**5.** The analytical techniques or methods used (40 CFR section 122.41(j)(3)(v)); and

**6.** The results of such analyses. (40 CFR section 122.41(j)(3)(vi).)

**C. Claims of confidentiality for the following information will be denied (40 CFR section 122.7(b)):**

**1.** The name and address of any permit applicant or Discharger (40 CFR section 122.7(b)(1)); and

**2.** Permit applications and attachments, permits and effluent data. (40 CFR section 122.7(b)(2).)

## V. STANDARD PROVISIONS – REPORTING

### A. Duty to Provide Information

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

### B. Signatory and Certification Requirements

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

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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 CFR section 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 CFR section 122.22(b)(1));

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

**c.** The written authorization is submitted to the Regional Water Board and State Water Board. (40 CFR section 122.22(b)(3).)

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

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

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

## C. Monitoring Reports

**1.** Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR section 122.22(l)(4).)

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

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

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

## D. Compliance Schedules

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

## E. Twenty-Four Hour Reporting

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

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

**a.** Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR section 122.41(l)(6)(ii)(A).)

**b.** Any upset that exceeds any effluent limitation in this Order. (40 CFR section 122.41(l)(6)(ii)(B).)

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

## F. Planned Changes

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

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

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**2.** 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 CFR section 122.41(l)(1)(ii).)

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

### G. Anticipated Noncompliance

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

### H. Other Noncompliance

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

### I. Other Information

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

## VI. STANDARD PROVISIONS – ENFORCEMENT

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

## 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 CFR section 122.42(a)):

**1.** That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 CFR section 122.42(a)(1)):

**a.** 100 micrograms per liter (µg/L) (40 CFR section 122.42(a)(1)(i));

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**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 CFR section 122.42(a)(1)(ii));

**c.** Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 CFR section 122.42(a)(1)(iii)); or

**d.** The level established by the Regional Water Board in accordance with section 122.44(f). (40 CFR section 122.42(a)(1)(iv).)

**2.** That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 CFR section 122.42(a)(2)):

**a.** 500 micrograms per liter (µg/L) (40 CFR section 122.42(a)(2)(i));

**b.** 1 milligram per liter (mg/L) for antimony (40 CFR section 122.42(a)(2)(ii));

**c.** Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 CFR section 122.42(a)(2)(iii)); or

**d.** The level established by the Regional Water Board in accordance with section 122.44(f). (40 CFR section 122.42(a)(2)(iv).)

**B. Publicly-Owned Treatment Works (POTWs)**

All POTWs shall provide adequate notice to the Regional Water Board of the following (40 CFR section 122.42(b)):

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

**2.** Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 CFR section 122.42(b)(2).)

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

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# ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP NO. 6068)

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## ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

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

### I. GENERAL MONITORING PROVISIONS

**A.** Effluent sampling station shall be established for the points of discharge (Discharge Point Nos. 001 and 002) [Latitude 33° 26' 42" Longitude 118° 29' 0"]) and shall be located where representative samples of that effluent can be obtained.

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

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

**E.** For any analyses performed for which no procedure is specified in the U.S. 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.

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

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

**1.** 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,

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

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

Current MLs (Attachment G) are those published in Appendix II of the Ocean Plan. In addition, samples for metals analyses, waste seawater discharge, storm water effluent samples, reference station samples, and receiving water samples must be analyzed by the approved analytical method with the lowest MDL (currently Inductively Coupled Plasma/Mass Spectrometry) described in the Ocean Plan.

**H.** Where possible, the ML's employed for effluent analyses to determine compliance with effluent limitations shall be lower than the effluent limitations established in this Order for a given parameter as per the sufficiently sensitive regulations at 40 CFR section 122.44(i)(1)(iv). If the ML value is not below the effluent limitation, then the lowest ML value and its associated analytical method shall be selected for compliance purposes. At least once a year, the Discharger shall submit a list of the analytical methods employed for each test and associated laboratory QA/QC procedures.

~~H.~~**I.** Where possible, the ML's employed for effluent analyses not associated with determining compliance with effluent limitations in this Order shall be lower than the lowest applicable water quality objective, for a given parameter as per the sufficiently sensitive regulations at 40 CFR section 122.21(e)(3). Water quality objectives for parameters may be found in Table 1 of the Ocean Plan. If the ML value is not below the water quality objective, then the lowest ML value and its associated analytical method shall be selected for compliance purposes. At least once a year, the Discharger shall submit a list of the analytical methods employed for each test, the associated laboratory QA/QC procedures, reporting levels (RL's), and method detection limits (MDL's).~~Where possible, the MLs employed for effluent analyses shall be lower than the permit limitations established for a given parameter. If the ML value is not below the effluent limitation, then the lowest ML value and its associated analytical method shall be selected for compliance purposes. At least once a year, the Discharger shall submit a list of the analytical methods employed for each test and associated laboratory QA/QC procedures.~~

The Regional Water Board, in consultation with the State Water Board Quality Assurance Program, shall establish a ML that is not contained in Attachment G 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 G;

**2.** When the Discharger and Regional Water Board agree to include in the permit a test method that is more sensitive than that specified in 40 CFR Part~~section~~ 136 (revised May 18, 2012);

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

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

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**5.** When the Discharger uses a method whose quantification practices are not consistent with the definition of an ML. Examples of such methods are the USEPA-approved method 1613 for dioxins and furans, method 1624 for volatile organic substances, and method 1625 for semi-volatile organic substances. In such cases, the Discharger, the Regional Water Board, and the State Water Board shall agree on a lowest quantifiable limit and that limit will substitute for the ML for reporting and compliance determination purposes.

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

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

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

~~L.~~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 are fewer than 20 samples in a batch. A batch is defined as a single analytical run encompassing no more than 24 hours from start to finish. A similar frequency shall be maintained for analyzing spiked samples.

~~M.~~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%.

~~N.~~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, if possible, until compliance with the

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average monthly limit has been demonstrated. All five analytical results shall be reported in the monitoring report for that month, or 45 days after results for the additional samples were received, whichever is later. In the event of noncompliance with an average monthly effluent limitation, the sampling frequency for that constituent shall be increased to weekly and shall continue at this level until compliance with the average monthly effluent limitation has been demonstrated. The Discharger shall provide for the approval of the Executive Officer a program to ensure future compliance with the average monthly limit.

~~O.~~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.

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

## II. MONITORING LOCATIONS

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

**Table E-1. Monitoring Station Locations**

| Discharge Point Name | Monitoring Location Name | Monitoring Location Description |
|---|---|---|
| -- | INF-001 | At the seawater intake structure near the bluff below the University of Southern California, Wrigley Marine Science Center sewage treatment plant spray field. |
| 001 | EFF-001 | Waste seawater effluent prior to discharge to the receiving water. |
| 002 | EFF-002 | Storm water runoff prior to discharge to the receiving water. |
| -- | REF-001 | The reference station in the ocean in the vicinity of Goat Harbor or Italian Gardens near Twin Rocks Point on the northern coast of Santa Catalina Island. |
| -- | RSW-001 | Receiving water immediately seaward of the surf zone in Big Fisherman Cove adjacent to the outfall location. |
| -- | SED-001 | Subtidal sediment near the seawater discharge system and storm water outfall in Big Fisherman Cove. |

## III. INFLUENT MONITORING REQUIREMENTS

### A. Monitoring Location INF-001

The Discharger shall monitor seawater flows into the Facility (intake) at INF-001 as follows:

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**Table E-2. Intake Water Monitoring Requirements - INF-001**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| Total Coliform | CFU/100 mL or MPN/100mL | Grab | 3/Year[1] | [2] |
| Fecal Coliform | CFU/100 mL or MPN/100mL | Grab | 3/Year[1] | [2] |
| *Enterococcus* | CFU/100 mL or MPN/100mL | Grab | 3/Year[1] | [2] |

1. Samples must be collected at the seawater intake structure during three storm events per year that result in runoff from the spray field hillside and measured for Ocean Plan indicator bacteria. The Regional Water Board may eliminate this requirement if changes are made to the Discharger's sewage plant (regulated under Order No. 94-114) or treated sewage effluent system that would absolutely eliminate the possibility of contaminants entering the Area of Special Biological Significance (ASBS).
2. Detection methods used for coliforms (total and fecal) and *Enterococcus* shall be those presented in Table 1A of Part 136, unless alternate methods have been approved in advance by USEPA pursuant to Part 136. See section VI.J (Compliance Determination, Bacterial Standards and Analyses) of the Order for additional specifications.

## IV. EFFLUENT MONITORING REQUIREMENTS

### A. Monitoring Location EFF-001

**1.** The Discharger shall monitor waste seawater discharge effluent at EFF-001 as follows.

**Table E-3. Effluent Monitoring at EFF-001**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| Flow[1] | gpd | Recorder | Continuous | -- |
| Biochemical Oxygen Demand (BOD) 5-day @20°C [4] | mg/L | 24-Hour Composite | 1/Quarter | [3] |
| Oil and Grease [4] | mg/L | Grab | 1/Quarter | [3] |
| Settleable Solids | mL/L | Grab | 1/Quarter | [3] |
| Total Suspended Solids (TSS) [4] | mg/L | 24-Hour Composite | 1/Quarter | [3] |
| Turbidity | NTU | 24-Hour Composite | 1/Quarter | [3] |
| pH | Standard units | Grab | 1/Month[2, 7] | [3] |
| Salinity | ppm | 24-Hour Composite | 2/Year[2, 7] | [3] |
| Temperature | °F | Grab | 1/Month[2, 7] | [3] |
| Chronic Toxicity | Pass or Fail, % Effect | 24-Hour Composite | 1/Quarter[2, 7] | [3, 5] |
| Ammonia (as N) | mg/L | 24-Hour Composite | 2/Year[2, 7] | [3] |
| Total Coliform | CFU/100 mL or MPN/100mL | Grab | 2/Year[6, 7] | [3, 8] |
| Fecal Coliform | CFU/100 mL or MPN/100mL | Grab | 2/Year[6, 7] | [3, 8] |

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| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| Enterococcus | CFU/100 mL or MPN/100mL | Grab | 2/Year[6, 7] | [3, 8] |
| Copper, Total Recoverable4 | µg/L | 24-Hour Composite | 1/Month[7] | [3] |
| Lead, Total Recoverable4 | µg/L | 24-Hour Composite | 1/Quarter[7] | [3] |
| Selenium, Total Recoverable4 | µg/L | 24-Hour Composite | 1/Quarter[7] | [3] |
| Zinc, Total Recoverable4 | µg/L | 24-Hour Composite | 1/Quarter[7] | [3] |
| Remaining Ocean Plan Table 1 Constituents (except acute toxicity)4,10 | µg/L | Grab or24-Hour Composite[9] | 2/Year[2, 7] | [3] |

1. Total daily flow and peak daily flows must be reported quarterly to the Regional Water Board.
2. During the first year (2014) of the permit term, two effluent samples must be collected (at the same time as the reference samples at REF-001), once during dry weather and once during wet weather, (i.e., a storm event). Based on the results from the first year, the Regional Water Board will determine the frequency of sampling (at a minimum, annually during wet weather) and the constituents to be tested during the remainder of the permit cycle, except that ammonia (as N), pH, salinity, and temperature must be tested at least annually. Chronic toxicity (for at least one consistent invertebrate species) must be tested at least annually. (State Water Board Resolution No. 2006-0013, condition 2.l.) After one year of monitoring using the TST approach that consistently demonstrates compliance, the Discharger may request a decrease in the monitoring frequency. The Executive Officer will review the request, determine if the requested changes are appropriate and subsequently issue a response. The approved monitoring frequency shall be at least as stringent as the requirements included in Resolution No. 2006-0013.
3. Pollutants shall be analyzed using the analytical methods described in 40 CFR Partsection 136; where no methods are specified for a given pollutant, by methods approved by the Regional Water Board or State Water Board. For any pollutant whose effluent limitation is lower than all the MLs specified in Appendix II of the Ocean Plan (Attachment G), the analytical method with the lowest ML must be selected. For metal analysis, samples must be analyzed by the approved analytical method with the lowest minimum detection limit.
4. The mass emission (lbs/day) for the discharge shall be calculated and reported using the actual concentration and the actual flow rate measured at the time of discharge, using the following formula.

   M = 8.34 x C x Q

   Where: M = mass discharge for a pollutant, lbs/day
   C = actual concentration for a pollutant, mg/L
   Q = actual discharge flow rate, MGD
5. The Discharger shall conduct whole effluent toxicity monitoring as outlined in section V. The median monthly summary result shall be reported as “Pass” or “Fail”. The Maximum Daily Single Result shall be reported as “Pass or Fail” with a “% Effect”. During calendar months when there is a discharge more than one day, exactly three independent toxicity tests are required when one toxicity test results in “Fail”. The median of three testing results (Fail or Pass) will be used for the determination of compliance with the Median Monthly Effluent Limitation. Please refer to section V.A.8. for the accelerated monitoring schedule.
6. Minimum of five samples, all within any 30-day period, shall be collected once every sampling event. One sampling event shall be conducted in the wet weather and one during the dry weather.
7. At least one sampling event per year must be collected during a wet weather (i.e., a storm event) at the same time as the Reference sampling at REF-001.

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8. Detection methods used for coliforms (total and fecal) and *Enterococcus* shall be those presented in Table 1A of 40 CFR Partsection 136 (revised July 1, 2009), unless alternate methods have been approved by USEPA pursuant to 40 CFR Partsection 136 or improved methods have been determined by the Executive Officer and/or USEPA. See section VI.J (Compliance Determination, Bacterial Standards and Analyses) of the Order for additional specifications.
9. The Discharger shall collect either "grab' or "24 hour composite" samples based on characteristics of each constituent. 40 CFR Part 136 specifies that grab samples must be collected for pH, temperature, dissolved oxygen, chlorine, purgeable organics, sulfides, oil and grease, coliform bacteria and cyanide.
10. Ocean Plan Table 1 constituents as defined by the Ocean Plan, described in section IV.C.3 of the Fact Sheet of this Order.

## B. Monitoring Location EFF-002

**1.** The Discharger shall monitor storm water runoff at EFF-002 as follows.

**Table E-4. Effluent Monitoring at EFF-002**

| Parameter[5] | Units | Sample Type | Minimum Sampling Frequency[5] | Required Analytical Test Method |
|---|---|---|---|---|
| Flow[1] | gpd | Estimated | During Each Discharge Event | -- |
| BOD[2] | mg/L | Grab | 2/Year[3, 7] | [4] |
| Dissolved Oxygen | mg/L | Grab | 2/Year[3, 7] | [4] |
| Oil and Grease[2] | mg/L | Grab | 2/Year[3, 7] | [4] |
| Settleable Solids | mL/L | Grab | 2/Year[3, 7] | [4] |
| TSS[2] | mg/L | Grab | 2/Year[3 ,7] | [4] |
| Turbidity | NTU | Grab | 2/Year[3 ,7] | [4] |
| pH | Standard units | Grab | 2/Year[3, 7] | [4] |
| Chronic Toxicity | Pass or Fail, % Effect | Grab | 2/Year[3, 7] | [4, 6] |
| Total Coliform | CFU/100 mL or MPN/100mL | Grab | 2/Year[3, 7] | [4, 8] |
| Fecal Coliform | CFU/100 mL or MPN/100mL | Grab | 2/Year[3, 7] | [4, 8] |
| *Enterococcus* | CFU/100 mL or MPN/100mL | Grab | 2/Year[3, 7] | [4, 8] |
| Arsenic, Total Recoverable[2] | µg/L | Grab | 1/Month[3, 9] | [4] |
| Beryllium, Total Recoverable[2] | µg/L | Grab | 1/Month[3, 9] | [4] |
| Copper, Total Recoverable[2] | µg/L | Grab | 1/Month[3, 9] | [4] |
| Lead, Total Recoverable[2] | µg/L | Grab | 1/Month[3, 9] | [4] |
| Nickel, Total Recoverable[2] | µg/L | Grab | 1/Month[3, 9] | [4] |
| Zinc, Total Recoverable[2] | µg/L | Grab | 1/Month[3, 9] | [4] |
| TCDD Equivalents [2,10] | µg/L | Grab | 2/Year[3, 7] | [4] |
| Remaining Ocean Plan Table 1 Constituents (except acute toxicity)[2, 11] | µg/L | Grab | 1/Year[3] | [4] |

1. Total daily flow for each storm event must be reported quarterly to the Regional Water Board.

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2. The mass emission (lbs/day) for the discharge shall be calculated and reported using the actual concentration and the actual flow rate estimated at the time of discharge, using the following formula.

   M = 8.34 x C x Q

   Where: M = mass discharge for a pollutant, lbs/day

   C = actual concentration for a pollutant, mg/L

   Q = actual discharge flow rate, MGD

3. Sampling shall be performed during wet-weather, during the first hour of discharge, at the same time as the receiving water sampling at RSW-001, the seawater effluent sampling at EFF-001, and the reference sampling at REF-001. If, for safety reasons, a sample cannot be obtained during the first hour of discharge, a sample shall be obtained at the first safe opportunity, and the reason for the delay shall be included in the report. If there is no discharge to surface waters, then no monitoring is required. In the corresponding monitoring report, the Discharger will indicate under the statement of perjury that no effluent was discharged to surface water during the reporting period.

4. Pollutants shall be analyzed using the analytical methods described in 40 CFR Partsection 136; where no methods are specified for a given pollutant, by methods approved by the Regional Water Board or State Water Board. For any pollutant whose effluent limitation is lower than all the MLs specified in Appendix II of the Ocean Plan (Attachment G), the analytical method with the lowest ML must be selected. For metal analysis, samples must be analyzed by the approved analytical method with the lowest minimum detection limit.

5. Based on the results from the first year (2014), the Regional Water Board shall determine the frequency of sampling and the constituents in the storm water runoff and receiving water to be tested during the remainder of the permit term, except that indicator bacteria and chronic toxicity (three species) for receiving water must be tested annually during a storm event. (State Water Board Resolution No. 2006-0013, condition 2.m.)
   After one year of monitoring using the TST approach that consistently demonstrates compliance, the Discharger may request a decrease in the monitoring frequency. The Executive Officer will review the request, determine if the requested changes are appropriate and subsequently issue a response. The approved monitoring frequency shall be at least as stringent as the requirements included in Resolution No. 2006-0013.

6. The Discharger shall conduct whole effluent toxicity monitoring as outlined below in section V. " The Maximum Daily Single Result shall be reported as "Pass or Fail" with a "% Effect". Sufficient storm water shall be collected in case the TIE is required following a failed initial toxicity test. Please refer to section V.A.10. for the toxicity identification evaluation (TIE) procedure.

7. At a minimum, samples must be collected during two separate wet weather discharge events each year.

8. Detection methods used for coliforms (total and fecal) and *Enterococcus* shall be those presented in Table 1A of 40 CFR Partsection 136, unless alternate methods have been approved in advance by USEPA pursuant to 40 CFR Partsection 136. See section VI.J (Compliance Determination, Bacterial Standards and Analyses) of the Order for additional specifications.

9. The Discharger must sample the first discharge event of every month during which a discharge occurs.

10. TCDD Equivalents shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below. USEPA method 1613 may be used to analyze dioxin and furan congeners.

    Dioxin-TEQ (TCDD Equivalents) = $\Sigma$ ($C_x$ x $TEF_x$)

    Where:

    $C_x$ = concentration of dioxin or furan congener x

    $TEF_x$ = TEF for congener x

**Toxicity Equivalency Factors**

| Isomer Group | Toxicity Equivalency Factor (TEF) |
|---|---|
| 2,3,7,8-tetra CDD | 1.0 |
| 2,3,7,8-penta CDD | 0.5 |

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| Isomer Group | Toxicity Equivalency Factor (TEF) |
|---|---|
| 2,3,7,8-hexa CDDs | 0.1 |
| 2,3,7,8-hepta CDD | 0.01 |
| Octa CDD | 0.001 |
| 2,3,7,8 tetra CDF | 0.1 |
| 1,2,3,7,8 penta CDF | 0.05 |
| 2,3,4,7,8 penta CDF | 0.5 |
| 2,3,7,8 hexa CDFs | 0.1 |
| 2,3,7,8 hepta CDFs | 0.01 |

[11.] Ocean Plan Table 1 Constituents as defined by the Ocean Plan, described in section IV.C.3 of the Fact Sheet of this Order.

