# Appendix 5.15F
# Order No. R8-2006-0011 (NPDES No. CA0001163)

California Regional Water Quality Control Board
Santa Ana Region

August 25, 2006

**ITEM:** **13**

**SUBJECT:** Renewal of Waste Discharge Requirements for the AES Huntington Beach, L.L.C.'S Huntington Beach Generating Station, Huntington Beach - Order No. R8-2006-0011, NPDES No. CA0001163, Orange County

**DISCUSSION:**

See attached Fact Sheet

**RECOMMENDATIONS:**

Adopt Order No. R8-2006-0011, NPDES No. CA0001163 as presented.

**COMMENT SOLICITATION:**

Comments were solicited from the discharger and the following agencies:

U.S. Environmental Protection Agency, Permits Issuance Section (WTR-5) – Doug Eberhardt
U.S. Army District, Los Angeles, Corps of Engineers, Regulatory Branch
U.S. Fish and Wildlife Service – Carlsbad
California Energy Commission, Sacramento – Terrence O'Brien
State Water Resources Control Board, Office of the Chief Counsel – Jorge Leon
State Water Resources Control Board, Division of Water Quality – Phil Isorena
State Department of Health Services, Santa Ana – Shu-Fang Orr
State Department of Water Resources - Glendale
State Department of Fish and Game – Los Alamitos
State Lands Commission, Division of Land Management, Sacramento – Susan Young
Orange County Water District – Nira Yamachika/Greg Woodside
Orange County Public Facilities and Resources Department, Harbors, Beaches and Parks
Orange County Health Care Agency
City of Huntington Beach – Ron Davis, Planning Commissioner
Randy Fuhrman - Huntington Beach
Eileen Murphy - Huntington Beach
Paul Cross – Huntington Beach
Surfrider Foundation – Joe Geever
Environment Now- Ruby Evans
Orange County Coastkeeper – Garry Brown
Lawyers for Clean Water C/c San Francisco Baykeeper
AES Huntington Beach, L.L.C. - Eric Pendergraft

# California Regional Water Quality Control Board
## Santa Ana Region

3737 Main Street, Suite 500, Riverside, California 92501-3348
Phone (951) 782-4130 • FAX (951) 781-6288 • TDD (951) 782-3221
www.waterboards.ca.gov/santaana

**ORDER NO. R8-2006-0011**
**NPDES NO. CA0001163**

**WASTE DISCHARGE REQUIREMENTS FOR THE AES HUNTINGTON BEACH, L.L.C., HUNTINGTON BEACH GENERATING STATION DISCHARGE TO THE PACIFIC OCEAN**

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

**Table 1. Discharger Information**

| | |
|---|---|
| **Discharger** | **AES Huntington Beach, L.L.C.** |
| **Name of Facility** | **Huntington Beach Generating Station, Huntington Beach** |
| **Facility Address** | **21730 Newland Street** |
| | **Huntington Beach, CA 92646** |
| | **Orange County** |
| The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a **major** discharge. | |

The discharge by the AES Huntington Beach, L.L.C. 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** | Once-through condenser cooling water; bio-fouling control; heat treatment; boiler blowdown; condensate overboard; treated wastewater from retention basin (in-plant drains); urban runoff from the City of Huntington Beach and wildlife center rainfall drains[1]. | 33º, 18', 19" N | 117 º, 58', 57" W | Pacific Ocean |

[1] *The stormwater runoff from the City of Huntington Beach, via the drain under Newland Street and the Wildlife Center, is regulated by separate waste discharge requirements issued by the Regional Board. Therefore, this Order does not include limits or monitoring requirements for this discharge from the City of Huntington Beach.*

**Table 3. Administrative Information**

| | |
|---|---|
| This Order was adopted by the Regional Water Board on: | August 25, 2006 |
| This Order shall become effective on: | October 14, 2006 |
| This Order shall expire on: | August 1, 2011 |
| 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: | February 2, 2011 |

IT IS HEREBY ORDERED, that this Order supercedes Order No. 00-5 except for enforcement purposes, and, in order to meet the provisions contained in Division 7 of the California Water Code (CWC) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA), and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

I, Gerard J. Thibeault, Executive Officer, do hereby certify that this Order No. R8-2006-0011 with all the attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on **August 25, 2006.**

**Gerard J. Thibeault, Executive Officer**

## TABLE OF CONTENTS

I. Facility Information ..... 5
II. Findings ..... 5
III. Discharge Prohibitions ..... 12
IV. Effluent Limitations and Discharge Specifications ..... 13
A. Effluent Limitations – Combined Discharges to DP 001 ..... 13
B In-Plant Waste Stream Effluent Limitations – Low Volume and In-Plant Waste Discharges from DP INTA and DP INTB to DP 001 ..... 17
C. In-Plant Waste Stream Effluent Limitations – Treated Metal Cleaning Discharges from DP INTBa to DP INTB ..... 19
E. Groundwater Limitations – Not Applicable ..... 19
F. Stormwater Requirements ..... 20
V. Receiving Water Limitations ..... 20
A. Temperature Limitation ..... 20
B. Chemical, Physical, and Biological Limitations ..... 21
VI. Provisions ..... 23
A. Standard Provisions ..... 23
B. Monitoring and Reporting Program Requirements ..... 25
C. Special Provisions ..... 26
1. Reopener Provisions ..... 26
2. Special Studies, Technical Reports and Additional Monitoring Requirements ..... 27
3. Best Management Practices and Pollution Prevention ..... 28
4. Construction, Operation and Maintenance Specifications ..... 29
5. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable ..... 30
6. Other Special Provisions ..... 30
7. Compliance Schedules ..... 30
VII. Compliance Determination ..... 31

## LIST OF TABLES

Table 1 Discharger Information ..... 1
Table 2. Outfall Location ..... 1
Table 3. Administrative Information ..... 1
Table 4. Facility Information ..... 5
Table 5. Basin Plan Beneficial Uses ..... 8
Table 6. Ocean Plan Beneficial Uses ..... 10
Table 7. Effluent Limitations at DP 001 ..... 12
Table 8. Combined Low Volume and In-Plant Effluent Limitations at DPs INTA and INTB. 15
Table 9. Effluent Mass Limitations at DP INTA and DP INTB ..... 16
Table 10. Metal Cleaning Effluent Limitations at DP INTBa ..... 17

## LIST OF ATTACHMENTS

Attachment A – Definitions ..... A-1
Attachment B – Facility Location Map ..... B-1
Attachment C – Flow Schematic ..... C-1
Attachment D – Federal Standard Provisions ..... D-1
Attachment E – Monitoring and Reporting Program (MRP) ..... E-1
Attachment F – Fact Sheet ..... F-1
Attachment G – Minimum Levels ..... G-1
Attachment H – Receiving Water Monitoring Stations Locations ..... H-1
Attachment I – Stormwater Pollution Prevention Plan ..... I-1
Attachment J – Stormwater Monitoring Program & Reporting Requirements ..... J-1
Attachment K – Triggers for Monitoring Pollutants ..... K-1

## I. FACILITY INFORMATION

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

**Table 4. Facility Information**

| | |
|---|---|
| **Discharger** | **AES Huntington Beach, L.L.C.** |
| **Name of Facility** | **Huntington Beach Generating Station, Huntington Beach** |
| **Facility Address** | **21730 Newland Street** |
| | **Huntington Beach, CA 92646** |
| | **Orange County** |
| **Facility Contact, Title, and Phone** | **Paul R. Hurt, D. Env., Environmental Manager, (714) 374-1408** |
| **Mailing Address** | **Same** |
| **Type of Facility** | **Steam Electric Power Generation** |
| **Facility Design Flow** | **514 million gallons per day (mgd)** |

## II. FINDINGS

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Regional Water Board), finds:

**A. Background.** AES Huntington Beach, L.L.C. (hereinafter Discharger) is currently discharging under Order No. 00-5 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0001163. The Discharger submitted a Report of Waste Discharge, dated December 2, 2004, and applied for a NPDES permit renewal to discharge up to 514 mgd of once through cooling water and treated industrial wastewater from Huntington Beach Generating Station, hereinafter Facility. The application was deemed complete on June 15, 2006.

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

**B. Facility Description.** The Discharger owns and operates the Huntington Beach Generating Station, a steam electric power generating facility. The generating station consists of four steam-powered electric generating units. Steam is supplied to each turbine generator from oil- and gas-fired boilers. Units 1 and 2 are each rated at 215 megawatts (MW) and Units 3 and 4 are each rated at 225 MW. Units 3 and 4 were operated very sparingly after 1989 and were retired from service from 1995 until completion of the retool project in 2003. Unit 5, a multiple-jet-turbine peaker unit (133 MW), was retired from service in 2002. The current total station rating is 880 MW; however, the plant operated at about 44% capacity in 2001 and only about 14% capacity in 2002, largely due to retool construction efforts.

Ocean water for cooling purposes is supplied to the generating station via a single cooling water system. Seawater for Units 1–4 is withdrawn from an intake structure located 457 m (1,500 ft) offshore (Figure 2-2). The intake structure is located in approximately 10 m of water, and rises approximately 4 m off the bottom. The vertical riser section is 6.4-m inside-diameter (ID), and the horizontal conduit to the generating station is 4.3-m ID. The vertical riser is fitted with a velocity cap, and the vertical opening between the riser and the velocity cap is about 1.5 m (Figure 2-3). Entrance velocities at the point of seawater withdrawal have been measured at 0.6 and 1.2 m/sec (FES et al. 1980, McGroddy et al. 1981). Seawater is drawn into the plant by up to eight circulating water pumps, each capable of delivering 44,000 gallons per minute, or about 63.4 million gallons per day (mgd), for a station maximum of about 507 mgd (1,919,000 m3). The flow is directed to a 4-m x 15.2-m open rectangular forebay and screening facility within the plant. The screen system is composed of vertical bar racks spaced 76.2 mm (3") on center and vertical traveling screens with 9.5-mm (3/8") mesh designed to remove trash, algae, marine life, and other incidental debris incoming with the cooling water. After flowing through the screen system, the cooling water is pumped to steam condensers[2], one per turbine generator. At full load, the temperature increase through the condensers ($\Delta T$) is approximately 10°C (18°F). After passing through the condensers, the water is directed to a single 4.3-m concrete discharge conduit, which extends approximately 366 m (1,200 ft) offshore. The discharge structure resembles the intake structure, except that there is no velocity cap. Discharged waters are directed vertically to the surface to allow for dilution and atmospheric cooling. Industrial waste discharges include: once-through condenser cooling water, boiler blowdown water, condensate overboard, yard drains, Units 1 –5 floor drains, fireside wash, air preheater wash, in-plant drains, chemical metal cleaning wastes, reverse osmosis/electrodeionization unit wastes (zeolite softener regenerant, filter backwash), and hydrostatic test water. The treatment system consists of 1) a mobile treatment unit to treat metal chemical cleaning wastes, and 2) a retention basin to remove oil and grease and settlement. Wastewater is discharged from Discharge Point 001 to (see Table 2) to the Pacific Ocean Nearshore Zone from the San Gabriel River to Poppy Street in Corona del Mar, a water of the United States. Attachment B provides a topographic map of the area around the facility. Attachment C provides a flow schematic of the facility.

C. **Legal Authorities.** This Order is issued pursuant to Section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (Section 13370 *et seq.*). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4 of the CWC (Section 13260 *et seq.*).

---

[2] *There are two condenser water boxes per unit for a total of eight.*

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 environmental information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E and G through J are also incorporated into this Order.

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

F. **Technology-based Effluent Limitations.** Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations[3] 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 Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category in 40 CFR Part 423 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) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where numeric water quality objectives have not been established for a 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 40 CFR Section 122.44(d)(1)(vi).

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

**H. Water Quality Control Plans.** The Regional Water Board adopted a Water Quality Control Plan for the Santa Ana Region (hereinafter Basin Plan) that became effective on January 24, 1995. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for surface and ground waters within the Region. In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. The Pacific Ocean Nearshore and Offshore Zones are excepted from the municipal and domestic supply beneficial use. Beneficial uses applicable to Pacific Ocean Nearshore Zone from the San Gabriel River to Poppy Street in Corona del Mar and offshore zone are as follows:

**Table 5. Basin Plan Beneficial Uses**

| Discharge Point | Receiving Water Name | Beneficial Use(s) |
|---|---|---|
| 001 | **Pacific Ocean Nearshore[4] Zone from the San Gabriel River to Poppy Street in Corona del Mar** | Present or Potential:<br>Industrial service supply, Navigation, Water contract recreation, Non-contact water recreation, Commercial and sport fishing, Wildlife habitat, Rare, threatened or endangered species, Spawning, reproduction, and development, Marine habitat, and Shellfish harvesting.<br>Excepted from Municipal and Domestic supply |
| | **Pacific Ocean Offshore Zone between the Nearshore Zone and the limit of State waters** | Present or Potential:<br>Industrial service supply, Navigation, Water contact recreation, Non-contact water recreation, Commercial and sportfishing, Wildlife habitat, Rare, threatened or endangered species, Spawning, reproduction, and development, and Marine habitat.<br>Excepted from Municipal and Domestic supply |

The Basin Plan relies primarily on the requirements of the *Water Quality Control Plan for Ocean Waters of California* (Ocean Plan) for protection of the beneficial uses of the State ocean waters.

Requirements of this Order specifically implement the applicable Water Quality Control Plans.

[4] *Nearshore Zone is defined by the Ocean Plan, Chapter II, A.1., as "within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30 foot depth contour, whichever is further from the shoreline.*

I. **California Ocean Plan.** The State Water Board adopted the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The State Water Board adopted the latest amendment to the Ocean Plan 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 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 migration, 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.

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

K. **316(b) Requirements.** The Fact Sheet (Attachment F) contains information concerning Clean Water Act Section 316(b) requirements and the guidelines and regulations promulgated to implement them. As reflected in the Findings of prior orders issued for the facility (Order Nos. 87-93, 93-58 and 00-05), the Discharger was required to submit a proposal to the Board for the conduct of a study to determine whether the requirements of 316(b) were met, specifically, whether the location, design, construction, and capacity of the existing cooling water intake structures reflect the best technology available for minimizing adverse environmental impacts. The 316(b) study was executed and a final report was submitted to the Executive Officer. The report adequately addressed the important ecological and engineering factors specified in USEPA 316(b) draft guidelines, demonstrated that the ecological impacts of the intake system are of an environmentally acceptable order, and provided sufficient evidence that no modification of the location, design, construction, or capacity of the existing systems was then required.

