

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

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**ORDER NO. R4-2010-0184
AMENDING ORDER NO. R4-2009-0086
NPDES NO. CA0064581**

**WASTE DISCHARGE REQUIREMENTS
FOR
WEST BASIN MUNICIPAL WATER DISTRICT
TEMPORARY OCEAN WATER DESALINATION DEMONSTRATION PROJECT**

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

Table 1. Discharger Information

| | |
|--|--|
| Dischargerw | West Basin Municipal Water District |
| Name of Facility | Temporary Ocean Water Desalination Demonstration Project |
| Facility Address | 1021 North Harbor Drive |
| | Redondo Beach, California 90277 |
| | Los Angeles County |
| The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a minor discharge. | |

The discharge by the West Basin Municipal Water District from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

| Discharge Point | Effluent Description | Discharge Point Latitude | Discharge Point Longitude | Receiving Water |
|------------------------|---|---------------------------------|----------------------------------|----------------------------------|
| 001 | Seawater and reconstituted seawater consisting of potable water and brine | 33°, 50', 59" | 118 ° 24' 12" | Pacific Ocean near Redondo Beach |

Table 3. Administrative Information

| | |
|---|---|
| This Order was adopted by the Regional Water Quality Control Board on: | October 7, 2010 |
| This Order shall become effective on: | October 7, 2010 |
| This Order shall expire on: | June 10, 2014 |
| The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than: | 180 days prior to the Order expiration date |

IT IS HEREBY ORDERED, that in order to meet the provisions contained in Division 7 of the California Water Code (CWC) and regulations adopted pursuant thereto, and the provisions of the federal Clean Water Act (CWA), and regulations and guidelines adopted pursuant thereto, the Discharger shall comply with the requirements in this Order.

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 October 7, 2010.



Samuel Unger, Executive Officer

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I. FACILITY INFORMATION

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

Table 4. Facility Information

| | |
|---|--|
| Discharger | West Basin Municipal Water District |
| Name of Facility | Temporary Ocean Water Desalination Demonstration Project |
| Facility Address | 1021 North Harbor Drive |
| | Redondo Beach, California 90277 |
| | Los Angeles County |
| Facility Contact, Title, and Phone | Phil Lauri, Principal Water Resources Engineer, (310) 660-6238 |
| Mailing Address | 17140 South Avalon Boulevard, Carson, CA 90746 |
| Type of Facility | Temporary Ocean Water Desalination Demonstration Plant |
| Facility Design Flow | 0.58 Million Gallons per Day (mgd) |

II. FINDINGS

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

A. Background. West Basin Municipal Water District (West Basin) proposes to discharge 0.58 million gallons per day (mgd) of seawater and reconstituted seawater from the Temporary Ocean Water Desalination Demonstration Project (Project) under Waste Discharge Requirements (WDRs) and a National Pollutant Discharge Elimination System (NPDES) permit. On December 17, 2008, West Basin filed a Report of Waste Discharge (ROWD) and applied for WDRs and an NPDES permit for discharge of wastewater from the Facility. The application was deemed complete on March 15, 2009, after submission of additional requested data. This Order is the issuance of the WDRs and NPDES permit for discharges from the Facility.

An NPDES permit was adopted (Order No. R4-2009-0068) by the Regional Water Board on July 16, 2009, with effluent limitation based on Ocean Plan that did not include dilution ratio. A provision was included in the adopted permit that specified that the permit will be reopened and modified to include revised effluent limitations based on approved dilution ratio.

Dilution study was conducted by West Basin using Visual Plume model and the results were submitted to both the State Board and the Regional Board in June 2010. State Board staff reviewed the study and approved the calculated dilution ratio of 10:1. The adopted permit (Order No. R4-2009-0086) is amended to revise the effluent limitations based on the approved dilution credit.

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

B. Facility Description. In May of 2002, supported by various institutions and other interested parties, West Basin initiated piloting efforts to desalinate ocean water through the installation of its Desalination Pilot Project at the El Segundo Generating Station (ESGS) in the City of El Segundo. West Basin’s Desalination Pilot Project included microfiltration (MF) and reverse

osmosis (RO) filtration components, and processed approximately 40 gallons per minute (gpm) of ocean water. Through more than five years of research and more than 35,000 water quality tests (approximately 500/month), West Basin has pilot-tested various pretreatment approaches and technologies to develop an efficient effective oceanwater desalination process

West Basin's Project will provide research data for the development of its ocean water desalination program. This Temporary Desalination Demonstration Facility (Temporary Facility) will be constructed at the Science, Education, & Adventure Lab (SEALab) located at 1201 North Harbor Drive, Redondo Beach. The SEALab is a fully developed urban site, located on approximately 1.2 acres of property previously utilized as a pumphouse (no longer in operation) for the AES Redondo Beach Generating Station (RBGS).

The facility will utilize approximately 580,000 gallons per day (gpd) (approximately 400 gpm) of ocean water, testing various pretreatment and post-treatment options, using full-scale size equipment. The Project will utilize source water from two different systems – a passive intake screened system (347 gpm) and a bar-screened intake system (55 gpm). Both intake systems will be installed within the existing RBGS intake tunnel (previously used for decommissioned AES RBGS Units 1-4). CIP (Cleaning in Place) liquids consisting of membrane cleaning solutions will be discharged to the existing sanitary sewer system and all other flows will be discharged to Pacific Ocean via the existing AES RBGS discharge tunnel for Units 5&6.

The proposed Project will evaluate two intake sources, a passive wedgewire screen system and bar-screened subsurface intake pilot. West Basin will conduct related water quality and marine life studies on both intake sources. A primary focus of the subsurface intake pilot will be to evaluate marine life effects of drawing ocean water through a granular media to simulate ocean floor conditions (refer to Attachment C- 3, Subsurface Intake Pilot). In addition to water quality and RO process studies to evaluate source water and demonstration-scale equipment and processes, a primary focus of the passive wedgewire intake system will be to evaluate effectiveness at reducing or eliminating impingement and entrainment (I&E) effects of open ocean intakes.

The seaward end of the proposed intake pipeline will be equipped with a state-of-the-art passive "wedgescreen" screen, which is a wedge-shaped, slotted screening system designed to minimize I&E impacts to marine biological resources. The Temporary Facility is proposed to intake approximately 0.5 mgd of seawater from the Pacific Ocean via an existing concrete tunnel previously utilized for RBGS operations. The existing concrete tunnel extends approximately 1,600 feet offshore, terminating at an approximate depth of 20 feet Mean Lower Low Water (MLLW). The 144-inch concrete reinforced concrete tunnel runs from the Pacific Ocean (outside and just north of King Harbor), and terminates at a wet well located beneath the SEALab facility. Source water intake will be at 0.5 feet per second (fps) or less to further minimize I&E. Studies conducted on passive wedgewire screening technology indicate that in many cases I&E impacts can be reduced to less than significant levels using wedgewire technology and low intake velocities. Of the 347 gpm, approximately 219 gpm will bypass the MF/RO process and simply be returned to the ocean via the Equalization Tank and existing discharge tunnel. This flow will go through the strainers, and may go through an optional Granular Media Filter. The remaining 128 GPM will be sent through a MF prescreening process, resulting in approximately 70 GPM being sent through the RO process (approximately 100,000 gpd). The RO Process will produce approximately 50,000 gpd of permeate (product water) and 50,000 gpd of ocean water concentrate, which will be recombined and discharged through the existing outlet tunnel (there will not be any "brine" discharged into the ocean).

The Temporary Facility will also be equipped with a "bench-scale" subsurface seawater intake (i.e., sea bed infiltration gallery) constructed on-shore at the Temporary Facility site, as an initial step in evaluating subsurface intake feasibility for desalination. The test bed will mimic natural infiltration

characteristics utilizing seawater pumped through the second pipeline installed utilizing the "pipe-in-pipe" concept, as described above. The second pipeline (for the bench scale subsurface test) will have intake velocities well below 0.5 fps to simulate seafloor conditions.

All 580,000 gpd of influent water would be recombined in a tank at SEALab (Discharge Location 001, Lat.:33° 51' 05", Long.:118 ° 23' 49") prior to discharge to the discharge tunnel and then to Pacific Ocean through Discharge Outfall 001 (see Table on cover page). The Project will utilize the existing AES RBGS discharge tunnel for Units 5&6, an existing 10 feet diameter pipe, approximately 1,850 feet long, which releases into the Pacific Ocean. The existing pipe runs approximately 550 feet southwest from the facility, underground to the shoreline, and continues approximately 1,300 feet from the shoreline southwest into the ocean. The discharge structure will be approximately 30 feet below the ocean water surface at 33° 50' 59" longitude and 118 ° 24' 12" latitude coordinates. A dilution study was conducted by the Discharger using Vision Plume model. The State Board staff reviewed the study and approved the calculated dilution ratio of 10:1.

Attachments B-1 and B-2 provides map of the area around the facility equipment location. Attachment C-1, C-2, and C-3 provides a flow schematic of the Facility, and intake systems..

- C. **Legal Authorities.** This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).
- D. **Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and the rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E, and H through I are also incorporated into this Order.
- E. **California Environmental Quality Act (CEQA).** Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.
- F. **Technology-based Effluent Limitations.** Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations¹ (40 CFR), 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 Table A of the Ocean Plan and Best Professional Judgment (BPJ) in accordance with 40 CFR §125.3. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).
- G. **Water Quality-Based Effluent Limitations.** Section 301(b) of the CWA and section 122.44(d) of 40 CFR require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

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

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

- H. **Water Quality Control Plans.** The Regional Water Board adopted a Water Quality Control Plan for the Los Angeles Region (hereinafter Basin Plan) on June 13, 1994, that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for the Pacific Ocean and other receiving waters addressed through the plan. In addition, the Basin Plan implements State Water Resources Control Board (State 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.

The Basin Plan contains water quality objectives and beneficial uses for the Pacific Ocean (Nearshore and Offshore Zone) at Los Angeles County Coastal :

Nearshore Zone (defined as 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).

Table 5. Basin Plan Beneficial Uses

| Discharge Point | Receiving Water Name | Beneficial Use(s) |
|-----------------|---|--|
| 001 | <p>Pacific Ocean: <u>Nearshore</u></p> <p><u>Offshore Zone:</u></p> | <p><u>Existing:</u> Industrial service supply (IND), navigation (NAV), water contact (REC-1) and non-contact water recreation (REC-2), commercial and sport fishing (COMM), marine habitat (MAR), wildlife habitat (WILD), rare, threatened, or endangered species (RARE), migration of aquatic organisms (MIGR), spawning, reproduction, and/or early development (SPWN), and shellfish harvesting (SHELL).</p> <p><u>Existing:</u> Industrial service supply (IND), navigation (NAV), water contact (REC-1) and non-contact water recreation (REC-2), commercial and sport fishing (COMM), marine habitat (MARINE), wildlife habitat (WILD), rare, threatened, or endangered species (RARE), migration of aquatic organism (MIGR), spawning, reproduction, and/or early development (SPWN), and shellfish harvesting (SHEL).</p> |

Requirements of this Order implement the Basin Plan.

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

- J. **California Ocean Plan.** The State 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, and 2005. The State Board adopted the latest amendment on April 21, 2005, and it became effective on February 14, 2006. 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 in Table 6:

Table 6. Ocean Plan Beneficial Uses

| Discharge Point | Receiving Water | Beneficial Uses |
|-----------------|-----------------|--|
| Outfall 001 | 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.

- K. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 C.F.R. § 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.
- L. **Stringency of Requirements for Individual Pollutants.** Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. The scientific procedures for calculating the individual water quality-based effluent limitations are based on the Ocean Plan, which was approved by USEPA on February 14, 2006. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless “applicable water quality standards for purposes of the CWA” pursuant to section 131.21(c)(1). Collectively, this Order’s restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.
- M. **Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Board established California’s antidegradation policy in State 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 the existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board’s Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. As discussed in detail in the Fact Sheet the permitted discharge is consistent with the antidegradation provision of section 131.12 and State Board Resolution No. 68-16.
- N. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. The Discharger conducted a dilution study using Vision Plume model. The State Board staff reviewed the study and approved the dilution credit of 10:1. The relaxation of the effluent limitations based on approved dilution ratio is allowed under 40CFR 122.44(l), Section 402(o)(2) provision. This permit is for a new discharge, thus the requirements for a reissued permit are not applicable.
- O. **Endangered Species Act.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The discharger is responsible

for ensuring that its activities do not result in an unlawful take of federally or state protected species.

- P. **Monitoring and Reporting.** Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.
- Q. **Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.
- R. **Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections IV.B, IV.C, V.B, and VI.C. of this Order are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.
- S. **Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.
- T. **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.
- U. **401 Certification.** The Regional Water Board has determined that its issuance of this NPDES permit serves as its certification under Section 401 of the CWA that any discharge pursuant to this permit will comply with the CWA provisions at 33 U.S.C. 1311, 1312, 1313, 1316, and 1317.
- V. **Magnuson-Stevens Fishery Conservation and Management Act (MSA) and Endangered Species Act (ESA).** USEPA's issuance of an NPDES permit is subject to requirements of the MSA and section 7 of the ESA. The USEPA is evaluating whether there are effects on essential fish habitat and managed and associated species protected under the MSA, or on threatened and endangered species and their designated critical habitats protected under the ESA. The USEPA may engage in consultation with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service (collectively, the Services) during, and subsequent to, this permit issuance. USEPA may decide that changes to the permit are warranted based on the results of the completed consultation, and a reopener provision to this effect has been included in the Order.

THEREFORE, IT IS HEREBY ORDERED, that in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

- A. Wastes discharged from Discharge Point 001 shall be limited to 0.58 MGD of seawater and recombined seawater. The discharge of wastes from accidental spills or other sources is prohibited.
- B. Discharges of water, materials, thermal wastes, elevated temperature wastes, toxic wastes, deleterious substances, or wastes other than those authorized by this Order, to a storm drain system, the Pacific Ocean, or waters of the State are prohibited.
- C. The discharge of effluent from the Discharger's facilities through Discharge Point 001 shall comply with the following:
 - 1. Waste management systems must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.
 - 2. Waste discharged must be essentially free of:
 - a. Material that is floatable or will become floatable upon discharge.
 - b. Settleable material or substances that may form sediments, which will degrade benthic communities or other aquatic life.
 - c. Substances, which will accumulate to toxic levels in marine waters, sediments, or biota.
 - d. Substances that significantly decrease the natural light to benthic communities and other marine life.
 - e. Materials that result in aesthetically undesirable discoloration of the ocean surface.
 - 3. Waste discharges shall be located where:
 - a. Pathogenic organisms and viruses are not present in areas where shellfish are harvested for human consumption or in areas used for swimming or other body contact sports.
 - b. Natural water quality conditions are not altered in areas designated as being areas of special biological significance or areas that existing marine laboratories use as a source of seawater.
 - c. Maximum protection is provided to the marine environment.
- D. Neither the treatment nor the discharge of pollutants shall create pollution, contamination, or a nuisance as defined by Section 13050 of the CWC.
- E. Wastes discharged shall not contain any substances in concentrations toxic to human, animal, plant, or aquatic life.
- F. The discharge shall not cause a violation of any applicable receiving water quality standards adopted by the Regional Water Board or the State Water Resources Control Board as required by the Federal CWA and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal CWA, and amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.
- G. The discharge of any radiological, chemical, or biological warfare agent is prohibited.
- H. Any discharge of wastes at any point(s) other than specifically described in this Order is prohibited, and constitutes a violation of the Order.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 001

1. Final Effluent Limitations – Discharge Point 001

- a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the attached MRP (Attachment E):

Table 7. Effluent Limitations

| Parameter | Units ^[1] | Effluent Limitations | | | | | |
|---|----------------------|----------------------|----------------|------------------|---------------|-----------------------|-----------------------|
| | | Average Monthly | Average Weekly | Six-Month Median | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum |
| Conventional and Non-conventional Pollutants | | | | | | | |
| Biochemical Oxygen Demand 5-day @ 20°C (BOD) | mg/L | 30 | 45 | -- | -- | -- | -- |
| | lbs/day | 145 | 218 | -- | -- | -- | -- |
| Total Suspended Solids | mg/L | 60 | -- | -- | -- | -- | -- |
| | lbs/day | 290 | -- | -- | -- | -- | -- |
| pH | standard units | -- | -- | -- | -- | 6.0 | 9.0 |
| Oil and Grease | mg/L | 25 | 40 | -- | -- | -- | 75 |
| | lbs/day | 121 | 194 | -- | -- | -- | -- |
| Settleable Solids | ml/L | 1 | 1.5 | -- | -- | -- | 3 |
| Turbidity | NTU | 75 | 100 | -- | -- | -- | 225 |
| Total Residual Chlorine | µg/L | -- | -- | 22 | 88 | -- | 660 |
| | lbs/day | -- | -- | 0.1 | 0.4 | -- | 3.3 |
| Ammonia as N | mg/L | -- | -- | 6.6 | 26.4 | -- | 66 |
| | lbs/day | -- | -- | 32 | 128 | -- | 319 |
| Chronic Toxicity | TUc | -- | -- | -- | 11 | -- | -- |
| Total coliform ^[2] | MPN/100ml | -- | -- | -- | -- | -- | -- |
| Fecal coliform ^[2] | MPN/100ml | -- | -- | -- | -- | -- | -- |
| Enterococcus ^[2] | MPN/100ml | -- | -- | -- | -- | -- | -- |
| Priority Pollutants | | | | | | | |
| Arsenic | µg/L | -- | -- | 58 | 322 | -- | 850 |
| | lbs/day | -- | -- | 0.3 | 1.6 | -- | 4.1 |
| Cadmium | µg/L | -- | -- | 11 | 44 | -- | 110 |
| | lbs/day | -- | -- | 0.06 | 0.2 | -- | 0.6 |

| Parameter | Units ^[1] | Effluent Limitations | | | | | |
|---|----------------------|----------------------|----------------|------------------|---------------|-----------------------|-----------------------|
| | | Average Monthly | Average Weekly | Six-Month Median | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum |
| Chromium (VI) | µg/L | -- | -- | 22 | 88 | -- | 220 |
| | lbs/day | -- | -- | 0.1 | 0.44 | -- | 1.1 |
| Copper | µg/L | -- | -- | 13 | 112 | -- | 310 |
| | lbs/day | -- | -- | 0.06 | 0.5 | -- | 1.5 |
| Lead | µg/L | -- | -- | 22 | 88 | -- | 220 |
| | lbs/day | -- | -- | 0.1 | 0.44 | -- | 1.1 |
| Mercury | µg/L | -- | -- | 0.44 | 1.76 | -- | 4.4 |
| | lbs/day | -- | -- | 0.002 | 0.008 | -- | 0.02 |
| Nickel | µg/L | -- | -- | 55 | 220 | -- | 550 |
| | lbs/day | -- | -- | 0.2 | 1.1 | -- | 2.6 |
| Selenium | µg/L | -- | -- | 165 | 660 | -- | 1650 |
| | lbs/day | -- | -- | 0.8 | 3.3 | -- | 8 |
| Silver | µg/L | -- | -- | 6.1 | 29.2 | -- | 75.4 |
| | lbs/day | -- | -- | 0.03 | 0.15 | -- | 0.3 |
| Zinc | µg/L | -- | -- | 140 | 800 | -- | 2120 |
| | lbs/day | -- | -- | 0.7 | 3.9 | -- | 10.3 |
| Cyanide | µg/L | -- | -- | 11 | 44 | -- | 110 |
| | lbs/day | -- | -- | 0.06 | 0.2 | -- | 0.6 |
| Chlorinated Phenolics | µg/L | -- | -- | 11 | 44 | -- | 110 |
| | lbs/day | -- | -- | 0.06 | 0.2 | -- | 0.6 |
| Bis(2-Ethylhexyl)Phthalate | µg/L | 38.5 | -- | -- | -- | -- | -- |
| | lbs/day | 0.2 | -- | -- | -- | -- | -- |
| Radioactivity: Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, §30253 of the California Code of Regulations. Reference to §30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect. | | | | | | | |

Footnotes for Effluent Limitations:

[1] The mass emission rates (lbs/day) are based on the flow rate of 0.58 mgd, using the formula:

$$m = 0.00834 \times C_e \times Q$$

where: m = mass discharge for a pollutant, lb/day
C_e = limitation concentration for a pollutant, µg/L
Q = actual discharge flow rate, mgd

[2] Bacterial Limits:

(a) 30-day Geometric Mean Limits – The geometric mean shall be calculated using the five most recent samples results:

- (1) Total coliform density shall not exceed 1,000 per 100 ml;
- (2) Fecal coliform density shall not exceed 200 per 100 ml; and
- (3) Enterococcus density shall not exceed 35 per 100 ml.