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## V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

### A. Chronic Toxicity Testing

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

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

#### 2. Sample Volume and Holding Time

The total sample volume shall be determined by the specific toxicity test method used. Sufficient sample volume shall be collected to perform the required toxicity test. For the storm water and the receiving water, sufficient sample volume shall also be collected for subsequent TIE studies, if necessary, at each sampling event. All toxicity tests shall be conducted as soon as possible following sample collection. No more than 36 hours shall elapse before the conclusion of sample collection and test initiation**.**

#### 3. Chronic 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.

**a.** A static renewal toxicity test with the topsmelt, *Atherinops affinis* (Larval Survival and Growth Test Method 1006.01[1]).

**b.** A static non-renewal toxicity test with the purple sea urchin, *Strongylocentrotus purpuratus*, and 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).

**c.** A static non-renewal toxicity test with the giant kelp, *Macrocystis pyrifera* (Germination and Growth Test Method 1009.0).

**4. Chronic Freshwater Species and Test Methods**

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

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

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

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

**5. Species Sensitivity Screening**

Species sensitivity screening shall be conducted during this permit's first required sample collection. 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. This sample shall also be analyzed for the parameters required for the discharge. The species that exhibits the highest "Percent Effect" at the discharge IWC during species sensitivity screening shall be used for routine monitoring during the permit cycle.

**6. Quality Assurance and Additional Requirements**

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

**a.** The discharge is subject to determination of "Pass" or "Fail" and "Percent Effect" from a single-effluent concentration chronic toxicity test at the discharge IWC using the Test of Significant Toxicity (TST) 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 ($H_o$) for the TST approach is: Mean discharge IWC response ≤0.75 × Mean control response. A test result that rejects this null hypothesis is reported as "Pass". A test result that does not reject this null hypothesis is reported as "Fail". The relative "Percent Effect" at the discharge IWC is defined and reported as: ((Mean control response – Mean discharge IWC response) ÷ Mean control response)) × 100.

**b.** The Median Monthly Effluent Limit (MMEL) for chronic toxicity only applies when there is a discharge more than one day in a calendar month period. During such calendar months, exactly three independent toxicity tests are required when one toxicity test results in "Fail". This requirement is not applicable to the industrial storm water discharge.

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**c.** If the effluent toxicity test does not meet all test acceptability criteria (TAC) specified in the referenced test method, then the Discharger must re-sample and re-test within 14 days. For the industrial storm water discharge, the Discharger must re-sample and re-test as soon as possible.

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

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

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

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

**7. Preparation of Initial Investigation TRE Work Plan**

The Discharger shall prepare 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:

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

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

**c.** 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).

***Sections 8 and 9 are applicable to non-storm water (waste seawater) discharges:***

**8. 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 result in "Pass", the

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Discharger shall return to routine monitoring for the next monitoring period. If one of the accelerated toxicity tests result in "Fail", the Discharger shall immediately implement the Toxicity Reduction Evaluation (TRE) Process conditions set forth below.

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

**a. Preparation and Implementation of Detailed TRE Work Plan.** The Discharger shall immediately initiate a TRE using, according to the type of treatment facility, EPA manual *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) and—within 30 days—submit to the Executive Officer a Detailed TRE Work Plan, which shall follow the generic Initial Investigation TRE Work Plan revised as appropriate for this toxicity event. It shall include the following information, and comply with additional conditions set by the Executive Officer:

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

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

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

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

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

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

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

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***The following section (Sections 10) is applicable to industrial storm water discharges:***

**10. Toxicity Identification Evaluation and Toxicity Reduction Evaluation Process**

**a. Toxicity Identification Evaluation (TIE).** A toxicity test sample is immediately subject to TIE procedures to identify the toxic chemical(s), if a chronic toxicity test shows "Fail and % Effect value ≥50". The Discharger shall initiate a TIE using, 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.

**b. Toxicity Reduction Evaluation (TRE).** When a toxicant or class of toxicants is identified, a TRE shall be performed for that toxicant. The TRE shall include all reasonable steps to identify the source(s) of toxicity and discuss appropriate BMPs to eliminate the causes of toxicity. No later than 30 days after the source of toxicity and appropriate BMPs and/or treatment are identified, the Discharger shall submit a TRE Corrective Action Plan to the Executive Officer for approval. At minimum, the plan shall include:

**i.** The potential sources of pollutant(s) causing toxicity.

**ii.** Recommended BMPs and/or treatment to reduce the pollutant(s) causing toxicity.

**iii.** Follow-up monitoring to demonstrate that toxicity has been removed.

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

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

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

**d.** The Discharger shall conduct routine effluent monitoring for the duration of the TIE/TRE process.

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

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### 11. Reporting

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

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

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

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

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

## VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

## VII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER

### A. Monitoring Location REF-001 (Reference Station)

**1.** The Discharger shall monitor the Natural Water Quality Reference Station REF-001 as follows.

**Table E-5. Receiving Water Monitoring Requirements at REF-001 (Reference Station)**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| Ammonia (as N) | mg/L | Grab | 2/Year[1, 2] | [3] |
| pH | Standard units | Grab | 2/Year[1, 2] | [3] |
| Salinity | ppm | Grab | 2/Year[1, 2] | [3] |
| Temperature | °F | Grab | 2/Year[1, 2] | [3] |
| Total Coliform | CFU/100 mL or MPN/100mL | Grab | 2/Year[1, 2] | [3, 4] |
| Fecal Coliform | CFU/100 mL or MPN/100mL | Grab | 2/Year[1, 2] | [3, 4] |
| *Enterococcus* | CFU/100 mL or MPN/100mL | Grab | 2/Year[1, 2] | [3, 4] |
| Ocean Plan Table 1 Constituents (except acute and chronic toxicity)[5] | µg/L | Grab | 2/Year[1, 2] | [3] |

1. During the first year (2014) of the permit term, two samples must be collected (once during dry weather and once during wet weather, i.e., a storm event), at the same time as seawater at EFF-001, storm water at EFF-002, and receiving water samples at RSW-001. Based on the results from the first year, the Regional Water Board will determine the frequency of sampling (at a minimum, annually during wet weather) and the constituents to be tested during the remainder of the permit cycle, except that ammonia (as N), pH, salinity, and temperature must be tested at least annually. (State Water Board Resolution 2006-0013, condition 2.l.)
After one year of monitoring using the TST approach that consistently demonstrates compliance, the

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Discharger may request a decrease in the monitoring frequency. The Executive Officer will review the request, determine if the requested changes are appropriate and subsequently issue a response. The approved monitoring frequency shall be at least as stringent as the requirements included in Resolution No. 2006-0013.

2. Wet weather samples at the reference station may be collected immediately following a storm event, but in no case more than 24 hours after, if sampling conditions are unsafe during the storm.
3. Pollutants shall be analyzed using the analytical methods described in Part 136; for priority pollutants the methods must meet the lowest MLs specified in Appendix II of the Ocean Plan (Attachment G) that is required to demonstrate compliance. Where no methods are specified for a given pollutant, the methods must be approved by this Regional Water Board or the State Water Board. For metals analysis, samples must be analyzed by the approved analytical method with the lowest minimum detection limits.
4. Detection methods used for coliforms (total and fecal) and *Enterococcus* shall be those presented in Table 1A of 40 CFR Part 136, unless alternate methods have been approved in advance by USEPA pursuant to Part 136. See section VI.J (Compliance Determination, Bacterial Standards and Analyses) of the Order for additional specifications.
5. Ocean Plan Table 1 Constituents as defined by the Ocean Plan, described in section IV.C.3 of the Fact Sheet of this Order.

## B. Monitoring Location RSW-001 (Receiving Water Station)

**1.** The Discharger shall monitor receiving water in Big Fisherman Cove at RSW-001 as follows.

**Table E-6. Receiving Water Monitoring Requirements at RSW-001 (Receiving Water Station)**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| Dissolved Oxygen | mg/L | Grab | 1/Year[1, 2] | [2] |
| Turbidity | NTU | Grab | 1/Year[1, 2] | [2] |
| Chronic Toxicity | TUc | Grab | 1/Year[1] | [2, 3] |
| Total Coliform | CFU/100 mL or MPN/100mL | Grab | 1/Year[1] | [2, 4] |
| Fecal Coliform | CFU/100 mL or MPN/100mL | Grab | 1/Year[1] | [2, 4] |
| *Enterococcus* | CFU/100 mL or MPN/100mL | Grab | 1/Year[1] | [2, 4] |
| Ocean Plan Table 1 Constituents(except acute toxicity) [5] | µg/L | Grab | 1/Year[1, 2] | [2] |

1. Sampling shall be performed during wet-weather, at the same time as the seawater effluent at EFF-001, the storm water effluent at EFF-002, and the reference sampling at REF-001. Receiving water samples may be collected immediately following a storm event, but in no case more than 24 hours after, if sampling conditions are unsafe during the storm. Based on the first year sample results, the Regional Water Board will determine specific constituents in the storm water runoff and the receiving water to be tested during the remainder of the permit cycle, except that indicator bacteria and chronic toxicity (three species) for receiving water must be tested annually during a storm event. (State Water Board Resolution 2006-0013, condition 2.m.)
   After one year of monitoring using the TST approach that consistently demonstrates compliance, the Discharger may request a decrease in the monitoring frequency. The Executive Officer will review the request, determine if the requested changes are appropriate and subsequently issue a response. The approved monitoring frequency shall be at least as stringent as the requirements included in Resolution No. 2006-0013.
2. Pollutants shall be analyzed using the analytical methods described in Part 136; for priority pollutants the methods must meet the lowest MLs specified in Appendix II of the Ocean Plan (Attachment G) that is required to demonstrate compliance. Where no methods are specified for a given pollutant, the methods

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must be approved by this Regional Water Board or the State Water Board. For metals analysis, samples must be analyzed by the approved analytical method with the lowest minimum detection limits.

3. The Discharger shall conduct whole effluent toxicity monitoring as outlined in section V. As previously noted, for industrial storm water effluent samples and receiving water samples the total sample volume shall be determined both by the specific toxicity test method used and the additional volume necessary for TIE studies. Sufficient sample volume shall be collected to perform both the required toxicity tests and TIE studies. If an industrial storm water effluent sample or a receiving water sample chronic toxicity test shows "Fail and % Effect value ≥ 50", the Discharger shall conduct TIE studies (e.g., Phase I) on the additional sample volume collected for the toxicity test.

4. Detection methods used for coliforms (total and fecal) and *Enterococcus* shall be those presented in Table 1A of 40 CFR Part 136, unless alternate methods have been approved in advance by USEPA pursuant to Part 136. See section VI.J (Compliance Determination, Bacterial Standards and Analyses) of the Order for additional specifications.

5. Ocean Plan Table 1 Constituents as defined by the Ocean Plan, described in section IV.C.3 of the Fact Sheet of this Order.

## VIII. OTHER MONITORING REQUIREMENTS

### A. Subtidal Sediment Monitoring Location SED-001

**1.** The Discharger shall monitor subtidal sediment in Big Fisherman Cove at SED-001 as follows:

**Table E-7. Subtidal Sediment Monitoring Location SED-001**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| Acute Toxicity | TUa | Grab[1] | 1/Year[2] | [3, 4] |
| Ocean Plan Table 1 Constituents (except chronic toxicity)[5] | µg/L | Grab[1] | 1/Year[2] | [4] |

1. Samples collected for testing should be consistent with the sampling procedure outlined in section VIII, *Benthic Sampling of the Southern California Bight 2008 Regional Marine Monitoring Survey (Bight '08) Field Operations Manual.*

2. As required by Special Provision VI.C.2.e. of this Order, once annually, the Discharger is required to collect samples of the subtidal sediment (near the seawater discharge system and storm water outfall in Big Fisherman Cove) and analyze the samples for Ocean Plan Table 1 constituents. Based on the results from the first year, the Regional Water Board shall determine the frequency of sampling and the constituents to be tested during the remainder of the permit term, except that acute toxicity for sediment shall be tested annually. (State Water Board Resolution 2006-0013, condition 2.n.)

3. The presence of sediment toxicity shall be estimated as specified in USEPA's *Methods for Assessing the Toxicity of Sediment-Associated Contaminants with Estuarine and Marine Amphipods* (USEPA Report 600/R-94/025, June 1994), using the amphipod *Eohaustorius estuarius*.

4. All samples will be tested in accordance with USEPA or American Society for Testing and Materials (ASTM) methodologies where such methods exist. Where no USEPA or ASTM methods exist, the State Water Board or Regional Water Board shall approve the use of other methods. Analytical tests shall be conducted by laboratories certified by the California Department of Health Services in accordance with Water Code section 13176.

5. Ocean Plan Table 1 Constituents as defined by the Ocean Plan, described in section IV.C.3 of the Fact Sheet of this Order.

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### B. Benthic Marine Life Survey

Within six months before the end of the permit (permit expiration), the Discharge must submit the results of the quantitative survey of benthic marine life to the Regional Water Board. Upon review of study results, the Regional Water Board, in consultation with the State Water Boards Division of Water Quality, may adjust the study design for future permits or add additional test organisms. (State Water Board Resolution No. 2006-0013, condition 2.j)

### C. Metals Bioaccumulation Study

The Discharger must conduct a bioaccumulation study using mussels (*Mytilus californianus*) to determine the concentration of metals near field (within Big Fisherman Cove) and far field (at the reference station). The results of the survey must be submitted to the Regional Water Board at least six months prior to the end of the permit (permit expiration). Upon review of study results, the Regional Water Board, in consultation with the State Water Boards Division of Water Quality, may adjust the study design for future permits or add additional test organisms. (State Water Board Resolution No. 2006-0013, condition 2.k)

### D. Regional ASBS Monitoring

Participation in a collaborative or statewide ASBS monitoring effort is encouraged. After the first year of monitoring results are reviewed, the Regional Water Board, in consultation with the State Water Board's Division of Water Quality, may adjust the sediment, receiving water, and bioaccumulation monitoring required under this Order based on the Facility's participation in an appropriate regional or statewide monitoring program.

## IX. 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.

### B. Self Monitoring Reports (SMR’s)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board’s California Integrated Water Quality System (CIWQS) Program Web site

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(http://www.waterboards.ca.gov/ciwqs/index.html). The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

Until such notification is given, the Discharger shall submit SMRs that are less than 10 MB by email to losangeles@waterboards.ca.gov. Documents that are 10 MB or larger should be transferred to disk and mailed to:

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

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

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

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

| Sampling Frequency | Monitoring Period Begins On… | Monitoring Period | SMR Due Date |
|---|---|---|---|
| Continuous | December 26, 2013 | All | Submit with quarterly SMR |
| 1/Month | December 26, 2013 | 1st day of calendar month through last day of calendar month | Submit with quarterly SMR |
| 1/Quarter or 5/Quarter | January 1, 2014 | January 1 through March 31<br>April 1 – June 30<br>July 1 – September 30<br>October 1 – December 31 | May 1<br>August 1<br>November 1<br>February 1 |
| 3/Year During Storm Event | January 1, 2014 | January 1 through March 31<br>April 1 – June 30<br>July 1 – September 30<br>October 1 – December 31 | May 1<br>August 1<br>November 1<br>February 1 |
| 2/Year | January 1, 2014 | January 1 through March 31<br>April 1 – June 30<br>July 1 – September 30<br>October 1 – December 31 | May 1<br>August 1<br>November 1<br>February 1 |
| 1/Year | January 1, 2014 | January 1 through December 31 | February 1 |

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

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

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**b.** Sample results less than the reported ML, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported. For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc.").

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

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

**5.** Compliance Determination. Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined above and 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 RL.

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

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

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

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

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

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

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must include a description of the requirement that was violated and a description of the violation.

### C. Other Reports

**1.** The Discharger shall report the results of any special studies, acute toxicity testing, chronic toxicity testing, TRE/TIE, and SWMP required by Special Provisions – V.C.2 and 3 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 required by Special Provisions of this Order to the Regional Water Board:

**a.** An Initial Investigation TRE workplan.

**b.** An updated SWMP

**c.** An updated waterfront and marine operations nonpoint source management plan

**3.** Within one year of the effective date of this permit, the Discharger is required to submit the following required by Special Provisions of this Order to the Regional Water Board:

**a.** A Benthic Marine Life Survey Design

**b.** A Metals Bioaccumulation Study Design

**c.** A Program for Prevention of Biological Pollutants

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# ATTACHMENT F – FACT SHEET

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**Tables**

## ATTACHMENT F – FACT SHEET

As described in section I, the Los Angeles Regional Water Quality Control Board (Regional Water Board) incorporates this Fact Sheet as findings of the Regional Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

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

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## I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility

**Table F-1. Facility Information**

| | |
|---|---|
| **WDID** | 4B191035002 |
| **Discharger** | University of Southern California |
| **Name of Facility** | Wrigley Marine Science Center, Avalon |
| **Facility Address** | No. 1 Big Fisherman Cove, Catalina Island |
| | Avalon, CA 90704 |
| | Los Angeles County |
| **Facility Contact, Title and Phone** | Dr. Roberta L. Marinelli, Director, (213) 740-67204086 |
| **Authorized Person to Sign and Submit Reports** | Dr. Roberta L. Marinelli, Director, (213) 740-67204086 |
| **Mailing Address** | 3616 Trousdale Parkway, AHF 410<br>Los Angeles, CA 90089 |
| **Billing Address** | SAME |
| **Type of Facility** | Marine Research and Education Center |
| **Major or Minor Facility** | Minor |
| **Threat to Water Quality** | 3 |
| **Complexity** | C |
| **Pretreatment Program** | N |
| **Recycling Requirements** | N/A |
| **Facility Permitted Flow** | Discharge Point No. 001 - 0.36018 million gallons per day (MGD)<br>Discharge Point No. 002 – 0.61 MGD (10-year 24 hour storm event) |
| **Facility Design Flow** | Discharge Point No. 001 - 0.36018 MGD (Intake Pump Capacity)<br>Discharge Point No. 002 – Not Applicable |
| **Watershed** | Pacific Ocean |
| **Receiving Water** | Pacific Ocean |
| **Receiving Water Type** | Ocean Waters |

**A.** The University of Southern California (hereinafter Discharger) is the owner and operator of the Wrigley Marine Science Center (hereinafter Facility), a marine aquarium and education facility.

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

**B.** The Facility discharges wastewater to the Pacific Ocean, a water of the United States. The Discharger was previously regulated by Order No. R4-2008-0017 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0056651 adopted on April 3, 2008. The permit expired on March 3, 2013; however, as per 40 CFR section 122 the permit has been administratively extended until the Board takes action on this item. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility

Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Resources Control Board (State Water Board), Division of Water Rights, and receive approval for such a change. The State Water Board retains the jurisdictional authority to enforce such requirements under Water Code section 1211.

**C.** The California Ocean Plan prohibits waste discharges to Areas of Special Biological Significance (ASBS). The Discharger applied for an exception to the California Ocean Plan prohibition. An Initial Study and Mitigated Negative Declaration (IS/MND) was circulated for public review, and on February 15, 2006, the State Water Board approved this Exception and the Mitigated Negative Declaration through Resolution No. 2006-0013, provided as Attachment H. The Initial Study and Mitigated Negative Declaration is included as Attachment J. The exception is conditional on several items that must be incorporated into the Discharger's NPDES permit. This Order implements the conditions contained in Resolution 2006-0013.

**D.** The Discharger filed a Report of Waste Discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on October 29, 2012. Supplemental information was requested and the application was deemed complete on July 12, 2013.

**E.** On November 7, 2013, the Regional Water Board adopted Order R4-2013-0172 for the Facility, which became effective on December 26, 2013.