The 316(b) requirements in these Orders were based on Best Professional Judgment, utilizing the results of the 316(b) study and the April 2005 Entrainment and Impingement Study results required by the California Energy Commission for the retool of Units 3 and 4 of the AES Huntington Beach Generating Station. This Order incorporates the Best Professional Judgment findings from the previous order, and additionally implements the requirements of the 316(b) Phase II rule that are described below.

On July 9, 2004, the US EPA published the final regulations to establish requirements for the location, design, construction and capacity of cooling water intake structures at Phase II existing facilities in accordance with Section 316(b) of the CWA. (See July 9, 2004, Federal Register, Volume 69, pages 41575 – 41693). The regulations became effective on September 7, 2004. The AES Huntington Beach Generating Station is subject to these regulations. The regulations establish performance standards to reduce impingement mortality by 80 to 95 percent and entrainment by 60 to 90 percent. Dischargers such as AES must comply with the regulations, or demonstrate a compliance strategy, when they become subject to a reissued NPDES permit adopted on or after the effective date of the regulations. This Order includes requirements and compliance schedules necessary to implement the Section 316(b) Phase II regulations. The Discharger is in the process of conducting requisite investigations in accordance with a schedule that is consistent with 316(b) requirements and that has been approved by the Regional Board Executive Officer. This schedule called for the submission of the Comprehensive Demonstration Study (see Fact Sheet) that is to be prepared based on the findings of those investigations as soon as possible but no later than January 7, 2008. Based on consideration of salient facts (e.g., the results of pending litigation may affect the selection of compliance alternatives), this Order requires the submittal of a Comprehensive Demonstration Study as soon as practicable but no later than January 7, 2008.

Using best professional judgment of the requirements necessary to protect beneficial uses of the ocean, this Order requires the Discharger to evaluate and implement a 316(b) compliance alternative designed to achieve the upper end of the performance standards (95% impingement mortality reduction and 90% entrainment reduction) identified in the 316(b) Phase II regulations, unless there is a site-specific demonstration that compliance with these performance standards is not reasonably feasible. This Order will be reopened, if needed, to incorporate requirements for modifications of the facility necessary to comply with the 316(b) regulations, specifically, to ensure that the Discharger complies with established impingement and entrainment performance standards.

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

M. **Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on total suspended solids, oil and grease, total copper, and total iron. Restrictions on these pollutants are discussed in section IV. B. 2. of the Fact Sheet. The technology-based pollutant restrictions in this Order implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards.

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. All beneficial uses and water quality objectives contained in the Basin Plan and the Ocean Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR 131.21(c)(1).

N. **Antidegradation Policy.** Section 131.12 of 40 CFR requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. As discussed in detail in the Fact Sheet (Attachment F), the permitted discharge is consistent with the antidegradation provisions of 40 CFR Section 131.12 and State Water Board Resolution 68-16.

O. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR Section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order.

P. **Monitoring and Reporting**. Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize 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 in accordance with 40 CFR Sections 122.41and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, 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 (Attachment F).

R. **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 (Attachment F) of this Order.

S. **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 (Attachment F) of this Order.

## III. DISCHARGE PROHIBITIONS

A. The discharge of wastewater at a location or in a manner different from those described in this Order is prohibited.

B. The discharge of oil or any residuary product of petroleum to waters of the State, except in accordance with waste discharge requirements or other provisions of Division 7 of the CWC, is prohibited.

C. The discharge of any radiological, chemical, or biological warfare agent or high-level radioactive waste into the ocean is prohibited.

D. The discharge of polychlorinated biphenyl compounds, such as those commonly used for transformer fluid, is prohibited.

E. The discharge of waste to Areas of Special Biological Significance[5] is prohibited.

F. The discharge of sludge to the ocean by pipeline is prohibited; the discharge of municipal and industrial waste sludge directly to the ocean or into a waste stream that discharges to the ocean is prohibited. The discharge of sludge digester supernatant directly to the ocean or to a waste stream that discharges to the ocean without further treatment is prohibited.

## IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

### A. Effluent Limitations – Combined Discharges to DP 001

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location M-001 as described in the attached MRP:

1. **Effluent Limitations**

**Table 7. Effluent Limitations at DP 001**

| Constituent | Unit | 6-Month Median | Daily Maximum | Instantaneous Maximum | Instantaneous Minimum |
|---|---|---|---|---|---|
| Arsenic | µg/L | 46 | 250 | 658 | ---- |
| Cadmium | µg/L | 9 | 34 | 85 | --- |
| Chromium (hexavalent) | µg/L | 17 | 68 | 170 | --- |
| Copper | µg/L | 11 | 87 | 240 | --- |
| Lead | µg/L | 17 | 68 | 170 | --- |
| Mercury | µg/L | 0.34 | 1.36 | 3.4 | --- |
| Nickel | µg/L | 43 | 170 | 425 | --- |
| Selenium | µg/L | 128 | 510 | 1,275 | --- |
| Silver | µg/L | 4.75 | 23 | 58 | --- |
| Zinc | µg/L | 110 | 620 | 1,640 | --- |
| Cyanide[6] | µg/L | 9 | 34 | 85 | --- |

[5] *See Attachment A - Definitions.*

**Table 7. Effluent Limitations at DP 001**

| Constituent | Unit | 6-Month Median | Daily Maximum | Instantaneous Maximum | Instantaneous Minimum |
|---|---|---|---|---|---|
| Total Residual Chlorine (see also IV.A.2., below) | µg/L | 17 | 68 | 510 | --- |
| Ammonia-nitrogen | µg/L | 15,100 | 20,400 | 51,000 | --- |
| pH | pH Units | | | 9.0 | 6.0 |
| Non-Chlorinated Phenolic compounds | µg/L | 255 | 1,020 | 2,550 | --- |
| Chlorinated Phenolics | µg/L | 8.5 | 34 | 85 | --- |
| Chronic Toxicity | TUc | --- | 8.5 | --- | --- |

2. Total chlorine residual may not be discharged from any single generating unit for more than two hours per day unless the Discharger demonstrates to the Regional Water Board that discharges for more than two hours are required for the control of bio-fouling. Simultaneous multi-unit chlorination is permitted.

3. Toxicity Requirements

   There shall be no acute or chronic toxicity in the effluent after mixing with ambient seawater in a ratio of 1 to 7.5 nor shall the effluent cause any chronic toxicity in the receiving water. All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in human, plant, animal, or indigenous aquatic life.

[6] *If the Discharger can demonstrate to the satisfaction of the Regional Board that an analytical method is available to distinguish reliably between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by the combined measurement of free cyanide, simple alkaili metal cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40CFR part 136, as revised May 1999.*

a. Definition of Chronic Toxicity

The chronic toxicity of the effluent shall be expressed and reported in TUc, where TUc = 100/NOEC. The No Observed Effect Concentration (NOEC) is the highest effluent concentration to which organisms are exposed in a chronic test, that causes no observable adverse effect on the test organisms (e.g., the highest concentration of toxicant to which the values for the observed responses are not statistically significantly different from the controls). In addition, NOEC and IC25/EC25 values in percent effluent shall also be reported. For this discharge, chronic toxicity is defined as an exceedance of the chronic toxicity effluent limitation specified in Discharge Specification A.1.a.

b. The Discharger shall conduct chronic toxicity monitoring of discharges, as specified in Attachment E - Monitoring and Reporting Program (M&RP).

c. The Discharger shall develop and submit to the Regional Board an Initial Investigation Toxicity Reduction Evaluation (IITRE) work plan within 90 days of the effective date of this permit. This workplan shall describe the steps the Discharger intends to follow if required by Toxicity Requirement No. IV.A.3.b. 2), below. The work plan shall include at a minimum:

1) A description of the investigation and evaluation techniques that will be used to identify potential causes/sources of the exceedance, effluent variability, and/or efficiency of the treatment system in removing toxic substances. This shall include a description of an accelerated chronic toxicity testing program.

   a) A description of the methods to be used for investigating and maximizing in-house treatment efficiency and good housekeeping practices.
   b) A description of the evaluation process to be used to determine if implementation of a more detailed TRE\TIE is necessary.

2) The Discharger shall implement the IITRE work plan whenever the results of chronic toxicity tests of the effluent exceed:

   a) A two month median value of 8.5 TUc for survival or reproduction endpoint or,
   b) Any single test value of 14.5 TUc for survival endpoint.

3) The Discharger shall develop a detailed Toxicity Reduction Evaluation and Toxicity Identification Evaluation (TRE/TIE) work plan that shall describe the steps the Discharger intends to follow if the implemented IITRE fails to identify the cause of, or rectify, the toxicity.

4) The Discharger shall use as guidance, at a minimum, EPA manuals EPA/600/2-88/070 (industrial), EPA/600/4-89-001A (municipal), EPA/600/6-91/005F (Phase I), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III) to identify the cause(s) of toxicity. If during the life of this Order the aforementioned EPA manuals are revised or updated, the revised/updated manuals may also be used as guidance. The detailed TRE/TIE work plan shall include:

   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 to prevent the recurrence of toxicity; and
   c) A schedule for these actions.

d. The Discharger shall implement the TRE/TIE workplan if the IITRE fails to identify the cause of, or rectify, the toxicity, or if in the opinion of the Executive Officer the IITRE does not adequately address an identified toxicity problem.

e. The Discharger shall assure that adequate resources are available to implement the required TRE/TIE.

4. Temperature[7]:

   a. During normal operation, the temperature of wastes discharged at DP 001 shall not exceed the natural temperature of the receiving waters, as measured by the intake water temperature, by more than $30^0$F.

   b. During the heat treatment, the temperature of the waste discharged shall not exceed $125^0$F, except that temperature fluctuations above $125^0$F during gate adjustment shall not last more than 30 minutes and shall not exceed $130^0$F.

5. HBGS waste management systems that discharge through DP 001 must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.

6. Waste discharged to the ocean through Outfall DP 001 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.

---

7 *See "Fact Sheet".*

c. Substances that 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.

7. Wastewater must be discharged through Outfall DP 001 in a manner that provides sufficient initial dilution to minimize the concentrations of substances not removed in treatment processes.

## B In-Plant Waste Stream Effluent Limitations – Low Volume and In-Plant Waste Discharges from DP INTA and DP INTB to DP 001

1. The Discharger shall maintain compliance with the following effluent limitations at DP INTA and DP INTB with compliance measured at M-INTA and M-INTB, respectively as described in the attached MRP.

   a. Effluent Limitations Applicable at DP INTA and DP INTB

**Table 8. Combined Low Volume and In-Plant Effluent Limitations at DPs INTA and INTB**

| Parameter | Units | Effluent Limitations | | | |
|---|---|---|---|---|---|
| | | Average Monthly | Maximum Daily | Instantaneous Maximum | Instantaneous Minimum |
| Total Suspended Solids | mg/L | 30 | 100 | - - | - - |
| | lbs/day | See IV.B.2., below | See IV.B.2., below | - - | - - |
| Oil & Grease | mg/L | 15 | 20 | - - | - - |
| | lbs/day | See IV.B.2., below | See IV.B.2., below | - - | - - |
| pH | pH Units | -- | -- | 9.0 | 6.0 |

   b. Effluent Mass Limitations:

**Table 9. Effluent Mass Limitations at DPs INTA and INTB**

| Constituent | Units | 6-Month Median | Daily Max. |
|---|---|---|---|
| Arsenic | lbs/day | See IV.B.3., below | See IV.B.3., below |
| Cadmium | lbs/day | " | " |

**Table 9. Effluent Mass Limitations at DPs INTA and INTB**

| Constituent | Units | 6-Month Median | Daily Max. |
|---|---|---|---|
| Chromium (hexavalent)[9/] | lbs/day | " | " |
| Copper | lbs/day | " | " |
| Lead | lbs/day | " | " |
| Mercury | lbs/day | " | " |
| Nickel | lbs/day | " | " |
| Selenium | lbs/day | " | " |
| Silver | lbs/day | " | " |
| Zinc | lbs/day | " | " |
| Cyanide | lbs/day | " | " |
| Ammonia | lbs/day | " | " |
| Non-Chlorinated Phenolic Compounds | lbs/day | " | " |
| Chlorinated Phenolics | lbs/day | " | " |

2. The Discharger shall calculate the mass emissions rate limits utilizing the general formula:

   Mass Limit (lbs/day) = 8.34 x Ce x Q
   Where:

   Ce = the effluent concentration limit specified in Table 8 for the specific pollutant considered, mg/L

   Q = observed flow rate in million gallons per day discharged from DP INTA or DP INTB.

3. The Discharger shall calculate the mass emissions rate limits utilizing the general formula:

   Mass Limit (lbs/day) = 0.00834 x Ce x Q
   Where:

   Ce = the effluent concentration limit specified in Table 7 for the specific pollutant considered, ug/L

   Q = observed flow rate in million gallons per day discharged from DP 001.

## C. In-Plant Waste Stream Effluent Limitations – Treated Metal Cleaning Discharges from DP INTBa to DP INTB

1. The Discharger shall maintain compliance with the following effluent limitations at DP INTBa with compliance measured at M-INTBa as described in the attached MRP.

**Table 10. Metal Cleaning Effluent Limitations at DP INTBa**

| Parameter | Units | Effluent Limitations | |
|---|---|---|---|
| | | Average Monthly | Maximum Daily |
| Total Suspended Solids | mg/L | 30 | 100 |
| | lbs/day | See IV.C.2., below | See IV.C.2., below |
| Oil & Grease | mg/L | 15 | 20 |
| | lbs/day | See IV.C.2., below | See IV.C.2., below |
| Copper | mg/L | 1.0 | 1.0 |
| | lbs/day | See IV.C.2., below | See IV.C.2., below |
| Iron | mg/L | 1.0 | 1.0 |
| | lbs/day | See IV.C.2., below | See IV.C.2., below |

| Parameter | Units | Instantaneous Maximum | Instantaneous Minimum |
|---|---|---|---|
| pH | pH units | 9.0 | 6.0 |

2. The Discharger shall calculate the mass emissions rate limits utilizing the general formula:

Mass Limit (lbs/day) = 8.34 x Ce x Q
Where:

Ce = the effluent concentration limit specified in Table 10 for the specific pollutant considered, mg/L

Q = observed flow rate in million gallons per day discharged from DP INTBa.