(b) Single Sample Maximum:

- (1) Total coliform density shall not exceed 10,000 per 100 ml;
- (2) Fecal coliform density shall not exceed 400 per 100 ml;
- (3) Enterococcus density shall not exceed 104 per 100 ml; and
- (4) The total coliform density shall not exceed 1,000 per 100 ml when the fecal coliform/total coliform ratio exceeds 0.1.

If a single sample exceeds any of the single sample maximum (SSM) standards, repeat sampling shall be conducted to determine the extent and persistence of the exceedance. Repeat sampling shall be conducted within 24 hours of receiving analytical results and continued until the sample result is less than the SSM standard.

When repeat sampling is required because of an exceedance of any one single sample density, values from all samples collected during that 30-day period will be used to calculate the geometric mean.

b. Temperature Limitations

1. The temperature of wastes discharged shall not exceed the natural temperature of receiving waters by more than 20°F.
2. The temperature of wastes discharged shall not result in increases in the natural water temperature exceeding 4°F at (a) the shoreline, (b) the surface of any ocean substrate, or (c) the ocean surface beyond 1,000 feet from the discharge system. The surface temperature limitation shall be maintained at least 50 percent of the duration of any complete tidal cycle.

c. Toxicity Requirements:

If the discharge consistently exceeds an effluent limitation for toxicity specified in Table 7 of this Order, the Discharger shall conduct a Toxicity Reduction Evaluation (TRE) defined in Attachment A. The TRE shall include all reasonable steps to identify the source of toxicity. The Discharger shall take all reasonable steps to reduce toxicity to the required level once the source of toxicity is identified.

i. Chronic Toxicity Limitation and Requirements:

1. This Order includes a chronic testing toxicity trigger defined as an exceedance of 11 TU_c in a critical life stage test for 100% effluent. (The daily maximum value for chronic toxicity of 100% effluent shall not exceed 11 TU_c in a critical life stage test.)
2. If the chronic toxicity of the effluent exceeds 11 TU_c, the Discharger shall immediately implement an accelerated chronic toxicity testing. The Discharger shall conduct six additional tests over a six-week period. The discharger shall ensure that they receive results of a failing toxicity test within 24 hours of the close of the test and the additional tests shall begin within 3 business days of the receipt of the result. If the additional tests indicate compliance with toxicity limitation, the discharger may resume regular testing. However, if the results of any two of the six accelerated tests demonstrate noncompliance, then the Discharger shall begin a Toxicity Identification Evaluation (TIE). The TIE shall include all reasonable steps to identify the sources of toxicity. Once the sources are identified, the Discharger shall take all reasonable steps to reduce toxicity to meet objective.
3. If the results of two of the six accelerated tests exceed 11 TU_c, the Discharger shall initiate a TIE and implement the Initial Investigation TRE Workplan. (see Attachment E, Section V.E).
4. The Discharger shall conduct chronic toxicity monitoring as specified in Attachment E, Sections IV and V.
5. The chronic toxicity of the effluent shall be expressed and reported in toxic units, where:

$$TU_c = \frac{100}{NOEC}$$

The No Observable Effect Concentration (NOEC) is expressed as the maximum percent effluent concentration that causes no observable effect on test organisms, as determined by the results of a critical life stage toxicity test.

ii. Preparation of an Initial Investigation TRE Workplan

1. The Discharger shall submit a detailed initial investigation Toxicity Reduction Evaluation (TRE) workplan to the Executive Officer of the Regional Water Board within 90 days of the effective date of this permit. The Discharger shall use EPA manuals EPA/600/2-88/070 (industrial) or EPA/833B-99/002 (municipal) as guidance or current versions. This workplan shall describe the steps the Discharger intends to follow if toxicity is detected, and should include, at a minimum:
 - 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 the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in operation of the facility; and,
 - c.. If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor) (See Attachment E Section V.E for guidance manuals).

2. Interim Effluent Limitations

Not Applicable

B. Land Discharge Specifications

Not Applicable

C. Reclamation Specifications

Not Applicable

V. RECEIVING WATER LIMITATIONS

Receiving water limitations are based on water quality objectives contained in the Ocean Plan and are a required part of this Order. Unless specifically excepted by this Order, the discharge shall not cause violation of the following water quality objectives. Compliance with these objectives shall be determined by samples collected at stations representative of the area within the waste field. No dilution credit is provided.

A. Bacterial Characteristics

1. Water Contact Standards

a. State/Regional Water Board Water Contact Standards

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

Geometric Mean Limits

- (1) Total coliform density shall not exceed 1,000/100 ml.
- (2) Fecal coliform density shall not exceed 200/100 ml.
- (3) Enterococcus density shall not exceed 35/100 ml.

Single Sample Maximum (SSM)

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

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

(6) Enterococcus density shall not exceed 104/100 ml.

(7) Total coliform density shall not exceed 1,000/100 ml, when the fecal coliform/total coliform ratio exceeds 0.1.

In addition, total coliform density shall not exceed 1,000/100 ml for more than 20 percent of the samples at any sampling station in any 30-day period.

b. California Department of Public Health (DPH) Standards

DPH has established minimum protective bacteriological standards for coast water adjacent to public beaches and for public water contact sports areas in ocean waters. These standards are found in the California Code of Regulations, title 17, section 7958, and they are identical to the objectives contained in subsection a. above. When a public beach or public water contact sports area fails to meet these standards, DPH or the local public health officer may post with warning signs or otherwise restrict use of the public beach or public water contact sports area until the standards are met. The DHS regulations impose more frequent monitoring and more stringent posting and closure requirements on certain high-use public beaches that are located adjacent to a storm drain that flows in the summer.

For beaches not covered under AB 411 regulations, DPH imposes the same standards as contained in Title 17 and requires weekly sampling but allows the county health officer more discretion in making posting and closure decisions.

2. Shellfish Harvesting Standards

At all areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the waste discharged shall not cause the following bacterial standards to be exceeded:

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 during any 6-month period shall exceed 230 per 100 ml.

3. Implementation Provisions for Bacterial Characteristics

a. At a minimum, monthly samples shall be collected from each sampling location. The geometric mean values should be calculated using the five most recent sample results. If sampling occurs more frequently than monthly, all samples taken during the previous 30-day period shall be used to calculate the geometric mean.

b. If a single sample exceeds any of the single sample maximum (SSM) standards, repeat sampling at that location shall be conducted to determine the extent and persistence of the exceedance. Repeat sampling shall be conducted within 24 hours of receiving analytical results and continued until the sample result is less than the SSM standard or until the Regional Water Board requires the Discharger or appropriate agency to conduct a sanitary survey to determine the source of the high bacterial densities. A sanitary survey shall also be required if three out of four samples taken during any-30-day period exceed any SSM standard, or if 75 percent of the samples from more frequent testing during any 30-day period exceed any SSM standard.

When repeat sampling is required because of an exceedance of any one single sample density, values from all samples collected during that 30-day period will be used to calculate the geometric mean.

- c. It is state policy that the geometric mean bacterial objectives are strongly preferred for use in water body assessment decisions, for example, in developing the Clean Water Act section 303(d) list of impaired waters, because the geometric mean objectives are a more reliable measure of long-term water body conditions. In making assessment decisions on bacterial quality, single sample maximum data must be considered together with any available geometric mean data. The use of only single sample maximum bacterial data is generally inappropriate unless there is a limited data set, the water is subject to short-term spikes in bacterial concentrations, or other circumstances justify the use of only single sample maximum data.

B. Physical Characteristics

1. Floating particulates and grease and oil shall not be visible.
2. The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface.
3. Natural light shall not be significantly reduced at any point as the result of the discharge of waste.
4. The rate of deposition of inert solids and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded.

C. Chemical Characteristics

1. The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials.
2. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.
3. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.
4. The concentration of substances set forth in Chapter II, Table B of the Ocean Plan (2005), shall not be increased in marine sediments to levels that would degrade indigenous biota.
5. The concentration of organic materials in marine sediments shall not be increased to levels that would degrade marine life.
6. Nutrient materials shall not cause objectionable aquatic growths or degrade indigenous biota.
7. Numerical water quality objectives established in Chapter II, Table B of the California Ocean Plan (2005) shall not be exceeded as a result of discharges from the Facility.

D. Biological Characteristics

1. Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded.

2. The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.
3. The concentration of organic materials in fish, shellfish, or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.

E. Groundwater Limitations

Not Applicable

VI. PROVISIONS

A. Standard Provisions

1. Federal Standard Provisions. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.
2. The Discharger shall comply with the following provisions:
 - a. This Order may be modified, revoked, reissued, or terminated in accordance with the provisions of 40 CFR §§122.44, 122.62, 122.63, 122.64, 125.62 and 125.64. Causes for taking such actions include, but are not limited to: failure to comply with any condition of this Order; endangerment to human health or the environment resulting from the permitted activity; or acquisition of newly-obtained information which would have justified the application of different conditions if known at the time of Order adoption. The filing of a request by the Discharger for an Order modification, revocation, and issuance or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.
 - b. The Discharger must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges of storm water to storm drain systems or other water courses under their jurisdiction; including applicable requirements in municipal storm water management program developed to comply with NPDES permits issued by the Regional Water Board or USEPA to local agencies.
 - c. 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.
 - d. 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.
 - e. 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.
 - f. A copy of these waste discharge requirements shall be maintained at the discharge facility so as to be available at all times to operating personnel.
 - g. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:
 - (1) Violation of any term or condition contained in this Order;

- (2) Obtaining this Order by misrepresentation, or failure to disclose all relevant facts;
 - (3) A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- h. 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.
 - i. The Discharger shall notify the Regional Water Board and USEPA 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.
 - j. The Discharger shall file with the Regional Water Board and USEPA 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.
 - k. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Regional Water Board and USEPA as soon as they know or have reason to believe that they have begun or expect to begin to use or manufacture intermediate or final product or byproduct of any toxic pollutant that was not reported on their application.
 - l. In the event of any change in name, ownership, or control of these waste disposal facilities, the discharger shall notify this Regional Water Board and USEPA 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 and USEPA.
 - m. The CWC provides that any person who violates a waste discharge requirement or a provision of the CWC is subject to civil penalties of up to \$5,000 per day, \$10,000 per day, or \$25,000 per day of violation, or when the violation involves the discharge of pollutants, is subject to civil penalties of up to \$10 per gallon per day or \$25 per gallon per day of violation; or some combination thereof, depending on the violation, or upon the combination of violations.

Violation of any of the provisions of the NPDES program or of any of the provisions of this Order may subject the violator to any of the penalties described herein, or any combination thereof, at the discretion of the prosecuting authority; except that only one kind of penalty may be applied for each kind of violation.
 - n. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, numeric and narrative effluent limitations or receiving water limitation of this Order, the Discharger shall notify the Regional Water Board by telephone (213) 576-6653 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.
 - o. 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.

- p. The Discharger shall notify the Executive Officer and USEPA in writing no later than 6 months prior to planned discharge of any chemical, other than the products previously reported to the Executive Officer and USEPA, which may be toxic to aquatic life. Such notification shall include:
 - (1) Name and general composition of the chemical,
 - (2) Frequency of use,
 - (3) Quantities to be used,
 - (4) Proposed discharge concentrations, and
 - (5) USEPA registration number, if applicable.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order. If there is any conflict between provisions stated in the MRP and the Regional Water Board Standard Provisions, those provisions stated in the MRP shall prevail.

C. Special Provisions

1. Reopener Provisions

- a. This Order may be reopened and modified, to include an effluent limitation if monitoring establishes that the discharge causes, has the reasonable potential to cause, or contributes to an excursion above the Ocean Plan water quality objectives.
- b. This Order may be reopened and modified, in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include requirements for the implementation of the watershed management approach.
- c. This Order may be reopened and modified, in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include new MLs.
- d. This Order may be reopened and modified to revise effluent limitations as a result of future Ocean Plan Amendments, such as an update of an objective or the adoption of a TMDL.
- e. This Order may be reopened and modified, to include revised effluent limitations based on an approved dilution ratio.
- f. This Order may be reopened upon submission by the Discharger of adequate information, as determined by the Regional Water Board and the State Board, to provide for a change in the dilution credits, as may be appropriate. F. This Order may also be reopened and modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR Parts 122.44, 122.62 to 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 and permit, or endangerment to human health or the environment resulting from the permitted activity.
- g. This Order may be modified, or revoked and reissued, based on the results of Magnuson-Stevens Conservation and Management Act and/or Endangered Species Act section 7 consultations with the National Marine Fisheries Service and/or the U.S. Fish and Wildlife Service.

2. Best Management Practices and Pollution Prevention

- a. The Discharger shall develop, within 90 days of the effective date of this Order, the following plans. If necessary, the plans shall be updated to address any changes in operation and/or management of the facility. Updated plans shall be submitted to the Regional Water Board within 30 days of revision.
 1. *A Storm Water Pollution Prevention Plan (SWPPP)*. Within 90 days of the effective date of this Order, the Discharger shall submit an updated SWPPP that describes site-specific management practices for minimizing contamination of storm water runoff and for preventing contaminated storm water runoff or run on that contacts ancillary equipments from being discharged directly to waters of the State. The SWPPP shall be developed in accordance with the requirements contained in Storm Water Pollution Prevention Plan Requirements (Attachment H).
 2. *A Best Management Practices Plan (BMPP)*. The purpose of the BMPP is to establish site-specific procedures that will prevent the discharge of pollutants in non-storm water discharges. The BMPP shall be site-specific and shall cover all areas of the facility including connectors and pumping stations.
 3. Construction, Operation and Maintenance Specifications
 - a. The Discharger shall at all times properly operate and maintain all facilities and systems installed or used to achieve compliance with this Order.
 4. Other Special Provisions
Not Applicable
 5. Compliance Schedules
Not Applicable

VII. COMPLIANCE DETERMINATION

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

A. General.

Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined in the MRP. Dischargers shall be deemed out of compliance with effluent limitations if the concentration of the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (ML).

B. Multiple Sample Data Reduction

When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or

both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

C. 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). The average of daily discharges over the calendar month that exceeds the AMEL for a parameter will be considered out of compliance for that month only. If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the discharger will be considered out of compliance for that calendar month. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

D. 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, resulting in 7 days of non-compliance. The average of daily discharges over the calendar week that exceeds the AWEL for a parameter will be considered out of compliance for that week only. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the discharger will be considered out of compliance for that calendar week. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

E. Maximum Daily Effluent Limitation (MDEL).

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

F. Instantaneous Minimum Effluent Limitation.

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

G. Instantaneous Maximum Effluent Limitation.

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

H. 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 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.

I. Mass and Concentration Limitations

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

J. Compliance with single constituent effluent limitations

Dischargers are out of compliance with the effluent limitation if the concentration of the pollutant (see Section B "Multiple Sample Data Reduction" above) in the monitoring sample is greater than the effluent limitation and greater than or equal to the ML

K. Compliance with effluent limitations expressed as a 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 ND or DNQ.

L. Mass Emission Rate

The mass emission rate shall be obtained from the following calculation for any calendar day:

$$\text{Mass emission rate (lb/day)} = \frac{8.337}{N} \sum_{i=1}^N Q_i C_i$$

$$\text{Mass emission rate (kg/day)} = \frac{3.785}{N} \sum_{i=1}^N Q_i C_i$$

in which 'N' is the number of samples analyzed in any calendar day. 'Qi' and 'Ci' are the flow rate (MGD) and the constituent concentration (mg/L), respectively, which are associated with each of the 'N' grab samples, which may be taken in any calendar day. If a composite sample is taken, 'Ci' is the concentration measured in the composite sample and 'Qi' is the average flow rate occurring during the period over which samples are composited.

The daily concentration of all constituents shall be determined from the flow-weighted average of the same constituents in the combined waste streams as follows:

$$\text{Daily concentration} = \frac{1}{Q_t} \sum_{i=1}^N Q_i C_i$$

in which 'N' is the number of component waste streams. 'Qi' and 'Ci' are the flow rate (MGD) and the constituent concentration (mg/L), respectively, which are associated with each of the 'N' waste streams. 'Qt' is the total flow rate of the combined waste streams.

M. Bacterial Standards and Analysis.

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

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

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.

2. 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 methods used for each analysis shall be reported with the results of the analyses.
3. Detection methods used for coliforms (total and fecal) shall be those presented in Table 1A of 40 CFR 136 (revised May 14, 1999), unless alternate methods have been approved by USEPA pursuant to 40 CFR 136, or improved methods have been determined by the Executive Officer and/or USEPA.
4. Detection methods used for enterococcus shall be those presented in the USEPA publication EPA 600/4-85/076, Test Methods for Escherichia coli and Enterococci in Water By Membrane Filter Procedure or any improved method determined by the Executive Officer and/or USEPA to be appropriate.

ATTACHMENT A – DEFINITIONS

Acute Toxicity

- a. Acute Toxicity (TUa)

Expressed in Toxic Units Acute (TUa)

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

- 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 Ocean Plan Appendix III. 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)

Those areas designated by the State Board as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable. All Areas of Special Biological Significance are also classified as a subset of STATE WATER QUALITY PROTECTION AREAS.

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.

Chlordane

Shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

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)

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

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 Ocean Plan Appendix II.

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

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

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.

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".

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

The sum of endosulfan-alpha and -beta and endosulfan sulfate.

Estuaries and Coastal Lagoons are waters at the mouths of streams that serve as mixing zones for fresh and ocean waters during a major portion of the year. Mouths of streams that are temporarily separated from the ocean by sandbars shall be considered as estuaries. Estuarine waters will generally be considered to extend from a bay or the open ocean to the upstream limit of tidal action but may be considered to extend seaward if significant mixing of fresh and salt water occurs in the open coastal waters. The waters described by this definition include but are not limited to the Sacramento-San Joaquin Delta as defined by Section 12220 of the California Water Code, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, and Russian Rivers.

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

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

Initial Dilution

The process that 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 and industrial 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 non-buoyant 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.

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

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.

Mariculture

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 highest allowable daily discharge of a pollutant.

Method Detection Limit (MDL)

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)

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.

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.

Not Detected (ND)

Those sample results 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. If a discharge outside the territorial waters of the state could affect the quality of the waters of the state, the discharge may be regulated to assure no violation of the Ocean Plan will occur in ocean waters.

PAHs (polynuclear aromatic hydrocarbons)

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.

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 Ocean Plan Table B pollutants 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.

Reported Minimum Level

The ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 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.

Satellite Collection System

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

Shellfish

Organisms identified by the California Department of Health Services 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

The highest allowable moving median of all daily discharges for any 180-day period.

State Water Quality Protection Areas (SWQPAs)

Non-terrestrial 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 Board in Resolution No.s 74-28, 74-32, and 75-61 are now also classified as a subset of State Water Quality Protection Areas and require special protections afforded by the Ocean Plan.

TCDD Equivalentents

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.

| <u>Isomer Group</u> | <u>Toxicity Equivalence Factor</u> |
|---------------------|------------------------------------|
| | 1.0 |
| 2,3,7,8-tetra CDD | |
| 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 |

Toxicity Reduction Evaluation (TRE)

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 Reclamation

The treatment of wastewater to render it suitable for reuse, the transportation of treated wastewater to the place of use, and the actual use of treated wastewater for a direct beneficial use or controlled use that would not otherwise occur.