**F.** The discharge flow limit for Discharge Point No. 001 of 0.180 MGD in Order R4-2013-0172 was the same discharge flow limit established in the prior permit (Order R4-2008-0017). This discharge flow limit was based on the maximum pumping rate of the seawater intake pumps. There was no requirement to measure flow in Order R4-2008-0017, so actual flows were estimated based on the intake pumping rate. Order R4-2013-0172 requires continuous flow monitoring at EFF-001 for Discharge Point No. 001. In response to this requirement, the Discharger installed a Hach/American Sigma 950 bubbler continuous flow meter at the Facility on January 14, 2014. During the initial flow monitoring, the Discharger observed that several readings of the new flow meter were unstable. This instability prompted trouble-shooting of the flow meter and associated plumbing, the addition of a second confirmation flow meter for comparison of accuracy and drift, and corresponding "bucket tests" to compare the measured continuous flow versus manually timed, fixed volume bucket grabs at the end of pipe. Due to the significant number of variables that could influence the measured flow, several months of data were required to evaluate the flow and to tune the flow meter and flow sensor for greater accuracy. Finally, the repairs and recalibration performed in April 2015 appear to have stabilized subsequent readings for the second quarter 2015. The highest daily average continuous flow to date occurred on June 19, 2014, and was measured as 0.357 MGD. Based on data collected since January 2014, on September 11, 2015, the Discharger submitted a letter along with a

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revised Report of Waste Discharge (ROWD) to the Regional Water Board requesting an increase of the discharge flow limit at EFF-001 from 0.180 MGD to 0.360 MGD.

~~D.~~G. Order R4-2013-0172 is being amended to increase the discharge flow limit from 0.180 MGD to 0.360 MGD at Discharge Point No. 001 to reflect actual flow conditions at the Facility. Modification to Order R4-2013-0172 is authorized pursuant to 40 CFR section 122.62(a)(2) based on the receipt of new information.

## II. FACILITY DESCRIPTION

The University of Southern California (USC) operates the Wrigley Marine Science Center (Facility) for marine research and educational activities at Big Fisherman Cove, on the northern end of Santa Catalina Island, Los Angeles County, California. The Facility is located near Two Harbors on Catalina Island, in a remote area of the Island. The Facility was established in 1965 and the majority of the existing buildings and structures were constructed between 1966 and 1972. The Facility includes laboratories, dormitories, a cafeteria, office trailers, and a set of waterfront buildings. Scientists and educators primarily from the University of Southern California, the University of California, and the California State University system use the Facility for research. In addition, the Facility operates public outreach programs for students.

An intake system delivers seawater to the laboratories and waterfront area. Seawater is pumped from a sub-marine intake into laboratory aquaria. ~~The seawater delivery system is a continuous-flow system with a designed pump rate of 0.180 million gallons per day (MGD).~~ Intake water is used in the laboratory and in the large holding tanks and experimental aquaria which are located on the waterfront. The intake water is passed through a macro-screen, which is used to prevent the intake of kelp. The intake water does not receive additional treatment prior to use. Intake water is pumped to a 15,000-gallon holding tank for storage. Water gravity flows from the holding tank to the laboratory and aquaria.

The Facility's seawater intake structure is located at Blue Cavern Point. It consists of two 6-inch polyvinyl chloride (PVC) pipes submerged 15 feet below the water surface and about 50 feet offshore.

The Discharger operates the wastewater treatment plant for the Facility, which disposes of effluent through spray irrigation on site. The wastewater treatment plant is not regulated by this Order, rather it is regulated by Waste Discharge Requirements contained in Order No. 94-114.

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

The waste seawater discharge is composed of once-through seawater that has supplied the laboratory and aquaria for purposes of maintaining marine animals and plants. The seawater is not heated, cooled, filtered, or treated. All of the once-through seawater used in various parts of the Facility are brought together and commingled at the waterfront and discharged at the beach on the north side of Big Fisherman Cove. The total waste seawater flow, as measured at Discharge Point No. 001~~estimated by intake pump capacity~~, is up to 0.360~~18~~ MGD.

Storm water runoff from approximately 45 acres is discharged at the beach, through a separate pipe adjacent to the waste seawater discharge. While no treatment is provided for storm water, the runoff from smaller precipitation events infiltrates into vegetated swales. Areas of the Facility contributing to storm water runoff include the waterfront area, a small portion of the laboratory building area, the main storm water culvert that drains a watershed area with abandoned silver mines, and an unpaved storage area, where decommissioned laboratory and marine equipment

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and construction wastes are stored. The estimated storm water runoff based on a 10-year 24 hour storm event is 0.61 MGD. All other waste waters from the Facility are discharged to the community sewer system.

At the time of issuance of Order No. R4-2008-0017, the Discharger had just segregated storm water and non-storm water sources that were previously commingled. As a result of the modifications, waste seawater and storm water are currently discharged through two separate pipes, located adjacent to each other. The discharges do not commingle until reaching the shore of the receiving water. The discharges are monitored separately in the previous Order as EFF-001 (waste seawater) and EFF-002 (storm water runoff). To reflect the separate sources and distinct discharge points, this Order designates discharge of waste seawater as Discharge Point No. 001 and the storm water runoff as Discharge Point No. 002.

According to the Discharger's Storm Water Management Plan (SWMP), the Discharger implements best management practices (BMPs) to control pollutants in the storm water runoff as follows:

- Structural BMPs consisting of permeable roadways, pavers, use of infiltration bioswales, landscaping with low water and indigenous plantings, segregation and compartmentalization within waste and hazardous materials storage areas.
- Non-structural BMPs including storm drain labeling, community environmental awareness, visual inspections to detect illicit discharges, surveying and mapping of storm water conveyances,
- Construction site BMPs, including requirements for 1) construction site operators to implement appropriate storm water quality control BMPs; 2) construction site operators to prevent construction materials and wastes from causing adverse impacts to storm water quality; 3) procedures for site plan review to incorporate consideration of potential storm water quality impacts, and 4) procedures for site inspection and enforcement of control measures.

## B. Discharge Points and Receiving Waters

Within Order No. R4-2008-0017, the waste seawater and storm water runoff discharges are designated as a single discharge point (Discharge Point No. 001) located on the beach of Fisherman's Cove at latitude 33° 26' 42" and longitude 118° 29' 00". After the Facility's modification, the two discharge sources do not commingle until they reach the shoreline of the receiving water and are more appropriately regulated as separate discharge points; therefore, within this Order, the waste seawater discharge is designated as Discharge Point No. 001 and the storm water runoff is designated Discharge Point No. 002.

The receiving water for the ocean discharge was designated by the State Water Board as the Northwest Santa Catalina Island ASBS No. 25 on March 21, 1974 through Resolution No. 74-28.

Within Resolution No. 74-28, the State Water Board defined ASBS No. 25,

> "*From Point 1 determined by the intersection of the mean high tide line and a line extending due west from USGS Triangulation Station "Channel" on Blue Cavern Point: thence due north to the 300-foot isobath or to one nautical mile offshore, whichever distance is greater; thence northerly and westerly, following the 300-foot isobath maintaining a distance of one nautical mile offshore, whichever is the greater distance, around the northwestern tip of the island and then southerly and easterly, maintaining the distance offshore described above,*

*to a point due south of USGS Triangulation Station "Cone" on Catalina Head; thence due north to the intersection of the mean high tide line and a line extending due south from USGS Triangulation Station "Cone," thence returning around the northwestern tip of the island following the mean high tide line to Point 1."*

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

Effluent limitations contained in the previous~~d~~ Order for discharges from Discharge Point No. 001 (Monitoring Locations EFF-001 and EFF-002) and representative monitoring data from the term of the previous Order are as follows:

**Table F-2a. Historic Effluent Limitations and Monitoring Data at EFF-001 (Seawater)**

| Parameter | Units | Effluent Limitation | | | | Monitoring Data (From May 2008 – To Dec. 2012) | | |
|---|---|---|---|---|---|---|---|---|
| | | Six Month Median | Average Monthly | Maximum Daily | Instantaneous Maximum | Highest Average Monthly Discharge | Highest Average Weekly Discharge | Highest Daily Discharge |
| Biochemical Oxygen Demand (BOD) (5-day @ 20°C | mg/L | -- | 20 | 60 | -- | 1.1[1] | -- | 1.1[1] |
| | lbs/day | -- | 36 | 108 | -- | NR | -- | NR |
| Oil and Grease | mg/L | -- | 10 | 15 | -- | < 1.3 | -- | 1.9[1] |
| | lbs/day | -- | 18 | 27 | -- | NR | -- | NR |
| Total Suspended Solids (TSS) | mg/L | -- | 50 | 150 | -- | 22 | -- | 22 |
| | lbs/day | -- | 90 | 270 | -- | NR | -- | NR |
| Settleable Solids | mL/L | -- | 1.0<br>1.5 [3] | -- | 3.0 | < 0.1 | < 0.1 | < 0.1 |
| Turbidity | NTU | -- | 50 | 150 | -- | 9 | -- | 18 |
| pH | s.u. | 6.0-9.0[2] | | | | -- | -- | 6.21-8.22[2] |
| Temperature | °F | -- | -- | -- | 86 | -- | -- | 72.1 |
| Acute Toxicity | TUa | 0.3 (only as a trigger for accelerated monitoring) | | | | -- | -- | 0.85[4] |
| Chronic Toxicity | TUc | 1.0 (only as a trigger for accelerated monitoring) | | | | -- | -- | >4 |
| Antimony, Total Recoverable | µg/L | -- | -- | -- | -- | 0.16 | -- | 0.16 |
| | lbs/day | -- | -- | -- | -- | NR | -- | NR |
| Arsenic, Total Recoverable | µg/L | -- | -- | -- | -- | 1.1 | -- | 1.1 |
| | lbs/day | -- | -- | -- | -- | NR | -- | NR |
| Cadmium, Total Recoverable | µg/L | -- | -- | -- | -- | 0.023 | -- | 0.023 |
| | lbs/day | -- | -- | -- | -- | NR | -- | NR |
| Chromium III, Total Recoverable | µg/L | -- | -- | -- | -- | 0.3 | -- | 0.3 |
| | lbs/day | -- | -- | -- | -- | NR | -- | NR |
| Chromium VI, Total Recoverable | µg/L | -- | -- | -- | -- | 0.39 | -- | 0.39 |
| | lbs/day | -- | -- | -- | -- | NR | -- | NR |

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| Parameter | Units | Effluent Limitation | | | | Monitoring Data (From May 2008 – To Dec. 2012) | | |
|---|---|---|---|---|---|---|---|---|
| | | Six Month Median | Average Monthly | Maximum Daily | Instantaneous Maximum | Highest Average Monthly Discharge | Highest Average Weekly Discharge | Highest Daily Discharge |
| Copper, Total Recoverable | µg/L | -- | -- | -- | -- | 1.3 | -- | 1.3 |
| | lbs/day | -- | -- | -- | -- | NR | -- | NR |
| Lead, Total Recoverable | µg/L | 2 | -- | 8 | 20 | 139 | -- | 139 |
| | lbs/day | 0.0036 | -- | 0.014 | 0.036 | NR | -- | NR |
| Mercury, Total Recoverable | µg/L | -- | -- | -- | -- | 0.00056 | -- | 0.00056 |
| | lbs/day | -- | -- | -- | -- | NR | -- | NR |
| Nickel, Total Recoverable | µg/L | -- | -- | -- | -- | 0.64 | -- | 0.64 |
| | lbs/day | -- | -- | -- | -- | NR | -- | NR |
| Selenium, Total Recoverable | µg/L | 15 | -- | 60 | 150 | 457 | -- | 457 |
| | lbs/day | 0.027 | -- | 0.108 | 0.27 | NR | -- | NR |
| Thallium, Total Recoverable | µg/L | 15 | -- | -- | -- | 0.015 | -- | 0.015 |
| | lbs/day | 0.027 | -- | -- | -- | NR | -- | NR |
| Zinc, Total Recoverable | µg/L | 20 | -- | 80 | 200 | 47 | -- | 47 |
| | lbs/day | 0.036 | -- | 0.144 | 0.36 | NR | -- | NR |

1. Estimated concentration. The result was measured at a concentration that was greater than the Method Detection Limit (MDL) and less than the Minimum Level (ML).
2. Range
3. Average weekly limitation.
4. The test result was suspicious because the lab noted a similar die-off in fish upon receipt and during the same 48-hour time-frame where mortality was noted in the test. A re-test confirmed no effect in the sample with 96% survival achieved.

**Table F-2b. Historic Effluent Limitations and Monitoring Data at EFF 002 (Storm Water)**

| Parameter | Units | Effluent Limitation[1] | | | | Monitoring Data (From May 2011 – To Dec. 2012) | | |
|---|---|---|---|---|---|---|---|---|
| | | Six Month Median | Average Monthly | Maximum Daily | Instantaneous Maximum | Highest Average Monthly Discharge | Highest 6-Month Median Discharge | Highest Daily Discharge |
| Turbidity | NTU | -- | -- | -- | -- | 220 | -- | 220 |
| Acute Toxicity | TUa | -- | -- | -- | -- | -- | -- | 0.53 |
| Chronic Toxicity | TUc | -- | -- | -- | -- | -- | -- | >4 |
| Ammonia | µg/L | -- | -- | -- | -- | 150 | -- | 150 |
| Arsenic, Total Recoverable | µg/L | -- | -- | -- | -- | 1.9 | -- | 1.9 |
| | lbs/day | -- | -- | -- | -- | NR | -- | NR |
| Beryllium, Total Recoverable | µg/L | -- | -- | -- | -- | 0.25 | -- | 0.25 |
| | lbs/day | -- | -- | -- | -- | NR | -- | NR |

| Parameter | Units | Effluent Limitation[1] | | | | Monitoring Data (From May 2011 – To Dec. 2012) | | |
|---|---|---|---|---|---|---|---|---|
| | | Six Month Median | Average Monthly | Maximum Daily | Instantaneous Maximum | Highest Average Monthly Discharge | Highest 6-Month Median Discharge | Highest Daily Discharge |
| Cadmium, Total Recoverable | µg/L | -- | -- | -- | -- | 0.18 | -- | 0.18 |
| | lbs/day | -- | -- | -- | -- | NR | -- | NR |
| Chromium III, Total Recoverable | µg/L | -- | -- | -- | -- | 23 | -- | 23 |
| | lbs/day | -- | -- | -- | -- | NR | -- | NR |
| Chromium VI, Total Recoverable | µg/L | -- | -- | -- | -- | 0.11 | -- | 0.11 |
| | lbs/day | -- | -- | -- | -- | NR | -- | NR |
| Copper, Total Recoverable | µg/L | -- | -- | -- | -- | 15 | -- | 15 |
| | lbs/day | -- | -- | -- | -- | NR | -- | NR |
| Lead, Total Recoverable | µg/L | -- | -- | -- | -- | 4.5 | -- | 4.5 |
| | lbs/day | -- | -- | -- | -- | NR | -- | NR |
| Mercury, Total Recoverable | µg/L | -- | -- | -- | -- | 0.019 | -- | 0.019 |
| | lbs/day | -- | -- | -- | -- | NR | -- | NR |
| Nickel, Total Recoverable | µg/L | -- | -- | -- | -- | 15 | -- | 15 |
| | lbs/day | -- | -- | -- | -- | NR | -- | NR |
| Selenium, Total Recoverable | µg/L | -- | -- | -- | -- | 0.34 | -- | 0.34 |
| | lbs/day | -- | -- | -- | -- | NR | -- | NR |
| Silver, Total Recoverable | µg/L | -- | -- | -- | -- | 0.052 | -- | 0.052 |
| | lbs/day | -- | -- | -- | -- | NR | -- | NR |
| Zinc, Total Recoverable | µg/L | -- | -- | -- | -- | 150 | -- | 150 |
| | lbs/day | -- | -- | -- | -- | NR | -- | NR |

1. Storm water has been discharging through the same Discharge Point 001 but was monitored at Monitoring Location EFF-002 at the Facility. Since the previous Order did not prescribe a separate set of effluent limitations for the storm water discharge measured at Monitoring Location EFF-002, no effluent limitations for storm water were included in the table.

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## D. Compliance Summary

Based on monitoring data submitted between May 3, 2008 and June 30, 2012, the following violations occurred at the EFF-001 monitoring location.

**Table F-3. Summary of Compliance History**

| Date | Monitoring Period | Violation Type | Pollutant | Reported Value | Permit Limitation | Units |
|---|---|---|---|---|---|---|
| 11/05/2008 | 4th Quarter, 2008 | Instantaneous Maximum | Selenium | 261 | 150 | µg/L |
| 11/05/2008 | 4th Quarter, 2008 | Daily Maximum | Selenium | 261 | 60 | µg/L |
| 11/05/2008 | 4th Quarter, 2008 | Instantaneous Maximum | Selenium | 0.392[1] | 0.27 | lbs/day |

| Date | Monitoring Period | Violation Type | Pollutant | Reported Value | Permit Limitation | Units |
|---|---|---|---|---|---|---|
| 11/05/2008 | 4th Quarter, 2008 | Daily Maximum | Selenium | 0.392[1] | 0.108 | lbs/day |
| 12/01/2008 | 4th Quarter, 2008 | Instantaneous Maximum | Selenium | 420 | 150 | µg/L |
| 12/01/2008 | 4th Quarter, 2008 | Daily Maximum | Selenium | 420 | 60 | µg/L |
| 12/01/2008 | 4th Quarter, 2008 | Instantaneous Maximum | Selenium | 0.63[1] | 0.27 | lbs/day |
| 12/01/2008 | 4th Quarter, 2008 | Daily Maximum | Selenium | 0.63[1] | 0.108 | lbs/day |
| 01/09/2009 | 1st Quarter, 2009 | Instantaneous Maximum | Selenium | 457 | 150 | µg/L |
| 01/09/2009 | 1st Quarter, 2009 | Daily Maximum | Selenium | 457 | 60 | µg/L |
| 01/09/2009 | 1st Quarter, 2009 | Instantaneous Maximum | Selenium | 0.686[1] | 0.27 | lbs/day |
| 01/09/2009 | 1st Quarter, 2009 | Daily Maximum | Selenium | 0.686[1] | 0.108 | lbs/day |
| 03/02/2009 | 1st Quarter, 2009 | Daily Maximum | Selenium | 107 | 60 | µg/L |
| 03/02/2009 | 1st Quarter, 2009 | Daily Maximum | Selenium | 0.161[1] | 0.108 | lbs/day |
| 05/20/2009 | 2nd Quarter, 2009 | Instantaneous Maximum | Lead | 33 | 20 | µg/L |
| 05/20/2009 | 2nd Quarter, 2009 | Daily Maximum | Lead | 33 | 8 | µg/L |
| 05/20/2009 | 2nd Quarter, 2009 | Instantaneous Maximum | Lead | 0.049[1] | 0.036 | lbs/day |
| 05/20/2009 | 2nd Quarter, 2009 | Daily Maximum | Lead | 0.049[1] | 0.014 | lbs/day |
| 06/05/2009 | 2nd Quarter, 2009 | Daily Maximum | Selenium | 119 | 60 | µg/L |
| 06/05/2009 | 2nd Quarter, 2009 | Daily Maximum | Selenium | 0.371[1] | 0.108 | lbs/day |
| 07/01/2009 | 3rd Quarter, 2009 | Daily Maximum | Selenium | 93 | 60 | µg/L |
| 07/01/2009 | 3rd Quarter, 2009 | Daily Maximum | Selenium | 0.123[1] | 0.108 | lbs/day |
| 07/01/2009 | 3rd Quarter, 2009 | Six-Month Median[2] | Selenium | 100 | 15 | µg/L |
| 07/01/2009 | 3rd Quarter, 2009 | Six-Month Median[2] | Selenium | 0.150[1] | 0.027 | lbs/day |
| 12/01/2009 | 4th Quarter, 2009 | Instantaneous Maximum | Lead | 139 | 20 | µg/L |
| 12/01/2009 | 4th Quarter, 2009 | Daily Maximum | Lead | 139 | 8 | µg/L |
| 12/01/2009 | 4th Quarter, 2009 | Instantaneous Maximum | Lead | 0.209[1] | 0.036 | lbs/day |
| 12/01/2009 | 4th Quarter, 2009 | Daily Maximum | Lead | 0.209[1] | 0.014 | lbs/day |

1. Total mass calculated by Regional Water Board staff.
2. Six-month median calculated by Regional Water Board staff.

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The Discharger signed an Acceptance of Conditional Resolution and Waiver of Right to Hearing for Revised Settlement Offer R4-2010-0009 on April 14, 2010, accepting the mandatory minimum penalties for violations contained in the Offer. This settlement offer included the violations from November 8, 2008 through December 1, 2009 listed above, as well as violations from earlier dates. Monitoring results reported after December 2009 showed full compliance with effluent limitations.