## E. Groundwater Limitations – Not Applicable

### F. Stormwater Requirements

1. Storm water[8] discharges shall not:

   a. Cause or contribute to a violation of any applicable water quality standards contained in the Basin Plan, or in the State or Federal regulations.

   b. Cause or threaten to cause pollution, contamination, or nuisance.

   c. Contain a hazardous substance equal to or in excess of a reportable quantity listed in 40 CFR Part 117 and/or 40 CFR Part 302.

   d. Adversely impact human health or the environment.

   e. Result in noncompliance with the lawful requirements of municipalities, counties, drainage districts, and other local agencies on storm water discharges into storm drain systems or other courses under their jurisdiction.

2. The Discharger must update and implement the Storm Water Pollution Prevention Plan for the facility in accordance with Attachment "J" of this Order.

## V. RECEIVING WATER LIMITATIONS

Receiving water limitations are based upon water quality objectives contained in the Ocean Plan and Thermal Plan. As such, they are a required part of this Order. Unless specifically excepted by this Order, the discharge shall not cause the following in the receiving waters of the Pacific Ocean:

### A. Temperature Limitation

1. Discharges from HBGS' outfall DP 001, to the Pacific Ocean shall not, by themselves or jointly with any other discharge or discharges, cause violation of the water quality objective for coastal waters established by the Thermal Plan.

2. The discharges of elevated temperature wastes shall not result in increases in the natural water temperature exceeding $4^0$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.

---

[8] *Storm water means storm water runoff and surface runoff and drainage.*

## B. Chemical, Physical, and Biological Limitations

Discharges from HBGS through Outfall No. 001 to the Pacific Ocean shall not cause or significantly contribute to violation of the following receiving water quality objectives established by the Ocean Plan. Compliance with these objectives shall be determined by samples collected at stations representative of the area within the waste field where initial dilution is completed.

1. Bacterial Characteristics

   a. Water-Contact Standards:

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

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

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

      Single Sample Maximum:

      a) Total coliform density shall not exceed 10,000 per 100 ml;
      b) Fecal coliform density shall not exceed 400 per 100 ml;
      c) Enterococcus density shall not exceed 104 per 100 ml, and
      d) Total coliform density shall not exceed 1,000 per 100 ml when the fecal coliform/total coliform ratio exceeds 0.1.

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

   b. Shellfish Harvesting Standards:
      At all areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall not exceed 70 per 100 ml throughout the water column, and not more than 10 percent of the samples shall exceed 230 per 100 ml.

2. Physical Characteristics

   a. Floating particulates and grease and oil shall not be visible.

   b. The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface.

   c. Natural light shall not be significantly reduced at any point outside the initial dilution zone as the result of the discharge of waste.

   d. 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.

3. Chemical Characteristics

   a. 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.

   b. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.

   c. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.

   d. The concentration of substances set forth in Chapter II, Table B, of the 2001 Ocean Plan shall not be increased in marine sediments to levels that would degrade indigenous biota.

   e. The concentration of organic materials in marine sediments shall not be increased to levels that would degrade marine life.

   f. Nutrient materials shall not cause objectionable aquatic growths or degrade indigenous biota.

   g. Numerical water quality objectives established in Chapter II, Table B, of the California Ocean Plan shall not be exceeded as a result of discharges from HBGS through Outfall 001.

4. Biological Characteristics

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

b. The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.

c. 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.

5. Radioactivity

Discharge of radioactive waste, which meets the definition of "pollutant" at 40 CFR 122.2, shall not degrade marine life.

## VI. PROVISIONS

### A. Standard Provisions

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

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

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

b. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, discharge limitations (e.g., maximum daily effluent limitation), or receiving water limitation of this Order, the Discharger shall notify the Regional Water Board by telephone (951) 782-4130 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional 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.

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

d. The Discharger shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncomplying discharge.

e. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following.

1). Violation of any terms or conditions of this Order;
2). Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts, or;
3). A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

f. In addition to any other grounds specified herein, this permit may be modified or revoked at any time if, on the basis of any data, the Regional Water Board determines that continued discharges may cause unreasonable degradation of the marine environment.

g. If an effluent standard or discharge prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307 (a) of the Clean Water Act for a toxic pollutant which is present in the discharge, and such standard or prohibition is more stringent than any limitation for that pollutant in this Order, this Order may be modified or revoked and reissued to conform to the effluent standard or discharge prohibition.

h. This discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Water Board or the State Board as required by the CWA and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA or amendments thereto, the Regional Water Board may modify this Order in accordance with the more stringent standards.

i. If only one sample is collected during the time period associated with an effluent limitation (e.g., 30-day average or 6-month median), the single measurement shall be used to determine compliance with the effluent limitation for the entire time period.

## C. Special Provisions

### 1. Reopener Provisions

a. This Order will be reopened to address any changes in State or federal plans, policies or regulations that would affect the quality requirements for the discharges.

b. This Order may be reopened to include effluent limitations for pollutants determined to be present in the discharge in concentrations that pose a reasonable potential to cause or contribute to violations of water quality objectives.

c. This Order may be reopened and modified in accordance with the requirements set forth at 40 CFR 122 and 124, to include the appropriate conditions or limits to address demonstrated effluent toxicity based on newly available information, or to implement any EPA-approved new State water quality standards applicable to effluent toxicity.

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

e. This Order may be reopened to include requirements necessary to address the findings of the Comprehensive Demonstration Study and to assure compliance with the CWA Section 316(b) Phase II regulations and with relevant State policy for implementing those regulations.

f. This Order will be reopened to address changes in State or federal statutes, plans, policies or regulations that would affect the requirements of the Order that pertain to cooling water intake.

g. Interested parties who raise significant comments, based on substantial evidence, concerning the conduct of investigations leading to the development and submittal of the Comprehensive Demonstration Study, may request that this Order be reopened at any time. If the Regional Board finds, based on substantial evidence, that significant issues are raised by interested parties, the Board may reopen this Order for consideration of necessary revisions.

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

a. CWA Section 316 (b) Comprehensive Demonstration Study

As soon as practicable but no later than January 7, 2008, the Discharger shall submit the Comprehensive Demonstration Study. The Study shall include the following components

1) Source Waterbody Flow Information, as described at 40 CFR 125.95(b)(2);
2) Impingement Mortality and/or Entrainment Characterization Study, as described at 40 CFR 125.95(b)(3), to support development of a calculation baseline for evaluating impingement mortality and entrainment and to characterize current impingement mortality and entrainment;
3) Design and Construction Technology Plan and a Technology Installation and Operation Plan, as described at 40 CFR 125.95(b)(4);
4) Restoration Plan, as described at 40 CFR 125.95(b)(5);
5) Information to Support Site-Specific Determination of BAT, as described at 40 CFR 125.95 (b)(6);
6) Verification Monitoring Plan, as described at 40 CFR 125.95(b)(6).

b. Toxicity Reduction Requirements.

If the discharge consistently exceeds an effluent limitation for toxicity specified in Section IV.A.2 or an effluent limitation for an Ocean Plan Table B water quality objective specified in Section IV.A, 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.

c. By October 14, 2006, the Discharger shall submit for approval by the Executive Officer a report that details the manner in which sampling, monitoring and reporting will be performed for flow, total residual chlorine and chronic toxicity as required in Attachment E of this Order. This plan must be implemented upon approval by the Regional Board's Executive Officer.

d. By January 2, 2007, the Discharger shall submit a proposed plan for periodic cleaning of the retention basin to prevent the mobilization and ocean discharge of pollutants during storm events. This plan must be implemented upon approval by the Regional Board's Executive Officer.

e. By October 14, 2006, the Discharger shall submit for approval by the Executive Officer a proposed methodology to determine the calculation baseline for entrainment and impingement reductions (see VI.C.7.b.) That methodology shall be implemented upon approval.

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

a. The Discharger shall implement Best Management Practices to control the discharge of pollutants in stormwater discharges associated with industrial activities.

b. Pollutant Minimization Program

Reporting protocols in the Monitoring and Reporting Program, Attachment E, Section X.B.4 describe sample results that are to be reported as Detected but Not Quantified (DNQ) or Not Detected (ND). Definitions for a reported Minimum Level (ML) and Method Detection Limit (MDL) are provided in Attachment A. These reporting protocols and definitions are used in determining the need to conduct a Pollution Minimization Program (PMP) as follows:

The Discharger shall be required to develop and conduct a PMP as further described below when there is evidence (e.g., sample results reported as DNQ when the effluent limitation is less than the MDL, sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a pollutant is present in the effluent above an effluent limitation and either:

1) The concentration of the pollutant is reported as DNQ and the effluent limitation is less than the reported ML; or

2) The concentration of the pollutant is reported as ND and the effluent limitation is less than the MDL.

The goal of the PMP shall be to reduce all potential sources of a pollutant through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the 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 CWC Section 13263.3(d), shall be considered to fulfill the PMP requirements.

The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

1) An annual review and semi-annual monitoring of potential sources of the reportable pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;
2) Quarterly monitoring for the reportable pollutant(s) in the influent to the wastewater treatment system;
3) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable pollutant(s) in the effluent at or below the effluent limitation;
4) Implementation of appropriate cost-effective control measures for the reportable pollutant(s), consistent with the control strategy; and
5) An annual status report that shall be sent to the Regional Water Board including:
   a). All PMP monitoring results for the previous year;
   b). A list of potential sources of the reportable pollutant(s);
   c). A summary of all actions undertaken pursuant to the control strategy; and
   d). A description of actions to be taken in the following year.

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

The Discharger shall develop an "Operation and Maintenance Manual (O&M Manual)". If an O&M Manual has been developed, the Discharger shall update it as necessary to conform with latest plant changes and requirements. The O&M Manual shall be readily available to operating personnel onsite. The O&M Manual shall include the following:

a. Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.

b. Description of laboratory and quality assurance procedures.

c. Process and equipment inspection and maintenance schedules,

d. Description of safeguards to assure that, should there be reduction, loss, or failure of electric power, the Discharger will be able to comply with the terms and conditions of this Order.

e. Description of preventive (fail-safe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. These plans shall identify the possible sources (such as loading and storage areas, power outage, waste treatment unit failure, process equipment failure, tank and piping failure) of accidental discharges, untreated or partially treated waste bypass, and polluted drainage.

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

**6. Other Special Provisions**

The Discharger shall conduct quarterly meetings (until the Regional Board approves the Comprehensive Demonstration Study) with interested stakeholders to discuss the progress of and issues pertaining to the consideration of compliance with the requirements of this Order pertaining to implementation of the Clean Water Act Section 316(b) Phase II rule, including investigations leading to the development and submittal of the Comprehensive Demonstration Study.

**7. Compliance Schedules**

a. In accordance with the CWA 316(b) Phase II regulations, as expeditiously as practicable but no later than January 7, 2008, the Discharger shall identify in the Comprehensive Demonstration Study the best technology available for minimizing adverse environmental impact at the Facility site and complying with the performance standards established in VII.C.7.b. ,below. This shall be accomplished by identifying any one or a combination of the following alternatives:

1) A reduction of cooling water intake flow commensurate with a closed-cycle recirculating system or a reduction of the design intake velocity of the cooling water intake structure to 0.5 feet per second (ft/s) or less; or,
2) A demonstration that the existing design and construction technologies, operational measures, and/or restoration measures meet the performance standards and/or restoration requirements; or
3) A demonstration that the facility's existing design and construction technologies, operational measures, and/or restoration measures meet the performance standards and/or restoration requirements. A demonstration that selected new design and construction technologies, operational measures, and/or restoration measures, in combination with any existing technologies, operational measures, and/or restoration measures will meet the performance standards and/or restoration requirements; or
4) A demonstration that the facility meets a pre-approved design and construction technology.
5) A site-specific demonstration, based on cost considerations, of best technology available to minimize adverse environmental impact.

b. Implementation of any or a combination of the actions specified in VII.C.7.a., above shall meet the following unless a site-specific demonstration (7.a.5), above) demonstrates that compliance with the numeric limits in 1) and 2), below are not reasonably feasible:

1) Reduce impingement mortality for all life stages of fish and shellfish by at least 95 percent from the calculated baseline by any combination of operational or structural controls.
2) Reduce entrainment by at least 90 percent from the calculation baseline. If the Discharger demonstrates that achieving a 90 percent reduction in entrainment via any combination of structural or operational controls is infeasible, then the Discharger may use restoration measures to achieve the required 90 percent reduction as follows:

    a) The Discharger must reduce entrainment of all life stages of fish and shellfish by a minimum of 60 percent from the calculated baseline by any combination of operational or structural controls, and
    b) Restoration measures (i.e., mitigation) must be employed to achieve the remaining percent reduction in entrainment over the minimum achieved above, up to 90 percent, of all life stages of fish and shellfish from the calculated baseline. If restoration measures are to be used as the compliance alternative, this Order will use the habitat production foregone methodology in assessing entrainment losses and then apply that information to a restoration project.

## 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 and Attachment G of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the reportable pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (ML).

### B. 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:

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 (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. The Discharger will only be considered out of compliance for days when the discharge occurs. 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). – Not Applicable**

**E. Maximum Daily Effluent Limitation (MDEL).**

If a daily discharge (or when applicable, determined by subsection B above for multiple sample data of a daily discharge) exceeds the MDEL for a given parameter, 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, 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, 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 concentration limitation for a given parameter, 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.

Similarly, compliance with the six-month median mass emissions limit shall be determined by comparing the calculated mass limit with calculated mass discharges. If mass discharges exceed the allowed mass discharges, the Discharger is not in compliance. The calculated mass discharges shall be determined by using the same equation in calculating the mass emission limit and using the allowable six-month median effluent concentration and the observed flow rate in millions of gallons per day.

**I. Compliance Determination with One Sample**

If only one sample is collected during the time period associated with the water quality objective (e.g., 30-day average or 6-mothth median), the single measurement shall be used to determine compliance with the effluent limitation for the entire time period.

## ATTACHMENT A – DEFINITIONS

**Acute Toxicity:**

Acute Toxicity (TUa)
Expressed in Toxic Units Acute (TUa)

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

Lethal Concentration 50% (LC 50)
LC 50 (percent waste giving 50% survival of test organisms) shall be determined by static or continuous flow bioassay techniques using standard marine test species as specified in Appendix III, Chapter II. 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):** are those areas designated by the State Water 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.

**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)

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

b. No Observed Effect Level (NOEL)

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

**Composite Sample.** A composite sample is a combination of 24 aliquots of at least 100 mL each collected hourly over 24-hour period. Each individual aliquot must consist of 4 samples taken at 15-minute intervals. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time off sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically.