µg/L: micrograms per Liter

mg/L: milligrams per Liter

MGD: million gallons per day

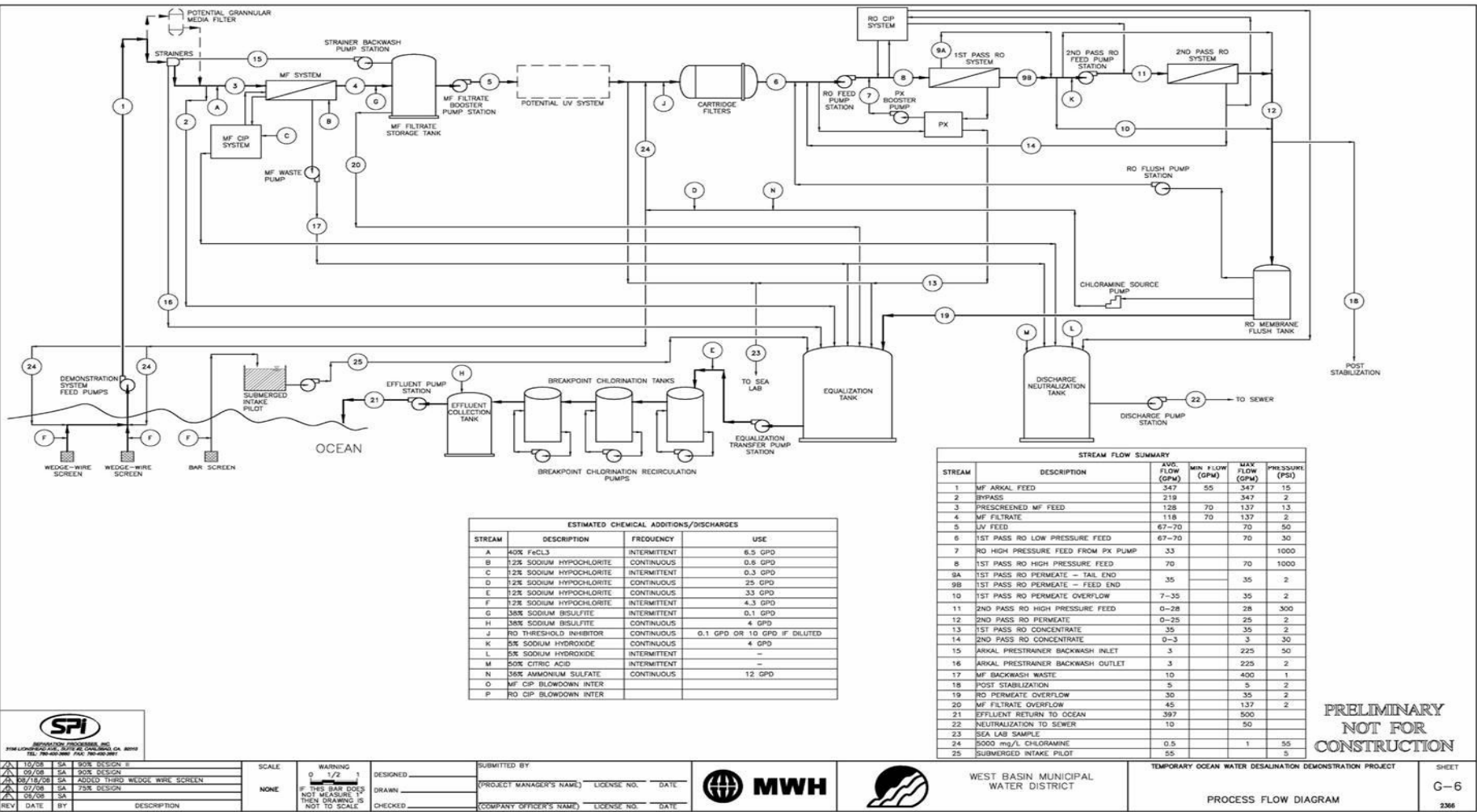
ATTACHMENT B -1: PROJECT LOCATION



ATTACHMENT B-2: EQUIPMENT LOCATION



ATTACHMENT C-1- PROCESS FLOW IAGRAM



| STREAM | DESCRIPTION | FREQUENCY | USE |
|--------|-------------------------|--------------|------------------------------|
| A | 40% FeCl ₃ | INTERMITTENT | 6.5 GPD |
| B | 12% SODIUM HYPOCHLORITE | CONTINUOUS | 0.6 GPD |
| C | 12% SODIUM HYPOCHLORITE | INTERMITTENT | 0.3 GPD |
| D | 12% SODIUM HYPOCHLORITE | CONTINUOUS | 25 GPD |
| E | 12% SODIUM HYPOCHLORITE | CONTINUOUS | 33 GPD |
| F | 12% SODIUM HYPOCHLORITE | INTERMITTENT | 4.3 GPD |
| G | 30% SODIUM BISULFITE | INTERMITTENT | 0.1 GPD |
| H | 30% SODIUM BISULFITE | CONTINUOUS | 4 GPD |
| J | RO THRESHOLD INHIBITOR | CONTINUOUS | 0.1 GPD OR 10 GPD IF DILUTED |
| K | 5% SODIUM HYDROXIDE | CONTINUOUS | 4 GPD |
| L | 5% SODIUM HYDROXIDE | INTERMITTENT | - |
| M | 50% CITRIC ACID | INTERMITTENT | - |
| N | 20% AMMONIUM SULFATE | CONTINUOUS | 12 GPD |
| O | MF CIP BLOWDOWN INTER | - | - |
| P | RO CIP BLOWDOWN INTER | - | - |

| STREAM | DESCRIPTION | AVG. FLOW (GPM) | MIN. FLOW (GPM) | MAX. FLOW (GPM) | PRESSURE (PSI) |
|--------|------------------------------------|-----------------|-----------------|-----------------|----------------|
| 1 | MF ARKAL FEED | 347 | 55 | 347 | 15 |
| 2 | BYPASS | 219 | - | 347 | 2 |
| 3 | PRESCREENED MF FEED | 128 | 70 | 137 | 13 |
| 4 | MF FILTRATE | 118 | 70 | 137 | 2 |
| 5 | LV FEED | 67-70 | - | 70 | 50 |
| 6 | 1ST PASS RO LOW PRESSURE FEED | 67-70 | - | 70 | 30 |
| 7 | RO HIGH PRESSURE FEED FROM PX PUMP | 33 | - | - | 1000 |
| 8 | 1ST PASS RO HIGH PRESSURE FEED | 70 | - | 70 | 1000 |
| 8A | 1ST PASS RO PERMEATE - TAIL END | 35 | - | 35 | 2 |
| 9B | 1ST PASS RO PERMEATE - FEED END | 7-35 | - | 35 | 2 |
| 10 | 1ST PASS RO PERMEATE OVERFLOW | 0-28 | - | 28 | 300 |
| 11 | 2ND PASS RO HIGH PRESSURE FEED | 0-25 | - | 25 | 2 |
| 12 | 2ND PASS RO PERMEATE | 35 | - | 35 | 2 |
| 13 | 1ST PASS RO CONCENTRATE | 0-3 | - | 3 | 30 |
| 14 | 2ND PASS RO CONCENTRATE | 3 | - | 225 | 50 |
| 15 | ARKAL PRESTRAINER BACKWASH INLET | 3 | - | 225 | 50 |
| 16 | ARKAL PRESTRAINER BACKWASH OUTLET | 10 | - | 400 | 1 |
| 17 | MF BACKWASH WASTE | 5 | - | 5 | 2 |
| 18 | POST STABILIZATION | 30 | - | 35 | 2 |
| 19 | RO PERMEATE OVERFLOW | 45 | - | 137 | 2 |
| 20 | MF FILTRATE OVERFLOW | 387 | - | 500 | - |
| 21 | EFFLUENT RETURN TO OCEAN | 10 | - | 50 | - |
| 22 | NEUTRALIZATION TO SEWER | 0.5 | - | 1 | 55 |
| 23 | SEA LAB SAMPLE | 55 | - | 5 | - |
| 24 | 5000 mg/L CHLORAMINE | - | - | - | - |
| 25 | SUBMERGED INTAKE PILOT | - | - | - | - |

**PRELIMINARY
 NOT FOR
 CONSTRUCTION**

| | | |
|----------|----|--------------------------------|
| 10/08 | SA | 100% DESIGN II |
| 09/08 | SA | 90% DESIGN |
| 08/18/08 | SA | ADD TO THIRD WEDGE WIRE SCREEN |
| 07/08 | SA | 75% DESIGN |
| 05/08 | SA | |

SCALE: 0 1/2" = 1'
 WARNING: IF THIS BAR DOES NOT MEASURE 1/2" THICK DRAWING IS NOT TO SCALE

DESIGNED: _____
 DRAWN: _____
 CHECKED: _____

SUBMITTED BY: _____
 (PRODUCT MANAGER'S NAME) LICENSE NO. DATE
 (COMPANY OFFICER'S NAME) LICENSE NO. DATE

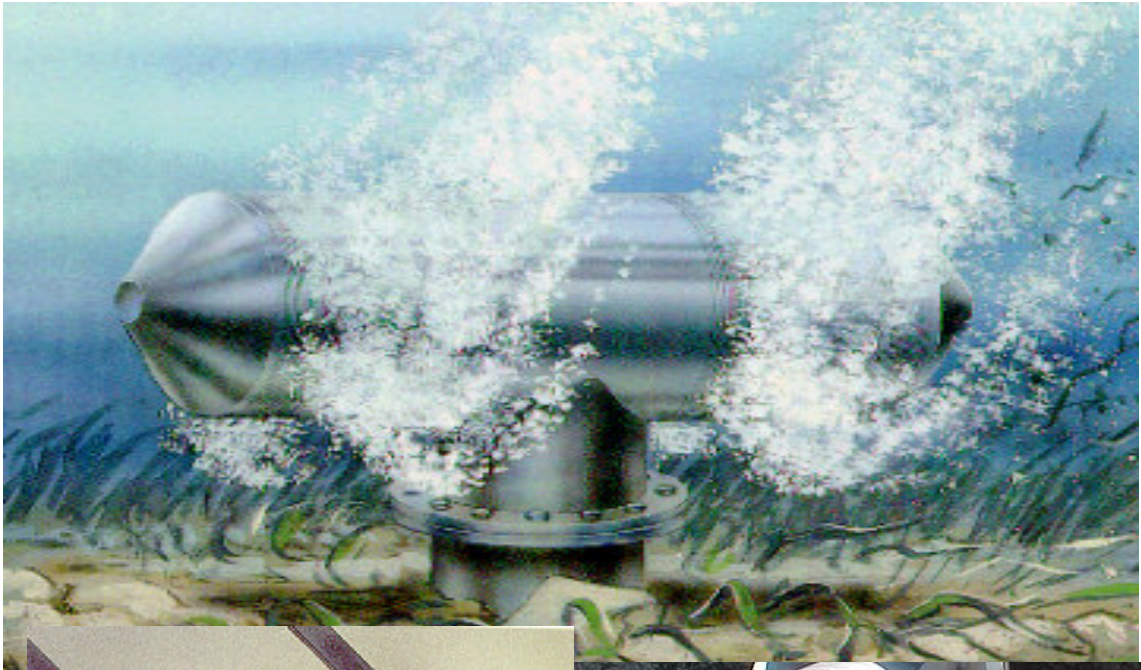


WEST BASIN MUNICIPAL WATER DISTRICT

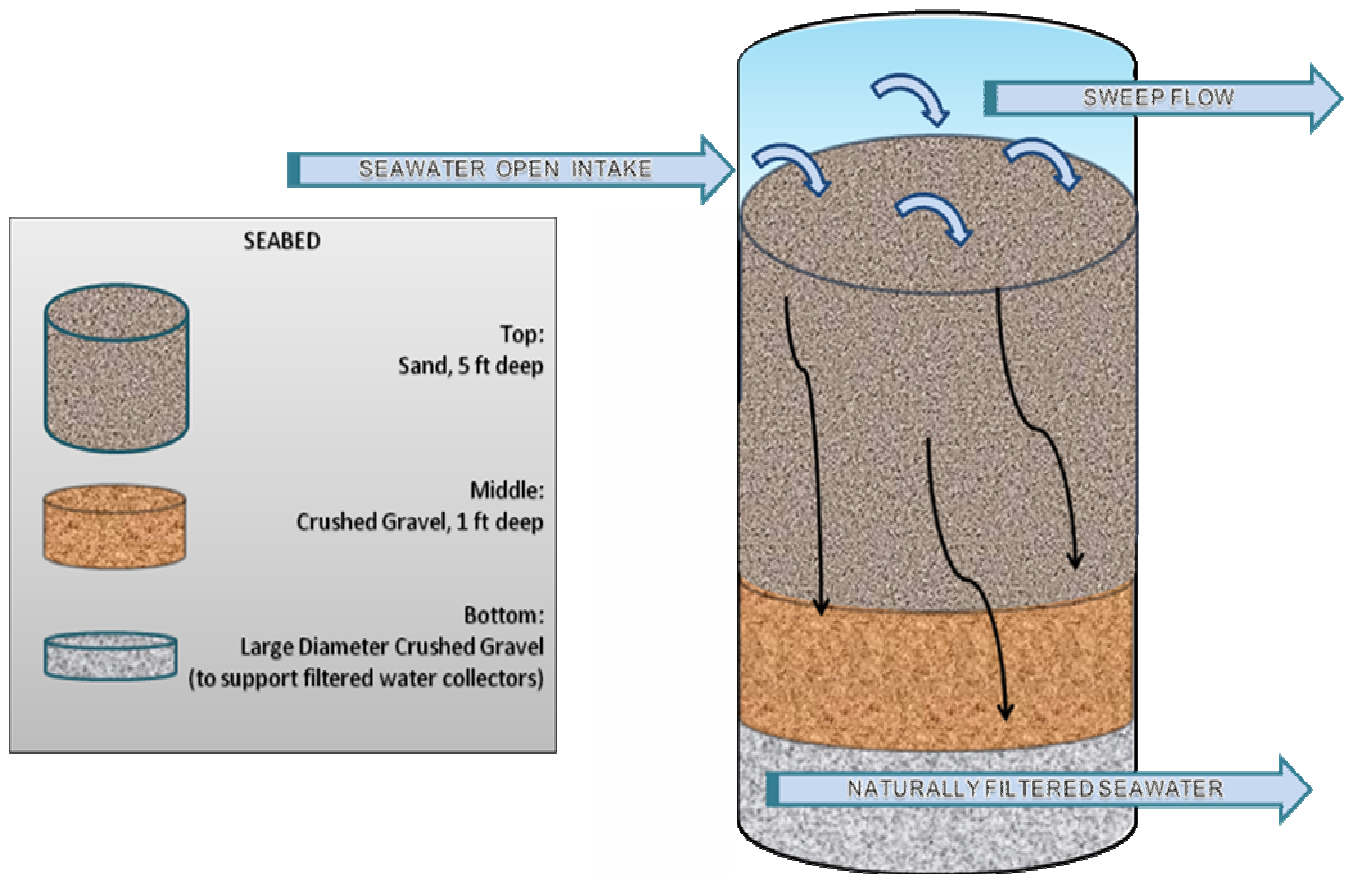
TEMPORARY OCEAN WATER DESALINATION DEMONSTRATION PROJECT
 PROCESS FLOW DIAGRAM

SHEET G-6
 2366

ATTACHMENT C-2: PASSIVE WEDGEWIRE SCREEN INTAKE SYSTEM



ATTACHMENT C-3: SEABED INFILTRATION PILOT



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 C.F.R. § 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 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)
2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State 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 C.F.R. § 122.41(i); Wat. Code, § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.41(m)(1)(i).)
 - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)
3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment

- should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and
- c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)
4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)
 5. Notice
 - a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)
 - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

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

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).)
2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));
 - b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));
 - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and

- d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)
- e. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

- A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)
- B. Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 C.F.R. § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

- A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include:

- A. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
 - B. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
 - C. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
 - D. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
 - E. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
 - F. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)
- C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):**
- A. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and
 - B. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

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

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)
2. All permit applications shall be signed as follows:
 - a. For a corporation: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with

- environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 C.F.R. § 122.22(a)(1).)
- b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively. (40 C.F.R. § 122.22(a)(2).)
 - c. For a municipality, State, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 C.F.R. § 122.22(a)(3).)
3. All reports required by this Order and other information requested by the Regional Water Board, State Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and
 - c. The written authorization is submitted to the Regional Water Board and State Board. (40 C.F.R. § 122.22(b)(3).)
4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)
5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

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

including the possibility of fine and imprisonment for knowing violations.” (40 C.F.R. § 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.22(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 Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
 - b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)
 - c. Violation of a maximum daily discharge limitation for any of the pollutants listed in this Order to be reported within 24 hours [40 CFR §122.41(l)(6)(ii)(C)].

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

F. Planned Changes

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

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under section 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1). (40 C.F.R. § 122.41(l)(1)(ii).)
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 C.F.R. § 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

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

H. Other Noncompliance

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

I. Other Information

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

VI. STANDARD PROVISIONS – ENFORCEMENT

- A.** The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.
- B.** The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued

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

- C. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both [40 CFR §122.41(j)(5)].
- D. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both [40 CFR §122.41(k)(2)].

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the Regional Water Board as soon as they know or have reason to believe (40 C.F.R. § 122.42(a)):

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

- a. 100 micrograms per liter ($\mu\text{g/L}$) (40 C.F.R. § 122.42(a)(1)(i));
 - b. 200 $\mu\text{g/L}$ for acrolein and acrylonitrile; 500 $\mu\text{g/L}$ for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(1)(ii));
 - c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(1)(iii)); or
 - d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(1)(iv).)
2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. § 122.42(a)(2)):
 - a. 500 micrograms per liter ($\mu\text{g/L}$) (40 C.F.R. § 122.42(a)(2)(i));
 - b. 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(2)(ii));
 - c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(2)(iii)); or
 - d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Water Board of the following (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.42(b)(2).)

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 C.F.R. § 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP NO. 9525)

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP) NO. 9525

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

I. GENERAL MONITORING PROVISIONS

- A. Sampling station(s) shall be established at the discharge of Recombined Water Tank located at SEALab (Discharge Location 001, Lat.:33°, 51', 05", Long.:118 ° 23' 49") where representative samples of that effluent can be obtained. The effluent samples shall be taken downstream of any treatment and prior to mixing in the receiving water. Provisions shall be made to enable visual inspection of the discharge. All visual observations shall be included in the monitoring report.
- B. 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.
- C. Pollutants shall be analyzed using the methods described in 40 CFR 136.3, 136.4, and 136.5 (Revised in March 12, 2007); or where no methods are specified for a given pollutant, methods approved by the Regional Water Board or State Board. Laboratories analyzing monitoring samples shall be certified by the California Department of Public Health Environmental Laboratory, Accreditation Program (ELAP) and must include quality assurance/quality control (QA/QC) data with their report. A copy of the laboratory certification shall be provided each time a new certificate and/or renewal of the certificate is obtained from ELAP. For the purpose of monitoring pH, dissolved oxygen, residual chlorine, and temperature, tests may be conducted at the field sampling location provided that all requirements of the approved analytical methods for NPDES use in 40 CFR 136 are met.
- D. Water/wastewater samples must be analyzed within allowable holding time limits as specified in 40 CFR Section 136.3. All QA/QC samples must be run as specified by the EPA methodology and the results must be reported in the Regional Water Board format if available, and submitted with the laboratory reports.
- E. All analyses shall be accompanied by the chain of custody, including but not limited to data and time of sampling, sample identification, and name of person who performed sampling, date of analysis, name of person who performed analysis, QA/QC data, method detection limits, analytical methods, copy of laboratory certification, and a perjury statement executed by the person responsible for the laboratory.
- F. The Discharger shall calibrate and perform maintenance procedures on all monitoring instruments to insure accuracy of measurements, or shall insure that both equipment activities will be conducted.
- G. The monitoring report shall specify the USEPA analytical method used, the Method Detection Limit (MDL) and the Minimum Level (ML) for each pollutant. For the purpose of reporting compliance with numerical limitations, performance goals, and receiving water limitations, analytical data shall be reported by one of the following methods, as appropriate:
 - 1. An actual numerical value for sample results greater than, or equal to, the ML; or,
 - 2. "Detected, but Not Quantified (DNQ)" if results are greater than or equal to the laboratory's MDL but less than the ML; or,

3. "Not-Detected (ND)" for sample results less than the laboratory's MDL with 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 I) are those published by the State Water Resources Control Board (State Board) in the *California Ocean Plan*.