### E. Planned Changes

The Discharger does not currently have any planned changes to the Facility.

## III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

### A. Legal Authorities

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

### B. California Environmental Quality Act (CEQA)

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

The Discharger received an exception to the California Ocean Plan to allow discharges to the Northwest Santa Catalina Island ASBS in 2006. The action of granting the exception was subject to CEQA requirements. The State Water Board, as the lead agency for the CEQA analysis, prepared and circulated an Initial Study/Mitigated Negative Declaration for the proposed exception; held a public hearing on February 1, 2006 to hear comments regarding the exception and the Initial Study/Mitigated Negative Declaration; and formally responded to comments. Based on the whole record, including the Initial Study/Mitigated Negative Declaration, comments received, and the response to comments, the State Water Board concluded that there was no substantial evidence that approval of such an exception would have no significant effect on the environment because of the terms and conditions that have been incorporated into the project. These terms and conditions were incorporated into R4-2008-0017 and are included in this Order. The State Water Board thereby satisfied the CEQA requirements through the adoption of Resolution No. 2006-0013 which granted the exception to the Ocean Plan to allow the Facility to discharge to the ASBS.

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

1. **Water Quality Control Plans.** The Regional Water Board adopted a Water Quality Control Plan for the Los Angeles Region (hereinafter Basin Plan) on June 13, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In

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addition, the Basin Plan implements State Water Board Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the Pacific Ocean are as follows:

**Table F-4a. Basin Plan Beneficial Uses**

| Discharge Point | Receiving Water Name | Beneficial Use(s) |
|---|---|---|
| 001, 002 | Santa Catalina Island (Hydrologic Unit 406.40) | **Nearshore Zone Existing Uses**: Navigation (NAV); contact (REC-1) and non-contact (REC-2) water recreation; commercial and sport fishing (COMM); marine habitat (MAR); wildlife habitat[1] (WILD); preservation of biological habitat (including areas of special biological significance or ecological reserve) (BIOL); rare, threatened or endangered species (RARE); and shellfish harvesting (SHELL). **Nearshore Zone Potential Uses**: Municipal and domestic supply (MUN); spawning, reproduction, and/or early development (SPWN). |
| | Pacific Ocean Nearshore Zone (The zone bounded by the shoreline and a line 1000 feet from the shoreline or the 30-foot depth contours, whichever is further from the shoreline) | **Existing:** Industrial service supply (IND), navigation (NAV), contact (REC-1) and non-contact (REC-2) water recreation, commercial and sport fishing (COMM), marine habitat (MAR), wildlife habitat (WILD), preservation of biological habitats (BIOL), preservation of rare, threatened, or endangered species[2] (RARE), migration of aquatic organisms[3] (MIGR), spawning, reproduction, and/or early development[3] (SPWN).and shellfish harvesting (SHELL). |
| | Pacific Ocean Offshore Zone | **Existing:** Industrial service supply (IND), navigation (NAV), contact (REC-1) and non-contact (REC-2) water recreation, commercial and sport fishing (COMM), marine habitat (MAR), wildlife habitat (WILD), preservation of rare, threatened, or endangered species[2] (RARE), migration of aquatic organisms[3] (MIGR), spawning, reproduction, and/or early development[3] (SPWN).and shellfish harvesting (SHELL). |

1. Marine Habitats of the Channel islands and Mugu Lagoon serve as pinniped haul-out areas for one or more species (i.e., sea lions)
2. One or more rare species utilizes all ocean, bays, estuaries, and coastal wetlands for foraging and/or nesting.
3. Aquatic organisms utilize all bays, estuaries, lagoons, and coastal wetlands, to a certain extent, for spawning and early development. This may include migration into areas which are heavily influenced by freshwater inputs

**2. Thermal Plan.** The State Water Board adopted a Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California (Thermal Plan) on January 7, 1971, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. The Thermal Plan cites temperature objectives for coastal waters. Requirements of this Order implement the Thermal Plan.

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3. **California Ocean Plan.** The State Water Board adopted the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, 2005, 2009 and 2012. The State Water Board adopted the latest amendment on October 16, 2012, and it became effective on July 1, 2013. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the state to be protected as summarized below:

**Table F-4b. Ocean Plan Beneficial Uses**

| Discharge Point | Receiving Water Name | Beneficial Use(s) |
|---|---|---|
| 001, 002 | Pacific Ocean | Industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish spawning and shellfish harvesting |

In order to protect the beneficial uses, the Ocean Plan establishes water quality objectives and a program of implementation. Requirements of this Order implement the Ocean Plan.

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

5. **Antidegradation Policy.** Federal regulation 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16. Resolution 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.

The Ocean Plan, Item III.E., Implementation Provisions For Areas of Special Biological Significance (ASBS), includes a prohibition of the discharge of waste to areas designated as being of special biological significance. The section stipulates that "Discharges shall be located a sufficient distance from such areas to assure maintenance of natural water quality conditions in these areas." Activities in these areas must not permanently degrade water quality or result in water quality lower than that necessary to protect existing uses.

The Wrigley Marine Science center discharges waste seawater from the aquaria operations and storm water runoff to the ASBS located adjacent nearshore zone of the Pacific Ocean, Northwest Santa Catalina Island. The Wrigley Marine Science center was created in 1965

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and discharges have emanated from the facility since that time. The State Water Board adopted Resolution No. 2006-0013 approving a conditional exception to the Ocean Plan prohibition ~~was adopted by the State Water Board,~~ after reviewing data submitted by the facility, an analysis of the discharges and flows from the facility, and a proposed Mitigated Negative Declaration for discharges from the facility. The adopted resolution covers all discharges from the Facility into the ASBS, including all seawater point source discharges, storm water discharges, and nonpoint source discharges. The resolution also includes stipulations designated to ensure that the quality of the receiving water is not adversely impacted by the discharges generated at the facility. Exceptions also require USEPA concurrence. On July 19, 2006, USEPA provided concurrence in the exception to the Ocean Plan to discharge into the waters of the Northwest Santa Catalina Island ASBS. The criteria included in that resolution have been implemented in this Order.

The NPDES permit includes effluent limitations to ensure that the listed beneficial uses of the Pacific Ocean in the vicinity of the discharge are not adversely impacted. The inclusion of the effluent limitations, monitoring requirements, prohibitions, and the requirements stipulated in Resolution No. 2006-0013 in the NPDES permit will ensure that the discharge will not result in a lowering of the water quality in ASBS. The issuance of this permit, therefore, is consistent with the state's antidegradation policy.

6. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

7. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, section 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. section 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state, including protecting rare and endangered species. The discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

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## 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 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.

On November 10, 2010, the USEPA approved the State Water Board's 2010 303(d) List of Water Quality Limited Segments (hereinafter 303(d) list). The 303(d) list identifies water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations by point sources (water quality limited water bodies). Certain receiving waters in the Los Angeles watershed do not fully support beneficial uses. They have been classified as impaired on the 2010 303(d) list and have been scheduled for TMDL development.

The 2010 State Water Board California 303(d) List does not include the classification of the receiving water in the vicinity of the discharge. The nearest 303(d) listing is for indicator bacteria

at Avalon Beach. The Regional Water Board adopted the Avalon Bay Bacteria TMDL as a singular regulatory action, by issuing a Cease and Desist Order (R4-2012-077) to the City of Avalon. The Facility does not discharge to Avalon Bay, and is not subject to the Avalon Bay Bacteria TMDL.

### E. Other Plans, Polices and Regulations

**Resolution No. 2006-0013:** On February 15, 2006, with Resolution No. 2006-0013, the State Water Board approved an exception to the California Ocean Plan's prohibition regarding discharges to an ASBS, thereby allowing continued discharges from the Facility to the Northwest Santa Catalina Island. In its CEQA analysis, the State Water Board concluded that there was no substantial evidence that approval of such an exception would have a significant effect on the environment, so long as specific terms and conditions were incorporated into the facility's NPDES permit. Resolution No. 2006-0013, therefore, included several specific terms and conditions that have been incorporated into this Order.

## 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 CFR section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 ~~section~~ CFR section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

The list of pollutants of concern is based on constituents that are regulated in the Ocean Plan and are currently detected or regulated in the effluent, as well as pollutants that commonly occur at similar facilities. The Facility discharges once-through marine seawater from aquaria that contain aquatic animals. Waste feed and waste products from marine animals can contribute solids, turbidity, BOD, and ammonia to the discharge. In addition, metabolic wastes from marine animals may potentially alter the pH and dissolved oxygen of the discharge. Effluent monitoring data from the term of the previous permit included detected concentrations of metals, phenolic compounds, and bacteria. The previous permit contains effluent limits for oil and grease, thus this parameter remains a pollutant of concern in the waste seawater discharge.

The storm water runoff may come in contact with roads, buildings, and service areas. Solids and oil and grease are typical pollutants found in storm water discharges from industrial facilities. Effluent monitoring resulted in detected concentrations of metals, chlorinated phenolics, TCDDs equivalents, and bacteria; therefore, these constituents are pollutants of concern.

The variety of potential pollutants found in the Facility discharges presents a potential for aggregate toxic effects to occur. Chronic toxicity is a more stringent requirement than acute toxicity. Therefore, chronic toxicity is considered pollutant of concern for evaluation of narrative Basin Plan Objectives and Water Quality Objectives in the Ocean Plan.

### A. Discharge Prohibitions

The Discharge prohibitions are based on the requirements of the Ocean Plan, State Water Board's plans and policies, Water Code, provisions included in Order No. R4-2008-0017, and

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the State Water Board Resolution No. 2006-0013; and are consistent with the requirements set for other discharges to the Pacific Ocean that are regulated by an NPDES permit.

## B. Technology-Based Effluent Limitations

### 1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at 40 CFR 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 CFR 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 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 a two-part reasonableness test. The first test compares the relationship between the costs of attaining a reduction in effluent discharge and the resulting benefits. The second test examines the cost and level of reduction of pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources. Effluent limitations must be reasonable under both tests.

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

The CWA requires USEPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and 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.

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### 2. Applicable Technology-Based Effluent Limitations

The ELG for the Concentrated Aquatic Animal Production (CAAP) Point Source Category, established by USEPA, became effective on September 22, 2004. These regulations, provided in 40 CFR section 451 are applicable to CAAP facilities defined in section 122.24. Based on the type of operation and production, the Facility is not categorized as a CAAP facility. Therefore, the CAAP ELGs provided in 40 CFR section 451 are not applicable to the Facility.

This Order includes technology-based effluent limitations based on BPJ in accordance with 40 CFR section 125.3. Table 2 of the Ocean Plan contains technology-based effluent limitations for oil and grease, total settleable solids, turbidity, and pH. Section 402(o) of the CWA and 40 CFR section 122.44(l) require that effluent limitations or conditions in reissued Orders be at least as stringent as those in the previous Orders. The effluent limitations contained in Table 2 of the Ocean Plan were compared to the effluent limitations contained in Order No. R4-2008-0017. In order to prevent backsliding and apply the Table 2 effluent limitations, the most stringent effluent limitations for each parameter were established in this Order. Table F-5a summarizes the effluent limitations contained in the previous Order and the effluent limitations contained in Table 2 of the Ocean Plan.

**Table F-5a. Comparison of Applicable Technology-based Effluent Limitations**

| Parameter | Units | Effluent Limitations | | | | |
|---|---|---|---|---|---|---|
| | | Average Monthly | Average Weekly | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum |
| **Contained in Order No. R4-2008-0017** | | | | | | |
| BOD | mg/L | 20 | -- | 60 | -- | -- |
| Oil and Grease | mg/L | 10 | -- | 15 | -- | -- |
| pH | standard units | -- | -- | -- | 6.0 | 9.0 |
| Total Suspended Solids (TSS) | mg/L | 50 | -- | 150 | -- | -- |
| Settleable Solids | mL/L | 1.0 | 1.5 | -- | -- | 3.0 |
| Turbidity | NTU | 50 | -- | 150 | -- | -- |
| **Contained in Table 2 of the Ocean Plan** | | | | | | |
| BOD | mg/L | -- | -- | -- | -- | -- |
| Oil and Grease | mg/L | 25 | 40 | | -- | 75 |
| pH | standard units | -- | -- | -- | 6.0 | 9.0 |
| Total Suspended Solids (TSS) | mg/L | -- | -- | -- | -- | -- |
| Settleable Solids | mL/L | 1.0 | 1.5 | -- | -- | 3.0 |
| Turbidity | NTU | 75 | 100 | -- | -- | 225 |

The technology-based effluent limitations contained in Order No. R4-2008-0017 were applied to discharges of waste seawater measured at Monitoring Location EFF-001. It appears that effluent limitations contained in Order No. R4-2008-0017 are more stringent, therefore, these effluent limitations are carried over and are applicable to Discharge Point 001 for waste seawater discharge as follows:

**Table F-5b. Summary of Technology-based Effluent Limitations at Discharge Point No. 001**

| Parameter | Units | Effluent Limitations | | | | |
|---|---|---|---|---|---|---|
| | | Average Monthly | Average Weekly | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum |
| BOD | mg/L | 20 | -- | 60 | -- | -- |
| | lbs/day[1] | ~~30~~60 | -- | ~~90~~180 | | |
| Oil and Grease | mg/L | 10 | -- | 15 | -- | -- |
| | lbs/day[1] | ~~15~~30 | | ~~23~~45 | | |
| pH | standard units | -- | -- | -- | 6.0 | 9.0 |
| Total Suspended Solids (TSS) | mg/L | 50 | -- | 150 | -- | -- |
| | lbs/day[1] | ~~75~~150 | | ~~225~~450 | | |
| Settleable Solids | mL/L | 1.0 | 1.5 | -- | -- | 3.0 |
| Turbidity | NTU | 50 | 100 | 150 | -- | 225 |

1. These mass-based effluent limitations are calculated using the following formula:

Concentration-based effluent limitation = C * Q * 8.34 * Q)

Where: C = concentration-based effluent limitation (mg/L)

Q = maximum discharge flow rate (MGD) = 0.360~~180~~ MGD

This Order identifies an additional discharge point (Discharge Point 002) for storm water discharge. Since the discharge of storm water is not continuous, and occurs infrequently, the maximum daily effluent limitations in the above table are applicable to the discharges at Discharge Point 002.

**Table F-5c. Summary of Technology-based Effluent Limitations at Discharge Point No. 002**

| Parameter | Units | Effluent Limitations | | | | |
|---|---|---|---|---|---|---|
| | | Average Monthly | Average Weekly | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum |
| BOD | mg/L | -- | -- | 60 | -- | -- |
| | lbs/day[1] | -- | -- | 310 | -- | -- |
| Oil and Grease | mg/L | -- | -- | 15 | -- | -- |
| | lbs/day[1] | -- | -- | 76 | -- | -- |
| pH | standard units | -- | -- | -- | 6.0 | 9.0 |
| TSS | mg/L | -- | -- | 150 | -- | -- |
| | lbs/day[1] | -- | -- | 760 | -- | -- |
| Settleable Solids | mL/L | -- | -- | -- | -- | 3.0 |
| Turbidity | NTU | -- | -- | 150 | -- | -- |

1. These mass-based effluent limitations are calculated using the following formula:

Concentration-based effluent limitation = C * Q * 8.34 * Q)

Where: C = concentration-based effluent limitation (mg/L)

Q = maximum discharge flow rate (MGD) = 0.61 MGD (a 10-year 24 hour storm event)

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## C. Water Quality-Based Effluent Limitations (WQBELs)

### 1. Scope and Authority

CWA section 301(b) of the CWA and 40 CFR 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.

40 CFR section 122.44(d)(1)(i) 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 beneficial uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the Ocean Plan.

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

As noted in section III.C of the Fact Sheet, the State Water Board adopted an Ocean 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 Ocean Plan. The beneficial uses applicable to the Pacific Ocean are summarized in section III.C.3 of this Fact Sheet. The Ocean Plan includes both narrative and numeric water quality objectives applicable to the receiving water.

Table 1 of the Ocean Plan includes the following water quality objectives for toxic pollutants and whole effluent toxicity:

**a.** 6-month median, daily maximum and instantaneous maximum objectives for 21 chemicals and chemical characteristics, including total residual chlorine and chronic toxicity, for the protection of marine aquatic life;

**b.** 30-day average objectives for 20 non-carcinogenic chemicals for the protection of human health;

**c.** 30-day average objectives for 42 carcinogenic chemicals for the protection of human health; and

**d.** Daily maximum objectives for acute and chronic toxicity.

### 3. Determining the Need for WQBELs

The need for effluent limitations based on water quality objectives in Table 1 of the Ocean plan was evaluated in accordance with 40 CFR section 122.44(d) and guidance for statistically determining the "reasonable potential" for a discharged pollutant to exceed an objective, as outlined in the California Ocean Plan Reasonable Potential Analysis (RPA) Amendment that was adopted by the State Water Board on April 21, 2005. The statistical approach combines knowledge of effluent variability (as estimated by a coefficient-of variation) with the uncertainty due to a limited amount of effluent data to estimate a maximum effluent value at a high level of confidence. This estimated maximum effluent value is based on a lognormal distribution of daily effluent values. Projected receiving water values (based on the estimated maximum effluent value or the reported maximum effluent value and minimum probable initial dilution); can then be compared to the appropriate objective to determine the potential for an exceedance of that objective and the need for an effluent limitation.

The water quality objectives contained in the Ocean Plan for Table 1 pollutants for which detected effluent data exist or were previously limited in Order No. R4-2008-0017, are summarized in Table F-6 below.

**Table F-6. Ocean Plan Water Quality Objectives**

| Parameter | 6-Month Median (µg/L) | Daily Maximum (µg/L) | Instantaneous Maximum (µg/L) | 30-Day Average (µg/L) |
|---|---|---|---|---|
| Arsenic | 8 | 32 | 80 | -- |
| Cadmium | 1 | 4 | 10 | -- |
| Chromium VI | 2 | 8 | 20 | -- |
| Copper | 3 | 12 | 30 | -- |
| Lead | 2 | 8 | 20 | -- |
| Mercury | 0.04 | 0.16 | 0.4 | -- |
| Nickel | 5 | 20 | 50 | -- |
| Selenium | 15 | 60 | 150 | -- |
| Silver | 0.7 | 2.8 | 7 | -- |
| Zinc | 20 | 80 | 200 | -- |
| Ammonia (as N) | 600 | 2,400 | 6,000 | -- |
| Chronic Toxicity | -- | 1 | -- | -- |
| Chlorinated Phenolics | 1 | 4 | 10 | -- |
| Thallium | -- | -- | -- | 2 |
| Beryllium | -- | -- | -- | 0.033 |
| TCDD equivalents | -- | -- | -- | 0.0000000039 |

According to the 2012 Ocean Plan amendment, the reasonable potential analysis (RPA) can yield three endpoints:

1) Endpoint 1, an effluent limitation is required and monitoring is required;

2) Endpoint 2, an effluent limitation is not required and the Regional Water Board may require monitoring; and

3) Endpoint 3, the RPA is inconclusive, monitoring is required, and an existing effluent limitation may be retained or a permit reopener clause may be included to allow inclusion of an effluent limitation if future monitoring warrants the inclusion.