**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)** are those sample results 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** shall mean waters downstream with respect to ocean currents.

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

**Grab Sample.** A grab sample is an individual sample of a t least 100 mLs collected at a randomly selected time over a period not exceeding 15 minutes.

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

For a submerged buoyant discharge, characteristic of most municipal 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 nonbuoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the discharge ceases to produce significant mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the Regional 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 this 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** is the culture of plants and animals in marine waters independent of any pollution source.

**Material:** (a) In common usage: (1) the substance or substances of which a thing is made or composed (2) substantial; (b) For purposes of the California 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.

**Maximum Daily Effluent Limitation (MDEL):** the highest allowable daily discharge of a pollutant. That shall apply to flow weighted 24-hour composite samples.

**MDL (Method Detection Limit)** is the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero, as defined in 40 CFR PART 136 Appendix B.

**Minimum Level (ML)** is the concentrations 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.

**Ocean Waters** are 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 California Ocean Plan will occur in ocean waters.

**PAHs (polynuclear aromatic hydrocarbons)** shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene and pyrene.

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

**Pollutant Minimization Program (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** is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix II of the Ocean Plan in accordance with section III.C.5.a. of the Ocean Plan or established in accordance with section III.C.5.b. of the Ocean Plan. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the reported ML.

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

**Significant Difference** is 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:** that apply as a moving median of daily values for any 180-day period in which daily values represent flow weighted average concentrations within a 24-hour period. For intermittent discharges, the daily value shall be considered to equal zero fro days on which no discharge occurred.

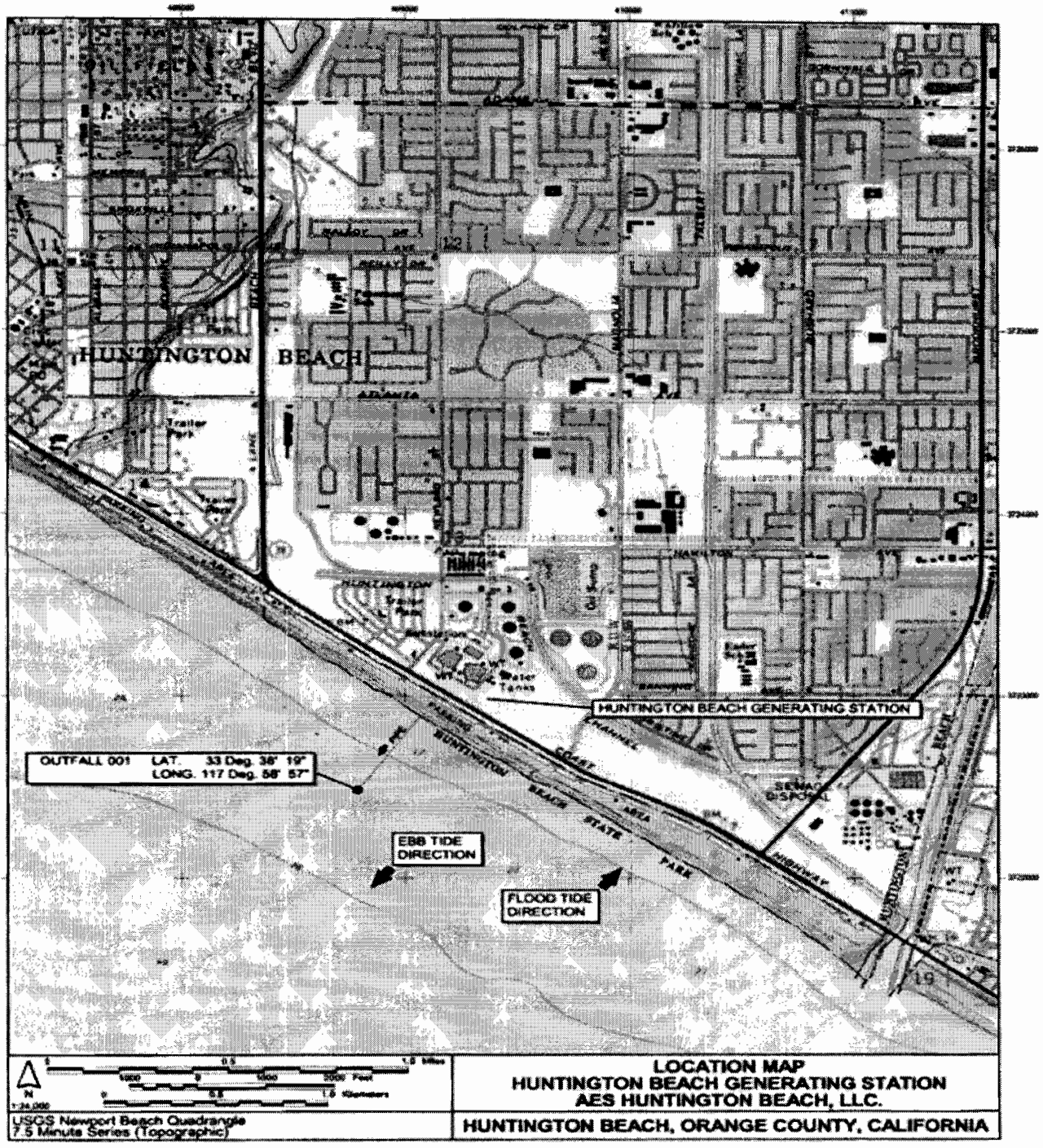
**TCDD Equivalents** shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below.

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

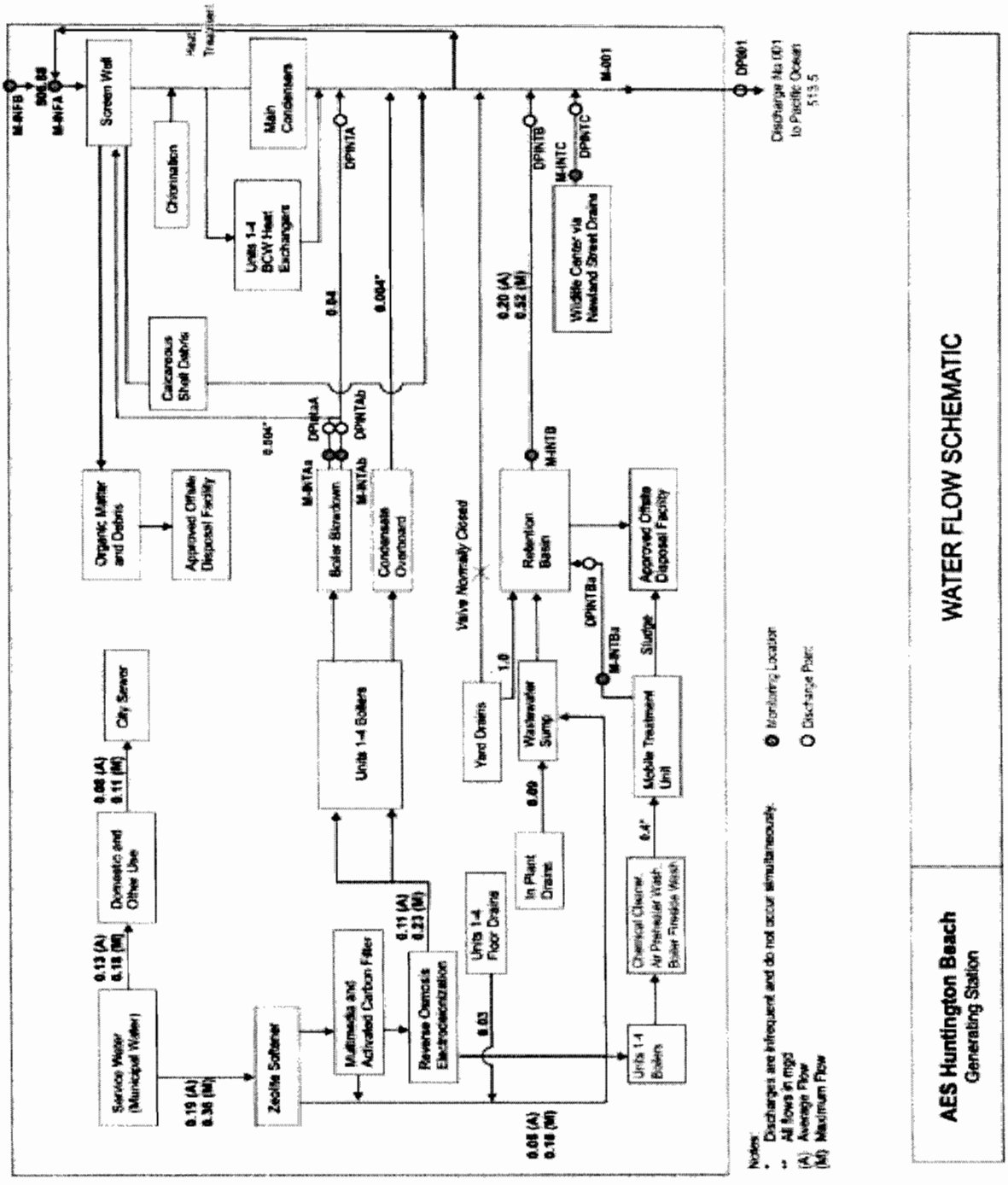
**Toxicity Reduction Evaluation (TRE)** is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first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

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

## ATTACHMENT B – FACILITY LOCATION MAP



# Attachment C – Flow Schematic



# 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 (CWC) and is grounds for enforcement action, for permit termination, revocation and reissuance, or denial of a permit renewal application [*40 CFR §122.41(a)*].

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act 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 been modified to incorporate the requirement [*40 CFR §122.41(a)(1)*].

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

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

### C. Duty to Mitigate

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

### D. Proper Operation and Maintenance

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

### E. Property Rights

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

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

## F. Inspection and Entry

The Discharger shall allow the Regional Water Quality Control Board (RWQCB), State Water Resources Control Board (SWRCB), United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to [*40 CFR §122.41(i)*] [*CWC 13383(c)*]:

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

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

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

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

## G. Bypass

1. Definitions

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

   b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production [*40 CFR §122.41(m)(1)(ii)*].

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

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

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage [*40 CFR §122.41(m)(4)(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 CFR §122.41(m)(4)(B)*]; and

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

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

5. Notice

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

   b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice) [*40 CFR §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 permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation [*40 CFR §122.41(n)(1)*].

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

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

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

   b. The permitted facility was, at the time, being properly operated [*40 CFR §122.41(n)(3)(i)*];

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

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

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

## II. STANDARD PROVISIONS – PERMIT ACTION

### A. General

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

### B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit [*40 CFR §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 CWC [*40 CFR §122.41(l)(3)*] [*40 CFR §122.61*].

## III. STANDARD PROVISIONS – MONITORING

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

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

## IV. STANDARD PROVISIONS – RECORDS

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

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

1. The date, exact place, and time of sampling or measurements [*40 CFR §122.41(j)(3)(i)*];
2. The individual(s) who performed the sampling or measurements [*40 CFR §122.41(j)(3)(ii)*];
3. The date(s) analyses were performed [*40 CFR §122.41(j)(3)(iii)*];
4. The individual(s) who performed the analyses [*40 CFR §122.41(j)(3)(iv)*];
5. The analytical techniques or methods used [*40 CFR §122.41(j)(3)(v)*]; and
6. The results of such analyses [*40 CFR §122.41(j)(3)(vi)*].

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

1. The name and address of any permit applicant or Discharger [*40 CFR §122.7(b)(1)*]; and
2. Permit applications and attachments, permits and effluent data [*40 CFR §122.7(b)(2)*].

## V. STANDARD PROVISIONS – REPORTING

### A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, SWRCB, or USEPA within a reasonable time, any information which the Regional Water Board, SWRCB, 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, SWRCB, or USEPA copies of records required to be kept by this Order [*40 CFR §122.41(h)*] [*CWC 13267*].

### B. Signatory and Certification Requirements

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

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

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

   a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above [*40 CFR Section 122.22(b)(1)*];

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

c. The written authorization is submitted to the Regional Water Board, SWRCB, or USEPA [*40 CFR §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, State Water Board or USEPA prior to or together with any reports, information, or applications, to be signed by an authorized representative [40 CFR Section 122.22(c)].

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

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

## C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program in this Order [*40 CFR §122.41(l)(4)*].

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

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR 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 CFR §122.41(l)(4)(ii)*].

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

## D. Compliance Schedules

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

## E. Twenty-Four Hour Reporting

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

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

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

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

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

## F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when [*40 CFR §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 40 CFR §122.29(b) [*40 CFR §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 which are subject neither to effluent limitations in this Order nor to notification requirements under 40 CFR Part 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1) [*40 CFR §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 CFR §122.41(l)(1)(iii)*].

### G. Anticipated Noncompliance

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

### H. Other Noncompliance

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

### I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, SWRCB, or USEPA, the Discharger shall promptly submit such facts or information [*40 CFR §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 CWC, including, but not limited to, sections 13385, 13386, and 13387.

## VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

### A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural dischargers shall notify the Regional Water Board as soon as they know or have reason to believe [*40 CFR §122.42(a)*]:

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

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

   b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony [*40 CFR §122.42(a)(1)(ii)*];

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

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

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

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

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

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

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

### B. Publicly-Owned Treatment Works (POTWs), Not Applicable

## Attachment E – Monitoring and Reporting Program – Table of Contents

Attachment E – Monitoring and Reporting Program (MRP) ..... E-3
I. General Monitoring Provisions ..... E-3
A. General Monitoring Provision ..... E-3
II. Monitoring Locations ..... E-7
III. Influent Monitoring Requirements ..... E-8
A. Monitoring Location M-INFA For Cooling Water Intake ..... E-8
B. Monitoring Location M-INFB For Marine Life Impingement/Entrainment ..... E-9
IV. EffIUent Monitoring Requirements ..... E-9
A. Monitoring Location M-001 for Ocean Discharges ..... E-9
B. In-Plant Waste Flows - Monitoring Locations M-INTA and M-INTB ..... E-14
C. In-Plant Waste Flows - Monitoring Locations M-INTB ..... E-15
D. Metal Cleaning Waste - Monitoring Location M-INTBa ..... E-16
V. Whole Effluent Toxicity Testing Requirements ..... E-17
A. Chronic Toxicity Test Species and Methods ..... E-17
B. Quality Assurance/Control ..... E-17
C. Additional (Accelerated) Toxicity Testing ..... E-19
E. Toxicity Reduction Evaluation/Toxicity Identification Evaluation TIE/TRE ..... E-19
G. Reporting Requirements: ..... E-20
VI. land Discharge monitoring requirements – not applicable ..... E-20
VII. Reclamation monitoring requirements – not applicable ..... E-20
VIII. Receiving Water Monitoring Requirements–Ocean Water ..... E-21
A. General Monitoring Requirements ..... E-21
B. Ocean Monitoring Stations ..... E-21
C. Monitoring Program ..... E-22
D. Sampling Requirements ..... E-23
IX. Other Monitoring Requirements ..... E-24
A. Storm Water Monitoring and Reporting ..... E-24
X. Reporting Requirements ..... E-24
A. General Monitoring and Reporting Requirements ..... E-24
B. Self Monitoring Reports (SMRs) ..... E-25
C. Discharge Monitoring Reports (DMRs) ..... E-26
D. Other Reports ..... E-27

## List of Tables

Table 1. Annual Samples Schedule ..... E-7
Table 2. Monitoring Station Locations ..... E-7
Table 3. Influent Monitoring ..... E-8
Table 4. Effluent Monitoring at M-001 ..... E-10
Table 5. Combined Low-Volume and In-Plant Discharges at M-INTA and M-INTB ..... E-16
Table 6. In-Plant Wastes Discharge at M-INTB ..... E-17
Table 7. Metal Cleaning Discharges at M-INTBa ..... E-18
Table 8. Receiving Water Monitoring Stations Locations ..... E-23
Table 9. Reporting Requirements ..... E-26
Table 10. Monitoring and Reporting Schedules ..... E-27

# ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (CFR) at 40 CFR §122.48 requires that all NPDES permits specify monitoring and reporting requirements. CWC Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (RWQCB) 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. General Monitoring Provision

1. All sampling and sample preservation shall be in accordance with the current edition of "*Standard Methods for the Examination of Water and Wastewater*" (American Public Health Association).

2. All laboratory analyses shall be performed in accordance with test procedures under 40 CFR 136 (revised as of May 14, 1999) "Guidelines Establishing Test Procedures for the Analysis of Pollutants," promulgated by the United States Environmental Protection Agency (EPA), unless otherwise specified in this MRP. For priority pollutants, the test methods must meet the lowest minimum levels (MLs) specified in Attachment G of this Order; where no methods/MLs are specified in Attachment G, then monitoring is to be conducted in accordance with methods/MLs approved by this Regional Water Board or the State Water Board consistent with the State Water Board's Quality Assurance Program. In addition, the Regional Board and/or EPA, at their discretion, may specify test methods that are more sensitive than those specified in 40 CFR 136.

3. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the California Department of Health Services or EPA or at laboratories approved by the Regional Water Board's Executive Officer.

4. Whenever the Discharger monitors any pollutant more frequently than is required by this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharge monitoring report specified by the Executive Officer.

5. In conformance with federal regulations 40 CFR 122.45(c), analyses to determine compliance with the effluent limitations for metals shall be conducted using the total recoverable method. For Chromium (VI), the dissolved method in conformance with 40 CFR 136 may be used to measure compliance with the Chromium (VI) limitation.

6. For effluent and ambient receiving water monitoring:

   a. The Discharger shall require its testing laboratory to calibrate the analytical system down to the minimum level (ML)[1] specified in Attachment "G" for pollutants with effluent limitations in this Order, unless an alternative minimum level is approved by the Regional Water Board's Executive Officer. When there is more than one ML value for a given substance, the Discharger shall use the ML values, and their associated analytical methods, listed in Attachment "G" that are below the calculated effluent limitation. The Discharger may select any one of those cited analytical methods for compliance determination. If no ML value is below the effluent limitation, then the lowest ML value, and its associated analytical method listed in Attachment "G" shall be used. Any internal quality control data associated with the sample must be reported when requested by the Executive Officer. The Regional Water Board will reject the quantified laboratory data if quality control data are unavailable or unacceptable.

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

      1) 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).

      2) Sample results less than the reported ML, but greater than or equal to the laboratory's current Method Detection Limit (MDL)[2], shall be reported as "Detected, but Not Quantified," or "DNQ." The estimated chemical concentration of the sample shall also be reported.

      3) Sample results not detected above the laboratory's MDL shall be reported as "not detected" or "ND."

   c. The Discharger shall submit to the Regional Water Board reports necessary to determine compliance with effluent limitations for priority pollutants in this Order and shall follow the chemical nomenclature and sequential order of constituents shown in Table B of the Ocean Plan. The Discharger shall report with each sample result:

---

[1] *Minimum level is the concentration at which the entire analytical system must give a recognizable signal and acceptable 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.*

[2] *MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analytical concentration is greater than zero, as defined in 40 CFR 136, Appendix B, revised as of May 14, 1999.*

1) The reporting level achieved by the testing laboratory; and
2) The laboratory's current MDL, as determined by the procedure found in 40 CFR 136 (revised as of May 14, 1999).

d. For receiving water monitoring and for those pollutants without effluent limitations, the Discharger shall require its testing laboratory to quantify constituent concentrations to the lowest achievable MDL as determined by the procedure found in 40 CFR 136 (revised as of May 14, 1999). In situations where the most stringent applicable receiving water objective, as specified for that pollutant in Table B of the Ocean Plan is below the minimum level value specified in Attachment "G" and the Discharger cannot achieve an MDL value for that pollutant below the ML value, the Discharger shall submit justification why a lower MDL value cannot be achieved. Justification shall be submitted together with monthly monitoring reports.

7. All analytical data shall be reported with identification of practical quantitation levels and with method detection limits, as determined by the procedure found in 40 CFR 136 (revised as of May 14, 1999).

8. The Discharger shall have and implement an acceptable written quality assurance (QA) plan for laboratory analyses. Duplicate chemical analyses must be conducted on a minimum of ten percent (10%) of the samples, or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. When requested by the Regional Water Board or EPA, the Discharger will participate in the NPDES discharge monitoring report QA performance study.

9. For every item of monitoring data where the requirements are not met, the monitoring report shall include a statement discussing the reasons for noncompliance, the actions undertaken or proposed that will bring the discharge into full compliance with requirements at the earliest time, and an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when compliance with the time schedule has been achieved.

10. The Discharger shall assure that records of all monitoring information are maintained and accessible for a period of at least five years from the date of the sample, report, or application. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or by the request of the Regional Water Board at any time. Records of monitoring information shall include:

    a. The information listed in Attachment D- IV Standard Provisions – Records, subparagraph B. of this Order;

    b. The laboratory which performed the analyses;

    c. The modification(s) to analytical techniques or methods used;

d. All sampling and analytical results, including

   1) Units of measurement used;
   2) Reporting level for the analysis (minimum level, practical quantitation level (PQL));
   3) Results less than the reporting level but above the method detection limit (MDL);
   4) Data qualifiers and a description of the qualifiers;
   5) Quality control test results (and a written copy of the laboratory quality assurance plan);
   6) Dilution factors, if used; and
   7) Sample matrix type; and

e. All monitoring equipment calibration and maintenance records;

f. All original strip charts from continuous monitoring devices;

g. All data used to complete the application for this Order; and,

h. Copies of all reports required by this Order.

i. Electronic data and information generated by the Supervisory Control and Data Acquisition (SCADA) System.

11. The flow measurement system shall be calibrated at least once per year or more frequently, to ensure continued accuracy.

12. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. In the event that continuous monitoring equipment is out of service for greater than a 24-hour period, the Discharger shall obtain a representative grab sample each day the equipment is out of service. The Discharger shall correct the cause(s) of failure of the continuous monitoring equipment as soon as practicable. In its monitoring report, the Discharger shall specify the period(s) during which the equipment was out of service and if the problem has not been corrected, shall identify the steps which the Discharger is taking or proposes to take to bring the equipment back into service and the schedule for these actions.

13. Monitoring shall be in accordance with the following:

    Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

    a. The monitoring and reporting of influent, effluent, and sludge shall be done more frequently as necessary to maintain compliance with this Order and or as specified in this order.

    b. A grab sample is defined as any individual sample collected in less than 15 minutes.

c. A composite sample is defined as a combination of no fewer than eight individual grab samples obtained over the specified sampling period. The volume of each individual grab sample shall be proportional to the discharge flow rate at the time of sampling. The compositing period shall equal the specific sampling period, or 24 hours, if no period is specified.

d. 24-hour composite samples shall be collected continuously during a 24-hour operation of the facility.

e. Daily samples shall be collected on each day of the week.

f. Monthly samples shall be collected on any representative day of each month.

g. Quarterly samples shall be collected by any representative day of January, April, July, and October.

h. Annual samples shall be collected in accordance with the following schedule:

**Table 1. Annual Samples Schedule**

| Year | Annual Samples |
|---|---|
| 2006 | October |
| 2007 | January |
| 2008 | April |
| 2009 | July |
| 2010 | October |
| 2011 | January |

## 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 2. Monitoring Station Locations**

| Discharge Point Name | Monitoring Location Name | Description | Latitude | Longitude |
|---|---|---|---|---|
| -- | M-INFA | Cooling Water Intake well from ocean for flow and temperature monitoring | N33 38' 37" | W117 58' 44" |
| -- | M-INFB | Intake Structure of Cooling water from ocean for marine life impingement and entrainment monitoring | N33 38' 37" | W117 58' 43" |
| 001 | M-001 | Outfall Discharge to ocean | N33 38' 37" | W117 58' 44" |

**Table 2. Monitoring Station Locations**

| Discharge Point Name | Monitoring Location Name | Description | Latitude | Longitude |
|---|---|---|---|---|
| INTA | M-INTA | In-plant monitoring wastes from Boiler Blowdown Processing—internal monitoring point prior to discharge to DP 001 | N33° 38' 37" | W117° 58' 44" |
| INTB | M-INTB | In-plant monitoring wastes from Retention Basin —internal monitoring point prior to discharge to DP 001 | N33° 38' 37" | W117° 58' 44" |
| INTBa | M-INTBa, | In-plant monitoring wastes from Chemical and Non-chemical Metal Cleaning Wastes—internal monitoring point prior to discharge to DP ITNB | N33° 38' 37" | W117° 58' 44" |
| -- | Ocean monitoring stations (see Attachment H.) | Ocean water as Receiving Water[3] | -- | -- |

## III. INFLUENT MONITORING REQUIREMENTS

### A. Monitoring Location M-INFA For Cooling Water Intake

1. The Discharger shall monitor main condenser cooling water inflow at M-INFA as follows:

**Table 3. Influent Monitoring**

| Parameter | Units | Sample Type | Minimum Sampling Frequency | Required Analytical Test Method |
|---|---|---|---|---|
| Flow (avg. and max daily) | mgd | Pump record[4] | Continuous | -- |
| Temperature (Avg. and Max Daily) | $^0$F | Meter | Once every 2 hours See below A.2. | -- |

[3] *Receiving water sampling locations in the Ocean, see Attachment H.*
[4] *See also sub-paragraph VI.C.2.c. of the Order.*

2. Temperature shall be recorded at a minimum frequency of once every two hours. The average and maximum temperature for each 24-hour period shall be reported. Insignificant figures shall be rounded to the nearest significant figures. The daily average difference (ΔT) and the maximum daily difference (ΔTm) between the intake and discharge temperatures shall also be reported.

### B. Monitoring Location M-INFB For Marine Life Impingement/Entrainment

1. During heat treatments and for at least one continuous 24-hour period per month during normal operation, the following shall be obtained:

   a. Total weight and number of each species of fish and macroinvertebrate removed from the traveling bar racks and screens

   b. Standard length and sex of select species in a representative sample removed from the traveling bar racks and screens. For fish length, where up to 125 individuals of a species are removed, the "representative sample" shall consist of all the individuals removed. Where more than 125 individuals of a species are removed, the "representative sample" shall consist of not less than 125 individuals. For determination of fish sex, the procedure shall be the same as for fish length, except the number of individuals shall be 50.

   c. Observations of any indication of stress, disease, or abnormalities (e.g., parasites, lesions, tumors, etc.).

2. A report containing detailed analysis of the previous calendar year's fish and macroinvertebrate impingement/entrainment monitoring data shall be submitted annually. Detailed analyses shall include community structure analyses, which consists of, but is not limited to, species richness, species diversity, species dominance, and similarity analyses using applicable statistical techniques. The report shall contain a narrative and graphical summary of all historical data with the goal of displaying long-term trends.