Where possible, the MLs employed for effluent analyses shall be lower than the permit limits 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 (in the annual report), the Discharger shall submit a list of the analytical methods employed for each test and associated laboratory quality assurance/quality control (QA/QC) procedures.

- H. The Discharger shall have, and implement an acceptable written quality assurance (QA) plan for laboratory analyses. The annual monitoring report required in Section IX.D.1. of the MRP shall also summarize the QA activities for the previous year. Duplicate chemical analyses must be conducted on a minimum of ten percent (10%) of the samples, or at least one sample per sampling period, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples.
- I. Quarterly effluent analyses are typically performed during the months of February, May, August and November. Annual effluent analyses shall be performed during the month of February.
- J. For parameters that both monthly average 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 monthly average limit, the sampling frequency shall be increased (within one week of receiving the test results) to a minimum of once weekly at equal intervals, until at least four consecutive weekly samples have been obtained, and compliance with the monthly average limit has been demonstrated.
- K. If there is not a discharge during any reporting period, the report shall so state. The Discharger shall submit an annual summary report (for both dry and wet weather discharges), containing a discussion of the previous year's effluent and receiving water monitoring data, as well as graphical and tabular summaries of the data. The data shall be submitted to the Regional Water Board on hard copy and on compact disc. Submitted data must be IBM compatible, preferably using EXCEL software. This annual report is to be received by the Regional Water Board by March 1 of each year following the calendar year of data collection.
- L. 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.
- M. The Discharger shall inform the Regional Water Board well in advance of any proposed construction activity that could potentially affect compliance with applicable requirements.
- N. Any mitigation/remedial activity including any pre-discharge treatment conducted at the site must be reported in the quarterly monitoring report.

- O. In the event that concentrate waste is 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 concentrate waste is transported off-site during the reporting period, a statement to that effect shall be submitted.

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 1. Monitoring Station Locations

| Discharge Location No. | Monitoring Location Name | Monitoring Location Description |
|------------------------|--------------------------|---|
| 001 | EFF-001 | Representative of the effluent being discharged from the Facility at Discharge Location No. 001 (Recombined Water Tank effluent located at SEALab - Latitude: 33° 50' 05", Longitude: 118° 23' 49") |
| -- | RSW-001 | Within 25 feet of the Receiving Water discharge location |

III. INFLUENT MONITORING REQUIREMENTS

Not Applicable

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor the wastewater discharge at EFF-001 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table 2. Effluent Monitoring

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method and Minimum Level |
|---|----------|-------------|----------------------------|---|
| Temperature | °F | grab | monthly | 1 |
| Biochemical Oxygen Demand 5-day @ 20°C (BOD) ^[2] | mg/L | composite | monthly | 1 |
| Total Suspended Solids ^[2] | mg/L | composite | monthly | 1 |
| pH | pH Units | grab | monthly | 1 |
| Dissolved Oxygen | mg/L | grab | monthly | 1 |
| Oil and Grease ^[2] | mg/L | grab | monthly | 1 |

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method and Minimum Level |
|---|------------|-------------|----------------------------|---|
| Settleable Solids | ml/L | grab | monthly | 1 |
| Turbidity | NTU | grab | quarterly | 1 |
| Total Residual Chlorine ^[2] | µg/L | grab | monthly | 1 |
| Ammonia as N ^[2] | µg/L | grab | monthly | 1 |
| Chronic Toxicity ^[3, 4] | TUc | grab | semiannually | 1 |
| Total coliform | MPN/100 ml | grab | monthly | 1 |
| Fecal coliform | MPN/100 ml | grab | monthly | 1 |
| Enterococcus | MPN/100 ml | grab | monthly | 1 |
| Antimony ^[2] | µg/L | grab | quarterly | 1 |
| Arsenic ¹ ^[2] | µg/L | grab | monthly | 1 |
| Cadmium ^[2] | µg/L | grab | monthly | 1 |
| Chromium (VI) ^[2] | µg/L | grab | monthly | 1 |
| Copper ^[2] | µg/L | grab | monthly | 1 |
| Lead ^[2] | µg/L | grab | monthly | 1 |
| Mercury ^[2] | µg/L | grab | monthly | 1 |
| Nickel ^[2] | µg/L | grab | monthly | 1 |
| Selenium ^[2] | µg/L | grab | monthly | 1 |
| Silver ^[2] | µg/L | grab | monthly | 1 |
| Thallium ^[2] | µg/L | grab | monthly | 1 |
| Zinc ^[2] | µg/L | grab | monthly | 1 |
| Bis(2-Ethylhexyl)Phthalate ^[2] | µg/L | grab | monthly | 1 |
| Cyanide ^[2] | µg/L | grab | semiannually | 1 |
| Chlorinated Phenolics ^[2] | µg/L | grab | semiannually | 1 |
| TCDD Equivalents ^[2, 3] | µg/L | grab | annually | 1 |
| Acrylonitrile ^[2] | µg/L | grab | semiannually | 1 |
| Benzene ^[2] | µg/L | grab | semiannually | 1 |
| Carbon Tetrachloride ^[2] | µg/L | grab | semiannually | 1 |
| Chlorodibromomethane ^[2] | µg/L | grab | semiannually | 1 |
| Dichlorobromomethane ^[2] | µg/L | grab | semiannually | 1 |
| 1,1-Dichloroethylene ^[2] | µg/L | grab | semiannually | 1 |
| 1,3-Dichloropropene ^[2] | µg/L | grab | semiannually | 1 |
| 1,1,2,2-Tetrachloroethane ^[2] | µg/L | grab | semiannually | 1 |
| Tetrachloroethylene ^[2] | µg/L | grab | semiannually | 1 |
| 1,1,1-Trichloroethane ^[2] | µg/L | grab | semiannually | 1 |
| 1,1,2-Trichloroethane ^[2] | µg/L | grab | semiannually | 1 |

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method and Minimum Level |
|---|-------|-------------|----------------------------|---|
| Tributyltin ^[2] | µg/L | grab | semiannually | 1 |
| All other Table B constituents ^[2] | µg/L | grab | annually ^[5] | 1 |
| Radioactivity | pCi/L | Grab | annually | 1 |

Footnotes:

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

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

$$m = 0.00834 \times C_e \times Q$$

where: m = mass discharge for a pollutant, lb/day
 C_e = limitation concentration for a pollutant, µg/L
 Q = actual discharge flow rate, mgd

[3] See Attachment A for Definitions.

[4] See Section V below for complete instructions for whole effluent toxicity testing.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Chronic Toxicity Monitoring Program

1. The Discharger shall conduct critical life stage chronic toxicity tests on effluent samples (grab) or receiving water samples in accordance with EPA’s Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition, October 2002, (EPA/821-R-02-014).
2. Effluent samples shall be collected after all treatment processes and before discharge to the receiving water.
3. Test Species and Methods:
 - a. The Discharger shall conduct screening tests as follows: with a vertebrate, an invertebrate, and an alga for the first three suites of tests. After the screening period, monthly monitoring shall be conducted using the most sensitive species.
 - b. Re-screening is required every 24 months. The Discharger shall re-screen with the three species listed above and continue to monitor with the most sensitive species. If the first suite of re-screening tests demonstrates that the same species is the most sensitive than the re-screening does not need to include more that one suite of tests. If a different species is the most sensitive or if there is ambiguity then the Discharger shall proceed with suites of screening tests for a minimum of three, but not to exceed five suites.

c. The presence of chronic toxicity shall be estimated as specified using West Coast marine organisms according to EPA's Short-Term Methods for Estimating Chronic Toxicity of Effluent and Receiving Waters to Freshwater Organisms, Fourth Edition, October 2002 (EPA/821-R-02-013).

4. Toxicity Units.

The chronic toxicity of the effluent shall be expressed and reported in Chronic Toxic Units, TUC, where,

$$TUC = \frac{100}{NOEC}$$

The No Observable Effect Concentration (NOEC) is expressed as the maximum percent effluent concentration that causes no observable effect on test organisms, as determined by the results of a critical life stage toxicity test.

B. Quality Assurance

1. Concurrent testing with a reference toxicant shall be conducted. Reference toxicant tests shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc).
2. If either the reference toxicant test or effluent test does not meet all test acceptability criteria (TAC) as specified in the test methods manuals (EPA/600/4-91/002 and EPA/821-R-02-013), then the Discharger must re-sample and re-test within 14 days of notification by the laboratory of an invalid test.
3. Control and dilution water shall be receiving water or laboratory water as described in the manual. If the dilution water used is different from the culture water, a second control using culture water shall be used.

D. Accelerated Monitoring

1. If toxicity exceeds the limitations (as defined in Order No. R4-2010-0184, Section IV.A.1.a. , and 1.c. of the Waste Discharge Requirements in this permit), then the Discharger shall immediately implement accelerated testing. The discharger shall ensure that they receive results of a failing toxicity test within 24 hours of the completion of the test and the additional tests shall begin within 3 business days of receipt of the results or at the first opportunity of discharge. If the accelerated testing shows consistent toxicity, the discharger shall immediately implement the Initial Investigation of the TRE Workplan.
2. If implementation of the initial investigation TRE workplan indicates the source of toxicity (e.g., a temporary plant upset, etc.), then the Discharger may discontinue the TIE.
3. The first step in the initial Investigation TRE Workplan for downstream receiving water toxicity can be a toxicity test protocol designed to determine if the effluent causes or contributes to the measured downstream chronic toxicity. If this first step TRE testing shows that the outfall effluent does not cause or contribute to downstream chronic toxicity, using EPA's Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, October 2002 (EPA/821-R-02-013). Then a report on this testing shall be submitted to the Board and the TRE will be considered to be completed. Routine testing in accordance with MRP CI No. 9525 shall be continued thereafter.

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

1. Following a TRE trigger, the Discharger shall initiate a TRE in accordance with the facility's initial investigation TRE workplan. At a minimum, the Discharger shall use EPA manuals EPA/600/2-88/070 (industrial) or EPA/833B-99/002 (municipal) as guidance. At a minimum, the TRE workplan must contain the provisions in **Attachment G**. The Discharger shall expeditiously develop a more detailed TRE workplan for submittal to the Executive Officer within 30 days of the trigger, which will include, but not be limited to:
 - a. Further actions to investigate and identify the cause of toxicity;
 - b. Actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity;
 - c. Standards the Discharger will apply to consider the TRE complete and to return to normal sampling frequency; and,
 - d. A schedule for these actions
2. The following is a stepwise approach in conducting the TRE:
 - a. Step 1 - Basic data collection. Data collected for the accelerated monitoring requirements may be used to conduct the TRE;
 - b. Step 2 - Evaluates optimization of the treatment system operation, facility housekeeping, and the selection and use of in-plant process chemicals;
 - c. If Steps 1 and 2 are unsuccessful, Step 3 implements a Toxicity Identification Evaluation (TIE) and employment of all reasonable efforts and using currently available TIE methodologies. The objective of the TIE is to identify the substance or combination of substances causing the observed toxicity;
 - d. Assuming successful identification or characterization of the toxicant(s), Step 4 evaluates final effluent treatment options;
 - e. Step 5 evaluates in-plant treatment options; and,
 - f. Step 6 consists of confirmation once a toxicity control method has been implemented.

Many recommended TRE elements parallel source control, pollution prevention, and storm water control program best management practices (BMPs). To prevent duplication of efforts, evidence of implementation of these control measures may be sufficient to comply with TRE requirements. By requiring the first steps of a TRE to be accelerated testing and review of the facility's TRE workplan, a TRE may be ended in its early stages. All reasonable steps shall be taken to reduce toxicity to the required level. The TRE may be ended at any stage if monitoring indicates there is no longer toxicity (or six consecutive chronic toxicity results are less than or equal to 11.0 TU_c).
3. The Discharger may initiate a TIE as part of the TRE process to identify the cause(s) of toxicity. The Discharger shall use the EPA chronic manuals, EPA/600/6-91/005F (Phase I)/EPA/600/R-96-054 (for marine), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III) as guidance.
4. If a TRE/TIE is initiated prior to completion of the accelerated testing schedule required by Section IV.A.1.c.i.2 of the Limitations and Discharge Requirements this permit, then the accelerated testing schedule may be terminated, or used as necessary in performing the TRE/TIE, as determined by the Executive Officer.
5. Toxicity tests conducted as part of a TRE/TIE may also be used for compliance, if appropriate.

6. The Board recognizes that toxicity may be episodic and identification of causes of and reduction of sources of toxicity may not be successful in all cases. Consideration of enforcement action by the Board will be based in part on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.

F. Reporting

1. The Discharger shall submit a full report of the toxicity test results, including any accelerated testing conducted during the month as required by this permit. Test results shall be reported in Toxicity Units (TU_c) with the discharge monitoring reports (DMR) for the month in which the test is conducted.

If an initial investigation indicates the source of toxicity and accelerated testing is unnecessary, pursuant to Section IV.D.1. those results shall also be submitted with the DMR for the period in which the Investigation occurred.

2. The full report shall be submitted on or before the end of the month in which the DMR is submitted.
3. The full report shall consist of (1) the results; (2) the dates of sample collection, initiation, and completion of each toxicity tests; (3) the acute toxicity limit or chronic toxicity limit or trigger as described in the Limitations and Discharge Requirements Section IV.A.1.a; and (4) printout of the ToxCalc or CETIS program results.
4. Test results for toxicity tests also shall be reported according to the appropriate manual chapter on Report Preparation and shall be attached to the DMR. Routine reporting shall include, at a minimum, as applicable, for each test:

- a. sample date(s);
- b. test initiation date;
- c. test species;
- d. end point values for each dilution (e.g., number of young, growth rate, percent survival);
- e. NOEC value(s) in percent effluent;
- f. IC_{15} , IC_{25} , IC_{40} and IC_{50} values in percent effluent;
 TU_c values $\left(TU_c = \frac{100}{NOEC} \right)$;
Mean percent mortality (\pm standard deviation) after 96 hours in 100% effluent (if applicable);

- g. NOEC and LOEC values for reference toxicant test(s);
 - h. IC_{25} value for reference toxicant test(s);
 - i. Any applicable control charts; and
 - j. Available water quality measurements for each test (e.g., pH, D.O., temperature, conductivity, hardness, salinity, ammonia).
 - k. The Discharger shall provide a compliance summary, which includes a summary table of toxicity data from at least eleven of the most recent samples.
5. The Discharger shall notify, by telephone or electronically, this Regional Water Board of any toxicity exceedance of the limit or trigger within 24 hours of receipt of the results followed by

a written report within 14 calendar days of receipt of the results. The verbal or electronic notification shall include the exceedance and the plan the Discharger will pursue. The written report shall describe actions the Discharger has taken or will take to investigate and correct the cause(s) of toxicity. It may also include a status report on any actions required by the permit, with a schedule for actions not yet completed. If no actions have been taken, the reasons shall be given.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

Not Applicable

VII. RECEIVING WATER MONITORING REQUIREMENTS- SURFACE WATER AND GROUNDWATER

A. Monitoring Locations –RSW-001

1. The Discharger shall monitor the Pacific Ocean (at Redondo Beach) at RSW-001 as follows:

Table 3. Receiving Water Monitoring Requirements

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method and Minimum Level |
|--|------------|-------------|----------------------------|---|
| Temperature | °F | grab | semiannually | 1 |
| Biochemical Oxygen Demand 5-day @ 20°C (BOD) | mg/L | grab | semiannually | 1 |
| Total Suspended Solids | mg/L | grab | semiannually | 1 |
| pH | pH Units | grab | semiannually | 1 |
| Dissolved Oxygen | mg/L | grab | semiannually | |
| Oil and Grease | mg/L | grab | semiannually | 1 |
| Settleable Solids | ml/L | grab | semiannually | 1 |
| Turbidity | NTU | grab | semiannually | 1 |
| Total Residual Chlorine | µg/L | grab | semiannually | 1 |
| Ammonia as N | µg/L | grab | semiannually | 1 |
| Chronic Toxicity ^[2, 3] | TUc | grab | semiannually | 1 |
| Total coliform | MPN/100 ml | grab | semiannually | 1 |
| Fecal coliform | MPN/100 ml | grab | semiannually | 1 |
| Enterococcus | MPN/100 ml | grab | semiannually | 1 |
| Antimony | µg/L | grab | semiannually | 1 |
| Arsenic | µg/L | grab | semiannually | 1 |
| Cadmium | µg/L | grab | semiannually | 1 |
| Chromium (VI) | µg/L | grab | semiannually | 1 |
| Copper | µg/L | grab | semiannually | 1 |
| Lead | µg/L | grab | semiannually | 1 |
| Mercury | µg/L | grab | semiannually | 1 |

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method and Minimum Level |
|---------------------------------|-------|-------------|----------------------------|---|
| Nickel | µg/L | grab | semiannually | 1 |
| Selenium | µg/L | grab | semiannually | 1 |
| Silver | µg/L | grab | semiannually | 1 |
| Thallium | µg/L | grab | semiannually | 1 |
| Zinc | µg/L | grab | semiannually | 1 |
| Cyanide | µg/L | grab | semiannually | 1 |
| Chlorinated Phenolics | µg/L | grab | semiannually | 1 |
| TCDD Equivalents ^[3] | µg/L | grab | annually | 1 |
| All other Table B constituents | µg/L | grab | annually | 1 |

Footnotes:

- [1] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136; for priority pollutants the methods must meet the lowest minimum levels (MLs) specified in Appendix II of the Ocean Plan, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Board.
- [2] See Attachment A for Definitions.
- [3] See Section V below for complete instructions for whole effluent toxicity testing.

VIII. INTAKE EFFECTS ASSESSMENT MONITORING REQUIREMENTS

A. Intake Effects Assessment Study Plan

1. Development of the Intake Effects Sampling Plan

West Basin must comply with the following protocol for conducting sampling data to assess potential intake impacts to marine life from water withdrawals. West Basin will prepare an Intake Effects Sampling Plan. The overall approach will be to collect information about larval fish, fish eggs, and target invertebrate concentrations in the source water at the proposed intake by using towed plankton nets. Comparisons will be made from collection of data from concentration of entrainable larval fish collected from in front of the wedgewire screens to the data collected from behind the screens to test their effectiveness at reducing entrainment.

The sampling protocol will have four main objectives:

- a. Establish a baseline characterization of larval fish, fish eggs, and target invertebrate species by sampling the species composition, abundance, and temporal variability near the proposed intake.
- b. Assess the operational effectiveness of the proposed wedgewire screen intake of the Temporary Project by sampling with a demonstration scale screened intake.
- c. Model the potential impacts on local fish and target invertebrate populations caused by the loss of entrained organisms, and evaluate their ecological and economic significance.
- d. Evaluate corrosion and biofouling potential of the intake screen material.

The three data sets (source water larval fish and select shellfish concentrations, the concentrations of these organisms entrained through the test screens, and the rate of biofouling and corrosion of the test screens) will be used to evaluate potential entrainment impacts from the proposed project.

The Empirical Transport Model (EMT) will be used to compare entrainment larval concentrations to source water larval concentrations to calculate the effects of larval mortality in the defined source water.