Effluent data submitted to the Regional Water Board for the period from March 2008 through December 2012 were considered to evaluate reasonable potential in accordance with the procedures contained in the Ocean Plan (2012). For lead, selenium, and zinc at EFF-001, monitoring data prior to 2010 were not used due to the potential of false positive results caused by the application of inappropriate analytical methods. Based on the possible endpoints, a subset of parameters (i.e., arsenic, cadmium, trivalent chromium, hexavalent chromium, copper, lead, mercury, nickel, selenium, silver, zinc, total residual chlorine, phenolic compounds (chlorinated), phenolic compounds (non-chlorinated), endosulfan, antimony, hexachlorocyclohexane, thallium, fluoranthene, beryllium, and TCDD equivalents) required additional evaluation using the RPcalc 2.0 software tool developed by the State Water Board was used for conducting RPAs.

Based on the evaluation using the RPcalc 2.0 software tool to evaluate waste seawater monitoring data from EFF-001, the discharge demonstrates reasonable potential for copper and chronic toxicity. Using the RPcalc 2.0 software tool on monitoring data from EFF-001, it was determined that there was no reasonable potential for arsenic, cadmium, lead, selenium, zinc, and nickel. For the remaining constituents monitored at EFF-001, the RPA was inconclusive and resulted in Endpoint 3. Monitoring is required for all parameters with inconclusive RPA results.

Based on the evaluation using the RPcalc 2.0 software tool and storm water monitoring data collected at EFF-002, the discharge at Discharge Point No. 002 demonstrates reasonable potential for arsenic, beryllium, copper, lead, nickel, TCDD equivalents, zinc, and chronic toxicity. Due to limited data, the RPA did not result in Endpoint 2 for any parameters. For the remaining constituents monitored at EFF-002, the RPA was inconclusive and resulted in Endpoint 3. Monitoring is required for all parameters with inconclusive RPA results.

For many of the Ocean Plan Table 1 parameters, insufficient data were available to determine if the parameters had reasonable potential to exceed water quality objectives, thus monitoring requirements were included in this Order that are consistent with those requirements from the previous permit.

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**4. WQBEL Calculations**

From the Table 1 water quality objectives of the Ocean Plan, effluent limitations are calculated according to Equation 1 of the Ocean Plan for all pollutants, except for acute toxicity (if applicable) and radioactivity:

$$Ce = Co + Dm(Co - Cs)$$

Where:

Ce = the effluent limitation (µg/L)
Co = the water quality objective to be met at the completion of initial dilution (µg/L)
Cs = background seawater concentration (µg/L)
Dm = minimum probable initial dilution expressed as parts seawater per part wastewater.

Initial dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

The Dm is based on observed waste flow characteristics, receiving water density structure, and the assumption that no currents of sufficient strength to influence the initial dilution process flow across the discharge structure. No dilution factor has been granted to the Facility; therefore the minimum probable initial dilution is 0.

As stated above, the water quality objective to be met at the completion of initial dilution is contained in Table 1 of the Ocean Plan. The values provided in Table 3 of the Ocean Plan are presented in Table F-7, below. Cs equals zero for all pollutants, except the following:

**Table F-7. Background Seawater Concentrations (Cs)**

| Parameter | Ocean Plan Table C Background Concentration (µg/L) |
|---|---|
| Arsenic | 3 |
| Copper | 2 |
| Mercury | 0.0005 |
| Silver | 0.16 |
| Zinc | 8 |

WQBELs based on the zero dilution provided at Discharge Point No. 001 for copper is developed using Equation 1 of the Ocean Plan and the Ocean Plan background concentration.

WQBELs Calculation Example

The following demonstrates how the WQBELs for copper is established.

*Concentration-Based Effluent Limitations*

Copper

Ce = 3.0 µg/L + 0 (3.0 µg/L – 2.0 µg/L) = 3.0 µg/L (6-Month Median)
Ce = 12 µg/L + 0 (12.0 µg/L – 2.0 µg/L) = 12 µg/L (Daily Maximum)
Ce = 30 µg/L + 0 (30 µg/L – 2.0 µg/L) = 30 µg/L (Instantaneous Maximum)

**5. Temperature**

The Regional Water Board staff have developed a white paper entitled *Temperature and Dissolved Oxygen Impacts on Biota in Tidal Estuaries and Enclosed Bays in the Los Angeles Region*. The while paper evaluated the optimum temperatures for steelhead, topsmelt, ghost shrimp, brown rock crab, jackknife clam, and blue mussel. This white paper is used by the Regional Water Board to implement the requirements of the Thermal Plan. As a result of the white paper, a maximum effluent temperature limitation of 86°F was included in Order No. R4-2008-0017 and is included in this Order.

### 6. Bacteria Compliance

Both the State Water Board and the California Department of Public Health (CDPH) have established standards to protect water contact recreation in coastal waters from bacterial contamination. Bacterial objectives have been adopted by the State Water Board for ocean waters used for water contact recreation. In addition, the Ocean Plan contains bacterial standards for the protection of shellfish harvesting. Monitoring data collected at EFF-001 on February 8, 2012 resulted in an *Enterococcus* bacteria count of 260 MPN/100mL, which is higher than the Ocean Plan single sample maximum standard. Monitoring data collected at EFF-002 on May 17, 2011, February 8, 2012, and March 25, 2012, also resulted in total coliform, fecal coliform and *Enterococcus* bacteria levels higher than the Ocean Plan single sample maximum standards. Because bacteria levels in the effluent are higher than Ocean Plan standards, this Order includes new effluent bacteria limitations at Discharge Point No. 001 and Discharge Point No. 002 as follows:

30-day Geometric Mean Limits (based on no less than five samples over a 30-day period):

a) Total coliform density shall not exceed 1,000/100 mL;
b) Fecal coliform density shall not exceed 200/100 mL; and
c) *Enterococcus* density shall not exceed 35/100 mL.

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* density shall not exceed 104/100 mL; and
d) Total coliform density shall not exceed 1,000/100 mL, if the ratio of fecal-to-total coliform exceeds 0.1.

The Ocean Plan Shellfish Harvesting standards include objectives for total coliform as follows:

> "*The median total coliform density (for any 6-month period) shall not exceed 70 per 100 mL, and not more than 10 percent of the samples shall exceed 230 per 100 mL.*"

The Ocean Plan also contains implementation provisions for bacterial characteristics, which include monitoring requirements and compliance.

### 7. Whole Effluent Toxicity (WET)

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

**a.** Discharge Point No. 001

The Discharger monitored acute toxicity in 100 percent effluent on five dates during the term of the previous Order. For the May 18, 2011, sample, the result was 72% survival in 100% effluent. The Discharger noted insufficient acclimation time for organisms and re-

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tested the sample. Results of the retested sample were 96% survival in effluent with no statistical difference from the control.

The Discharger conducted chronic toxicity tests on effluent for five sample dates. Multiple species were tested on three of the five dates. The February 7, 2012 and March 25, 2012 test results for kelp germination demonstrated reasonable potential with results of >4 TUc and 2 TUc, respectively. The February 7, 2012, test result of 2 TUc for tube length also demonstrated reasonable potential.

Because the effluent demonstrates reasonable potential to exceed chronic toxicity objectives, this Order establishes a chronic toxicity effluent limitation at Discharge Point No. 001 using USEPA's 2010 TST hypothesis testing approach. A dilution factor is not authorized for this discharge. Chronic toxicity limitations are expressed as "Pass" or "Fail" for median monthly summary result and "Pass" or "Fail" and "% Effect" for maximum daily single result. The chronic toxicity effluent limitations in this Order are as stringent as necessary to protect the Ocean Plan Water Quality Objective for chronic toxicity.

**b.** Discharge Point No. 002

The Discharger conducted acute toxicity tests on effluent for three sampling dates. Monitoring results varied from 92% survival to 96% survival, with no statistical difference from the control.

The Discharger conducted chronic toxicity tests on effluent, using three species, for three sampling dates. Results of the Kelp germination tests on May 18, 2011, and February 7, 2012, resulted in 2 TUc and >4 TUc, demonstrating reasonable potential to exceed the chronic toxicity objective of 1.0 TUc.

Because the effluent demonstrates reasonable potential to exceed chronic toxicity objectives, this Order establishes a daily maximum chronic toxicity effluent limitation at Discharge Point No. 002 using USEPA's 2010 TST hypothesis testing approach. Chronic toxicity limitations are expressed as "Pass" or "Fail" and "% Effect" for the maximum daily single result. The chronic toxicity effluent limitations in this Order are as stringent as necessary to protect the Ocean Plan Water Quality Objective for chronic toxicity.

**8. Final WQBELs**

This Order establishes new effluent limitations for copper and chronic toxicity at Discharge Point No. 001, based on a demonstration of reasonable potential to exceed Ocean Plan objectives. Effluent limitations for lead, selenium, and zinc have been included for Discharge Point No. 001, since these constituents continue to demonstrate reasonable potential. At Discharge Point No. 002, this Order newly establishes maximum daily effluent limitations for arsenic, copper, lead, nickel, zinc, and chronic toxicity and average monthly effluent limitation for beryllium and TCDD equivalents, based on demonstration of reasonable potential. Because the discharges at Discharge Point No. 002 consist of only storm waters, this Order establishes only maximum daily effluent limitations for parameters having maximum daily water quality objectives in the Ocean Plan. For beryllium and TCDD equivalents, the average monthly limitations instead of the maximum daily limitations were included for Discharge Point 002 in that the only water quality objectives for these two parameters in the Ocean Plan are expressed as a 30-day average.

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Monitoring for bacteria at Discharge Point Nos. 001 and 002 resulted in levels greater than the Ocean Plan objectives; therefore this Order includes new effluent limitations for bacteria. The effluent limitation for temperature has been included from the previous permit, applicable to both Discharge Point Nos. 001 and 002.

**Table F-8a. Summary of Water Quality-based Effluent Limitations Discharge Point No. 001**

| Parameter | Units | Effluent Limitations | | | |
|---|---|---|---|---|---|
| | | 6-Month Median | Average Monthly | Maximum Daily | Instantaneous Maximum |
| Temperature | °F | -- | -- | -- | 86 |
| Copper | µg/L | 3 | -- | 12 | 30 |
| | lbs/day[1] | 0.0095 | -- | 0.03618 | ~~0.045~~ |
| Chronic Toxicity[2] | Pass or Fail, % Effect | -- | Pass[3] | Pass or % Effect < 50 | -- |
| Total coliform | MPN/100 mL | [4] | | | |
| Fecal coliform | MPN/100 mL | [4] | | | |
| *Enterococcus* | MPN/100 mL | [4] | | | |

1. These mass-based effluent limitations are calculated using the following formula:
   Concentration-based effluent limitation = C * Q * 8.34 * Q)
   Where: C = concentration-based effluent limitation (mg/L)
   Q = maximum discharge flow rate (MGD) = 0.360~~180~~ MGD
2. "Pass" or "Fail" for Median Monthly Effluent Limitation (MMEL). "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL). The MMEL for chronic toxicity shall only apply when there is a discharge more than one day in a calendar month period. During such calendar months, exactly three independent toxicity tests are required when one toxicity test results in "Fail".
3. This is a Median Monthly Effluent Limitation.
4. 30-day Geometric Mean Limits (based on no less than five samples over a 30-day period):
   a) Total coliform density shall not exceed 1,000/100 mL;
   b) Fecal coliform density shall not exceed 200/100 mL; and
   c) Enterococcus density shall not exceed 35/100 mL.

   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* density shall not exceed 104/100 mL; and
   d) Total coliform density shall not exceed 1,000/100 mL, if the ratio of fecal-to-total coliform exceeds 0.1.

**Table F-8b. Summary of Water Quality-based Effluent Limitations Discharge Point No. 002**

| Parameter | Units | Effluent Limitations | | | |
|---|---|---|---|---|---|
| | | 6-Month Median | Average Monthly | Maximum Daily | Instantaneous Maximum |
| Temperature | °F | -- | -- | -- | 86 |
| Arsenic | µg/L | -- | -- | 32 | -- |
| | lbs/day[1] | -- | -- | 0.16 | |
| Beryllium | µg/L | -- | 0.033 | -- | -- |
| | lbs/day[1] | -- | 0.00017 | -- | |
| Copper | µg/L | -- | -- | 12 | -- |
| | lbs/day[1] | -- | -- | 0.061 | |
| Lead | µg/L | -- | -- | 8 | -- |
| | lbs/day[1] | -- | -- | 0.04 | |

| Parameter | Units | Effluent Limitations | | | |
|---|---|---|---|---|---|
| | | 6-Month Median | Average Monthly | Maximum Daily | Instantaneous Maximum |
| Nickel | µg/L | -- | -- | 20 | -- |
| | lbs/day[1] | -- | -- | 0.10 | |
| Zinc | µg/L | -- | -- | 80 | -- |
| | lbs/day[1] | -- | -- | 0.41 | |
| TCDD Equivalents | µg/L | -- | 3.9E-09 | -- | -- |
| | lbs/day[1] | -- | 2.0E-11 | -- | |
| Chronic Toxicity[2] | Pass or Fail, % Effect | -- | -- | Pass or % Effect < 50 | -- |
| Total coliform | MPN/100 mL | [3] | | | |
| Fecal coliform | MPN/100 mL | [3] | | | |
| *Enterococcus* | MPN/100 mL | [3] | | | |

1. These mass-based effluent limitations are calculated using the following formula:
Concentration-based effluent limitation = C * Q * 8.34 * Q)
Where: C = concentration-based effluent limitation (mg/L)
Q = maximum discharge flow rate (MGD) = 0.61 MGD
2. "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL).
3. 30-day Geometric Mean Limits (based on no less than five samples over a 30-day period):
   a) Total coliform density shall not exceed 1,000/100 mL;
   b) Fecal coliform density shall not exceed 200/100 mL; and
   c) Enterococcus density shall not exceed 35/100 mL.

   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* density shall not exceed 104/100 mL; and
   d) Total coliform density shall not exceed 1,000/100 mL, if the ratio of fecal-to-total coliform exceeds 0.1.

## D. Final Effluent Limitation Considerations

### 1. Anti-Backsliding Requirements

Section 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 ~~that~~ effluent limitations ~~or conditions~~ in a reissued permit~~Orders~~ to be ~~at least~~ as stringent as those in the previous~~existing~~ permit~~Orders based on the submitted sampling data.~~ with some exceptions where limitations may be relaxed. The ~~All~~ effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, with ~~some~~ the exceptions noted below.

~~–~~The effluent limitations for lead, selenium, and zinc for Discharge Point No. 001 have been deleted because they did not show reasonable potential to cause or contribute to an excursion above the respective water quality. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

CWA section 402(o)(2)(B)(i) and 40 C.F.R. section 122.44(L)(2)(i)(B)(1) provide an exception to the anti-backsliding provisions where information is available which was not available at the time of permit issuance and which would have justified the application of a less stringent effluent limitation at the time of permit issuance. As previously discussed,

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there was no requirement to measure flow in Order R4-2008-0017. The requirement to measure flow was first included in Order R4-2013-0172. The increases in mass-based effluent limitations for parameters at Discharge Point No. 001 result from the increase of the maximum permitted flow at Discharge Point No. 001 from 0.180 MGD to 0.360 MGD. The previous maximum permitted flow of 0.180 MGD was an estimated value based on the maximum intake pumping rate. This amended Order increases the maximum discharge flow limitation at Discharge Point No. 001 based on the continuous flow measurements at Discharge Point No. 001 as required in Order R4-2013-0172, without any modifications to the Facility. The increase to the maximum discharge flow limitation reflects actual flow conditions at the Facility. This flow information was not available at the time of permit reissuance in 2013 and would have justified higher mass-based effluent limitations at Discharge Point No. 001 at the time of permit reissuance. The concentration-based effluent limitations at Discharge Point No. 001 remain unchanged. Therefore, the increase to the mass-based effluent limitations at Discharge Point No. 001 is consistent with the anti-backsliding requirements of the CWA and federal regulations based on flow measurement data.

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**2. Antidegradation Policy**

Section 131.12 of title 40 of the Code of Federal Regulations requires that ~~the~~ state water quality standards include an anti-degradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge.

Provisions of this~~e~~ Order are consistent with applicable antidegradation policy expressed by State Water Board Resolution No. 68-16 and NPDES regulations at 40 CFR section 131.12, which require that water quality be maintained and protected where high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance. The Northwest Santa Catalina Island ASBS, into which the Facility discharges waste seawater and storm water, is identified in the Ocean Plan as an Area of Special Biological Significance. In issuing Resolution No. 2006-0013 approving an exception to the Ocean Plan's prohibition against discharges to ASBSs, the State Water Board stated:

> "*The USC/WMSC occupies a prominent role in marine science research and education, providing programs and facilities to USC and non-USC scientists and students and visitors from many other institutions. The USC/WMSC research activities and teaching laboratory aquaria both depend on the use of the flow thorough (open) seawater system. There are no viable alternatives to ocean disposed of waste seawater due to the remote location of the facility. If the exception is not granted, USC/WMSC will be forced to shut down its open seawater system. The State Water Board therefore finds that the public interest will be served by granting this exception.* "

> "*The State Water Board finds, based on the whole record, including the IS/MND (Initial Study/Mitigated Negative Declaration) and comments received, that there is no substantial evidence that approval of the exception will have a significant effect on the*

*environment because of the terms and conditions that have been incorporated into the project. The MND reflects the State Water Board's independent judgment and analysis*".

"*The proposed exception will not violate State Water Board Resolution No. 68-16 (Antidegradation Policy) because approval of the exception will not lower water quality; the discharge will not unreasonably affect present and anticipated beneficial uses; the discharge will not result in water quality lower than that prescribed in the Ocean Plan; and, the people of California will benefit from the research and education provided by USC/WMSC while beneficial uses will still be protected*".

The newly designated Discharge Point No. 002 does not represent a new or additional discharge; rather it reflects the Discharger's ability to separate the storm water discharge from the seawater discharge. At the time of issuance of Order No. R4-2008-0017, the Discharger had just segregated storm water and non-storm water sources that were previously commingled. As a result of the modifications, waste seawater and storm water are currently discharged through two separate pipes, located adjacent to each other. The discharges do not commingle until reaching the shore of the receiving water. To reflect the separate sources and distinct discharge points, this Order designates discharge of waste seawater as Discharge Point No. 001 and the storm water runoff as Discharge Point No. 002.

This Order estimates the storm water flow based on a 10-year 24 hour storm event at the Facility. The previous permit did not include an estimated flow for storm water only. All conditions and the environmental setting within the Facility continue to improve due to the implementation of Storm Water Management Plan by the Discharger. The final limitations in this Order hold the Discharger to performance levels that will not cause or contribute to water quality impairment or degradation. Therefore, 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.

The increase of the maximum discharge flow at Discharge Point No. 001 from 0.180 MGD to 0.360 MGD in this permit amendment are based on the continuous flow measurements at Discharge Point No. 001 as first required in Order R4-2013-0172. Since the Facility configuration and operations remain the same, the discharge flow rate at Discharge Point No. 001 has not changed but the assessment of the flow rate is more accurate. As a result, the change in the permitted flow in this amended Order will not result in the increase in the actual discharge flow at Discharge Point No. 001. Since the concentration-based effluent limitations and the actual flow have remained the same, the discharge will not cause water quality impairment or degradation. The Regional Board continues to find that if the Discharger complies with the conditions set forth in this Order, discharges from the Facility will not adversely impact biological communities in the ASBS. Therefore, this permit amendment is consistent with State and federal antidegradation policies.