## IV. EFFLUENT MONITORING REQUIREMENTS

### A. Monitoring Location M-001 for Ocean Discharges

1. The Discharger shall monitor effluent flow through Outfall 001 at Monitoring Location M-001 as follows. If more than one analytical test method is listed for a given parameter, the Discharger may select from the listed methods and associated Minimum Level:

**Table 4. Effluent Monitoring at M-001**

| Parameter | Units | Sample type | Minimum Sampling Frequency | Required Analytical Test Method and ML |
|---|---|---|---|---|
| Flow (avg & max daily) | mgd | Pump record[5] | Continuous | -- |
| Temperature (Avg, max & min daily) | $^0$F | Meter | Continuously, See IV. A. 2., below | -- |
| Total Residual Chlorine | µg/L | Grab[5] | Continuously, See below IV.A.3 | See Sections I.A.2., I.A.3., above of this MRP |
| pH | pH units | Grab or recorder | Weekly | " |
| Total Coliform | Density | Grab | Monthly | " |
| Fecal Coliform | Density | Grab | Monthly | " |
| Enterococcus | Density | Grab | Monthly | " |
| Oil&Grease | mg/L | Grab | Monthly | " |
| Total Suspended Solids | mg/L | Grab | Monthly | " |
| Chronic Toxicity | TUc | Grab[5] | See below "Section V. Whole Effluent Toxicity Monitoring Requirements" | " |
| Arsenic | µg/L | Grab | Quarterly | " |
| Cadmium | µg/L | Grab | " | " |
| Chromium (VI)[6] | µg/L | Grab | " | " |
| Copper | µg/L | Grab | " | " |
| Lead | µg/L | Grab | " | " |
| Mercury | µg/L | Grab | " | " |
| Nickel | µg/L | Grab | " | " |
| Selenium | µg/L | Grab | Quarterly | See Sections I.A.2., I.A.3., above of this MRP |
| Silver | µg/L | Grab | " | " |
| Zinc | µg/L | Grab | " | " |

[5] *See also sub-paragraph VI.C.2.c. of the Order.*

[6] *Discharger may meet this limitation as a total chromium limitation.*

**Table 4. Effluent Monitoring at M-001**

| Parameter | Units | Sample type | Minimum Sampling Frequency | Required Analytical Test Method and ML |
|---|---|---|---|---|
| Cyanide[7] | µg/L | Grab | Quarterly | See Sections I.A.2., I.A.3., above of this MRP |
| Ammonia | mg/L | Grab | " | " |
| Non-Chlorinated Phenolic Compounds | µg/L | Grab | " | " |
| Chlorinated Phenolic Compounds | µg/L | Grab | " | " |
| Endosulfan | µg/L | Grab | " | " |
| Endrin | µg/L | Grab | " | " |
| HCH | µg/L | Grab | " | " |
| acrolein | µg/L | Grab | Annually (See A.4., below) | " |
| antimony | " | " | " | " |
| bis(2-chloroethoxy) methane | " | " | " | " |
| bis(2-chloroisopropyl) ether | " | " | " | " |
| chlorobenzene | " | " | " | " |
| chromium (III) | " | " | " | " |
| di-n-butyl phthalate | " | " | " | " |
| dichlorobenzenes* | " | " | " | " |
| diethyl phthalate | " | " | " | " |
| dimethyl phthalate | " | " | " | " |
| 4,6-dinitro-2-methylphenol | " | " | " | " |
| 2,4-dinitrophenol | " | " | " | " |
| ethylbenzene | " | " | " | " |
| fluoranthene | " | " | " | " |
| hexachlorocyclopentadiene | " | " | " | " |
| nitrobenzene | " | " | " | " |
| thallium | " | " | " | " |

[7] *If a discharger can demonstrate to the satisfaction of the Regional Water Board (subject to U.S. EPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by the combined measurement of free cyanide, simple alkali metal cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 CFR Part 136, as revised May 14, 1999.*

**Table 4. Effluent Monitoring at M-001**

| Parameter | Units | Sample type | Minimum Sampling Frequency | Required Analytical Test Method and ML |
|---|---|---|---|---|
| isophorone | µg/L | Grab | Annually (See A.4., below) | See Sections I.A.2., I.A.3., above of this MRP |
| N-nitrosodimethylamine | " | " | " | " |
| N-nitrosodi-N-propylamine | " | " | " | " |
| N-nitrosodiphenylamine | " | " | " | " |
| PAHs* | " | " | " | " |
| PCBs* | " | " | " | " |
| TCDD equivalents* | " | " | " | " |
| 1,1,2,2-tetrachloroethane | " | " | " | " |
| tetrachloroethylene | " | " | " | " |
| toxaphene | " | " | " | " |
| trichloroethylene | " | " | " | " |
| 1,1,2-trichloroethane | " | " | " | " |
| 2,4,6-trichlorophenol | " | " | " | " |
| vinyl chloride | µg/L | Grab | Annually (See A.4., below) | " |

* see Attachment A for definition of terms.

2. Temperature in °F of the waste discharged shall be monitored and recorded continuously. Any increase or changes in temperature shall be recorded in addition to the maximum and minimum temperatures of each 24-hour day. The average and maximum temperature for each 24-hour period shall be reported. Insignificant figures shall be rounded to the nearest significant figures. The daily average difference (ΔT) and the maximum daily difference (ΔTm) between the intake and discharge temperatures shall also be reported.

3. Total residual chlorine monitoring shall record the daily chlorine dosage used and time of chlorination. This shall be reported with the monthly reports.

4. The monitoring frequency for those pollutants that are detected during the required annual monitoring at a concentration greater than those shown in Attachment K shall be accelerated to monthly. If two successive accelerated monitoring results do not indicate presence of the specific parameter at a concentration greater than applicable receiving water objectives as specified for that pollutant in the Ocean Plan, the Discharger may return back to the regular monitoring frequency. However, if two successive accelerated monitoring results show concentrations of a parameter above the objectives, the Discharger shall conduct/implement a pollutant minimization program and submit a report describing the measures undertaken by the Discharger to prevent the discharge of such pollutant parameter at levels of concern.

## B. In-Plant Waste Flows - Monitoring Locations M-INTA and M-INTB

1. The Discharger shall monitor DP INTA at M-INTA for flow only and monitor DP INTB at M-INTB as follows:

**Table 5. Combined Low-Volume and In-Plant Discharge at M-INTB**

| Parameter | Units | Sample type | Minimum Sampling Frequency | Required Analytical Test Method and ML |
|---|---|---|---|---|
| Flow (Avg and Daily Min Max) | mgd | Pump record[8] | See IV.B.2., below | See Sections I.A.2.and I.A.3., above of this MRP |
| pH | pH unit | Grab | " | " |
| Total Suspended Solids | mg/L lbs/day | Grab | " | " |
| Oil & Grease | mg/L lbs/day | " | " | " |
| Arsenic | µg/l, lbs/day | " | " | " |
| Cadmium | " | " | " | " |
| Chromium (VI) | " | " | " | " |
| Copper | " | " | " | " |
| Lead | " | " | " | " |
| Mercury | " | " | " | " |
| Nickel | " | " | " | " |
| Selenium | " | " | " | " |
| Silver | " | " | " | " |

[8] *See also sub-paragraph VI.C.2.c. of the Order.*

**Table 5. Combined Low-Volume and In-Plant Discharge at M-INTB**

| Parameter | Units | Sample type | Minimum Sampling Frequency | Required Analytical Test Method and ML |
|---|---|---|---|---|
| Zinc | " | " | " | " |
| Cyanide | " | " | " | " |
| Ammonia | µg/l, lbs/day | Grab | See IV.B.2., below | See Sections I.A.2.and I.A.3., above of this MRP |
| Non-chlorinated phenolic compounds | " | " | " | " |
| Chlorinated phenolics | " | " | " | " |
| Endosulfan | " | " | " | " |
| Endrin | " | " | " | " |
| HCH | " | " | " | " |

2. Frequency of monitoring shall be as follows:

   a. M-INTA – Monthly.
   b. M-INTB - Monthly and during discharge of metal cleaning waste.

3. At any time a parameter is detected above the maximum daily effluent limitations of the Order, the Discharger shall accelerate the monitoring frequency of that parameter to monthly. If two successive accelerated monitoring results do not indicate presence of the specific parameter at level of concern above the effluent limitations, the Discharger may return back to the regular monitoring frequency. However, if two successive accelerated monitoring results show concentrations of a parameter above the effluent limitations, the Discharger shall conduct/implement a pollutant minimization program and submit a report describing the measures undertaken by the Discharger to prevent the discharge of such pollutant parameter at levels of concern.

## C. In-Plant Waste Flows - Monitoring Locations M-INTB

1. The Discharger shall monitor in-plant wastes flows from DP INTB at M-INTB as follows:

**Table 6. In-Plant Wastes Discharge at M-INTB**

| Parameter | Units | Sample type | Minimum Sampling Frequency | Required Analytical Test Method and ML |
|---|---|---|---|---|
| Total Coliform | Density | Grab | Monthly | See Sections I.A.2., I.A.3., above of this MRP |
| Fecal coliform | Density | " | " | " |
| Enterococcus | Density | Grab | Monthly | See Sections I.A.2., I.A.3., above of this MRP |

## D. Metal Cleaning Waste - Monitoring Location M-INTBa

1. The Discharger shall monitor waste streams from metal cleaning unit (the mobile treatment unit) at M-INTBa as follows:

**Table 7. Metal Cleaning Discharges at M-INTBa**

| Parameter | Units | Sample type | Minimum Sampling Frequency | Required Analytical Test Method and ML |
|---|---|---|---|---|
| Flow | Gallons | Meter or estimated | During discharge | See Sections I.A.2., I.A.3., above of this MRP |
| pH | pH unit | grab | " | " |
| Total Suspended Solids | mg/L<br>lbs/day | 24-hour Composite, or as D. 2 | During discharge | " |
| Oil & Grease | mg/L<br>lbs/day | " | During discharge | " |
| Total Iron | mg/L<br>lbs/day | " | During discharge | " |
| Total Copper | mg/L<br>lbs/day | " | During discharge | " |

2. If metal cleaning wastes are hauled off site, a copy of the hazardous wastes hauler's report shall be submitted in lieu of the above monitoring.

3. If no metal cleaning waste discharge occurs during any month, a statement to that effect shall be provided in lieu of the monitoring.

# V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

## A. Chronic Toxicity Test Species and Methods

1. Test Species and Methods

   The Discharger shall conduct monthly chronic toxicity tests on grab effluent samples mixed with ambient seawater in a ratio of 1 to 7.5. The presence of chronic toxicity shall be estimated as specified in *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995). Test Organisms specified in Table III-1 of the Ocean Plan shall be used in conducting the tests. If test organisms specified in the West Coast chronic test methods manual are not available, the presence of chronic toxicity shall be estimated as specified in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms* (EPA 821-R-02-014, 2002).

   For the first three months of each successive 27-month period, the Discharger shall conduct monthly chronic toxicity test screening with a marine vertebrate species, a marine invertebrate species, and a marine alga species. For the remaining 24 months of each 27-month period, the discharger shall conduct the monthly chronic toxicity test using only the most sensitive of the three species used in the first three months. The first screening shall be conducted at the start of plant operation. If the most sensitive test species is/are not available during the testing period, the presence of chronic toxicity shall be estimated using the second most sensitive test species from the toxicity test screening conducted for the current 24-month period. Such changes shall be noted on the discharge monitoring report (DMR). Note that a 27-month period is used so that the three month testing period rotates throughout the year over time.

## B. Quality Assurance/Control

1. A series of five dilutions and a control shall be tested. The series shall include the instream waste concentration (IWC), two dilutions below the IWC, and two dilutions above the IWC (e.g., 12.5, 25, 50, 75, and 100 percent effluent, where IWC = 50). The chronic IWC for this discharge is 0.55 percent effluent.

2. If test organisms are not cultured in-house, concurrent testing with reference toxicants shall be conducted. If organisms are cultured in-house, monthly testing with reference toxicants shall be conducted. Reference toxicant tests shall be conducted using the same test conditions as effluent toxicity tests (i.e., same test duration, etc.).

3. If either the reference toxicant test or the effluent test does not meet all test acceptability criteria as specified in the test methods manual, then the Discharger must re-sample and re-test within approximately 14 days.

4. Chronic effluent and reference toxicant tests must meet the upper and lower bounds on test sensitivity, as determined by calculating the Percent Minimum Significant Difference (PMSD) for each test result. Test sensitivity bounds are specified in Table 3-6 of *Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the National Pollutant Discharge Elimination System Program* (EPA/833-R-00-003, June 2000). There are five possible outcomes based on the PMSD result:

   a. Unqualified Pass: The test's PMSD is within the bounds in Table 3-6 above listed and there is no significant difference between the means for the control and the IWC treatment. The regulatory authority would conclude that there is no toxicity at the IWC concentration.

   b. Unqualified Fail: The test's PMSD is larger than the lower bound (but not greater than the upper bound) in Table 3-6 and there is a significant difference between the means for the control and the IWC treatment. The regulatory authority would conclude that there is toxicity at the IWC concentration.

   c. Lacks Test Sensitivity: The test's PMSD exceeds the upper bound in Table 3-6 and there is no significant difference between the means for the control and the IWC treatment. The test is considered invalid. The Discharger must re-sample and re-test within approximately 14 days.

   d. Lacks Test Sensitivity: The test's PMSD exceeds the upper bound in Table 3-6 and there is a significant difference between the means for the control and the IWC treatment. The test is considered valid. The regulatory authority would conclude that there is toxicity at the IWC concentration.

   e. Very Small but Significant Difference: The relative difference (see Section 6.4.2 of EPA/833-R-00-003) between the means for the control and the IWC treatment is smaller than the lower bound in Table 3-6 and this difference is statistically significant. The test is acceptable. The NOEC is determined as described in Sections 6.4.2 and 6.4.3 of EPA/833-R-00-003.

5. Control and dilution water should be receiving water or lab water, as described in the test methods manual. If dilution water is different from culture water, then a second control using culture water shall also be tested.

## C. Additional (Accelerated) Toxicity Testing

1. If toxicity (as defined) is detected, the Discharger shall increase the frequency of chronic toxicity testing to every two weeks whenever any test result exceeds 8.5 TUc. The first test under the accelerated schedule shall be conducted within two weeks of receiving notice of the test that exceeds 8.5 TUc, and every two weeks thereafter. The Discharger may resume the regular test schedule when two consecutive chronic toxicity tests result in 8.5 TUc or less, or when the results of the Initial Investigation Reduction Evaluation conducted by the Discharger have adequately addressed the identified toxicity problem.);

2. However, if implementation of the initial investigation TRE workplan indicates the source of toxicity (e.g., a temporary plant upset), then the Discharger shall conduct only the first accelerated test required above. If toxicity (as defined) is not detected in this first test, the Discharger may return to the normal sampling frequency required herein.

3. If toxicity (as defined) is not detected in the first test required above, then the Discharger may return to the normal sampling frequency required in herein.

## E. Toxicity Reduction Evaluation/Toxicity Identification Evaluation TIE/TRE

1. If toxicity (as defined) is detected in any of the accelerated monitoring, then, based on an evaluation of the test results and additional available information, the Executive Officer may determine that the Discharger shall initiate a TRE, in accordance with the Discharger's initial investigation TRE workplan and EPA/600/2-88/070 Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TRE's); April 1989). Moreover, the Discharger shall expeditiously develop a detailed TRE workplan which includes:

   a. Further actions to investigate/identify the cause(s) of toxicity;

   b. Actions the Discharger has taken/will take to mitigate the impact of the discharge, to correct the noncompliance, and to prevent the recurrence of toxicity;

   c. An expeditious schedule under which these actions will be implemented.

2. As part of this TRE process, the Discharger may initiate a TIE using the test methods manuals and TIE Phase I (EPA/600/R-96/054, 1996), Phase II (EPA/600/R-92/080, 1993), and Phase III (EPA/600/R-92/081, 1993) manuals to identify the cause(s) of toxicity.

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

### G. Reporting Requirements:

1. Results of all toxicity testing shall be submitted within the month following the monitoring period in accordance with "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms", Fourth Edition, Environmental Monitoring Systems Laboratory, U.S. Environmental Protection Agency 2002, Cincinnati, Ohio (October 2002, EPA-821-R-02-013). The report shall include a determination of the median value of all chronic toxicity testing results conducted during the two latest monitoring periods.