B. Entrainment Study and Assessment Methods

a. Plankton Entrainment Study

The study design will involve collection of plankton samples directly from the intake water flow (entrainment sampling) and comparing the densities of various target species from plankton samples taken concurrently from the source water body (source water sampling). West Basin will draw feedwater from a predominately open coast flow of nearshore and canyon water. Bi-weekly surveys will be conducted for one year from the start of operations.

b. Entrainment and Source Water Larval Sampling Methods

Samples will be collected twice per month at the intake location by towing a bongo frame with two screen diameter openings, each equipped with a mesh plankton net and codend. The collected samples will be preserved in a 5-10% buffered formalin-seawater solution. Water quality measurements will be recorded at each station once per survey.

c. Larval Entrainment Sampling Methods

This study will measure the effectiveness of the wedgewire screen design and subsurface filtration bed in excluding larvae from entrainment in the Temporary Project feedwater supply under approach velocities and larval concentrations that simulate the proposed intake design. The intake location will be exposed to nearly continuous ocean swell.

Samples of entrained organisms will be collected directly from the intake flow downstream of the intake pump. Two screen slot sizes constructed of metal, 1.0 mm and 2.0 mm, will be tested, which are designed to ensure a maximum through-screen velocity of 0.1 m/sec,

The tests will be done once per month for a total of twelve monthly tests to allow comparison with the plankton composition and concentration data collected using the towed nets at the intake location. The differences in larval concentration between the two slot-size treatments and the unscreened control will measure the screening effectiveness for different species and their life stages.

d. Subsurface Infiltration Bed Intake (or “Subsurface Intake Pilot”/SIP)

The subsurface infiltration bed intake (SIBI) entrainments test will measure the balance of entrained larvae between the SIBI inlet and outlet flow and determine whether or not there is a loss of organisms across the filtration bed, if any, and the nature and extent of the loss. Biofouling growth is an issue in plugging the system, so daily measurements will be monitored.

As such for the Larval Entrainment Sampling Methods, testing will go through the same routine to compare plankton composition and concentration data.

e. Laboratory Processing and Data Management

The samples will be returned to the laboratory and after approximately 72 hours, the samples will be transferred from the formalin-seawater solution into 70-80% ethanol. Material collected will be examined under a microscope and organisms examined will be placed in labeled vials and then identified to the lowest taxonomic level. Many larval fish that cannot be identified to the species level will be identified to the lowest taxonomic classification possible.

A QA/QC program will be implemented for procedural protocol to ensure field sampling is conducted properly. Laboratory processing and taxonomists identifying the samples must go through a detailed QA/QC program. For laboratory processing, the first ten samples sorted by an individual will be re-sorted by a designated quality control (QC) sorter. A sorter is allowed to miss a maximum of one fish larva when the total number of larvae in the sample is less than 20. For larger samples of more than 20, accuracy must be achieved at 90% of consecutive samples before a sorter can acquire random samples. If the sorter maintains the required level of accuracy, one of their next ten samples will be re-sorted by QC personnel. For taxonomists, the first ten samples of fish identified by an individual taxonomist will also have to be re-identified by another designated QA/QC taxonomist. At least 50 individual fish larvae from at least five taxa must be present in the first ten samples; if not, additional samples will need to be re-identified. A 95% identification accuracy of ten consecutive samples must be achieved before they can have only one of their next samples checked by a QA/QC taxonomist. If the accuracy is below, then the next ten consecutive samples will be checked for accuracy. Samples will be re-identified until ten consecutive samples meet the 95% criterion.

Laboratory processing will remove all larval fishes, megalopal stages of *Cancer* spp. (species – group of organisms capable of interbreeding and producing fertile offspring), and larvae of spiny lobster from the samples, but fish eggs will not be sorted from the samples due to the difficulty of identifying the type and the extensive time involved.

f. Corrosion and Biofouling of the Intake Screen Materials

The test panel samples of the 1.0 mm and 2.0 mm slot-size screen panels will be attached to a mooring block near the existing intake structure. To measure short-term change over two months intervals and long-term trends in bio-fouling and corrosion rates, an array of small metal mesh test panels could be positioned horizontally and vertically. The screen panels will be placed and recovered by divers. Divers will observe and photograph the proposed single tests panels over the course of the 12-month study before retrieving the panels for corrosion testing. The panels will then be sent to a materials specialist for examination of corrosion, abrasion, or other defects.

g. Intake Screen Maintenance Protocol

The filter surface of each screen will be inspected and cleaned during each of the monthly source water sampling events. Chloramination (chloramine disinfectant produced by addition of chlorine and ammonia) and biofouling (small organic particulates that are capable of damaging the membranes) control in the inlet lines extending from the offshore filter screens to the point of entrainment sampling will be conducted.

C. Reporting

Three quarterly progress reports will be submitted to Regional Board. A final Entrainment Study and Impact Assessment will follow.

IX. OTHER MONITORING REQUIREMENTS

A. Outfall and Diffuser Inspection

1. This survey answers the question: "Are the outfall structures in serviceable condition ensuring their continued safe operation" ?.
2. Survey Design: The ocean outfall (001) shall be externally inspected a minimum of once a year. Inspections shall include general observations and photographic/videographic records of the outfall pipes and adjacent ocean bottom. The pipes shall be visually inspected by a diver, manned submarine, or remotely operated vehicle. A summary report of the inspection findings shall be provided. This written report, augmented with videographic and/or photographic images, will provide a description of the observed condition of the discharge pipes from shallow water to their respective termini.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. If there is no discharge during any reporting period, the report shall so state.
3. 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 Waste Discharge Requirements.
4. The Discharger shall report with each sample result the applicable Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR 136.
5. The Discharger shall attach a cover letter to the Monitoring Report. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.
6. Semiannual effluent analyses shall be performed during the months of February and August. Should there be instances when monitoring could not be done during these specified months, the Discharger must notify the Regional Water Board and USEPA, state the reason why the monitoring could not be conducted, and obtain approval from the Executive Officer for an alternate schedule. Results of monthly and semiannual analyses shall be reported in the quarterly monitoring report as specified in Table 4 below.
7. If the Discharger samples and performs analyses (other than for process/operational control, startup, research, or equipment testing) on any influent, effluent, or receiving water constituent

more frequently than required by this monitoring program using approved analytical methods, the results of those analyses shall be reported. These results shall be reflected in the calculation of the average used in demonstrating compliance with average effluent, receiving water, etc., limitations.

8. The Discharger shall inform the Regional Water Board and USEPA well in advance of any proposed construction activity that could potentially affect compliance with applicable requirements.
9. The Discharger shall submit to the Regional Water Board and USEPA, together with the first monitoring report required by this permit, a list of all chemicals and proprietary additives which could affect this waste discharge, including quantities of each. Any subsequent changes in types and/or quantities shall be reported promptly.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.
2. The Discharger shall submit quarterly SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. Quarterly reports shall be due on May 1, August 1, November 1, and February 1 following each calendar quarter. Annual reports shall be due on March 1 following each calendar year. 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 4. Monitoring Periods and Reporting Schedule

| Sampling Frequency | Monitoring Period Begins On... | Monitoring Period | SMR Due Date |
|---------------------------|---------------------------------------|---|---|
| Monthly | August 15, 2009 | 1 st day of calendar month through last day of calendar month | May 1 August 1 November 1 February 1 |
| Quarterly | August 15, 2009 | January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31 | May 1 August 1 November 1 February 1 |
| Semiannually | August 15, 2009 | January 1 through June 30 July 1 through December 31 | August 1 February 1 |
| Annually | August 15, 2009 | January 1 through December 31 | February 1 |

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

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

- a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the 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."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+ a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
 - d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.
5. Compliance Determination. Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined above and Attachment A of this Order or compliance determination from Appendix II of the 2005 Ocean Plan. For purposes of reporting and administrative enforcement by the Regional and State Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the reportable pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (ML).
 6. Multiple Sample Data. When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND), the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
 - a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
 - b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

7. The Discharger shall submit SMRs in accordance with the following requirements:
 - a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.
 - b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.
8. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, California 90013
Attention: Information Technology Unit

Please reference Compliance File No. CI-9525 for the Regional Water Board submittals to facilitate routing to the appropriate staff and file.

C. Discharge Monitoring Reports (DMRs)

1. As described in Section IX.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.
2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the address listed below:

State water resources Control Board
Division of water quality
c/o DMR Processing Center
Post office Box 100
Sacramento, CA 95812-1000

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

D. Other Reports

1. Annual Summary Report

By February 1 of each year, the Discharger shall submit an annual report to the Regional Water Board and USEPA. The report shall contain the following:

- a. Both tabular and graphical summaries of the monitoring data obtained during the previous year,
- b. A discussion on the compliance record and the corrective actions taken or planned to bring the discharge into full compliance with the waste discharge requirements,
- c. A report discussing the following: 1) operation/maintenance problems; 2) changes to the facility operations and activities; 3) potential discharge of the pollutants associated with the changes and how these changes are addressed; 3) calibration of flow meters or other equipment/device used to demonstrate compliance with effluent limitations of this Order.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

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

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

| | |
|---|--|
| WDID | |
| Discharger | West Basin Municipal Water District |
| Name of Facility | Temporary Ocean Water Desalination Demonstration Project |
| Facility Address | 1021 North Harbor Drive |
| | Redondo Beach, California 90277 |
| | Los Angeles County |
| Facility Contact, Title and Phone | Phil Lauri, Principal Water Resources Engineer, (310) 660-6238 |
| Authorized Person to Sign and Submit Reports | |
| Mailing Address | 17140 South Avalon Boulevard, Carson, CA 90746 |
| Billing Address | SAME |
| Type of Facility | Ocean Water Desalination Demonstration Plant |
| Major or Minor Facility | Minor |
| Threat to Water Quality | 3 |
| Complexity | C |
| Pretreatment Program | N/A |
| Reclamation Requirements | N/A |
| Facility Permitted Flow | 0.58 Million Gallons per Day (mgd) |
| Facility Design Flow | 0.58 mgd |
| Watershed | |
| Receiving Water | Pacific Ocean at Redondo Beach |
| Receiving Water Type | Ocean Waters |

- A. West Basin Municipal Water District (West Basin) proposes to discharge 0.58 million gallons per day (mgd) of seawater and reconstituted seawater from the Temporary Ocean Water

Desalination Demonstration Project (Project) under Waste Discharge Requirements (WDRs) and a National Pollutant Discharge Elimination System (NPDES) permit.

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 proposes discharging wastewater to Pacific Ocean, near Redondo Beach, a water of the United States.
- C. On December 17, 2009, West Basin filed a Report of Waste Discharge (ROWD) and applied for WDRs and an NPDES permit for discharge of wastewater from the Facility. The application was deemed complete on March 15, 2009, after submission of additional requested data.

II. FACILITY DESCRIPTION

A. Summary of previous pilot plant studies

In 2002, West Basin initiated a \$1.5 million ocean-water desalination Pilot Project in El Segundo (co-located at NRG’s El Segundo Power Plant), marking one of the first applications of microfiltration (MF) as a pretreatment to reverse osmosis (RO) of seawater. West Basin’s desalination Pilot Project included MF, ultrafiltration (UF) and RO components, and processed approximately 40 gallons per minute (gpm) of ocean water. The goal of the Pilot Project was two-fold: Identify effective treatment processes and optimal operating conditions. The Pilot Project evaluated the source and product water quality. Through more than five years of research and more than 35,000 water quality tests (approximately 500/month), West Basin identified an effective treatment process and the optimal operating parameters for desalination.

The following conclusions were drawn from the five year study: The study successfully established the feasibility of utilizing a MF/UF to RO process to produce potable quality water. This was demonstrated on Pacific Ocean water taken from either a power plant intake or the warmer power plant post-condenser effluent source. Design parameters were developed for each process component. Each of the latest generation RO membranes demonstrated the capability of providing permeate water less than 200 mg/L total dissolved solids (TDS) across the influent water temperature range and less than 300 mg/L TDS across the effluent temperature range. RO membranes operated effectively at 8 to 12 GFD (gallons per square feet per day) flux (flux is defined as the amount of liquid/source water that flows through a unit area per unit time) on MF and UF filtrate, with no increase in fouling rate attributed to the higher flux operation. Both the MF/UF backwash and RO concentrate streams were characterized for disposal options. Fiber damage from shell fragments was prevented by use of an Arkal pre-filter of 100 microns or less.

B. Temporary Ocean Water Desalination Demonstration Project

The Temporary Ocean Water Desalination Demonstration Project (Project) will provide research data for the development of its ocean water desalination program. The Temporary Desalination Demonstration Facility (Temporary Facility) will be constructed at the Science, Education, & Adventure Lab (SEALab) located at 1201 North Harbor Drive, Redondo Beach (near King Harbor). The SEALab is a fully developed urban site, located on approximately 1.2 acres of property previously utilized as a pumphouse (no longer in operation) for the AES Redondo Beach Generating Station (RBGS). The proposed Project has been designed in part based upon extensive pilot testing conducted by West Basin. The pilot tests resulted in developing the proposed Project design plans, process flow, and water quality sampling protocol.

1. Summary of Project Funding

Funding for the project was provided in part by a June 2005 grant from California Department of Water Resources through Proposition 50 of approximately \$1.5 million for the Demonstration Projects category (demonstration of integrated membrane seawater desalination using single-pass reverse osmosis for the Los Angeles region). West Basin also received a grant from California Department of Water Resources (DWR), which has since been relinquished back to DWR, in 2006, to study marine biotoxin production and the potential impacts to an ocean water desalination treatment facility. However, due to the recent California State budget crisis, the grants from the State have been suspended and funding for the Project is currently provided from West Basin's General Fund.

2. Project Construction, Operation and Decommissioning

The design and construction phases of the proposed Project are anticipated to last approximately 12 to 16 months (12 months of construction). Construction of the Temporary Facility is anticipated to begin in late 2009 and will be completed in late 2010. The facility is planned to operate for two years, with up to an additional 18 months of operation (West Basin's sublease with SEALab ends in January 2013). Decommissioning is anticipated to require six months to complete.

3. Project Description

The Project intake system will utilize 580,000 gallons per day (gpd) of ocean water used for testing various pre-treatment and post treatment options. The actual desalination process using reverse osmosis will utilize approximately 100,000 gpd of the source water, producing approximately 50,000 gpd of ocean water concentrate (brine) and 50,000 gpd of product water. 80,000 gpd will be used for the subsurface intake pilot, screened by sand media, and returned to the ocean. The balance 400,000 gpd will be untreated and recirculated for return to the ocean (this volume of water will be used to test the efficiency of the wedgewire screen intake and will not be used for desalination). The brine and product will be combined and discharged through the existing outlet tunnel. The Project also includes a passive wedgewire system (using the existing intake tunnel) to minimize the impingement and entrainment (I&E) effects and subsurface intake pilot study.

All 580,000 gpd of influent water would be recombined in a tank prior to discharge to the ocean, with the exception of a nominal amount of water (approximately five gallons per minute or 7,200 gpd) to be utilized on-site for potable use, and nominal volumes sent to the sanitary sewer. As part of the routine source water conditioning and membrane cleaning necessary for Project operations, chemicals that could potentially be discharged into the ocean by the proposed Temporary Facility would consist of antiscalants (added to intake source water to prevent scaling) and coagulants (added as part of the prescreening/pretreatment cleaning process). The impact of these chemicals on the discharge effluent will be minimal.

4. Intake system

The Project will utilize source water from two different systems – a passive intake screened system (500,000 gpd or 347 gpm) and a bar-screened intake system (80,000 gpd or 55 gpm). Both intake systems will be installed within the existing RBGS intake tunnel (previously used for decommissioned AES RBGS Units 1-4). CIP (Cleaning in Place) liquids consisting of membrane cleaning solutions will be discharged to the existing sanitary sewer system and all other flows will be discharged to Pacific Ocean via the existing AES RBGS discharge tunnel for Units 5&6.

a. Passive Intake (Wedgewire) System

Approximately 347 gpm is proposed for this intake, which includes a 1mm slot and 2mm slot wedgewire screen (see discussion below for Intake Effects Assessment). Of the 347 gpm, approximately 219 gpm will bypass the MF/RO process and simply be returned to the ocean via the Equalization Tank and existing discharge tunnel. This flow will go through the strainers, and may go through an optional Granular Media Filter. The remaining 128 gpm will be sent through an MF prescreening process, resulting in approximately 70 gpm being sent through an RO process (approximately 100,000 gpd). There will be various flow diversions from the 128 gpm that result in only 70 gpm being sent through the first-pass RO system (including MF backwash and MF overflow). The RO Process will produce approximately 50,000 gpd of permeate (product water) and 50,000 gpd of ocean water concentrate, which will be recombined and discharged through the existing outlet tunnel (there will not be any "brine" discharged into the ocean)

One of the main purposes of the Temporary Facility is to develop a seawater intake that protects marine life. The Temporary Facility is proposed to intake approximately 0.50 mgd of seawater from the Pacific Ocean via an existing concrete tunnel previously utilized for RBGS operations. The existing concrete tunnel extends approximately 1,600 feet offshore, terminating at an approximate depth of 20 feet Mean Lower Low Water (MLLW). The 144-inch concrete reinforced concrete tunnel runs from the Pacific Ocean (outside and just north of King Harbor), and terminates at a wet well located beneath the SEALab facility (refer to Attachment B-1, *Inlet and Outlet Tunnel Location Map*). The concrete tunnel is essentially unused, except for a minimal amount of seawater pumped from the wet well by SEALab for use in their aquariums and seawater tanks.

The proposed Temporary Facility will utilize a "pipe-in-pipe" concept, in which three new, smaller diameter pipelines will be installed within the existing 144-inch concrete tunnel (this will not require seabed construction, as the new pipes will be installed from the shoreward end of the existing concrete tunnel, and pulled through the existing concrete tunnel from the ocean end using boat-mounted equipment). The seaward end of the proposed intake pipeline will be equipped with a state-of-the-art passive "wedgewire" screen, which is a wedge-shaped, slotted screening system designed to minimize impingement and entrainment (I&E) impacts to marine biological resources. Source water intake will be at 0.5 feet per second (fps) or less to further minimize I&E. Studies conducted on passive wedgewire screening technology indicate that in many cases I&E impacts can be reduced to less than significant levels using wedgewire technology and low intake velocities.

b. Bar-screen Intake system

Approximately 80,000 gpd (55 gpm) of source water will be utilized for a subsurface intake pilot study (see below).¹ This intake flow will be used to test water quality and marine life effects on drawing RO source water through a simulated ocean floor granular media. There are no pretreatment or post-treatment chemicals proposed for this intake source, other than periodic system maintenance dosings noted above. The test bed will mimic natural infiltration characteristics utilizing seawater pumped through the second pipeline installed utilizing the "pipe-in-pipe" concept, as described above. The second

¹ The total ocean water intake is proposed at 580,000 GPD, in order to provide sufficient intake volume to test the effectiveness of the wedgewire system in reducing or eliminating marine life impacts.

pipeline (for the bench scale subsurface test) will have intake velocities well below 0.5 fps to simulate seafloor conditions, and will require an estimated 80,000 gpd of sourcewater.

5. Discharge System

All 580,000 gpd of influent water would be recombined in a tank at SEALab (Discharge Location 001, Lat.:33° 51' 05", Long.:118 ° 23' 49") prior to discharge to the discharge tunnel and then to Pacific Ocean through Discharge Outfall 001 (see Table on cover page). The Project will utilize the existing AES RBGS discharge tunnel for Units 5&6, an existing 10 feet diameter pipe, approximately 1,850 feet long, which releases into the Pacific Ocean. The existing pipe runs approximately 550 feet southwest from the facility, underground to the shoreline, and continues approximately 1,300 feet from the shoreline southwest into the ocean. The discharge structure will be approximately 30 feet below the ocean water surface at an approximate 33° deg. 50' 59" longitude and 118 ° 24' 12" latitude coordinates. A dilution study was conducted by the Discharger using Vision Plume model. The State Board staff reviewed the study and approved the calculated dilution ratio of 10:1.