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### 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 BOD, oil and grease, TSS, settleable solids, turbidity, and pH. Restrictions on these pollutants are discussed in section IV.B. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

Water quality-based effluent limitations have been 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. The procedures for calculating the individual water quality-based effluent limitations are based on the Ocean Plan, which was approved by USEPA on October 8, 2010. All beneficial uses and water quality objectives contained in the Ocean Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 C.F.R. section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

**Table F-9a. Summary of Final Effluent Limitations-Discharge Point No. 001**

| Parameter | Units | Effluent Limitations | | | | | Basis[3] |
|---|---|---|---|---|---|---|---|
| | | 6-Month Median[1,2] | Average Monthly[2] | Average Weekly | Maximum Daily | Instantaneous Maximum | |
| BOD | mg/L | -- | 20 | -- | 60 | -- | E, BPJ |
| | lbs/day[4] | -- | ~~30~~60 | -- | ~~90~~180 | -- | |
| Oil and Grease | mg/L | -- | 10 | -- | 15 | -- | E, BPJ |
| | lbs/day[4] | -- | ~~15~~30 | -- | ~~23~~45 | -- | |
| pH | standard units | 6.0-9.0[5] | | | | | E, OP |
| Settleable Solids | ml/L | -- | 1.0 | 1.5 | -- | 3.0 | E, OP |
| Total Suspended Solids (TSS) | mg/L | -- | 50 | -- | 150 | -- | E, BPJ |
| | lbs/day[4] | -- | ~~75~~150 | -- | ~~225~~450 | -- | |
| Turbidity | NTU | -- | 50 | 100 | 150 | -- | E, BPJ, OP |
| Temperature | °F | -- | -- | -- | -- | 86 | E |
| Copper, Total Recoverable | µg/L | 3 | -- | -- | 12 | 30 | OP |
| | lbs/day[4] | 0.00~~95~~ | -- | -- | 0.0~~36~~18 | ~~0.045~~-- | |
| Chronic Toxicity[6] | Pass or Fail, % Effect | -- | Pass[7] | -- | Pass or % Effect <50 | -- | TST |
| Total coliform | MPN/100 mL | [8] | | | | | OP |
| Fecal coliform | MPN/100 mL | [8] | | | | | OP |
| *Enterococcus* | MPN/100 mL | [8] | | | | | OP |

1. The 6-month median shall apply as a moving median of daily values for any 180-day period in which daily values represent flow weighted average concentrations within a 24-hour period. For intermittent discharges, the daily value shall be considered to equal zero for days on which no discharge occurred.
2. If only one sample is collected during the time period associated with the water quality objective (e.g., monthly average or 6-month median), the single measurement shall be used to determine compliance with the effluent limitation for the entire time period.
3. E = Existing Order, OP = Ocean Plan (effective July 1, 2013), BPJ = Best Professional Judgment, TST = EPA Test of Significant Toxicity Approach.
4. These mass-based effluent limitations are calculated using the following formula:

   Concentration-based effluent limitation = C * Q * 8.34 * Q)

   Where: C = concentration-based effluent limitation (mg/L)

   Q = maximum discharge flow rate (MGD) = 0.360~~180~~ MGD

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5. Within limit of 6.0 to 9.0 at all times.
6. "Pass" or "Fail" for Median Monthly Effluent Limitation (MMEL). "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL). The MMEL for chronic toxicity shall only apply when there is a discharge more than one day in a calendar month period. During such calendar months, exactly three independent toxicity tests are required when one toxicity test results in "Fail".
7. This is a Median Monthly Effluent Limitation.
8. 30-day Geometric Mean Limits (based on no less than five samples over a 30-day period):
   a) Total coliform density shall not exceed 1,000/100 mL;
   b) Fecal coliform density shall not exceed 200/100 mL; and
   c) Enterococcus density shall not exceed 35/100 mL.

   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* density shall not exceed 104/100 mL; and
   *d) Total coliform density shall not exceed 1,000/100 mL, if the ratio of fecal-to-total coliform exceeds 0.1.*

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**Table F-9b. Summary of Final Effluent Limitations-Discharge Point No. 002**

| Parameter | Units | Effluent Limitations | | | | | Basis[3] |
|---|---|---|---|---|---|---|---|
| | | 6-Month Median[1] | Average Monthly[2] | Average Weekly | Maximum Daily | Instantaneous Maximum | |
| BOD | mg/L | -- | -- | -- | 60 | -- | BPJ |
| | lbs/day[4] | -- | -- | -- | 310 | -- | |
| Oil and Grease | mg/L | -- | -- | -- | 15 | -- | BPJ |
| | lbs/day[4] | -- | -- | -- | 76 | -- | |
| pH | standard units | 6.0-9.0[5] | | | | | OP |
| Settleable Solids | mL/L | -- | -- | -- | -- | 3.0 | OP |
| Total Suspended Solids (TSS) | mg/L | -- | -- | -- | 150 | -- | BPJ |
| | lbs/day[4] | -- | -- | -- | 760 | | |
| Turbidity | NTU | -- | -- | -- | 150 | -- | BPJ, OP |
| Temperature | °F | -- | -- | -- | -- | 86 | BPJ |
| Arsenic, Total Recoverable | µg/L | - | -- | -- | 32 | -- | OP |
| | lbs/day[4] | -- | -- | -- | 0.16 | -- | |
| Beryllium, Total Recoverable | µg/L | -- | 0.033 | -- | -- | -- | OP |
| | lbs/day[4] | -- | 0.00017 | -- | -- | -- | |
| Copper, Total Recoverable | µg/L | -- | -- | -- | 12 | | OP |
| | lbs/day[4] | -- | -- | -- | 0.061 | | |
| Lead, Total Recoverable | µg/L | -- | -- | -- | 8 | | OP |
| | lbs/day[4] | -- | -- | -- | 0.04 | | |
| Nickel, Total Recoverable | µg/L | -- | -- | -- | 20 | | OP |
| | lbs/day[4] | -- | -- | -- | 0.10 | | |
| Zinc, Total Recoverable | µg/L | -- | -- | -- | 80 | | OP |
| | lbs/day[4] | -- | -- | -- | 0.41 | | |
| TCDD Equivalents[6] | µg/L | -- | 3.9E-09 | -- | -- | -- | OP |
| | lbs/day[4] | -- | 2.0E-11 | -- | -- | -- | |

| Parameter | Units | Effluent Limitations | | | | | Basis[3] |
|---|---|---|---|---|---|---|---|
| | | 6-Month Median[1] | Average Monthly[2] | Average Weekly | Maximum Daily | Instantaneous Maximum | |
| Chronic Toxicity[7] | Pass or Fail, % Effect | -- | -- | -- | Pass or % Effect <50 | -- | TST |
| Total coliform | MPN/100 mL | [8] | | | | | OP |
| Fecal coliform | MPN/100 mL | [8] | | | | | OP |
| *Enterococcus* | MPN/100 mL | [8] | | | | | OP |

1. The 6-month median shall apply as a moving median of daily values for any 180-day period in which daily values represent flow weighted average concentrations within a 24-hour period. For intermittent discharges, the daily value shall be considered to equal zero for days on which no discharge occurred.
2. If only one sample is collected during the time period associated with the water quality objective (e.g., monthly average or 6-month median), the single measurement shall be used to determine compliance with the effluent limitation for the entire time period.
3. E = Existing Order, OP = Ocean Plan (effective March 10, 2010), BPJ = Best Professional Judgment, TST = EPA Test of Significant Toxicity Approach.
4. These mass-based effluent limitations are calculated using the following formula:

   Concentration-based effluent limitation = C * Q * 8.34

   Where: C = concentration-based effluent limitation (mg/L)

   Q = maximum discharge flow rate (MGD) = 0.61 MGD
5. Within limit of 6.0 to 9.0 at all times.
6. TCDD Equivalents shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below. USEPA method 1613 may be used to analyze dioxin and furan congeners.

   Dioxin-TEQ (TCDD Equivalents) = $\Sigma$ ($C_x$ x $TEF_x$)

   Where:

   $C_x$ = concentration of dioxin or furan congener x

   $TEF_x$ = TEF for congener x

**Toxicity Equivalency Factors**

| Isomer Group | Toxicity Equivalency Factor (TEF) |
|---|---|
| 2,3,7,8-tetra CDD | 1.0 |
| 2,3,7,8-penta CDD | 0.5 |
| 2,3,7,8-hexa CDDs | 0.1 |
| 2,3,7,8-hepta CDD | 0.01 |
| Octa CDD | 0.001 |
| 2,3,7,8 tetra CDF | 0.1 |
| 1,2,3,7,8 penta CDF | 0.05 |
| 2,3,4,7,8 penta CDF | 0.5 |
| 2,3,7,8 hexa CDFs | 0.1 |
| 2,3,7,8 hepta CDFs | 0.01 |
| Octa CDF | 0.001 |

7. "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL).
8. 30-day Geometric Mean Limits (based on no less than five samples over a 30-day period):
   a) Total coliform density shall not exceed 1,000/100 mL;

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b) Fecal coliform density shall not exceed 200/100 mL; and
c) Enterococcus density shall not exceed 35/100 mL.

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* density shall not exceed 104/100 mL; and
d) Total coliform density shall not exceed 1,000/100 mL, if the ratio of fecal-to-total coliform exceeds 0.1.

### E. Interim Effluent Limitations – Not Applicable

### F. Land Discharge Specifications – Not Applicable

### G. Recycling Specifications – Not Applicable

## V. RATIONALE FOR RECEIVING WATER LIMITATIONS

### A. Surface Water

The Ocean Plan contains numeric and narrative water quality objectives applicable to the coastal waters of California. Water quality objectives include an objective to maintain the high quality waters pursuant to federal regulations (section 131.12) and State Water Board Resolution No. 68-16. Receiving water limitations in this Order are included to ensure protection of beneficial uses of the receiving water and are based on the water quality objectives contained in the Ocean Plan.

This Order includes a receiving water limitation prohibiting the discharge from altering natural water quality within the receiving water. This receiving water limitation is based on condition 2.a. of Resolution No. 2006-0013. As stated in the Resolution, Regional Water Board staff in consultation with the State Water Board's Division of Water Quality shall define Natural Water Quality in the receiving water, seaward of the surf zone. For constituents other than indicator bacteria, natural water quality shall be determined using the reference station in the ocean in the vicinity of Goat Harbor or Italian Gardens near Twin Rocks Point on the northern coast of Santa Catalina Island. For indicator bacteria, the Ocean Plan bacteria objectives will be used. Regional Water Board staff shall review monitoring data and determine whether or not natural water quality is being altered in the ASBS because of the discharges from the Facility. (State Water Board Resolution No. 2006-0013, 2.a).

### B. Groundwater– Not Applicable

## VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 of 40 CFR 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.

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### A. Influent Monitoring

Order No. R4-2008-0017 specified monitoring of the intake for several parameters in order to establish "natural water quality". Resolution No. 2006-0013 specifies the reference station monitoring location as within Goat Harbor near Italian Gardens, which is over 6 shoreline miles from the intake structure. The location at the intake structure has not been determined to be free of anthropogenic sources of pollutants. For this reason and to eliminate redundancy, this Order discontinues monitoring requirements at the intake structure, with the exception of bacteria. Alternatively, as required in Resolution No. 2006-0013, the reference station, designated as REF-001, for determination of "natural water quality", is in the ocean in the vicinity of Goat Harbor or Italian Gardens near Twin Rocks Point on the northern coast of Santa Catalina Island. See section VI.D.1 for further discussion of reference station monitoring requirements.

For indicator bacteria, Resolution No. 2006-0013 specifies monitoring of influent as follows:

> "*In addition to the bacterial monitoring requirements described in conditions 1. and m. above, samples must be collected at the seawater intake structure during a maximum of three storm events per year that result in runoff from the spray field hillside and measured for Ocean Plan indicator bacteria. The station at the seawater intake structure is selected for this requirement because it is near the bluff below the USC/WMSC sewage treatment plant spray field. This requirement along with the bacterial monitoring in conditions 1. and m. is meant to satisfy in total the Ocean Plan bacteria monitoring requirements*."

This Order includes monitoring requirements for indicator bacteria at INF-001 to satisfy the requirements of Resolution No. 2006-0013. Monitoring at the intake location provides a comparative basis of bacteria in source water versus effluent and receiving water and in turn indicates whether the Facility may be contributing bacteria to the discharge.

### B. Effluent Monitoring

Monitoring for those pollutants expected to be present in discharges from Discharge Point No. 001 (Monitoring Location EFF-001) and Discharge Point No. 002 (Monitoring Location EFF-002) will be required as shown in the MRP (Attachment E). To determine compliance with effluent limitations, the monitoring plan includes monitoring requirements for the contaminants of concern at least on a quarterly frequency. The monitoring frequency for metals with effluent limitations is monthly. Effluent monitoring requirements pursuant to State Water Board Resolution No. 2006-0013 have also been included in the MRP.

Resolution No. 2006-0013, condition l, requires the Discharger to collect two waste seawater effluent samples (once during dry weather and once during wet weather, i.e., a storm event) during the first year of the permit cycle. Samples are to be analyzed for all Ocean Plan Table 1 constituents, pH, salinity, and temperature. Resolution No. 2006-0013 further stipulates "*Based on the results from the first year, the Los Angeles Water Board will determine the frequency of sampling (at a minimum, annually during wet weather) and the constituents to be tested during the remainder of the permit cycle, except that ammonia nitrogen, pH, salinity, and temperature must be tested at least annually. Chronic toxicity (for at least one consistent invertebrate species) must be tested at least annually for the waste seawater effluent.*"

The required frequency of monitoring for the storm water discharge at EFF-002 has been increased from 1/Year to 2/Year as a few constituents including arsenic, copper, lead, nickel, zinc, chronic toxicity, beryllium and TCDD equivalents has been detected in the storm water at levels exceeding the Ocean Plan Water Quality Objectives. The monitoring frequency for

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metals with effluent limitations is monthly when a discharge of the storm water occurs during the month.

The Ocean Plan implementation procedures III.C.4.g and h for Table 1 constituents specifies that daily maximum water quality objective shall apply to flow weighted, 24-hour composite samples and that the instantaneous maximum water quality objective shall apply to grab sample determinations. The sample collection types for Table 1 constituents at Discharge Point No. 001 have been based on this requirement to enable compliance determination as directed by the Ocean Plan. For Discharge Point No. 002, 24-hour composites may not be feasible due to the short-term nature of the storm water runoff. For this reason, the required sample type is limited to grab samples.

## C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth. Chronic toxicity is a more stringent requirement that acute toxicity. A chemical at a low concentration can have chronic effects but no acute effects until it get to the higher level. For this permit, chronic toxicity in the discharge is limited and evaluated using USEPA's 2010 TST hypothesis testing approach. The chronic toxicity effluent limitations are as stringent as necessary to protect the Ocean Plan Water Quality Objective for chronic toxicity.

Section III.C.3.c.(4) of the Ocean Plan requires dischargers to conduct chronic toxicity testing if the minimum initial dilution of the effluent is below 100:1. This Order includes monitoring requirements for chronic toxicity in the MRP (Attachment E). The discharges enter an ASBS and the Facility does not have dilution credit. The frequency for chronic toxicity monitoring has been increased from annually as required in Order No. R4-2008-0017 to two times per year at each discharge point due to the demonstration of reasonable potential. These requirements satisfy the minimum toxicity requirements specified in Resolution No. 2006-0013.

## D. Receiving Water Monitoring

The discharge shall comply with all applicable provisions, including water quality standards of the Ocean Plan. Natural water conditions in the receiving water, seaward of the surf zone, shall not be altered as a result of the discharge. As specified in Resolution No. 2006-0013, for constituents other than indicator bacteria, natural water quality will be determined using the reference station in the ocean in the vicinity of Goat Harbor or Italian Gardens near Twin Rocks Point on the northern coast of Santa Catalina Island. For indicator bacteria, the Ocean Plan bacteria objectives will be used to establish natural water quality; however, monitoring for bacteria at the reference station is required for informational purposes. This Order designates the reference monitoring site as REF-001.

### 1. Surface Water

#### a. Reference Station Monitoring at REF-001

Monitoring at the reference site REF-001 is required to determine whether the discharge is altering "natural water quality". The reference site location was selected as it was determined to be relatively free from anthropogenic sources of pollutants. Condition 2.a. of Resolution No. 2006-0013 requires: "*For constituents other than indicator bacteria,*

*natural water quality will be determined using the reference station in the ocean in the vicinity of Goat Harbor or Italian Gardens near Twin Rocks Point on the northern coast of Santa Catalina Island. For indicator bacteria, the Ocean Plan bacteria objectives will be used*." The MRP of this Order incorporates the reference station monitoring requirements of Resolution No. 2006-0013.

The Ocean Plan contains implementation procedures for bacteria objectives which address minimum receiving water monitoring. Resolution 2006-0013 incorporates into the Ocean Plan mitigating conditions which address bacteria monitoring. The bacteria monitoring requirements in Resolution 2006-0013 therefore supersede the Ocean Plan section III.D Implementation Procedures for Bacterial Characteristics for this Order. As explained in Condition 2.o of Resolution 2006-0013 the bacteria monitoring requirements at the combined locations of the intake structure, effluent, reference station, and receiving water are meant to satisfy in total the Ocean Plan bacteria monitoring requirements.

**b. Receiving Water Monitoring at RSW-001**

Condition 2.m. of Resolution No. 2006-0013 specifies "*Once annually, during wet weather (storm event), the storm water runoff effluent and the receiving water adjacent to the seawater and storm water discharge system must be sampled and analyzed for Ocean Plan Table 1 constituents. The receiving water in Big Fisherman Cove must also be monitored for Ocean Plan indicator bacteria water quality objectives. The sample location for the receiving water will be immediately seaward of the surf zone in Big Fisherman Cove adjacent to the outfall location*." This Order includes monitoring requirements at RSW-001 to satisfy the condition 2.m. of Resolution No. 2006-0013.

**2. Groundwater– Not Applicable**

**E. Other Monitoring Requirements**

This Order includes additional monitoring requirements per the conditions of Resolution No. 2006-0013, including subtidal sediment monitoring, benthic marine life monitoring, and a metals bioaccumulation study.

## VII. 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 to the order.

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) 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 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 and/or Ocean Plan.

### 2. Special Studies and Additional Monitoring Requirements

#### a. Initial Investigation Toxicity Reduction Evaluation Workplan

This provision is based on section III.C.10 of the Ocean Plan.

#### b. Benthic Marine Life Survey

Condition 2.j. of Resolution No. 2006-0013 requires "*that at least once every permit cycle (every five years), a quantitative survey of benthic marine life must be performed near the discharge and at a reference site. The Los Angeles Water Board, in consultation with the State Water Board's Division of Water Quality, must approve the survey design. The results of the survey must be completed and submitted to the Los Angeles Water Board within six months before the end of the permit cycle (permit expiration)*." This Order incorporates the requirements of condition 2.j as special provision V.C.2.b.

During the last permit cycle, the Discharger fulfilled this requirement by participation in the Bight '13 Rocky Intertidal Study in lieu of conducting a benthic marine life survey. The consensus of the Bight '13 stakeholder and regulatory work group has identified the Rocky Intertidal Biology as an important indicator of near shore water quality and the benefit of participation in this element of the Bight '13 regional study provides better leverage of information than would be gathered by a site specific Benthic Marine Life Survey.

#### c. Metals Bioaccumulation Study

Condition 2.k of Resolution No. 2006-0013 specifies: "*Once during the upcoming permit cycle, a bioaccumulation study using mussels (Mytilus californianus) must be conducted to determine the concentrations of metals near field (within Big Fisherman Cove) and far field (at the reference station). The Los Angeles Water Board, in consultation with the Division of Water Quality, must approve the study design. The results of the survey must be completed and submitted to the Los Angeles Water Board at least six months prior to the end of the permit cycle (permit expiration). Based on the study results, the Los Angeles Water Board, in consultation with the Division of Water Quality, may adjust the study design in subsequent permits, or add additional test organisms*". This Order incorporates the requirements of condition 2.j as special provision V.C.2.c.

As required in Order No. R4-2008-0017, the Discharger conducted the Metals Bioaccumulation Study in March 2012 and submitted a final report to the Regional Water Board in March 2013. The final report indicates following results:

- Overall metals concentrations are remaining the same or showing significant decreases over time in mussel tissues. Metal concentrations found in this study were consistent with long term metal trends observed in the National Oceanic and Atmospheric Administration (NOAA) Status and Trends (S&T) Mussel Watch program.

- All mussel tissues concentrations for metals collected at the near field Wrigley Marine Science Center station location are below the 85 percent guideline as outlined by the State Board (2009) study.

- With few exception (e.g. cadmium), the western coast of Santa Catalina Island (ASBS No. 25) is showing no elevated levels of bioaccumulation of heavy metals in mussel tissues. There is no indication that storm water runoff is contributing to the observed cadmium based on the water quality data collected under the dischargers permit. The long term average concentration measured for cadmium from the EFF-001 seawater return is approximately 20 parts per trillion. (Ocean Plan 6-month median water quality objective for cadmium is 1 µg/L or 1 part per billion).