2. The Discharger shall submit a full report of all toxicity test results, including any toxicity testing required by Toxicity Requirements with the discharge monitoring report (DMR) for the month in which the toxicity tests are conducted. A full report shall consist of: (1) toxicity test results; (2) dates of sample collection and initiation of each toxicity test; (3) chronic toxicity effluent limitations. Toxicity test results shall be reported according to the test methods manual chapter on Report Preparation. It is suggested that the Discharger submit the data on an electronic disk in the Toxicity Standardized Electronic Reporting Form (TSERF) (*Standardized Electronic Reporting Format for Monitoring Effluent Toxicity: October 1994 Format*, State Water Resources Control Board, 1995).

   If the initial investigation TRE workplan is used to determine that additional (accelerated) toxicity testing is unnecessary, these results shall be submitted with the DMR for the month in which investigations conducted under the TRE workplan occurred.

3. Within approximately 14 days of receipt of test results exceeding a chronic toxicity effluent limitation, the Discharger shall provide written notification to the Regional Board of:

   a. Findings of the TRE or other investigation to identify the cause(s) of toxicity;
   b. Actions the Discharger has taken/will take, to mitigate the impact of the discharge and to prevent the recurrence of toxicity;
   c. When corrective actions, including a TRE, have not been *completed*, an expeditious schedule under which corrective actions will be implemented; or
   d. The reason for not taking corrective action, if no action has been taken.

## VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

## VII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE

## VIII. RECEIVING WATER MONITORING REQUIREMENTS–OCEAN WATER

### A. General Monitoring Requirements

Receiving water monitoring in the vicinity of the outfall shall be conducted as specified below and at monitoring stations shown in Table 7, below. The receiving water monitoring program may be conducted jointly with other dischargers. During monitoring events, sample stations shall be located, if possible, using a land-based microwave positioning system or a satellite positioning system such as global positioning. If an alternate navigation system is proposed, its accuracy should be compared to that of microwave and satellite based systems, and any compromises in accuracy shall be justified. The monitoring frequency shall be annually. The Discharger shall record the date and time of sampling, and a general description of observation made at the sampling location (e.g. windy, sunny, rough sea condition etc).

### B. Ocean Monitoring Stations

The Discharger shall monitor ocean water at Monitoring Locations as follows (for Sampling Station Location see Attachment H):

| **Table 8. Receiving Water Monitoring Station Locations** | | | |
|---|---|---|---|
| 1. | Transect Stations – Seven Stations shall be established and located as indicated: | | |
| | a. | Transect T1 | Two transects shall be established and located as indicated. |
| | | Station 1A: | 1650 ft (500 m) upcoast of the discharge structure. |
| | | Station 1B: | 330 ft (100 m) upcoast of the discharge structure. |
| | | Station 1C: | 165 ft (50 m) upcoast of the discharge structure. |
| | | Station 1D: | At the point of discharge. |
| | | Station 1E: | 165 ft (50 m) downcoast of the discharge structure. |
| | | Station 1F: | 330 ft (100 m) downcoast of the discharge structure. |
| | | Station 1G: | 1650 ft (500 m) downcoast of the discharge structure. |
| | b. | Transect T2 | Oriented parallel to, and 82.5 feet (25 m) downcoast of the discharge conduit. |
| | | Station 2A: | 495 ft (150 m) from the discharge structure at a depth of 20-ft (6.1 m) below MLLW. |
| | | Station B: | 825 feet (250 m) from the discharge structure at a depth of 30-ft (9.1 m) below MLLW. |
| 2. | Control Station | | |

| | | |
|---|---|---|
| | Station CUA: | 5280-ft (1600 m) upcoast from the discharge conduit at a depth of 25-ft (7.6 m) below MLLW. |
| | Station DC: | 5280-ft (1600 m) downcoast from the discharge conduit at a depth of 25-ft (7.6 m) below MLLW. |
| 3. | Bottom Trawl Stations | |
| | Station N1: | Parallel to the shore, offshore of, but as close as practical to the discharge conduit. The trawl track shall be centered on the discharge conduit. |
| | Station N2: | Parallel to shore at Station CUA. |
| | Station N3: | Parallel to shore at Station DC. |

## C. Monitoring Program

1. The receiving water monitoring program shall consist of biological marine monitoring surveys of the area surrounding the discharge, and shall include studies of the bacterial, physical, chemical, and biological characteristics of the receiving waters which may be impacted by the discharge.

2. The biological marine monitoring surveys conducted to meet receiving water monitoring requirements of the MRP shall include, as a minimum, the following information.

   a. A description of climatic and receiving water characteristics at the time of sampling (weather observations, floating debris, discoloration, wind speed and direction swell or wave action, time of sampling, tide height, etc.).

   b. A description of sampling stations, including difference unique to each station (e.g., station location, sediment grain size, distribution of bottom sediments, rocks, shell litter, calcareous worm tubes, etc.).

   c. A description of the sample collection and preservation procedures used in the survey.

   d. A description of the specific method used for laboratory analysis.

   e. An in-depth discussion of the results of the survey. The discussion shall compare data from the reference station(s) with data from the stations located in the area of the discharge. All tabulations and computations shall be explained.

## D. Sampling Requirements

The following sampling programs shall be performed.

1. Chemical Monitoring: A sample of bottom sediments representing three separate grab samples shall be taken at Stations 1D, 1E, 1F, 1G, and CUA. At each station, the samples shall be analyzed for the total organic carbon, arsenic, cadmium, total chromium, copper, lead, mercury, nickel, silver, cyanide, phenolic compounds (non-chlorinated), ammonia-nitrogen, chlorinated phenolics, and PCBs.

2. Biological Monitoring

   a. Macroscopic Benthic Biota

      At Stations CUA, 1E, and 1G, a 3.3 ft X 4.95 ft (1 m X 15 m) band shall be sampled by diver inspection. Record and report the species and frequency of all identifiable benthic macroscopic organisms within the sampling area.

   b. Fish and Macroinvertebrates

      1) Trawl net dimensions: 25-foot throat with, 1.5-inch mesh body, and 0.5 inch mesh liner. Two trawls shall be conducted at N1, N2, and N3; one in an upcoast direction and one in a downcoast direction. Each trawl shall be conducted for a duration of 10 minutes at a uniform speed of 2.0 to 2.5 knots along the same isobath and parallel to shore.

      2) Identify all specimens and report the number and weights of total catch, and any external anomalies observed. Report standard length of important fish species.

3. Water Quality Monitoring

   The following program shall be performed to coincide with the chemical and biological monitoring, above:

   a. At each of the receiving water stations along Transects T1 and T2 and at CUA, dissolved oxygen concentration, temperature, and pH shall be determined at three foot (1 m) intervals throughout the water column.

   b. The presence or absence of discoloration, floating particulates, and oil and grease shall be noted and reported for each receiving water station. Color photographs, with an indicator denoting scale, shall be taken of the receiving water whenever a discoloration or other unusual occurrence is present.

4. Bacterial and Light Transmittance Monitoring
   By October 14, 2006, the Discharger shall submit for approval a bacteria and Light Transmittance monitoring program designed to assess compliance with the bacterial and Light Transmittance criteria specified in this Order. The Discharger shall implement the bacterial and Light Transmittance monitoring program upon approval by the Regional Water Board Executive Officer or designee. The approved bacterial and Light Transmittance monitoring program shall become part of this monitoring program.

## IX. OTHER MONITORING REQUIREMENTS

In addition to the Core (Intake, Effluent, and Receiving water monitoring) requirements listed in above Section III through Section VI, the Discharger shall comply with the following monitoring requirements:

### A. Storm Water Monitoring and Reporting

1. For storm water discharges, the Discharger shall comply with the monitoring and reporting requirements as outlined in Attachment "I".

2. The Discharger shall record the date and time when the Retention Basin is cleaned of oil & grease and sediments, and report it in an annual report.

## X. REPORTING REQUIREMENTS

### A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions in Attachment D of this Order related to monitoring, reporting, and recordkeeping.

2. By August 1 of each year, the Discharger shall submit an annual report to the Regional Water Board. The annual report shall include the following:

   a. Tabular and graphical summaries of the monitoring data obtained during the previous year;
   b. A discussion of the compliance record and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the waste discharge requirements; and
   c. A summary of the quality assurance (QA) activities for the previous year.

3. At any time during the term of this Order when electronic submittal of monitoring reports has become the norm, the State or Regional Water Board may notify the Discharger to discontinue submittal of hard copies of reports. When such notification is given, the Discharger shall stop submitting hard copies of required monitoring reports.

4. The Discharger shall report monitoring results for specific parameters in accordance with the following table:

**Table 9. Reporting Requirements**

| Parameter | Measurement |
|---|---|
| Flow | Daily total flow |
| pH | Daily High and daily low |
| Total Residual Chlorine | Daily Maximum |
| Electrical Conductivity | Daily High |
| Turbidity | Daily maximum |

## 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. Until such notification is given, the Discharger shall submit self-monitoring reports in accordance with the requirements described below.

2. The Discharger shall submit monthly and annual Self Monitoring Reports including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. Monthly reports shall be due on the 1st day of the second month following the end of each calendar month. Annual reports shall be due on August 1 following each calendar year.

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

**Table 10. Monitoring and Reporting Schedule**

| Sampling Frequency | Monitoring Period Begins On | Monitoring Period | SMR Due Date |
|---|---|---|---|
| Continuous | When Order is adopted | All | Submit with monthly SMR |
| Daily | When Order is adopted | (Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling. | Submit with monthly SMR |
| Weekly | When Order is adopted | Sunday through Saturday | Submit with monthly SMR |
| Monthly | When Order is adopted | 1st day of calendar month through last day of calendar month | 30 days from the end of the monitoring period, submit as monthly SMR |
| Quarterly | When Order is adopted | January 1 through March 31<br>April 1 through June 30<br>July 1 through September 30<br>October 1 through December 31 | 30 days from the end of the monitoring period, submit with monthly SMR, in May 1; August 1; November 1, February 1 |
| Semiannually | When Order is adopted | January 1 through June 30<br>July 1 through December 31 | 30 days from the end of the monitoring period, submit with monthly SMR |

**Table 10. Monitoring and Reporting Schedule**

| Sampling Frequency | Monitoring Period Begins On | Monitoring Period | SMR Due Date |
|---|---|---|---|
| Annually | When Order is adopted | January 1 through December 31 | 30 days from the end of the monitoring period, submit with monthly SMR in August 1 |

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 Part 136.

5. 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.

6. 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.

7. Discharge monitoring data shall be submitted in a format acceptable to the Regional Water Board and EPA. Specific reporting format may include preprinted forms and/or electronic media. The results of all monitoring required by this Order shall be reported to the Regional Water Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order. The hard copy of submitted reports shall serve as the official submittal.

8. SMRs must be submitted to the Regional Water Board, signed and certified as required by the standard provisions in Attachment D of this Order, to the address listed below:

   Regional Water Quality Control Board
   Santa Ana Region
   3737 Main Street, Suite 500
   Riverside, CA 92501-3348

## C. Discharge Monitoring Reports (DMRs)

1. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the discharger to electronically submit self-monitoring reports. Until such notification is given, the Discharger shall submit discharge monitoring reports (DMRs) in accordance with the requirements described below.

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

State Water Resources Control Board
Discharge Monitoring Report Processing Center
Post Office Box 671
Sacramento, CA 95812

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 or modified cannot be accepted.

## D. Other Reports

Other reports, as required by this Order, shall be submitted to the Regional Water Board according to the following schedule:

1. Clean Water Act 316(b) Comprehensive Demonstration Study will be due no later than January 7, 2008.

2. The receiving water temperature, bacterial, physical, chemical, and biological report and water quality monitoring report as discussed in Section V, Receiving Water Monitoring above, shall be submitted on August 1 every year. The report shall include a statistical analysis of the parameters or constituents listed in Section VII to determine whether there has been a statistically significant increase in any parameter or constituent from previous years. If a statistically significant increase is found, then the discharger shall notify the Regional Water Board in writing within 7 days, indication the standard which has been exceeded.

3. The discharger shall notify the Executive Officer of the Regional Water Board at least 30 days prior to initiation of any boiler cleaning operations.

4. Within 120 days of termination of each boiler cleaning waste treatment operations, a report containing a description of boiler cleaning operations and waste treatment activities shall be submitted to the Regional Water Board.

# Attachment F – Fact Sheet

## Table of Contents

Attachment F – Fact Sheet ..... F-3
I. Permit Information ..... F-3
II. Facility Description ..... F-4
A. Description of Facility ..... F-4
1. General Description ..... F-4
2. Cooling Water Intake System Structure ..... F-5
3. Wastewater Sources ..... F-5
3. Wastewater Treatment System: ..... F-9
4. Total Volume of Wastes ..... F-9
B. Discharge Points and Receiving Water ..... F-10
1. Wastewater Discharge Point ..... F-10
2. Receiving Water ..... F-10
C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data .... F-11
D. Compliance Summary ..... F-18
E. Planned Changes ..... F-18
III. Applicable Plans, Policies, and Regulations ..... F-18
A. Legal Authorities ..... F-18
B. California Environmental Quality Act (CEQA) ..... F-18
C. State and Federal Regulations, Policies, and Plans ..... F-18
1. Water Quality Control Plans. ..... F-18
2. California Ocean Plan. ..... F-20
3. Thermal Plan ..... F-20
4. Alaska Rule. ..... F-20
5. Clean Water Act, Section 316(b) ..... F-21
6. Effluent Limitations Guidelines. ..... F-24
7. Antidegradation Policy ..... F-24
8. Anti-Backsliding Requirements. ..... F-25
9. Monitoring and Reporting Requirements. ..... F-25
10. Stormwater Requirements ..... F-25
D. Impaired Water Bodies on CWA 303(d) List ..... F-25
E. Other Plans, Polices and Regulations ..... F-25
IV. Rationale For Effluent Limitations and Discharge Specifications ..... F-27
A. Discharge Prohibitions ..... F-27
B Technology-Based Effluent Limitations ..... F-27
1. Scope and Authority ..... F-27
2. Applicable Technology-Based Effluent Limitations ..... F-28
C. Water Quality-Based Effluent Limitations (WQBELs) ..... F-30
1. Scope and Authority ..... F-30
2. Applicable Beneficial Uses and Water Quality Criteria and Objectives ..... F-30
3. Determining the Need for WQBELs at Outfall DP 001 ..... F-31
4. WQBEL Calculations ..... F-31