6. Process Description

The proposed Temporary Desalination Demonstration Project at SEALab will be investigating a 100 micron Arkal strainer and possibly, a high rate granular media filtration (GFM), as two different pre-screen technologies for protecting the low-pressure membrane (MF or UF) pretreatment. The waste streams that would be generated from these processes were identified, and an inventory of different chemicals that will be added to enhance desalination performance included antiscalants and coagulants. MF/UF washwater quality characterization was performed using the existing results from the West Basin's El Segundo pilot plant operations and the influent water quality data measured at the SEALab site.

Of the 347 gpm approximately 219 gpm bypass the MF/RO process and is simply returned to the ocean via the Equalization Tank and existing discharge tunnel. This flow will go through the strainers, and may go through an optional Granular Media Filter. The remaining 128 gpm will be sent through an MF prescreening process, resulting in approximately 70 GPM being sent through an RO process (approximately 100,000 gpd). There will be various flow diversions from the 128 gpm that result in only 70 gpm being sent through the first-pass RO system (including MF backwash and MF overflow). The RO Process will produce approximately 50,000 GPD of permeate (product water) and 50,000 gpd of ocean water concentrate, which will be recombined and discharged through the existing outlet tunnel (there will not be any "brine" discharged into the ocean, and the nominal chemicals used in the RO testing processes will be neutralized prior to discharge. The attached Exhibit on Page C-1, Process Flow Diagram, provides detailed information on all intake and discharge volumes, as well as chemical treatment processes. In addition to the RO process treatments, the intake system will receive periodic chlorine dosing with 5 to 10 mg/L to keep the system clean. As an alternative, the intake and process train are also capable of receiving a continuous chloramination dose of approximately 5-7 mg/l. All chlorine additions will be neutralized prior to discharge, or will be discharged to the existing sanitary sewer. The intake system will be constructed of HDPD (high density polyethylene) plastic piping, which has been shown to be highly resistant to biofouling. The intake system (constructed using a "pipe in pipe" concept where the HDPD piping is installed inside the existing RBGS concrete tunnels) will also include an "air burst" system to allow periodic backflushing of the passive intake screens.

Once the ocean water has been obtained through the alternative source water intake system, the desalination process will consist of the following primary stages:

Prescreening and Pretreatment: The Temporary Facility will utilize disc filters and/or a high rate media filter for prescreening of materials over 100 microns in size. The source water will then undergo low pressure ultrafiltration pretreatment to further filter the water in preparation for the reverse osmosis filtration process.

Reverse Osmosis Filtration: Following prescreening and pretreatment, high pressure reverse osmosis membranes will be utilized for the final stage of filtration. The reverse osmosis system will include high pressure reverse osmosis pumps, reverse osmosis membrane trains, variable frequency drives, high efficiency motors, and an energy recovery system to minimize electricity consumption.

Permeate Post-Treatment: The Temporary Facility's permeate will not be distributed to the public or consumed. However, the proposed Temporary Facility will include post treatment, stabilization, and disinfection equipment to evaluate the appropriate process for preparing ocean desalinated permeate for distribution to consumers.

A number of residuals will be produced as part of the desalination process that will either be returned to the Pacific Ocean or discharged to the sanitary sewer. A description of each follows:

Permeate and Concentrated Seawater: The Temporary Facility will produce approximately 50,000 gpd of permeate and 50,000 gpd of seawater concentrated to double strength. Since none of the permeate will be distributed to the public or consumed, it will be recombined with the seawater concentrate in a holding tank and returned to the Pacific Ocean. This discharge will be returned to the ocean via an existing outlet tunnel. This existing tunnel is located adjacent to the existing inlet tunnel.

Prescreening Washwater: The disc filters utilized for prescreening will require periodic flushing and backwashing to remove debris and organic materials collected on the filters as part of normal operation. The washwater will then be collected and combined with the permeate/seawater concentrate (described above) in a holding tank, and discharged to the Pacific Ocean. Washwater volume will typically be less than two to five percent of the source water intake volume.

Pretreatment Washwater: Similar to the prescreens, the ultrafiltration pretreatment membranes will require periodic backwashing to remove solids that collect as part of normal pretreatment operations. This washwater will also be sent to the discharge holding tank and discharged to the ocean along with the permeate, seawater concentrate, and prescreening washwater, described above.

Membrane Cleaning Solutions: The ultrafiltration pretreatment membranes and reverse osmosis membranes will require periodic cleaning (every three to four weeks for pretreatment membranes and every three to six months for reverse osmosis membranes) to prevent membrane fouling. Alkaline solutions, similar to common soap, will be utilized to remove silt deposits and biofilms, while acidic solutions, such as common low strength citric acid, will be applied to dissolve metal oxides or remove membrane scaling. All spent membrane cleaning solution (also called CIP - Cleaning in Place) utilized for membrane cleaning will be adjusted on-site and discharged to the sanitary sewer.

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

Not Applicable

D. Compliance Summary

Not Applicable

E. Planned Changes

Not Applicable

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

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

B. California Environmental Quality Act (CEQA)

This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with Section 13389 of the CWC.

The California Environmental Quality Act (CEQA) requires that local, regional, and State agencies and special purpose districts prepare an Environmental Impact Report (EIR) for any discretionary action that may have the potential to significantly affect the quality of the environment. West Basin prepared a Notice of Preparation (NOP) and released the NOP for a 30-day public review period, which extended from January 22 to February 20, 2008. West Basin held several public scoping meetings during this time, in addition to separate meetings with various stakeholders. West Basin released the Draft EIR for a 45-day public review period from October 22 to December 5, 2008, and held several public meetings during this time to discuss the project, summarize the EIR process, and receive public comments. West Basin received eight (8) comments on the DEIR, prepared Responses to Comments, and made the Final EIR available for public review on December 12, 2008. West Basin held a public meeting to consider the Final EIR and the Project at its regularly scheduled Board Meeting on December 22, 2008. At this meeting, the Board certified the Final EIR as adequate under CEQA, and approved the Project (State Clearinghouse No. 2008011079). The Notice of Determination was posted with the County Clerk on December 23, 2008.

C. State and Federal Regulations, Policies, and Plans

1. Water Quality Control Plans. The Regional Water Board adopted the 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 the Pacific Ocean and other receiving waters addressed through the plan. In addition, the Basin Plan implements State Water Resources Control Board (State 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.

The Basin Plan contains water quality objectives and beneficial uses for the Pacific Ocean (Nearshore and Offshore Zone) at Los Angeles County Coastal:

Nearshore Zone (defined as 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).

Table F-2. Basin Plan Beneficial Uses

| Discharge Point | Receiving Water Name | Beneficial Use(s) |
|-----------------|--|---|
| 001 | Pacific Ocean at Redondo Beach: <u>Nearshore</u> <u>Offshore Zone:</u> | <u>Existing:</u> Industrial service supply (IND), navigation (NAV), water contact (REC-1) and non-contact water recreation (REC-2), commercial and sport fishing (COMM), marine habitat (MAR), wildlife habitat (WILD), preservation of biological habitats (BIOL), rare, threatened, or endangered species (RARE), migration of aquatic organisms (MIGR), spawning, reproduction, and/or early development (SPWN), and shellfish harvesting (SHELL). <u>Existing:</u> Industrial service supply (IND), navigation (NAV), water contact (REC-1) and non-contact water recreation (REC-2), commercial and sport fishing (COMM), marine habitat (MARINE), wildlife habitat (WILD), rare, threatened, or endangered species (RARE), migration of aquatic organism (MIGR), spawning, reproduction, and/or early development (SPWN), and shellfish harvesting (SHEL). |

Requirements of this Order implement the Basin Plan.

2. **Thermal Plan.** The State Board adopted the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for coastal waters. Requirements of this Order implement the Thermal Plan.
3. **California Ocean Plan.** The State 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, and 2005. The State Board adopted the latest amendment on April 21, 2005, and it became effective on February 14, 2006. 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-3. Ocean Plan Beneficial Uses

| Discharge Point | Receiving Water | Beneficial Uses |
|-----------------|-----------------|--|
| Outfall 001 | 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. § 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. Endangered Species Act. This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The discharger is responsible for ensuring that its activities do no result in an unlawful take of federally or state protected species.

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

The Ocean Plan, Item III.C., Implementation Provisions For Table B, includes a requirement that “Effluent limits shall be imposed in a manner prescribed by the State Water Board such that the concentrations set forth as water quality objectives shall not be exceeded in the receiving water upon completion of initial dilution, except that objectives indicated for radioactivity shall apply directly to the undiluted waste effluent.” The Ocean Plan in Item III. Program of Implementation, F.2. states that “The Regional Boards may establish more restrictive water quality objectives and effluent limitations than those set forth in this Plan as necessary for the protection of beneficial uses of ocean waters.”

This is a new discharge and the data characterizing the mixed waste, as discharged is based on the results of the previous pilot study conducted with the intake water from the cooling water of NRG's El Segundo Power Plant. Therefore, this Order includes effluent limits for the constituents listed in the Ocean Plan that have potential for presence. The inclusion of effluent limits for all of the chemicals of concern ensures that the concentrations of the contaminants permitted for discharge to the receiving water are protective of the beneficial uses and that the beneficial uses of the Pacific Ocean in the vicinity of the discharge are not adversely impacted by the discharge. The inclusion of the effluent limits, monitoring requirements, prohibitions, and the requirements stipulated in the NPDES permit will ensure that the discharge will not result in a lowering of the water quality. The issuance of this permit, therefore, is consistent with the state's antidegradation policy.

7. Anti-Backsliding Requirements. Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations² section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. The Discharger conducted the dilution study using Visual Plume model and came up with a dilution ratio of 10:1. State Board staff reviewed the study and approved the calculated dilution ratio of 10:1. The relaxation of the effluent limitations based on approved dilution ratio is allowed under 40CFR 122.44(l), Section 402(o)(2) provision. This is a new discharge, thus the requirements for a reissued permit are not applicable.
8. Dilution Ratio: The Discharger did not conduct the dilution study when the application for NPDES permit was initially submitted, because of time constraints. They wanted to have the NPDES permit expeditiously to award and initiate construction. A provision was included in the Regional Board issued NPDES permit (Order No. R4-2009-0086) to reopen the permit and revise effluent limitations based on approved dilution ratio. Discharger performed a dilution study based on Vision Plume model and came up with a 10:1 dilution credit. State Board staff reviewed the study and approved the calculated dilution ratio of 10:1. Revised effluent limitations for toxic constituents are based on Ocean Plan (OP) Water Quality Objectives (WQOs) listed in Table B, and background concentration listed in Table C, using a dilution ratio of 10:1.
9. Monitoring and Reporting. Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.
10. Magnuson-Stevens Fishery Conservation and Management Act (MSA) and Endangered Species Act (ESA). USEPA's issuance of an NPDES permit is subject to requirements of the MSA and section 7 of the ESA. The USEPA is evaluating whether there are effects on essential fish habitat and managed and associated species protected under the MSA, or on threatened and endangered species and their designated critical habitats protected under the ESA. The USEPA may engage in consultation with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service (collectively, the Services) during, and

² All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

subsequent to, this permit issuance. USEPA may decide that changes to the permit are warranted based on the results of the completed consultation, and a reopener provision to this effect has been included in the Order.

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 20, 2006, USEPA gave final approval to California's 2006 Section 303(d) List of Water Quality Limited Segments. This list was approved by the State Board during a Board Meeting on October 25, 2006 (Resolution 2006-0079). Certain receiving waters in the Los Angeles and Ventura County watersheds do not fully support beneficial uses and therefore have been classified as impaired on the 2006 303(d) list and have been scheduled for TMDL development.

The 2006 State Board's California 303(d) List classifies the following waterbodies as impaired:

Redondo Beach - The pollutant of concern includes fish consumption advisory for DDT and PCBs (polychlorinated biphenyls). To date, no TMDL has been completed for these waterbodies. Therefore, no conditions in the proposed Order are based on TMDLs.

E. Other Plans, Policies and Regulations

Not Applicable

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: section 122.44(a) requires that permits include applicable technology-based limitations and standards; and section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where numeric water quality objectives have not been established three options exist to protect water quality: 1) 40 CFR §122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a); 2) proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information may be used; or 3) an indicator parameter may be established.

For CWA regulatory purposes, pollutants are grouped into three general categories under the NPDES program: conventional, non-conventional, and toxic. By definition, there are five conventional pollutants (listed in 40 CFR section 401.16): 5-day biochemical oxygen demand, total suspended solids, fecal coliform, pH, and oil and grease. Toxic or "priority" pollutants are those defined in Section 307(a)(1) of the CWA (and listed in 40 CFR section 401.15 and 40 CFR Part 423, Appendix A) and include metals and organic compounds. Non-conventional pollutants are those which do not fall under either of the two previously described categories and include such parameters as ammonia, phosphorous, chemical oxygen demand, whole effluent toxicity, etc.

The CWA requires that any pollutant that may be discharged by a point source in quantities of concern must be regulated through an NPDES permit. Further, the NPDES regulations require regulation of any pollutant that (1) causes; (2) has the reasonable potential to cause; or (3) contributes to the exceedance of a receiving water quality criteria or objective.

Mass-based effluent limitations are established to ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limitations. 40 CFR §122.45(f)(1) requires that all permit limitations, standards or prohibitions be expressed in terms of mass units except under the following conditions: (1) for pH, temperature, radiation or other pollutants that cannot appropriately be expressed by mass limitations; (2) when applicable standards or limitations are expressed in terms of other units of measure; or (3) if in establishing technology-based permit limitations on a case-by-case basis, limitations based on mass are infeasible because the mass or pollutant cannot be related to a measure of production. The limitations, however, must ensure that dilution will not be used as a substitute for treatment.

A. Discharge Prohibitions

The discharge of any other wastes except that enumerated in this Order to Pacific Ocean at Redondo Beach or any other water of the United States is prohibited.

B. Technology-Based Effluent Limitations

Technology-based effluent limits require a minimum level of treatment for industrial/municipal point sources based on currently available treatment technologies while allowing the discharger to use any available control techniques to meet the effluent limits. No technology-based effluent limits were established in 40 Code of Federal Regulations (CFR) for desalination facilities. However, Section 402(a)(1) of the CWA and section 125.3 of the CFR authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the permit writer must consider specific factors outlined in section 125.3. Therefore, the discharge authorized by this Order must meet minimum federal technology-based requirements based on Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3.0

1. Scope and Authority

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

- a. Best practicable treatment control technology (BPT) represents the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.
- b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.
- c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering the “cost reasonableness” of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and also the cost effectiveness of additional industrial treatment beyond BPT.

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

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

2. Applicable Technology-Based Effluent Limitations

At the time of drafting of this permit, no ELGs applicable to the Discharger have been developed. Technology-based effluent limitations in this Order are established in accordance with 40 CFR §125.3 and based on Table A of the Ocean Plan. Technology-based effluent limitations contained in Table A of the Ocean Plan are applied directly to the Discharger's total effluent. Effluent limitations for oil and grease, suspended solids, settleable solids, turbidity, and pH are established in Table A of the Ocean Plan. The effluent limitations for BOD are based on the secondary treatment regulations specified in 40 CFR Part 133.

The effluent limitations contained in Section III.B, Table A of the 2005 Ocean Plan serve as the technology-based effluent limitations, in order to carry out the purposes and intent of the CWA.

**Summary of Technology-based Effluent Limitations
 Discharge Point 001**

Table F-4. Summary of Technology-based Effluent Limitations

| Parameter | Units ^[1] | Effluent Limitations | | | | | |
|--|----------------------|----------------------|----------------|---------------|-----------------------|-----------------------|------------------|
| | | Average Monthly | Average Weekly | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum | Six-Month Median |
| <i>Conventional and Non-conventional Pollutants</i> | | | | | | | |
| Biochemical Oxygen Demand 5-day @ 20°C (BOD) | mg/L | 30 | 45 | -- | -- | -- | -- |
| | Lbs/day | 145 | 218 | -- | -- | -- | -- |
| Total Suspended Solids | mg/L | 60 | -- | -- | -- | -- | -- |
| | Lbs/day | 290 | | | | | |
| pH ^[2] | standard units | -- | -- | -- | 6.0 | 9.0 | -- |
| Oil and Grease | mg/L | 25 | 40 | -- | -- | 75 | -- |
| | Lbs/day | 121 | 194 | -- | -- | 10959 | -- |
| Settleable Solids | ml/L | 1.0 | 1.5 | -- | -- | 3.0 | -- |
| Turbidity | NTU | 75 | 100 | -- | -- | 225 | -- |

Footnotes for Effluent Limitations:

[1] The mass emission rates (lbs/day) are based on the flow rate of 0.58 mgd, using the formula:

$$m = 0.00834 \times C_e \times Q$$

where: m = mass discharge for a pollutant, lb/day
 C_e = limitation concentration for a pollutant, µg/L
 Q = actual discharge flow rate, mgd

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

As specified in 40 CFR §122.44(d)(1)(i), permits are required to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an excursion above any state water quality standard. The process for determining reasonable potential and calculating WQBELs when necessary is specified in Section III.C.2 of the Ocean Plan and is intended to protect the designated uses of the receiving water as specified in the Ocean Plan.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

Discharges from the Project are regulated under the California Ocean Plan. As stated previously, the Ocean Plan was adopted by the State Board in 1972 and amended in 1978, 1983, 1988, 1990, 1997, 2001 and most recently in 2005. The Ocean Plan contains beneficial uses for all of the coastal waters of California.

The beneficial uses listed in the Ocean Plan are: 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.

The Basin Plan list specific beneficial uses for the Pacific Ocean (Nearshore and Offshore Zone) at Ventura County Coastal:

Nearshore Zone (defined as 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).

- Nearshore Zone: Existing:

Industrial service supply (IND), navigation (NAV), water contact (REC-1) and non-contact water recreation (REC-2), commercial and sport fishing (COMM), marine habitat (MAR), wildlife habitat (WILD), preservation of biological habitats (BIOL), rare, threatened, or endangered species (RARE), migration of aquatic organisms (MIGR), spawning, reproduction, and/or early development (SPWN), and shellfish harvesting (SHELL).

- Offshore Zone: Existing:

Navigation (NAV), water contact (REC-1)and non-contact water recreation (REC-2), commercial and sport fishing (COMM), marine habitat (MARINE), wildlife habitat (WILD), rare, threatened, or endangered species (RARE), migration of aquatic organism (MIGR), spawning, reproduction, and/or early development (SPWN), and shellfish harvesting (SHEL).

These beneficial uses, excluding hydropower generation, along with several others are listed in the Ocean Plan for all ocean waters. The Ocean Plan also established water quality objectives and contains implementation programs and policies to achieve those objectives. The water quality objectives from the Ocean Plan and the Basin Plan were used to develop the effluent limitations for discharges from the Project to the Pacific Ocean.

3. Determining the Need for WQBELs

Since the discharge from the Project is a new discharge and there is not enough data available to do a statistical reasonable potential analysis. The data available for previous pilot studies is used in conjunction with Best Professional Judgment (BPJ) to determine the constituents that require effluent limits.

4. WQBEL Calculations

The numeric effluent limitations for toxic pollutants, per Table B of the Ocean Plan, were calculated using the State Board approved minimum dilution ration of 10:1.

Procedure for the determination of effluent limits

Effluent limits are calculated according to the equation

$C_e = C_o + D_m(C_o - C_s)$ in the Ocean Plan, where

C_e = the effluent concentration limit

C_o = water quality objective value specified in Table B of the Ocean Plan.

D_m = Dilution credit of 10

C_s = Background seawater concentration (Table C of Ocean Plan).