**d. Regional ASBS Monitoring**

This provision allows the Discharger to satisfy monitoring requirements through participation in a Regional Monitoring Program.

During the last permit cycle, in addition to participation in the Bight ’13 Rocky Intertidal Study, the Discharger was also a key contributor to the Bight ’08 program.

**e. Subtidal Sediment Monitoring**

Special Provision V.C.2.e is based on condition 2.n of Resolution No. 2006-0013. As required in this Order, the Discharger must conduct annual monitoring of subtidal sediment at SED-001 for Ocean Plan Table 1 constituents. For acute toxicity testing, the species *Eohaustorius estuarius* is required. As stipulated by Resolution No. 2006-0013, after the first year, the Regional Water Board will determine specific constituents to be tested during the remainder of each permit cycle, except that acute toxicity for sediment must be tested annually.

The Discharger conducted three monitorings for Ocean Plan Table 1 constituents in 2011 and 2012. Concentrations of constituents in sediment were generally not detected, with the exception of most metals, which were found in relatively low but detectable concentrations. No toxicity were observed in sediments using amphipod *Eohaustorius estuaries.*

**f. Receiving Water Monitoring Report**

Special Provision V.C.2.f. is based on condition 2.p. of Resolution No. 2006-0013 and is necessary to provide information to the Regional Water Board of potential impacts to the ASBS and steps taken to prevent alteration of natural water quality.

The Discharger indicated that no alteration of natural water quality measured based on the results of routine monitoring during the last permit period. Therefore, no receiving water monitoring report was required to be submitted.

### 3. Best Management Practices and Pollution Prevention

#### a. Storm Water Management Plan (SWMP)

The requirements of special condition VI.C.3.a are based on conditions 2.e, f, g, h, and i of Resolution No. 2006-0013, which collectively require the Discharger to develop and implement a SWMP designed to prevent all discharges of non-storm water facility runoff. Order No. R4-2008-0017 required the Discharger to develop a SWMP. This Order requires the Discharger to update and continue to implement the SWMP.

#### b. Pollutant Minimization Program

Monitoring data of TCDD congeners at EFF-002 were above the laboratory reported limits on February 7, 2012 and March 25, 2012. Based on RPA results, an effluent limitation for TCDD equivalents for EFF-002 (storm water discharge) was newly prescribed in the Order. The Discharger is responsible for the implementation of appropriate control measures and/or BMPs in the Storm Water Management Plan in response to the elevated levels of TCDD in the storm water discharged from the Facility. The TCDD monitoring frequency has been increased to twice per year at Discharge Point No. 002 because of the newly prescribed TCDD effluent limitation.

Monitoring data of TCDD congeners at EFF-001 (waste seawater discharge) were consistently below the laboratory reported limits and reported as DNQs. The presence of TCDD in the waste seawater at EFF-001 may be associated with the wild fire on Catalina Island that occurred in May 2011 and the resultant aerial deposition. In view of the very low detected concentrations of the TCDD congeners (all DNQs) in the waste seawater and no known source of TCDD associated with the operation, the development and implementation of a Pollutant Minimization Program (PMP) is not required in the Order.

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

The provision to notify the Regional Water Board 180 days prior to construction/facility modification is based on condition 2.s. of Resolution No. 2006-0013 and section III.E.2 of the Ocean Plan. This provision is necessary to prevent permanent or long-term water quality degradation within the ASBS.

### 5. Other Special Provisions

#### a. Implementing Nonpoint Source Management Plan

Special Provision V.C.5.a requires the Discharger to implement a Nonpoint Source Management Plan. As required in conditions 2.r of Resolution No. 2006-0013, the Discharger prepared a waterfront and marine operations nonpoint source management plan in 2012. Because the Discharger's site is located at the water's edge, potential pollutants at the site are subject to reduced buffering by natural processes. The Nonpoint Source Management Plan includes applicable management measures as described in the State's Nonpoint Source Program Implementation Plan for marinas and recreational boating. This permit requires the implementation of the Management Plan.

#### b. Program for Prevention of Biological Pollutants

The discharge has the potential to introduce invasive species or pathogenic organisms. Such accidental introductions could alter the marine community in an undesirable way. To prevent such introductions, condition 2.q of Resolution No. 2006-0013 requires the Discharger to pursue and implement a program for prevention of Biological Pollutants (non-native invasive species) in consultation with the California Department of Fish and Game Marine Resources Division. This requirement is incorporated into this Order as Special Provision V.C.5.b.

### 6. Compliance Schedules – Not Applicable

## VIII. PUBLIC PARTICIPATION

The Regional Water Board has considered the issuance of WDR's, as well as an amendment thereto, that will serve as an NPDES permit for the Wrigley Marine Science Center. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDR's and has encouraged public participation in the WDR adoption process.

### A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe, and amend, waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided to all interested parties.

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

### B. Written Comments

The staff determinations are tentative. Interested persons were invited to submit written comments concerning tentative WDRs as provided through the notification process electronically at losangeles@waterboards.ca.gov with a copy to JauRen.C~~j~~rchen@waterboards.ca.gov.

To be fully responded to by staff and considered by the Regional Water Board, ~~the~~ written comments pertaining to adoption of Order R4-2013-0172 were due at the Regional Water Board offices by 5:00 p.m. on October 14, 2013. Written comments pertaining to amending Order R4-2013-0172-A01 were due at the Regional Water Board offices by 5:00 p.m. on November 23, 2015.

### C. Public Hearing

The Regional Water Board held a public hearing to adopt Order R4-2013-0172 ~~on the tentative WDRs~~ during its regular Board meeting on the following date and time and at the following location:

| | |
|---|---|
| Date: | November 7, 2013 |
| Time: | 9:00 A.M. |
| Location: | The City of Simi Valley<br>2929 Tapo Canyon Road<br>Simi Valley, California |

T E N T A T I V E

The Regional Water Board held a public hearing to amend Order R4-2013-0172 during its regular Board meeting on the following date and time and at the following location:

Date: December 10, 2015
Time: 9:00 A.M.
Location: Metropolitan Water District of Southern California, Board Room
700 North Alameda Street
Los Angeles, California

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

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

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**D. Reconsideration of Waste Discharge Requirements**

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

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

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

**E. Information and Copying**

The Report of Waste Discharge, other supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (213) 576-6600.

**F. Register of Interested Persons**

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

**G. Additional Information**

Requests for additional information or questions regarding this order should be directed to Jau Ren Chen at (213) 576-6656.

## ATTACHMENT G – STATE WATER BOARD MINIMUM LEVELS

The Minimum Levels identified in this appendix represent the lowest concentration of a pollutant that can be quantitatively measured in a sample given the current state of performance in analytical chemistry methods in California. These Minimum Levels were derived from data provided by state-certified analytical laboratories in 1997 and 1998 for pollutants regulated by the California Ocean Plan and shall be used until new values are adopted by the State Water Board. There are four major chemical groupings: volatile chemicals, semi-volatile chemicals, inorganics, pesticides & PCB's. "No Data" is indicated by "--".

**TABLE II-1**
**MINIMUM LEVELS – VOLATILE CHEMICALS**

| Volatile Chemicals | CAS Number | Minimum Level* (µ/L) | |
|---|---|---|---|
| | | GC Method[a] | GCMS Method[b] |
| Acrolein | 107028 | 2. | 5 |
| Acrylonitrile | 107131 | 2. | 2 |
| Benzene | 71432 | 0.5 | 2 |
| Bromoform | 75252 | 0.5 | 2 |
| Carbon Tetrachloride | 56235 | 0.5 | 2 |
| Chlorobenzene | 108907 | 0.5 | 2 |
| Chlorodibromomethane | 124481 | 0.5 | 2 |
| Chloroform | 67663 | 0.5 | 2 |
| 1,2-Dichlorobenzene (volatile) | 95501 | 0.5 | 2 |
| 1,3-Dichlorobenzene (volatile) | 541731 | 0.5 | 2 |
| 1,4-Dichlorobenzene (volatile) | 106467 | 0.5 | 2 |
| Dichlorobromomethane | 75274 | 0.5 | 2 |
| 1,1-Dichloroethane | 75343 | 0.5 | 1 |
| 1,2-Dichloroethane | 107062 | 0.5 | 2 |
| 1,1-Dichloroethylene | 75354 | 0.5 | 2 |
| Dichloromethane | 75092 | 0.5 | 2 |
| 1,3-Dichloropropene (volatile) | 542756 | 0.5 | 2 |
| Ethyl benzene | 100414 | 0.5 | 2 |
| Methyl Bromide | 74839 | 1. | 2 |
| Methyl Chloride | 74873 | 0.5 | 2 |
| 1,1,2,2-Tetrachloroethane | 79345 | 0.5 | 2 |
| Tetrachloroethylene | 127184 | 0.5 | 2 |
| Toluene | 108883 | 0.5 | 2 |
| 1,1,1-Trichloroethane | 71556 | 0.5 | 2 |
| 1,1,2-Trichloroethane | 79005 | 0.5 | 2 |
| Trichloroethylene | 79016 | 0.5 | 2 |
| Vinyl Chloride | 75014 | 0.5 | 2 |

**Table II-1 Notes**

a) GC Method = Gas Chromatography
b) GCMS Method = Gas Chromatography / Mass Spectrometry

* To determine the lowest standard concentration in an instrument calibration curve for these techniques, use the given ML (see Ocean Plan, Chapter III, "Use of Minimum Levels").

T E N T A T I V E

**TABLE II-2**
**MINIMUM LEVELS – SEMI VOLATILE CHEMICALS**

| Semi-Volatile Chemicals | CAS Number | Minimum* Level (µg/L) | | | |
|---|---|---|---|---|---|
| | | GC Method[a] | GCMS Method[b] | HPLC Method[c] | COLOR Method[d] |
| Acenapthylene | 208968 | -- | 10 | 0.2 | -- |
| Anthracene | 120127 | -- | 10 | 2 | -- |
| Benzidine | 92875 | -- | 5 | -- | -- |
| Benzo(a)anthracene | 56553 | -- | 10 | 2 | -- |
| Benzo(a)pyrene | 50328 | -- | 10 | 2 | -- |
| Benzo(b)fluoranthene | 205992 | -- | 10 | 10 | -- |
| Benzo(g,h,i)perylene | 191242 | -- | 5 | 0.1 | -- |
| Benzo(k)floranthene | 207089 | -- | 10 | 2 | -- |
| Bis2-(1-Chloroethoxy) methane | 111911 | -- | 5 | -- | -- |
| Bis(2-Chloroethyl)ether | 111444 | 10 | 1 | -- | -- |
| Bis(2-Chloroisopropyl)ether | 39638329 | 10 | 2 | -- | -- |
| Bis(2-Ethylhexyl) phthalate | 117817 | 10 | 5 | -- | -- |
| 2-Chlorophenol | 95578 | 2 | 5 | -- | -- |
| Chrysene | 218019 | -- | 10 | 5 | -- |
| Di-n-butyl phthalate | 84742 | -- | 10 | -- | -- |
| Dibenzo(a,h)anthracene | 53703 | -- | 10 | 0.1 | -- |
| 1,2-Dichlorobenzene (semivolatile) | 95504 | 2 | 2 | -- | -- |
| 1,3-Dichlorobenzene (semivolatile) | 541731 | 2 | 1 | -- | -- |
| 1,4-Dichlorobenzene (semivolatile) | 106467 | 2 | 1 | -- | -- |
| 3,3-Dichlorobenzidine | 91941 | -- | 5 | -- | -- |
| 2,4-Dichlorophenol | 120832 | 1 | 5 | -- | -- |
| 1,3-Dichloropropene | 542756 | -- | 5 | -- | |
| Diethyl phthalate | 84662 | 10 | 2 | -- | -- |
| Dimethyl phthalate | 131113 | 10 | 2 | -- | -- |
| 2,4-Dimethylphenol | 105679 | 1 | 2 | -- | -- |
| 2,4-Dinitrophenol | 51285 | 5 | 5 | -- | -- |
| 2,4-Dinitrotoluene | 121142 | 10 | 5 | -- | -- |
| 1,2-Diphenylhydrazine | 122667 | -- | 1 | -- | -- |
| Fluoranthene | 206440 | 10 | 1 | 0.05 | -- |
| Fluorene | 86737 | -- | 10 | 0.1 | -- |
| Hexachlorobenzene | 118741 | 5 | 1 | -- | -- |
| Hexachlorobutadiene | 87683 | 5 | 1 | -- | -- |
| Hexachlorocyclopentadiene | 77474 | 5 | 5 | -- | -- |
| Hexachloroethane | 67721 | 5 | 1 | -- | -- |
| Indeno(1,2,3-cd)pyrene | 193395 | -- | 10 | 0.05 | -- |
| Isophorone | 78591 | 10 | 1 | -- | -- |
| 2-methyl-4,6-dinitrophenol | 534521 | 10 | 5 | -- | -- |
| 3-methyl-4-chlorophenol | 59507 | 5 | 1 | -- | -- |
| N-nitrosodi-n-propylamine | 621647 | 10 | 5 | -- | -- |
| N-nitrosodimethylamine | 62759 | 10 | 5 | -- | -- |
| N-nitrosodiphenylamine | 86306 | 10 | 1 | -- | -- |
| Nitrobenzene | 98953 | 10 | 1 | -- | -- |
| 2-Nitrophenol | 88755 | -- | 10 | -- | -- |

T E N T A T I V E

| Semi-Volatile Chemicals | CAS Number | Minimum* Level (µg/L) | | | |
|---|---|---|---|---|---|
| | | GC Method[a] | GCMS Method[b] | HPLC Method[c] | COLOR Method[d] |
| 4-Nitrophenol | 100027 | 5 | 10 | -- | -- |
| Pentachlorophenol | 87865 | 1 | 5 | -- | -- |
| Phenanthrene | 85018 | -- | 5 | 0.05 | -- |
| Phenol | 108952 | 1 | 1 | -- | 50 |
| Pyrene | 129000 | -- | 10 | 0.05 | -- |
| 2,4,6-Trichlorophenol | 88062 | 10 | 10 | -- | -- |

**Table II-2 Notes:**

a) GC Method = Gas Chromatography
b) GCMS Method = Gas Chromatography / Mass Spectrometry
c) HPLC Method = High Pressure Liquid Chromatography
d) COLOR Method = Colorimetric

* To determine the lowest standard concentration in an instrument calibration curve for this technique, multiply the given ML by 1000 (see Ocean Plan, Chapter III, "Use of Minimum Levels").

TENTATIVE

**TABLE II-3**
**MINIMUM* LEVELS – INORGANICS**

| Inorganic Substances | CAS Number | Minimum* Level (µg/L) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | COLOR Method[a] | DCP Method[b] | FAA Method[c] | GFAA Method[d] | HYBRIDE Method[e] | ICP Method[f] | ICPMS Method[g] | SPGFAA Method[h] | CVAA Method[i] |
| Antimony | 7440360 | -- | 1000. | 10. | 5. | 0.5 | 50. | 0.5 | 5. | -- |
| Arsenic | 7440382 | 20. | 1000. | -- | 2. | 1. | 10. | 2. | 2. | -- |
| Beryllium | 7440417 | -- | 1000. | 20. | 0.5 | -- | 2. | 0.5 | 1. | -- |
| Cadmium | 7440439 | -- | 1000. | 10. | 0.5 | -- | 10. | 0.2 | 0.5 | -- |
| Chromium (total) | -- | -- | 1000. | 50. | 2. | -- | 10. | 0.5 | 1. | -- |
| Chromium (VI) | 18540299 | 10. | -- | 5. | -- | -- | -- | -- | -- | -- |
| Copper | 7440508 | -- | 1000. | 20. | 5. | -- | 10. | 0.5 | 2. | -- |
| Cyanide | 57125 | 5. | -- | -- | -- | -- | -- | -- | -- | -- |
| Lead | 7439921 | -- | 10000. | 20. | 5. | -- | 5. | 0.5 | 2. | -- |
| Mercury | 7439976 | -- | -- | -- | -- | -- | -- | 0.5 | -- | 0.2 |
| Nickel | 7440020 | -- | 1000. | 50. | 5. | -- | 20. | 1. | 5. | -- |
| Selenium | 7782492 | -- | 1000. | -- | 5. | 1. | 10. | 2. | 5. | -- |
| Silver | 7440224 | -- | 1000. | 10. | 1. | -- | 10. | 0.2 | 2. | -- |
| Thallium | 7440280 | -- | 1000. | 10. | 2. | -- | 10. | 1. | 5. | -- |
| Zinc | 7440666 | -- | 1000. | 20. | -- | -- | 20. | 1. | 10. | -- |

**Table II-3 Notes**

a) COLOR Method = Colorimetric
b) DCP Method = Direct Current Plasma
c) FAA Method = Flame Atomic Absorption
d) GFAA Method = Graphite Furnace Atomic Absorption
e) HYDRIDE Method = Gaseous Hydride Atomic Absorption
f) ICP Method = Inductively Coupled Plasma
g) ICPMS Method = Inductively Coupled Plasma / Mass Spectrometry
h) SPGFAA Method = Stabilized Platform Graphite Furnace Atomic Absorption (i.e., US EPA 200.9)
i) CVAA Method = Cold Vapor Atomic Absorption

* To determine the lowest standard concentration in an instrument calibration curve for these techniques, use the given ML (see Ocean Plan, Chapter III, "Use of Minimum* Levels").