The effluent limitation for zinc (6-Month Median) is calculated as follows:

Zinc

$C_o = 20 \mu\text{g/L}$; $D_m = 10$; $C_s = 8$

$C_e = \text{Effluent Limit} = 20 + 10(20-8) = 140 \mu\text{g/L}$

5. Final WQBELs

Final WQBELs for toxic pollutants were calculated based on the water quality objectives contained in the Ocean Plan using approved dilution credit of 10:1. Summaries of the WQBELs are described below in Table F-5.

**Summary of Water Quality-based Effluent Limitations
 Discharge Point 001**

Table F-5. Summary of Water Quality-based Effluent Limitations

| Parameter | Units ^[1] | Effluent Limitations | | | | | |
|--|----------------------|----------------------|----------------|------------------|---------------|-----------------------|-----------------------|
| | | Average Monthly | Average Weekly | Six-Month Median | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum |
| Total Residual Chlorine ^[3] | µg/L | -- | -- | 22 | 88 | -- | 660 |
| | lbs/day | -- | -- | 0.1 | 0.4 | -- | 3.3 |
| Ammonia as N | mg/L | -- | -- | 6.6 | 26.4 | -- | 66 |
| | lbs/day | -- | -- | 32 | 128 | -- | 319 |
| Chronic Toxicity ^[4] | TUc | -- | -- | -- | -- | -- | -- |
| Total coliform ^[3] | MPN/100ml | -- | -- | -- | -- | -- | -- |
| Fecal coliform ^[3] | MPN/100ml | -- | -- | -- | -- | -- | -- |
| Enterococcus ^[3] | MPN/100ml | -- | -- | -- | -- | -- | -- |
| Chronic Toxicity ^[2] | TUc | -- | -- | -- | 11 | -- | -- |
| Arsenic | µg/L | -- | -- | 58 | 322 | -- | 850 |
| | lbs/day | -- | -- | 0.3 | 1.6 | -- | 4.1 |
| Cadmium | µg/L | -- | -- | 11 | 44 | -- | 110 |
| | lbs/day | -- | -- | 0.06 | 0.2 | -- | 0.6 |
| Chromium (VI) | µg/L | -- | -- | 22 | 88 | -- | 220 |
| | lbs/day | -- | -- | 0.1 | 0.44 | -- | 1.1 |
| Copper | µg/L | -- | -- | 13 | 112 | -- | 310 |
| | lbs/day | -- | -- | 0.06 | 0.5 | -- | 1.5 |
| Lead | µg/L | -- | -- | 22 | 88 | -- | 220 |
| | lbs/day | -- | -- | 0.1 | 0.44 | -- | 1.1 |
| Mercury | µg/L | -- | -- | 0.44 | 1.76 | -- | 4.4 |
| | lbs/day | -- | -- | 0.002 | 0.008 | -- | 0.02 |
| Nickel | µg/L | -- | -- | 55 | 220 | -- | 550 |
| | lbs/day | -- | -- | 0.2 | 1.1 | -- | 2.6 |

| Parameter | Units ^[1] | Effluent Limitations | | | | | |
|---|----------------------|----------------------|----------------|------------------|---------------|-----------------------|-----------------------|
| | | Average Monthly | Average Weekly | Six-Month Median | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum |
| Selenium | µg/L | -- | -- | 165 | 660 | -- | 1650 |
| | lbs/day | -- | -- | 0.8 | 3.3 | -- | 8 |
| Silver ¹ | µg/L | -- | -- | 6.1 | 29.2 | -- | 75.4 |
| | lbs/day | -- | -- | 0.03 | 0.15 | -- | 0.3 |
| Zinc | µg/L | -- | -- | 140 | 800 | -- | 2120 |
| | lbs/day | -- | -- | 0.7 | 3.9 | -- | 10.3 |
| Cyanide | µg/L | -- | -- | 11 | 44 | -- | 110 |
| | lbs/day | -- | -- | 0.06 | 0.2 | -- | 0.6 |
| Chlorinated Phenolics | µg/L | -- | -- | 11 | 44 | -- | 110 |
| | lbs/day | -- | -- | 0.06 | 0.2 | -- | 0.6 |
| Bis(2-Ethylhexyl)Phthalate | µg/L | 38.5 | -- | -- | -- | -- | -- |
| | lbs/day | 0.2 | -- | -- | -- | -- | -- |
| Radioactivity: Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, §30253 of the California Code of Regulations. Reference to §30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect. | | | | | | | |

Footnotes for Effluent Limitations:

[1] The mass emission rates (lbs/day) are based on the flow rate of 0.58 mgd, using the formula:

$$m = 0.00834 \times C_e \times Q$$

where: m = mass discharge for a pollutant, lb/day

C_e = limitation concentration for a pollutant, µg/L

Q = actual discharge flow rate, mgd

[2] The effluent limit is based on the Ocean Plan.

[3] Bacterial Limits:

(a) 30-day Geometric Mean Limits – The geometric mean shall be calculated using the five most recent samples results:

- (1) Total coliform density shall not exceed 1,000 per 100 ml;
- (2) Fecal coliform density shall not exceed 200 per 100 ml; and
- (3) Enterococcus density shall not exceed 35 per 100 ml.

(b) Single Sample Maximum:

- (1) Total coliform density shall not exceed 10,000 per 100 ml;
- (2) Fecal coliform density shall not exceed 400 per 100 ml;
- (3) Enterococcus density shall not exceed 104 per 100 ml; and
- (4) The total coliform density shall not exceed 1,000 per 100 ml when the fecal coliform/total coliform ratio exceeds 0.1.

If a single sample exceeds any of the single sample maximum (SSM) standards, repeat sampling shall be conducted to determine the extent and persistence of the exceedance. Repeat sampling shall be conducted within 24 hours of receiving analytical results and continued until the sample result is less than the SSM standard.

6. Whole Effluent Toxicity (WET)

The discharge from the Project is a new discharge. Small dosage of chemicals are added during intake of source water, prefiltration operation and desalination process. Hence, whole effluent toxicity (WET) testing will be required to ensure that aquatic life, recreational users and native plant species in the area are protected.

The Ocean Plan provides guidance for determining which type of toxicity testing is appropriate for the discharge based on the dilution granted. The Ocean Plan requires that dischargers with a minimum initial dilution of the effluent fall below 100:1 at the edge of the mixing zone test for chronic toxicity. A dilution credit of 10 is assigned to the Project discharge, the Discharger will be required to test for chronic toxicity.

D. Final Effluent Limitations

Effluent limitations for oil and grease, suspended solids, settleable solids, turbidity, and pH have been established to reflect technology-based effluent limits contained in the Ocean Plan. In addition, the effluent limitations for ammonia have been added to this Order. An effluent limitation for temperature has been established based on the requirements of the Thermal Plan.

Effluent limits for a host of other pollutants have based on Best Professional Judgment (BPJ).

For toxic constituents where BPJ cannot be used to implement an effluent limit, no numerical limits are prescribed. Instead a narrative limit to comply with all water quality requirements is provided in lieu of such numerical limits. These constituents will be monitored in appropriate frequencies.

1. Mass-based Effluent Limitations

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

$$\text{Mass (lbs/day)} = \text{flow rate (MGD)} \times 8.34 \times \text{effluent limitation (mg/L)}$$

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

**Summary of Final Effluent Limitations
 Discharge Point 001**

Table F-6. Summary of Final Effluent Limitations

| Parameter | Units ^[1] | Effluent Limitations | | | | | | Basis |
|--|----------------------|----------------------|----------------|------------------|---------------|-----------------------|-----------------------|--------------------|
| | | Average Monthly | Average Weekly | Six-Month Median | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum | |
| Conventional and Non-conventional Pollutants | | | | | | | | |
| Biochemical Oxygen Demand 5-day @ 20 ^o C (BOD) | mg/L | 30 | 45 | -- | -- | -- | -- | BPJ ^[3] |
| | lbs/day | 145 | 218 | -- | -- | -- | -- | |
| Total Suspended Solids ^[2] | mg/L | 60 | -- | -- | -- | -- | -- | OP ^[4] |
| | lbs/day | 290 | -- | -- | -- | -- | -- | -- |
| pH | standard units | -- | -- | -- | -- | 6.0 | 9.0 | OP |
| Oil and Grease | mg/L | 25 | 40 | -- | -- | -- | 75 | OP |
| | lbs/day | 121 | 194 | -- | -- | -- | -- | -- |
| Settleable Solids | ml/L | 1 | 1.5 | -- | -- | -- | 3 | OP |
| Turbidity | NTU | 75 | 100 | -- | -- | -- | 225 | -- |
| Total Residual Chlorine ^[3] | µg/L | -- | -- | 22 | 88 | -- | 660 | OP |
| | lbs/day | -- | -- | 0.1 | 0.4 | -- | 3.3 | -- |
| Ammonia as N | mg/L | -- | -- | 6.6 | 26.4 | -- | 66 | OP |
| | lbs/day | -- | -- | 32 | 128 | -- | 319 | -- |
| Chronic Toxicity | TUc | -- | -- | -- | 11 | -- | -- | OP |
| Total coliform ^[2] | MPN/100ml | -- | -- | -- | -- | -- | -- | OP |
| Fecal coliform ^[2] | MPN/100ml | -- | -- | -- | -- | -- | -- | OP |
| Enterococcus ^[2] | MPN/100ml | -- | -- | -- | -- | -- | -- | OP |
| Priority Pollutants | | | | | | | | |
| Arsenic | µg/L | -- | -- | 58 | 322 | -- | 850 | OP |
| | lbs/day | -- | -- | 0.3 | 1.6 | -- | 4.1 | -- |
| Cadmium | µg/L | -- | -- | 11 | 44 | -- | 110 | OP |
| | lbs/day | -- | -- | 0.06 | 0.2 | -- | 0.6 | -- |
| Chromium (VI) | µg/L | -- | -- | 22 | 88 | -- | 220 | OP |
| | lbs/day | -- | -- | 0.1 | 0.44 | -- | 1.1 | -- |

| Parameter | Units ^[1] | Effluent Limitations | | | | | | Basis |
|---|----------------------|----------------------|----------------|------------------|---------------|-----------------------|-----------------------|-------|
| | | Average Monthly | Average Weekly | Six-Month Median | Maximum Daily | Instantaneous Minimum | Instantaneous Maximum | |
| Copper | µg/L | -- | -- | 13 | 112 | | 310 | OP |
| | lbs/day | -- | -- | 0.06 | 0.5 | | 1.5 | -- |
| Lead | µg/L | -- | -- | 22 | 88 | -- | 220 | OP |
| | lbs/day | -- | -- | 0.1 | 0.44 | -- | 1.1 | -- |
| Mercury | µg/L | -- | -- | 0.44 | 1.76 | -- | 4.4 | OP |
| | lbs/day | -- | -- | 0.002 | 0.008 | -- | 0.02 | -- |
| Nickel | µg/L | -- | -- | 55 | 220 | -- | 550 | OP |
| | lbs/day | -- | -- | 0.2 | 1.1 | -- | 2.6 | -- |
| Selenium | µg/L | -- | -- | 165 | 660 | -- | 1650 | OP |
| | lbs/day | -- | -- | 0.8 | 3.3 | -- | 8 | -- |
| Silver | µg/L | -- | -- | 6.1 | 29.2 | -- | 75.4 | OP |
| | lbs/day | -- | -- | 0.03 | 0.15 | -- | 0.3 | -- |
| Zinc | µg/L | -- | -- | 140 | 800 | -- | 2120 | OP |
| | lbs/day | -- | -- | 0.7 | 3.9 | -- | 10.3 | OP |
| Cyanide | µg/L | -- | -- | 11 | 44 | -- | 110 | OP |
| | lbs/day | -- | -- | 0.06 | 0.2 | -- | 0.6 | -- |
| Chlorinated Phenolics | µg/L | -- | -- | 11 | 44 | -- | 110 | OP |
| | lbs/day | -- | -- | 0.06 | 0.2 | -- | 0.6 | -- |
| Bis(2-Ethylhexyl)Phthalate | µg/L | 38.5 | -- | -- | -- | -- | -- | OP |
| | lbs/day | 0.2 | -- | -- | -- | -- | -- | -- |
| Radioactivity: Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, §30253 of the California Code of Regulations. Reference to §30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect. | | | | | | | | |

Footnotes for Effluent Limitations:

[1] The mass emission rates (lbs/day) are based on the flow rate of 0.58 mgd, using the formula:

$$m = 0.00834 \times C_e \times Q$$

where: m = mass discharge for a pollutant, lb/day
 C_e = limitation concentration for a pollutant, µg/L
 Q = actual discharge flow rate, mgd

[2] Bacterial Limits:

(a) 30-day Geometric Mean Limits – The geometric mean shall be calculated using the five most recent samples results:

- (1) Total coliform density shall not exceed 1,000 per 100 ml;
- (2) Fecal coliform density shall not exceed 200 per 100 ml; and
- (3) Enterococcus density shall not exceed 35 per 100 ml.

(b) Single Sample Maximum:

- (1) Total coliform density shall not exceed 10,000 per 100 ml;
- (2) Fecal coliform density shall not exceed 400 per 100 ml;
- (3) Enterococcus density shall not exceed 104 per 100 ml; and
- (4) The total coliform density shall not exceed 1,000 per 100 ml when the fecal coliform/total coliform ratio exceeds 0.1.

If a single sample exceeds any of the single sample maximum (SSM) standards, repeat sampling shall be conducted to determine the extent and persistent of the exceedance. Repeat sampling shall be conducted within 24 hours of receiving analytical results and continued until the sample result is less than the SSM standard.

[3] BPJ – Best professional judgment is the method used by permit writers to develop technology-based NPDES permit conditions on a case-by-case basis using all reasonably available and relevant data. BPJ limits are established in cases where effluent limitation guidelines are not available for a particular pollutant of concern. Authorization for BPJ limits is found under section 401(a)(1) of the Clean Water Act and under 40 CFR 125.3.

[5] OP – Ocean Plan

2. Temperature Limitations

The effluent limitation for temperature is based on the Thermal plan.

- a. The temperature of wastes discharged shall not exceed the natural temperature of receiving waters by more than 20⁰F.
- b. The temperature of wastes discharged shall not result in increases in the natural water temperature exceeding 4⁰F at (a) the shoreline, (b) the surface of any ocean substrate, or (c) the ocean surface beyond 1,000 feet from the discharge system. The surface temperature limitation shall be maintained at least 50 percent of the duration of any complete tidal cycle

E. Interim Effluent Limitations

Not Applicable

F. Land Discharge Specifications

Not Applicable

G. Reclamation Specifications

Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

The Ocean Plan stipulates beneficial uses for ocean waters of the State that shall be protected. The plan enumerates general provisions, bacterial characteristics, physical characteristics, and chemical characteristics of the receiving water. The Ocean Plan also enumerates numerical water quality objectives that are to be met outside of the zone of initial dilution in the receiving water when a dilution ratio is granted. In this permit the water quality objectives have been calculated using a dilution ratio of 10:1. The water quality objectives included in the Ocean Plan and the implementation of the specified criteria and/or water quality objectives will serve to protect the enumerated beneficial uses of the receiving water.

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 of the California Water Code authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring

Not Applicable

B. Effluent Monitoring

The proposed monitoring plan was developed to determine compliance with effluent limitations, determine compliance with Ocean Plan requirements, and collect data for future permit renewal. Monitoring for pollutants in the final effluent prior to discharge from Discharge Point 001, is required to determine compliance with effluent limitations contained in Section IV.A.1.a of the permit.

C. Whole Effluent Toxicity Testing Requirements

Section III.C. of the Ocean Plan, *Implementing Provisions for Table B*, requires chronic toxicity monitoring for ocean discharges with minimum initial dilution factors of <100:1. No chronic toxicity testing has been performed for actual discharges from the Project as it has not yet been constructed.

D. Receiving Water Monitoring

1. Surface Water

The site-specific Receiving Water Monitoring Plan will require monitoring within 25 feet of the Receiving Water Discharge Location 001.

2. Groundwater

Not Applicable

E. Other Monitoring Requirements

Intake Effects Assessment Monitoring

One of the main purposes of the Temporary Facility is to develop a seawater intake that protects marine life and to minimize impingement and entrainment (I&E) impacts to marine biological resources. West Basin is required to conduct sampling to assess potential intake impacts to marine life from water withdrawals. West Basin will prepare an Intake Effects Sampling Plan. The overall approach will be to collect information about larval fish, fish eggs, and target invertebrate concentrations in the source water at the proposed intake by using towed plankton nets. Comparisons will be made from collection of data from concentration of entrainable larval fish collected from in front of the wedgewire screens to the data collected from behind the screens to test their effectiveness at reducing entrainment.

The sampling protocol will have four main objectives:

- a. Establish a baseline characterization of larval fish, fish eggs, and target invertebrate species by sampling the species composition, abundance, and temporal variability near the proposed intake.
- b. Assess the operational effectiveness of the proposed wedgewire screen intake of the Temporary Project by sampling with a demonstration scale screened intake.
- c. Model the potential impacts on local fish and target invertebrate populations caused by the loss of entrained organisms, and evaluate their ecological and economic significance.
- d. Evaluate corrosion and biofouling potential of the intake screen material.

Three quarterly monitoring reports will be submitted to Regional Board. A final Entrainment Study and Impact Assessment will follow.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

1. Federal Standard Provision

Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D to the order.

Section 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with section 123.25, this Order omits federal conditions that address enforcement authority specified in sections 122.41(j)(5) and

(k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

2. Regional Water Board Standard Provisions

Regional Water Board Standard Provisions are based on the CWA, USEPA regulations, and the CWC.

B. Special Provisions

1. Reopener Provisions

These provisions are based on 40 CFR Part 123 and the previous Order. The Regional Water Board and USEPA may reopen the permit to modify permit conditions and requirements. Causes for modifications include, but are not limited to, the promulgation of new federal regulations, modification in toxicity requirements, or adoption of new regulations by the State Board or Regional Water Board, including revisions to the Ocean Plan and completion of dilution studies by the Discharger utilizing theoretical and physical modeling to determine the appropriate dilution credit.

2. Best Management Practices and Pollution Prevention

This provision is based on 40 CFR § 122.44(k) and includes the requirement to develop a *Best Management Practices Plan* (BMPP) and *Storm Water Pollution Prevention Plan* (SWPPP). The objective of the Order is to protect the beneficial uses of receiving waters. To meet this objective, the Order requires the Discharger to develop and implement a BMPP for minimizing contamination of storm water runoff and for preventing contaminated storm water runoff or run on that contacts ancillary equipments from being discharged directly to waters of the State. To ensure the discharger implements appropriate and effective Best Management Practices (BMPs), the discharger is required to consider implementing BMPs contained in the USEPA *Guidance Manual for Developing Best Management Practices (BMPs)* (EPA 833-B-93-004) or equivalent alternatives when developing its BMPP. The SWPPP shall be developed in accordance with the requirements contained in Storm Water Pollution Prevention Plan Requirements (Attachment H).

3. Construction, Operation, and Maintenance Specifications

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

4. Special Provisions for Municipal Facilities (POTWs Only)

Not Applicable

5. Other Special Provisions

Not Applicable

6. Compliance Schedules

Not Applicable

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National

Pollutant Discharge Elimination System (NPDES) permit for Calleguas Municipal Water Districts Regional Salinity Management Pipeline. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

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

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments should be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 5:00 p.m. on September 13, 2010. The comments should also be submitted in Word format to mali@waterboards.ca.gov.

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: **October 7, 2010**
Time: **9:00 A.M.**
Location: **City of Simi Valley**
2929 Tapo Canyon Road
Simi Valley, CA

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

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

D. Nature of Hearing

This will be a formal adjudicative hearing pursuant to section 648 et seq. of title 23 of the California Code of Regulations. Chapter 5 of the California Administrative Procedure Act (commencing with section 11500 of the Government Code) will not apply to this proceeding.

Ex Parte Communications Prohibited: As a quasi-adjudicative proceeding, no board member may discuss the subject of this hearing with any person, except during the public hearing itself. Any communications to the Regional Water Board must be directed to staff.

E. Parties to the Hearing

The following are the parties to this proceeding:

1. The applicant/permittee

Any other persons requesting party status must submit a written or electronic request to staff not later than 20 business days before the hearing. All parties will be notified if other persons are so designated.

F. Public Comments and Submittal of Evidence

Persons wishing to comment upon or object to the tentative waste discharge requirements, or submit evidence for the Board to consider, are invited to submit them in writing to the above address. To be evaluated and responded to by staff, included in the Board's agenda folder, and fully considered by the Board, written comments must be received no later than close of business September 13, 2010. Comments or evidence received after that date will only be included in the administrative record with express approval of the Chair during the hearing, only upon a showing of good cause, and only if it will not prejudice any other party or regional board staff. Additionally, if the Board receives only supportive comments, the permit may be placed on the Board's consent calendar, and approved without any oral testimony.

G. Hearing Procedure

The meeting, in which the hearing will be a part of, will start at 10:00 a.m. Interested persons are invited to attend. Staff will present the matter under consideration, after which oral statements from parties or interested persons will be heard. For accuracy of the record, all important testimony should be in writing. The Board will include in the administrative record written transcriptions of oral testimony that is actually presented at the hearing. Oral testimony may be limited to 3 minutes maximum or less for each speaker, depending on the number of persons wishing to be heard. Parties or persons with similar concerns or opinions are encouraged to choose one representative to speak. At the conclusion of testimony, the Board will deliberate in open or close session, and render a decision.

Parties or persons with special procedural requests should contact staff. Any procedure not specified in this hearing notice will be waived pursuant to section 648(d) of title 23 of the California Code of Regulations. Objections to any procedure to be used during this hearing must be submitted in writing not later than close of business 15 days prior to the date of the hearing. Procedural objections will not be entertained at the hearing.

If there should not be a quorum on the scheduled date of this meeting, all cases will be automatically continued to the next scheduled meeting on November 4, 2010. A continuance will not extend any time set forth herein.

H. Waste Discharge Requirements Petitions

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

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

I. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (213) 576-6652.

J. Register of Interested Persons

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

K. Additional Information

Requests for additional information or questions regarding this order should be directed to Mazhar Ali at (213) 576-6652.

ATTACHMENT G – GENERIC TOXICITY REDUCTION EVALUATION (TRE) WORKPLAN

1. Information and Data Acquisition
 - a. Regulatory information
 - i. NPDES permit limits
 - ii. Trigger
 - b. Facility monitoring data
 - i. NPDES monitoring data
 - ii. In-house monitoring data
 - iii. State agency monitoring data
 - c. Plant and Process Description
 - i. Process and treatment plant description
 - (1) numbers and types of streams
 - (2) their size
 - (3) schedule changes or events in process stream operation
 - (4) types and configurations of equipment
 - (5) flow equalization facilities
 - (6) records of treatment plant upsets
 - ii. Physical/chemical monitoring data
 - (1) chemical analyses of process streams
 - (2) physical/chemical analyses of treatment streams
2. Housekeeping
 - a. Initiation of housekeeping study
 - i. Identify areas which may contribute to toxicity
 - ii. Reduce these contributions through best management practices (BMPs), administrative, and procedural controls
 - b. Evaluation of housekeeping practices
 - i. Review of plant policies
 - ii. "Walk-through" inspection
 - c. Identification of potential problem areas
 - i. Probability of release of toxic material
 - ii. Type and frequency of release which may occur
 - iii. Quantity of toxic substances involved
 - iv. Toxicity of substances released
 - v. Potential downstream impact of the substances released
 - vi. Effect of release on final effluent
 - d. Identification of corrective measures
 - i. Area cleanup.
 - ii. Process or operational changes
 - iii. Material loss collection and recovery
 - iv. Chemical and biological testing of contained waters prior to release from diked storage areas
 - v. Increased storage capacity for contained waters
 - vi. Equipment modifications or changes
 - e. Selection of corrective measures
 - f. Implementation of corrective measures

3. Treatment Plant Optimization
 - a. Evaluation of influent wastestreams
 - i. Raw chemicals or materials used in the process
 - ii. Byproducts or reaction products produced during the process
 - iii. Reaction vessels, valves, piping systems, overflow points, and other
 - iv. Wastestreams produced, volumes, and routing paths
 - iv. Non-point sources
 - b. Description and evaluation of the treatment system
 - i. Design basis for each constituent, including variability in flow conditions and concentrations
 - ii. Treatment sequence
 - iii. Performance projections by constituents
 - iv. Operational flexibility of each process
 - v. Treatment objectives and projected effluent standards
 - c. Analysis of treatment system operation
 - i. Flow loading
 - ii. Mass loading
 - iii. Frequency and impact of shock loadings
 - (1) normal cleaning and maintenance
 - (2) spills and upsets
 - iv. Changes in operating procedures
4. Chemical optimization
 - a. Information gathering
 - i. Examination of wastestreams produced by specific production processes
 - ii. Chemicals and raw materials and their contaminants and by-products used in the process
 - iii. Chemicals used in treatment
 - iv. Chemicals and material use rates
 - v. Percentage of chemical in final product
 - vi. Chemical reuse and waste recycling activities
 - b. Process chemical review
 - i. List all chemicals used
 - ii. List all quantities
 - iii. Determine pounds per product
 - iv. Determine pounds per gallon of wastewater discharged
 - c. MSDS information review
 - i. Obtain MSDS for all process chemicals discharged
 - ii. Highlight MSDS sections on aquatic toxicity
 - iii. Examine Hazardous ingredient section and note "hazardous substances" listed
 - iv. Categorize all chemicals by hazard and irritation potential and use standard references to obtain aquatic toxicity information, if possible
 - d. Chemical composition screen of incoming raw materials
 - e. Outcome of chemical optimization phase
 - i. List all chemicals used in processing and manufacturing the product
 - ii. MSDS and literature reviews will be on file when needed
 - iii. List of all chemicals and raw material purchased on a monthly basis and a record of production volumes during the same time period

ATTACHMENT H – STORMWATER POLLUTION PREVENTION PLAN REQUIREMENTS

SECTION A: STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS

1. Objectives

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

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

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

2. Planning and Organization

a. Pollution Prevention Team

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

b. Review Other Requirements and Existing Facility Plans

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

operators whose facilities are subject to air quality related permits and regulations may already have evaluated industrial activities that generate dust or particulates.

3. Site Map

The SWPPP shall include a site map. The site map shall be provided on an 8-1/2 x 11 inch or larger sheet and include notes, legends, and other data as appropriate to ensure that the site map is clear and understandable. If necessary, facility operators may provide the required information on multiple site maps.

TABLE A
 FIVE PHASES FOR DEVELOPING AND IMPLEMENTING INDUSTRIAL
 STORM WATER POLLUTION PREVENTION PLANS

| |
|--|
| <p>PLANNING AND ORGANIZATION</p> <p>Form Pollution Prevention Team Review other plans</p> |
| <p>ASSESSMENT PHASE</p> <p>Develop a site map Identify potential pollutant sources Inventory of materials and chemicals List significant spills and leaks Identify non-storm water discharges Assess pollutant Risks</p> |
| <p>BEST MANAGEMENT PRACTICES IDENTIFICATION PHASE</p> <p>Non-structural BMPs Structural BMPs Select activity and site-specific BMPs</p> |
| <p>IMPLEMENTATION PHASE</p> <p>Train employees Implement BMPs Conduct recordkeeping and reporting</p> |
| <p>EVALUATION / MONITORING</p> <p>Conduct annual site evaluation Review monitoring information Evaluate BMPs Review and revise SWPPP</p> |

The following information shall be included on the site map:

- a. The facility boundaries; the outline of all storm water drainage areas within the facility boundaries; portions of the drainage area impacted by run-on from surrounding areas; and direction of flow of each drainage area, on-site surface water bodies, and areas of soil erosion. The map shall also identify nearby water bodies (such as rivers, lakes, and ponds) and municipal storm drain inlets where the facility's storm water discharges and authorized non-storm water discharges may be received.
 - b. The location of the storm water collection and conveyance system, associated points of discharge, and direction of flow. Include any structural control measures that affect storm water discharges, authorized non-storm water discharges, and run-on. Examples of structural control measures are catch basins, berms, detention ponds, secondary containment, oil-water separators, diversion barriers, etc.
 - c. An outline of all impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures.
 - d. Locations where materials are directly exposed to precipitation and the locations where significant spills or leaks have occurred.
 - e. Areas of industrial activity. This shall include the locations of all storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage/maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas, cleaning and rinsing areas, and other areas of industrial activity which are potential pollutant sources.
4. List of Significant Materials

The SWPPP shall include a list of significant materials handled and stored at the site. For each material on the list, describe the locations where the material is being stored, received, shipped, and handled, as well as the typical quantities and frequency. Materials shall include raw materials, intermediate products, final or finished products, recycled materials, and waste or disposed materials.

5. Description of Potential Pollutant Sources

- a. The SWPPP shall include a narrative description of the facility's industrial activities associated potential pollutant sources, and potential pollutants that could be discharged in storm water discharges or authorized non-storm water discharges. At a minimum, the following items related to a facility's industrial activities shall be considered:

- i. Industrial Processes

Describe each industrial process, the type, characteristics, and quantity of significant materials used in or resulting from the process, and a description of the manufacturing, cleaning, rinsing, recycling, disposal, or other activities related to the process. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

ii. Material Handling and Storage Areas

Describe each handling and storage area, type, characteristics, and quantity of significant materials handled or stored, description of the shipping, receiving, and loading procedures, and the spill or leak prevention and response procedures. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

iii. Dust and Particulate Generating Activities

Describe all industrial activities that generate dust or particulates that may be deposited within the facility's boundaries and identify their discharge locations; the characteristics of dust and particulate pollutants; the approximate quantity of dust and particulate pollutants that may be deposited within the facility boundaries; and a description of the primary areas of the facility where dust and particulate pollutants would settle.

iv. Significant Spills and Leaks

Describe materials that have spilled or leaked in significant quantities in storm water. The description shall include the type, characteristics, and approximate quantity of the material spilled or leaked, the cleanup or remedial actions that have occurred or are planned, the approximate remaining quantity of materials that may be exposed to storm water or non-storm water discharges, and the preventative measures taken to ensure spill or leaks do not reoccur. Such list shall be updated as appropriate during the term of this Order.

v. Non-Storm Water Discharges

Facility operators shall investigate the facility to identify all non-storm water discharges and their sources not authorized by this Order. As part of this investigation, all drains (inlets and outlets) shall be evaluated to identify whether they connect to the storm drain system.

All un-authorized non-storm water discharges shall be described. This shall include the source, quantity, frequency, and characteristics of the un-authorized non-storm water discharges and associated drainage area.

The SWPPP must include BMPs to prevent or reduce contact of un-authorized non-storm water discharges with significant materials or equipment.

vi. Soil Erosion

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

- b. The SWPPP shall include a summary of all areas of industrial activities, potential pollutant sources, and potential pollutants. This information should be summarized similar to Table B. The last column of Table B, "Control Practices", should be completed in accordance with Section 7. below.

6. Assessment of Potential Pollutant Sources

- a. The SWPPP shall include a narrative assessment of all industrial activities and potential pollutant sources as described above to determine:
 - i. Which areas of the facility are likely sources of pollutants in storm water discharges and authorized non-storm water discharges, and
 - ii. Which pollutants are likely to be present in storm water discharges and authorized non-storm water discharges. Facility operators shall consider and evaluate various factors when performing this assessment such as current storm water BMPs; quantities of significant materials handled, produced, stored, or disposed of; likelihood of exposure to storm water or authorized non-storm water discharges; history of spill or leaks; and run-on from outside sources.
- b. Facility operators shall summarize the areas of the facility that are likely sources of pollutants and the corresponding pollutants that are likely to be present in storm water discharges and authorized non-storm water discharges.

Facility operators are required to develop and implement additional BMPs as appropriate and necessary to prevent or reduce pollutants associated with each pollutant source. The BMPs will be narratively described in Section 7 below.

7. Storm Water Best Management Practices

The SWPPP shall include a narrative description of the storm water BMPs to be implemented at the facility for each potential pollutant and its source identified in the site assessment phase (Sections 5 and 6, above). The BMPs shall be developed and implemented to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Each pollutant and its source may require one or more BMPs. Some BMPs may be implemented for multiple pollutants and their sources, while other BMPs will be implemented for a very specific pollutant and its source.

TABLE B
 EXAMPLE

ASSESSMENT OF POTENTIAL POLLUTION SOURCES AND
 CORRESPONDING BEST MANAGEMENT PRACTICES
 SUMMARY

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

The description of the BMPs shall identify the BMPs as (1) existing BMPs, (2) existing BMPs to be revised and implemented, or (3) new BMPs to be implemented. The description shall also include a discussion on the effectiveness of each BMP to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. The SWPPP shall provide a summary of all BMPs implemented for each pollutant source. This information should be summarized similar to Table B.

Facility operators shall consider the following BMPs for implementation at the facility:

a. Non-Structural BMPs

Non-structural BMPs generally consist of processes, prohibitions, procedures, schedule of activities, etc., that prevent pollutants associated with industrial activity from contacting with storm water discharges and authorized non-storm water discharges. They are considered low technology, cost-effective measures. Facility operators should consider all possible non-structural BMPs options before considering additional structural BMPs (see Section 7.b, below). Below is a list of non-structural BMPs that should be considered:

i. Good Housekeeping

Good housekeeping generally consist of practical procedures to maintain a clean and orderly facility.

ii. Preventive Maintenance

Preventive maintenance includes the regular inspection and maintenance of structural storm water controls (catch basins, oil-water separators, etc.) as well as other facility equipment and systems.

iii. Spill Response

This includes spill clean-up procedures and necessary clean-up equipment based upon the quantities and locations of significant materials that may spill or leak.

iv. Material Handling and Storage

This includes all procedures to minimize the potential for spills and leaks and to minimize exposure of significant materials to storm water and authorized non-storm water discharges.

v. Employee Training

This includes training of personnel who are responsible for (1) implementing activities identified in the SWPPP, (2) conducting inspections, sampling, and visual observations, and (3) managing storm water. Training should address topics such as spill response, good housekeeping, and material handling procedures, and actions necessary to implement all BMPs identified in the SWPPP. The SWPPP shall identify periodic dates for such training. Records shall be maintained of all training sessions held.

vi. Waste Handling/Recycling

This includes the procedures or processes to handle, store, or dispose of waste materials or recyclable materials.

vii. Recordkeeping and Internal Reporting

This includes the procedures to ensure that all records of inspections, spills, maintenance activities, corrective actions, visual observations, etc., are developed, retained, and provided, as necessary, to the appropriate facility personnel.

viii. Erosion Control and Site Stabilization

This includes a description of all sediment and erosion control activities. This may include the planting and maintenance of vegetation, diversion of run-on and runoff, placement of sandbags, silt screens, or other sediment control devices, etc.

ix. Inspections

This includes, in addition to the preventative maintenance inspections identified above, an inspection schedule of all potential pollutant sources. Tracking and follow-up procedures shall be described to ensure adequate corrective actions are taken and SWPPPs are made.

x. Quality Assurance

This includes the procedures to ensure that all elements of the SWPPP and Monitoring Program are adequately conducted.

b. Structural BMPs

Where non-structural BMPs as identified in Section 7.a. above are not effective, structural BMPs shall be considered. Structural BMPs generally consist of structural devices that reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Below is a list of structural BMPs that should be considered:

i. Overhead Coverage

This includes structures that provide horizontal coverage of materials, chemicals, and pollutant sources from contact with storm water and authorized non-storm water discharges.

ii. Retention Ponds

This includes basins, ponds, surface impoundments, bermed areas, etc. that do not allow storm water to discharge from the facility.

iii. Control Devices

This includes berms or other devices that channel or route run-on and runoff away from pollutant sources.

iv. Secondary Containment Structures

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

v. Treatment

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

8. SWPPP General Requirements

- a. The SWPPP shall be retained on site and made available upon request of a representative of the Regional Water Board and/or local storm water management agency (local agency) which receives the storm water discharges.
- b. The Regional Water Board and/or local agency may notify the facility operator when the SWPPP does not meet one or more of the minimum requirements of this Section. As requested by the Regional Water Board and/or local agency, the facility operator shall submit an SWPPP revision and implementation schedule that meets the minimum requirements of this section to the Regional Water Board and/or local agency that requested the SWPPP revisions.
- c. The SWPPP shall be revised, as appropriate, and implemented prior to changes in industrial activities which (i) may significantly increase the quantities of pollutants in storm water discharge, (ii) cause a new area of industrial activity at the facility to be exposed to storm water, or (iii) begin an industrial activity which would introduce a new pollutant source at the facility.
- d. The SWPPP shall be revised and implemented in a timely manner, but in no case more than 90 days after a facility operator determines that the SWPPP is in violation of any requirement(s) of this Order.
- e. When any part of the SWPPP is infeasible to implement by the deadlines specified in this Order due to proposed significant structural changes, the facility operator shall submit a report to the Regional Water Board prior to the applicable deadline that (i) describes the portion of the SWPPP that is infeasible to implement by the deadline, (ii) provides justification for a time extension, (iii) provides a schedule for completing and implementing that portion of the SWPPP, and (iv) describes the BMPs that will be implemented in the interim period to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Such reports are subject to Regional Water Board approval and/or modifications. Facility operators shall provide written notification to the Regional Water Board within 14 days after the SWPPP revisions are implemented.
- f. The SWPPP shall be provided, upon request, to the Regional Water Board. The SWPPP is considered a report that shall be available to the public by the Regional Water Board under Section 308(b) of the Clean Water Act.

ATTACHMENT I – STATE WATER BOARD MINIMUM LEVELS IN THE CALIFORNIA OCEAN PLAN

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 SWRCB. 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 (ug/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 Chapter III, "Use of Minimum* Levels").

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

| Semi-Volatile Chemicals | CAS Number | Minimum* Level (ug/L) | | | |
|------------------------------------|------------|--------------------------|----------------------------|----------------------------|---------------------------|
| | | GC Method ^{a,*} | GCMS Method ^{b,*} | HPLC Method ^{c,*} | COLOR Method ^d |
| Acenaphthylene | 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 | -- |
| Bis 2-(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 | -- | -- |

Table II-2 continued on next page...

Table II-2 (Continued)
Minimum* Levels – Semi Volatile Chemicals

| Semi-Volatile Chemicals | CAS Number | Minimum* Level (ug/L) | | | |
|----------------------------|------------|--------------------------|----------------------------|----------------------------|---------------------------|
| | | GC Method ^{a,*} | GCMS Method ^{b,*} | HPLC Method ^{c,*} | COLOR Method ^d |
| 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 | -- | -- |
| 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 Chapter III, "Use of Minimum* Levels").

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

| Inorganic Substances | CAS Number | COLOR Method ^a | DCP Method ^b | FAA Method ^c | GFAA Method ^d | HYDRIDE Method ^e | ICP Method ^f | ICPMS Method ^g | SPGFAA Method ^h | CVAA Method ⁱ | Minimum* Level (ug/L) | |
|----------------------|------------|---------------------------|-------------------------|-------------------------|--------------------------|-----------------------------|-------------------------|---------------------------|----------------------------|--------------------------|-----------------------|--|
| | | | | | | | | | | | | |
| 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 Chapter III, "Use of Minimum* Levels").

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

| Pesticides – PCB's | CAS Number | Minimum* Level (ug/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 |
| PCB 1016 | -- | 0.5 |
| PCB 1221 | -- | 0.5 |
| PCB 1232 | -- | 0.5 |
| PCB 1242 | -- | 0.5 |
| PCB 1248 | -- | 0.5 |
| PCB 1254 | -- | 0.5 |
| PCB 1260 | -- | 0.5 |
| Toxaphene | 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 Chapter III, "Use of Minimum* Levels").