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**TABLE II-4**
**MINIMUM* LEVELS – PESTICIDES AND PCBs***

| Pesticides – PCB's | CAS Number | Minimum* Level (µg/L) GC Method[a] |
|---|---|---|
| Aldrin | 309002 | 0.005 |
| Chlordane | 57749 | 0.1 |
| 4,4'-DDD | 72548 | 0.05 |
| 4,4'-DDE | 72559 | 0.05 |
| 4,4'-DDT | 50293 | 0.01 |
| Dieldrin | 60571 | 0.01 |
| a-Endosulfan | 959988 | 0.02 |
| b-Endosulfan | 33213659 | 0.01 |
| Endosulfan Sulfate | 1031078 | 0.05 |
| Endrin | 72208 | 0.01 |
| Heptachlor | 76448 | 0.01 |
| Heptachlor Epoxide | 1024573 | 0.01 |
| a-Hexachlorocyclohexane | 319846 | 0.01 |
| b-Hexachlorocyclohexane | 319857 | 0.005 |
| d-Hexachlorocyclohexane | 319868 | 0.005 |
| g-Hexachlorocyclohexane (Lindane) | 58899 | 0.02 |
| PCB1016 | -- | 0.5 |
| PCB1221 | -- | 0.5 |
| PCB1232 | -- | 0.5 |
| PCB1242 | -- | 0.5 |
| PCB1248 | -- | 0.5 |
| PCB1254 | -- | 0.5 |
| PCB1260 | -- | 0.5 |
| Toxaphene | 8001352 | 0.5 |

**Table II-4 Notes**

a) GC Method = Gas Chromatography

* To determine the lowest standard concentration in an instrument calibration curve for this technique, multiply the given ML by 100 (see Ocean Plan, Chapter III, “Use of Minimum Levels”)

TENTATIVE

**ATTACHMENT H – STATE WATER BOARD RESOLUTION NO. 2006-0013**

TENTATIVE

## ATTACHMENT I – SUMMARY OF REASONABLE POTENTIAL ANALYSIS

### Discharge Point No. 001

| Pollutant | Unit | No. of Results | No. ND/DNQ | MEC | Co | B | Endpoint* |
|---|---|---|---|---|---|---|---|
| Arsenic | µg/l | 5 | 0 | 1.1 | 8 | 3 | 2 |
| Cadmium | µg/l | 5 | 0 | 0.023 | 1 | 0 | 2 |
| Chromium (Hexavalent) | µg/l | 4 | 2 | 0.39 | 2 | 0 | 3 |
| Copper | µg/l | 5 | 0 | 1.3 | 3 | 2 | 1 |
| Lead | µg/l | 41 | 3 | 0.644 | 2 | 0 | 2 |
| Mercury | µg/l | 5 | 3 | 0.00056 | 0.04 | 0.0005 | 3 |
| Nickel | µg/l | 5 | 0 | 0.64 | 5 | 0 | 2 |
| Selenium | µg/l | 41 | 40 | 0.03 | 15 | 0 | 2 |
| Silver | µg/l | 5 | 5 | <0.018 | 0.7 | 0.16 | 3 |
| Zinc | µg/l | 42 | 4 | 20 | 20 | 8 | 2 |
| Cyanide | µg/l | 5 | 5 | <2.7 | 1 | 0 | 3 |
| Total Chlorine Residual | µg/l | 5 | 4/1 DNQ | <1.5 | 2 | 0 | 3 |
| Ammonia (expresed as Nitrogen) | µg/l | 5 | 4 | 72 | 600 | 0 | 3 |
| Acute Toxicity | TUa | 5 | NA | 0.85 | 0.3 | 0 | 3 |
| Chronic Toxicity-Giant Kelp Germination | Tuc | 3 | NA | >4 | 1 | 0 | 1 |
| Chronic Toxicity-Giant Kelp Growth | Tuc | 3 | NA | 2 | 1 | 0 | 1 |
| Chronic Toxicity-Sea Urchin Fertilization | Tuc | 3 | NA | 1 | 1 | 0 | 3 |
| Chronic Toxicity-Topsmelt 7-day Survival | Tuc | 3 | NA | 1 | 1 | 0 | 3 |
| Chronic Toxicity- Topsmelt 7-day Growth | Tuc | 3 | NA | 1 | 1 | 0 | 3 |
| Phenolic Compounds (non-chlorinated) | µg/l | 5 | 5 | <0.16 | 30 | 0 | 3 |
| Chlorinated Phenolics | µg/l | 5 | 4 | 1.2 | 1 | 0 | 3 |
| Endosulfan | µg/l | 5 | 5 | <0.0017 | 0.009 | 0 | 3 |
| Endrin | µg/l | 5 | 5 | <0.0028 | 0.002 | 0 | 3 |
| HCH | µg/l | 5 | 5 | <0.0018 | 0.004 | 0 | 3 |
| Acrolein | µg/l | 5 | 5 | <2.2 | 220 | 0 | 3 |
| Antimony | µg/l | 5 | 2/3 DNQs | 0.16 | 1200 | 0 | 3 |
| Bis(2-chloroethoxy)methane | µg/l | 5 | 5 | <0.25 | 4.4 | 0 | 3 |
| Bis(2-chloroisopropyl)ether | µg/l | 5 | 5 | <0.38 | 1200 | 0 | 3 |
| Chlorobenzene | µg/l | 5 | 5 | <0.21 | 570 | 0 | 3 |
| Chromium (III) | µg/l | 4 | 3 | 0 | 190000 | 0 | 3 |
| Di-n-butyl phthalate | µg/l | 5 | 5 | <0.24 | 3500 | 0 | 3 |
| Dichlorobenzenes | µg/l | 5 | 5 | <0.53 | 5100 | 0 | 3 |
| Diethyl Phthalate | µg/l | 5 | 5 | <0.15 | 33000 | 0 | 3 |
| Dimethyl Phthalate | µg/l | 5 | 5 | <0.18 | 820000 | 0 | 3 |
| 4,6-Dinitro-2-methylphenol | µg/l | 5 | 5 | <1.7 | 220 | 0 | 3 |
| 2,4-dinitrophenol | µg/l | 5 | 5 | <1.6 | 4 | 0 | 3 |
| Ethylbenzene | µg/l | 5 | 5 | <0.17 | 4100 | 0 | 3 |

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| Pollutant | Unit | No. of Results | No. ND/DNQ | MEC | Co | B | Endpoint* |
|---|---|---|---|---|---|---|---|
| Fluoranthene | µg/l | 5 | 5 | <0.02 | 15 | 0 | 3 |
| Hexachlorocyclopentadiene | µg/l | 5 | 5 | <1.5 | 58 | 0 | 3 |
| Nitrobenzene | µg/l | 5 | 5 | <0.36 | 4.9 | 0 | 3 |
| Thallium | µg/l | 5 | 2 | 0.015 | 2 | 0 | 2 |
| Toluene | µg/l | 5 | 5 | <0.22 | 85000 | 0 | 3 |
| Tributyltin | µg/l | 5 | 5 | <0.03 | 0.0014 | 0 | 3 |
| 1,1,1-Trichloroethane | µg/l | 5 | 5 | <0.38 | 540000 | 0 | 3 |
| Acrylonitrile | µg/l | 5 | 5 | <1.8 | 0.1 | 0 | 3 |
| Aldrin | µg/l | 5 | 5 | <0.001 | 0.000022 | 0 | 3 |
| Benzene | µg/l | 5 | 5 | <0.23 | 5.9 | 0 | 3 |
| Benzidine | µg/l | 5 | 5 | <3.7 | 0.000069 | 0 | 3 |
| Beryllium | µg/l | 5 | 5 | <0.039 | 0.033 | 0 | 3 |
| Bis(2-chloroethyl)ether | µg/l | 5 | 5 | <0.27 | 0.045 | 0 | 3 |
| Bis(2-ethylhexyl)Phthalate | µg/l | 5 | 5 | <2.3 | 3.5 | 0 | 3 |
| Carbon Tetrachloride | µg/l | 5 | 5 | <0.33 | 0.9 | 0 | 3 |
| Chlordane | µg/l | 5 | 5 | <0.005 | 0.000023 | 0 | 3 |
| Chlorodibromomethane | µg/l | 5 | 5 | <0.38 | 8.6 | 0 | 3 |
| Chloroform | µg/l | 5 | 5 | <0.25 | 130 | 0 | 3 |
| DDT | µg/l | 5 | 5 | <0.0025 | 0.00017 | 0 | 3 |
| 1,4-Dichlorobenzene | µg/l | 5 | 5 | <0.55 | 18 | 0 | 3 |
| 3,3'-Dichlorobenzidine | µg/l | 5 | 5 | <1.2 | 0.0081 | 0 | 3 |
| 1,2-Dichloroethane | µg/l | 5 | 5 | <0.24 | 28 | 0 | 3 |
| 1,1-Dichloroethylene | µg/l | 5 | 5 | <0.39 | 0.9 | 0 | 3 |
| Dichlorobromomethane | µg/l | 5 | 5 | <0.28 | 6.2 | 0 | 3 |
| Dichloromethane | µg/l | 5 | 5 | <0.25 | 450 | 0 | 3 |
| 1,3-Dichloropropene | µg/l | 5 | 5 | <0.22 | 8.9 | 0 | 3 |
| Dieldrin | µg/l | 5 | 5 | <0.0021 | 0.00004 | 0 | 3 |
| 2,4-Dinitrotoluene | µg/l | 5 | 5 | <0.18 | 2.6 | 0 | 3 |
| 1,2-Diphenylhydrazine | µg/l | 5 | 5 | <0.25 | 0.16 | 0 | 3 |
| Halomethanes | µg/l | 5 | 5 | <0.26 | 130 | 0 | 3 |
| Heptachlor | µg/l | 5 | 5 | <0.0017 | 0.00005 | 0 | 3 |
| Heptachlor epoxide | µg/l | 5 | 5 | <0.0017 | 0.00002 | 0 | 3 |
| Hexachlorobenzene | µg/l | 5 | 5 | <0.49 | 0.00021 | 0 | 3 |
| Hexachlorobutadiene | µg/l | 5 | 5 | <0.47 | 14 | 0 | 3 |
| Hexachloroethane | µg/l | 5 | 5 | <0.52 | 2.5 | 0 | 3 |
| Isophorone | µg/l | 5 | 5 | <0.21 | 730 | 0 | 3 |
| N-Nitrosodimethylamine | µg/l | 5 | 5 | <0.0012 | 7.3 | 0 | 3 |
| N-Nitrosodi-N-Propylamine | µg/l | 5 | 5 | <0.0012 | 0.38 | 0 | 3 |
| N-Nitrosodiphenylamine | µg/l | 5 | 5 | <0.19 | 2.5 | 0 | 3 |
| PAHs | µg/l | 5 | 5 | <0.02 | 0.0088 | 0 | 3 |
| PCB-sum | µg/l | 5 | 5 | <0.04 | 0.000019 | 0 | 3 |
| TCDD-TEQ | µg/l | 5 | 5 | <0.481 | 3.90E-09 | 0 | 3 |
| 1,1,2,2-Tetrachloroethane | µg/l | 5 | 5 | <0.18 | 2.3 | 0 | 3 |
| Tetrachloroethylene | µg/l | 5 | 5 | <0.27 | 2 | 0 | 3 |
| Toxaphene | µg/l | 5 | 5 | <0.12 | 0.00021 | 0 | 3 |
| Trichloroethylene | µg/l | 5 | 5 | <0.37 | 27 | 0 | 3 |

TENTATIVE

| Pollutant | Unit | No. of Results | No. ND/DNQ | MEC | Co | B | Endpoint* |
|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloroethane | µg/l | 5 | 5 | <0.25 | 9.4 | 0 | 3 |
| 2,4,6-Trichlorophenol | µg/l | 5 | 5 | <0.22 | 0.29 | 0 | 3 |
| Vinyl Chloride | µg/l | 5 | 5 | <0.33 | 36 | 0 | 3 |

**Discharge Point No. 002**

| Pollutant | Unit | No. of Result | No. ND | MEC | Co | B | Endpoint* |
|---|---|---|---|---|---|---|---|
| Arsenic | µg/l | 3 | 0 | 1.9 | 8 | 3 | 1 |
| Cadmium | µg/l | 3 | 0 | 0.18 | 1 | 0 | 3 |
| Chromium (Hexavalent) | µg/l | 2 | 1 | 0.11 | 2 | 0 | 3 |
| Copper | µg/l | 3 | 0 | 15 | 3 | 2 | 1 |
| Lead | µg/l | 3 | 0 | 4.5 | 2 | 0 | 1 |
| Mercury | µg/l | 3 | 1 | 0.019 | 0.04 | 0.0005 | 3 |
| Nickel | µg/l | 3 | 0 | 15 | 5 | 0 | 1 |
| Selenium | µg/l | 3 | 0 | 0.34 | 15 | 0 | 3 |
| Silver | µg/l | 3 | 2 | 0.052 | 0.7 | 0.16 | 3 |
| Zinc | µg/l | 3 | 0 | 150 | 20 | 8 | 1 |
| Cyanide | µg/l | 3 | 3 | <2.7 | 1 | 0 | 3 |
| Total Chlorine Residual | µg/l | 3 | 0/3 DNQs | <50 | 2 | 0 | 3 |
| Ammonia (expresed as Nitrogen) | µg/l | 3 | 1 | 150 | 600 | 0 | 3 |
| Acute Toxicity | % survival | 3 | NA | 0.53 | 0.3 | 0 | 3 |
| Chronic Toxicity-Giant Kelp Germination | Tuc | 3 | NA | >4 | 1 | 0 | 1 |
| Chronic Toxicity-Giant Kelp Growth | Tuc | 3 | NA | 1 | 1 | 0 | 3 |
| Chronic Toxicity-Sea Urchin Fertilization | Tuc | 3 | NA | 1 | 1 | 0 | 3 |
| Chronic Toxicity-Pacifici Topsmelt 7-day Survival | Tuc | 3 | NA | 1 | 1 | 0 | 3 |
| Chronic Toxicity-Pacifici Topsmelt Growth | Tuc | 3 | NA | 1 | 1 | 0 | 3 |
| Phenolic Compounds(non-chlorinated) | µg/l | 3 | 3 | <0.16 | 30 | 0 | 3 |
| Chlorinated phenolics | µg/l | 3 | 3/1 DNQ | <0.19 | 1 | 0 | 3 |
| Endosulfan | µg/l | 3 | 3 | <0.0017 | 0.009 | 0 | 3 |
| Endrin | µg/l | 3 | 3 | <0.0028 | 0.002 | 0 | 3 |
| HCH | µg/l | 3 | 3 | <0.0018 | 0.004 | 0 | 3 |
| Acrolein | µg/l | 3 | 3 | <2.2 | 220 | 0 | 3 |
| Antimony | µg/l | 3 | 2/1 DNQ | <0.09 | 1200 | 0 | 3 |
| Bis(2-chloroethoxy)methane | µg/l | 3 | 3 | <0.25 | 4.4 | 0 | 3 |
| Bis(2-chloroisopropyl)ether | µg/l | 3 | 3 | <0.38 | 1200 | 0 | 3 |
| Chlorobenzene | µg/l | 3 | 3 | <0.21 | 570 | 0 | 3 |
| Chromium (III) | µg/l | 3 | 1 | 23 | 190000 | 0 | 3 |
| Di-n-butyl phthalate | µg/l | 3 | 3 | <0.24 | 3500 | 0 | 3 |
| Dichlorobenzenes | µg/l | 3 | 3 | <0.53 | 5100 | 0 | 3 |

TENTATIVE

| Pollutant | Unit | No. of Result | No. ND | MEC | Co | B | Endpoint* |
|---|---|---|---|---|---|---|---|
| Diethyl Phthalate | µg/l | 3 | 3 | <0.15 | 33000 | 0 | 3 |
| Dimethyl Phthalate | µg/l | 3 | 3 | <0.18 | 820000 | 0 | 3 |
| 4,6-Dinitro-2-methylphenol | µg/l | 3 | 3 | <1.7 | 220 | 0 | 3 |
| 2,4-dinitrophenol | µg/l | 3 | 3 | <1.6 | 4 | 0 | 3 |
| Ethylbenzene | µg/l | 3 | 3 | <0.17 | 4100 | 0 | 3 |
| Fluoranthene | µg/l | 3 | 2/1 DNQ | <0.02 | 15 | 0 | 3 |
| Hexachlorocyclopentadiene | µg/l | 3 | 3 | <1.5 | 58 | 0 | 3 |
| Nitrobenzene | µg/l | 3 | 3 | <0.36 | 4.9 | 0 | 3 |
| Thallium | µg/l | 3 | 1/1DNQ | 0.065 | 2 | 0 | 3 |
| Toluene | µg/l | 3 | 3 | <0.22 | 85000 | 0 | 3 |
| Tributyltin | µg/l | 3 | 3 | <0.03 | 0.0014 | 0 | 3 |
| 1,1,1-Trichloroethane | µg/l | 3 | 3 | <0.38 | 540000 | 0 | 3 |
| Acrylonitrile | µg/l | 3 | 3 | <1.8 | 0.1 | 0 | 3 |
| Aldrin | µg/l | 3 | 3 | <0.0015 | 0.000022 | 0 | 3 |
| Benzene | µg/l | 3 | 3 | <0.23 | 5.9 | 0 | 3 |
| Benzidine | µg/l | 3 | 3 | <3.7 | 0.000069 | 0 | 3 |
| Beryllium | µg/l | 3 | 0 | 0.25 | 0.033 | 0 | 1 |
| Bis(2-chloroethyl)ether | µg/l | 3 | 3 | <0.27 | 0.045 | 0 | 3 |
| Bis(2-ethylhexyl)Phthalate | µg/l | 3 | 3 | <2.3 | 3.5 | 0 | 3 |
| Carbon Tetrachloride | µg/l | 3 | 3 | <0.33 | 0.9 | 0 | 3 |
| Chlordane | µg/l | 3 | 3 | <0.005 | 0.000023 | 0 | 3 |
| Chlorodibromomethane | µg/l | 3 | 3 | <0.38 | 8.6 | 0 | 3 |
| Chloroform | µg/l | 3 | 3 | <0.25 | 130 | 0 | 3 |
| DDT | µg/l | 3 | 3 | <0.0025 | 0.00017 | 0 | 3 |
| 1,4-Dichlorobenzene | µg/l | 3 | 3 | <0.37 | 18 | 0 | 3 |
| 3,3'-Dichlorobenzidine | µg/l | 3 | 3 | <1.2 | 0.0081 | 0 | 3 |
| 1,2-Dichloroethane | µg/l | 3 | 3 | <0.24 | 28 | 0 | 3 |
| 1,1-Dichloroethylene | µg/l | 3 | 3 | <0.39 | 0.9 | 0 | 3 |
| Dichlorobromomethane | µg/l | 3 | 3 | <0.28 | 6.2 | 0 | 3 |
| Dichloromethane | µg/l | 3 | 3 | <0.25 | 450 | 0 | 3 |
| 1,3-Dichloropropene | µg/l | 3 | 3 | <0.22 | 8.9 | 0 | 3 |
| Dieldrin | µg/l | 3 | 3 | <0.0021 | 0.00004 | 0 | 3 |
| 2,4-Dinitrotoluene | µg/l | 3 | 3 | <0.18 | 2.6 | 0 | 3 |
| 1,2-Diphenylhydrazine | µg/l | 3 | 3 | <0.25 | 0.16 | 0 | 3 |
| Halomethanes | µg/l | 3 | 3 | <0.26 | 130 | 0 | 3 |
| Heptachlor | µg/l | 3 | 3 | <0.0017 | 0.00005 | 0 | 3 |
| Heptachlor epoxide | µg/l | 3 | 3 | <0.0019 | 0.00002 | 0 | 3 |
| Hexachlorobenzene | µg/l | 3 | 3 | <0.49 | 0.00021 | 0 | 3 |
| Hexachlorobutadiene | µg/l | 3 | 3 | <0.47 | 14 | 0 | 3 |
| Hexachloroethane | µg/l | 3 | 3 | <0.52 | 2.5 | 0 | 3 |
| Isophorone | µg/l | 3 | 3 | <0.21 | 730 | 0 | 3 |
| N-Nitrosodimethylamine | µg/l | 3 | 3 | <0.0012 | 7.3 | 0 | 3 |
| N-Nitrosodi-N-Propylamine | µg/l | 3 | 3 | <0.0012 | 0.38 | 0 | 3 |
| N-Nitrosodiphenylamine | µg/l | 3 | 3 | <0.19 | 2.5 | 0 | 3 |
| PAHs | µg/l | 3 | 3 | <0.02 | 0.0088 | 0 | 3 |
| PCB-sum | µg/l | 3 | 3 | <0.04 | 0.000019 | 0 | 3 |

TENTATIVE

| Pollutant | Unit | No. of Result | No. ND | MEC | Co | B | Endpoint* |
|---|---|---|---|---|---|---|---|
| TCDD-TEQ | µg/l | 3 | 1/1 DNQ | 0.000000755 | 3.90E-09 | 0 | 1 |
| 1,1,2,2-Tetrachloroethane | µg/l | 3 | 3 | <0.18 | 2.3 | 0 | 3 |
| Tetrachloroethylene | µg/l | 3 | 3 | <0.27 | 2 | 0 | 3 |
| Toxaphene | µg/l | 3 | 3 | <0.12 | 0.00021 | 0 | 3 |
| Trichloroethylene | µg/l | 3 | 3 | <0.37 | 27 | 0 | 3 |
| 1,1,2-Trichloroethane | µg/l | 3 | 3 | <0.25 | 9.4 | 0 | 3 |
| 2,4,6-Trichlorophenol | µg/l | 3 | 3 | <0.22 | 0.29 | 0 | 3 |
| Vinyl Chloride | µg/l | 3 | 3 | <0.33 | 36 | 0 | 3 |

DNQ = Detected, but Not Quantified.

* According to the 2012 Ocean Plan amendment, the reasonable potential analysis (RPA) can yield three endpoints:

1) Endpoint 1, an effluent limitation is required and monitoring is required;
2) Endpoint 2, an effluent limitation is not required for the pollutant. Appendix III effluent monitoring is not required for the pollutant, the Regional Water Board, however, may require monitoring for the pollutant or for whole effluent toxicity as appropriate; and
3) Endpoint 3, the RPA is inconclusive, monitoring is required, and an existing effluent limitation may be retained or a permit reopener clause may be included to allow inclusion of an effluent limitation if future monitoring warrants the inclusion.

TENTATIVE

**ATTACHMENT J – INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION**

TENTATIVE