5. Whole Effluent Toxicity (WET) ..... F-35
D. Final Effluent Limitations ..... F-35
E. Interim Effluent Limitations – N/A ..... F-35
F. Land Discharge Specifications – N/A ..... F-35
G. Reclamation Specifications – N/A ..... F-36
V. Rationale for Receiving Water Limitations ..... F-36
A. Surface Ocean Water ..... F-36
B. Groundwater – N/A ..... F-36
VI. Rationale for Monitoring and Reporting Requirements ..... F-36
A. Influent Monitoring ..... F-36
B. Effluent Monitoring ..... F-36
C. Whole Effluent Toxicity Testing Requirements ..... F-37
D. Receiving Ocean Water Monitoring ..... F-37
E. Other Monitoring Requirements ..... F-38
1. Marine Life Entrainment Monitoring ..... F-38
2. Special Studies and Additional Monitoring Requirements - 316(b) ..... F-38
VII. Rationale for Provisions ..... F-38
A. Standard Provisions ..... F-38
B. Special Provisions ..... F-38
1. Reopener Provisions ..... F-38
2 Special Studies and Additional Monitoring Requirements ..... F-39
3. Best Management Practices and Pollution Prevention ..... F-39
4. Construction, Operation, and Maintenance Specifications - N/A ..... F-39
5. Other Special Provisions – N/A ..... F-39
6. Compliance Schedules ..... F-39
VIII. Public Participation ..... F-40
A. Notification of Interested Parties ..... F-40
B. Written Comments ..... F-40
C. Public Hearing ..... F-40
D. Waste Discharge Requirements Petitions ..... F-41
E. Information and Copying ..... F-41
F. Register of Interested Persons ..... F-41
G. Additional Information ..... F-41

## 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 1. Facility Information**

| | |
|---|---|
| **WDID** | **8 302015004** |
| **Discharger** | **AES Huntington Beach, L.L.C.** |
| **Name of Facility** | **Huntington Beach Generating Station, Huntington Beach** |
| **Facility Address** | **21730 Newland Street** |
| | **Huntington Beach, CA 92646** |
| | **Orange County** |
| **Facility Contact, Title and Phone** | **Paul R. Hurt, Dr. Env., Environmental Manager, (714) 374-1408** |
| **Authorized Person to Sign and Submit Reports** | **Eric Pendergraft, Plant Manager, (714) 374-1476** |
| **Mailing Address** | **Same** |
| **Billing Address** | **Same** |
| **Type of Facility** | **Steam Electric Power Generation, Industrial with SIC code 4911** |
| **Major or Minor Facility** | **Major** |
| **Threat to Water Quality** | **I** |
| **Complexity** | **A** |
| **Pretreatment Program** | **N** |
| **Reclamation Requirements** | **N/A** |
| **Facility Permitted Flow** | **514 million gallons per day (mgd)** |
| **Facility Design Flow** | **514 mgd** |
| **Watershed** | **Santa Ana River** |
| **Receiving Water** | **Pacific Ocean** |
| **Receiving Water Type** | **Ocean Waters** |

**A.** AES Huntington Beach, L.L.C.(hereinafter Discharger) is the owner and operator of Huntington Beach Generating Station (hereinafter Facility), a Steam Electric Power Generating Facility.

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

**B.** The Facility discharges wastewater to Pacific Ocean Nearshore Zone from the San Gabriel River to Poppy Street in Corona del Mar, a water of the United States and is currently regulated by Order No. 00-5 which was adopted on June 30, 2000 and expired on June 1, 2005. The terms and conditions of the existing Order have been automatically continued and remain in effect until new Waste Discharge Requirements and NPDES permit are adopted pursuant to this Order.

**C.** The Discharger filed a report of waste discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on December 2, 2004. Supplemental Information was requested starting in February 2005. A site visit was conducted on August 31, 2005 to observe operations and collect additional data to develop permit limitations and conditions.

## II. FACILITY DESCRIPTION

### A. Description of Facility

#### 1. General Description

AES Huntington Beach, L.L.C. (hereinafter Discharger) owns and operates the Huntington Beach Generating Station (HBGS), a steam electric generating plant. The HBGS is located in the SE¼ of Section 13, T6S, R11W, SBB & M, at 21730 Newland Street, in the Huntington Beach area of Orange County. HBGS has been operating at its current location since 1958. The Discharger acquired ownership of the HBGS from Southern California Edison in 1998.

The generating station currently consists of four fossil-fueled, steam powered electric generating units (Units 1-4) with a total combined generating capacity of approximately 880 megawatts (MW). Steam is supplied to each turbine generator from oil-and gas-fired boilers. Units 1 and 2 are each rated at 215 megawatts (MW) and Units 3 and 4 are each rated at 225 MW. Units 3 and 4 were operated very sparingly after 1989 and were retired from service from 1995 until completion of the retool project in 2003. Unit 5, a multiple-jet-turbine peaker unit (133 MW), was retired from service in 2002. The current total station rating is 880 MW; however, the plant operated at about 44% capacity in 2001 and only about 14% capacity in 2002, largely due to retool construction efforts. The Facility is a peaking plant which means that all four units are operated simultaneously only during peak power demand, normally occurring during very hot days in summer.

Waste discharges from the Facility are regulated under Order No. 00-5, NPDES No. CA0001163. Order No. 00-5 expired on June 1, 2005. On December 1, 2004, AES submitted a Report of Waste Discharge renewing waste discharge requirements Order No. 00-5 (NPDES No. CA0001163).

## 2. Cooling Water Intake System Structure

Ocean water for cooling purposes is supplied to the generating station via a single cooling water system. Seawater for Units 1-4 is withdrawn from an intake structure located 1,650 feet offshore. Water is drawn through a velocity cap located 15.8 feet (4.9 meters) above the ocean floor at a depth of 11.7 feet (3.6 meters) below mean low low water (MLLW). The maximum mean water velocity at the inlet to the cooling water conduit is 2.0 feet per second (fps) (0.6 m/sec) at MLLW and at the traveling screens[1] is 1.4 fps (0.4 m/sec) at MLLW. The vertical riser is 21 feet (6.4m) inside-diameter (ID), and the horizontal conduit to the generating station is 14 feet (4.3m) ID. The vertical riser is fitted with a velocity cap, and the vertical opening between the riser and the velocity cap is about 4.9 feet (1.5m). Entrance velocities at the point of withdrawal have been measured at 2 feet/second (0.6 m/s) and 4 feet/s (1.2 m/s).

Seawater is drawn into the plant by up to eight circulating water pumps, each capable of delivering 44,000 gallons per minute, or about 63.4 million gallons per day (mgd), for a station maximum of about 507 mgd. After flowing through the screen system, the cooling water is pumped to the steam condensers, one per turbine generator. At full load, the temperature increase ($\Delta T$) through the condensers is approximately 20°F to 25°F. The wastewater is then directed to a single 14 feet concrete conduit, which extends approximately 1,500 feet offshore to the ocean outfall. The discharge structure resembles the intake structure, except there is no velocity cap. Discharged wastewater is directed vertically to the surface to allow for dilution and atmospheric cooling.

## 3. Wastewater Sources

The waste streams from the different processes and areas of the facility (see Attachment "C") are as follows:

a. Once-through Condenser Cooling water directly discharges to ocean outfall DP 001:

[1] *Traveling screen - There are currently four sets of conventional vertical traveling screens at HBGS. Each set of traveling screens is 10 ft wide, extends approximately 35 ft below the concrete pad upon which it sits, and has a screen mesh size of 9.5 mm (3/8 in.). These screens were designed to remove trash, algae, marine life, and other incidental debris incoming with the cooling water and to prevent fishes from passing through the cooling water intake system and entering the facility's steam condenser. Impingement occurs when organisms larger than the traveling screen mesh size (9.5 mm or 3/8") become trapped against the screens, either because they are too fatigued to swim against the intake flow at the screens or they are dead.*

1). Cooling Water. The heated once-through condenser cooling is the major source of waste discharge. The condenser cooling water at average flow is about 507 mgd.

2). Bio-Fouling Control. The use of ocean water results in bio-fouling[2] on the water side of the condenser tubes. Chlorination is done to prevent growth in the condenser water boxes. Each of the condensers is chlorinated for thirty minutes three to seven times per week depending on growth conditions. There are two condenser water boxes per generating unit, for a total of eight. Sodium hypochlorite is used for chlorination. The chlorine is manually injected into the once-through cooling water stream ahead of each condenser.

3). Heat Treatment. The cooling water intake line and discharge outfall are under seawater. Marine growth (barnacles) continuously accumulates on the inside of the cooling water intake line and discharge outfall. This results in fouling of the intake and outfall lines. To control the growth of bacteria and other micro-fouling organisms within the cooling water intake line and discharge outfall, heat treatment of these pipelines is conducted. The heat treatment is implemented through a system of re-circulation and temporary reverses of flow through the once-through cooling water system. This is normally performed for approximately two hours per line about every five weeks. During heat treatment, the once-through cooling water system discharge point becomes the intake point and the intake point becomes the discharge point. A portion of the heated discharge water is diverted into the forebay[3] and intake conduits until the water temperature rises to approximately $105^0$F. The temperature of discharged wastewater during this procedure is about $112^0$F to $122^0$F. This temperature is maintained for about one hour, during which time all mussels, barnacles, fish, and other invertebrates with the cooling water system succumb to the high water temperature.

b. Low Volume Wastes

1). Direct discharges to ocean outfall DP 001:

a). Boiler Blowdown, internal outfall DP. INTA[4]. The buildup of total dissolved solids in the boiler is controlled with boiler blowdown. The sources of impurities in the blowdown are the intake water, internal corrosion of the boiler, and chemicals added to the boiler system to control scale formation, corrosion, pH, and solids deposition. The boiler water quality is normally near that of distilled water. Blowdown is

---

2 *Bio-fouling is the formation of an insulating layer of slime-forming organisms that reduce the heat transfer rate of the condensers.*

3 *Forebay is a concrete structure where the traveling screens are located and where the main intake and discharge pipes to the ocean are connected.*

4 *DP INTA is the in-plant outfall from boiler blowdown to outfall DP 001.*

occasionally necessary during normal operation. Start-up and shutdown of the boiler(s) also require the use of blowdown. In addition, blowdown is required during occasional condenser tube leaks. The flow rate and duration of the discharge of the blowdown can vary considerably. The boiler blowdown water is directly discharged to DP 001. Weekly, approximately 4000 gallons of blowdown are directed to the traveling screens to remove fouling organisms.

b). Condensate Overboard: Under normal operating conditions there is no condensate overboard discharge. Condensate overboard discharges occur only during unit start-up or abnormal operation and vary considerably. This discharge is primarily condensed steam. During normal operation, this discharge is not present. The wastewater is directly discharged to the ocean through DP 001.

2). Discharges to in-plant Retention Basin[5], then from the Retention Basin outfall DP INTB[6] to ocean outfall DP 001:

a). Reverse Osmosis/Electro-deionization Unit, Pretreatment Filters, and Softeners: This discharge consists of Zeolite softener regenerant wastes of 0.02 mgd at a maximum flow rate of 350 gallons per minute, and multimedia and activated carbon filter backwash (backwash occurs twice weekly for 20 minutes at a maximum flow rate of 400 gallons per minute). An average of 0.028 mgd is discharged.

b). Yard Drains. Drainage from the yard where piping and equipment are also located. Total volume of discharge is approximately 1.0 mgd.

c). In-Plant Drains including Units 1-5 Floor Drains. This drainage may contain solvent drippings or spillages. The total volume of discharge is approximately 0.1 mgd. Drainage goes to the oil/water separator, then to Retention Basin.

d). In-plant Stormwater runoff to Retention Basin, then from Retention Basin outfall DP INTB to ocean outfall DP 001. All precipitation that falls on the paved portions of the HBGS is collected by yard drains and is discharged to the Retention Basin, then to ocean DP 001. Precipitation that falls in the Tank Farm areas is contained within secondary containment and infiltrates or evaporates.

e). Metal cleaning wastes. Metal Cleaning Waste discharges to in-plant Retention Basin, outfall DP INTBa[7], then from Retention Basin DP INTB to ocean outfall DP 001:

---

5 *Retention Basin is a pond to treat wastes from in-plant drains listed in 3.b.2).*
6 *DP INTB is the in-plant outfall point from Retention Basin to the DP 001.*

(1). Chemical Metal Cleaning of Boiler Tubes. Chemical cleaning is designed to remove scale and corrosion products that accumulate on the boiler tubes in the boiler's steam-side. Ethylenediaminetetraacetic acid (EDTA) is presently used to clean the drum-type boilers. The total volume of this discharge is approximately 0.3 mgd. Chemical cleaning is conducted once every three years per unit. The duration of the discharge is approximately 48 hours. Wastewater goes through lime precipitation in a mobile treatment unit, then to the Retention Basin and thence to the ocean outfall DP 001.

(2). Air Preheater Washes. Air pre-heaters are periodically washed to remove accumulated deposits. Fossil fuels with significant sulfur content produce sulfur oxides that are absorbed by the deposits on the air pre-heater, and cause low pH and corrosion. Alkaline reagents are added to wash water to neutralize acidity, prevent corrosion of metallic surfaces and maintain an alkaline pH. The total volume of the discharge is approximately 0.40 mgd when washes are performed. This maintenance is performed one unit at a time and each operation lasts approximately 16 hours. This operation is performed less than once a year. Wastewater discharges through the Retention Basin prior to disposal to Discharge Point No. 001.

(3). Boiler Fireside Washes. Boiler firesides are commonly washed by spraying high-pressure water against boiler tubes while they are still hot. This maintenance is performed one unit at a time and each operation lasts approximately sixteen hours. This operation is performed less than once a year. Wastes from this washing operation contain dissolved and suspended solids. Acidic wastes are common for boilers fired with high sulfur fuels. Sulfur oxides absorb onto fireside deposits causing low pH and a high sulfate content in the wastewater. Total volume of discharge is approximately 0.15 mgd. Wastewater discharges through the Retention Basin prior to disposal to DP 001.

c. Wildlife Center Rainfall Drain discharges and Stormwater and Urban Runoff from the City of Huntington Beach, outfall DP INTC[8] to ocean, DP 001.

---

[7] *DP INTBa is the discharge point for discharges to the Retention Basin from the mobile treatment unit for chemical and non-chemical cleaning of generating units.*

[8] *DP INTC is the in-plant outfall for discharges from the wildlife center, where stormwater and urban runoff flow in from the City of Huntington Beach via Newland Street drains to DP 001. The stormwater runoff from the City of Huntington Beach, via the drain under Newland Street and the Wildlife Center, is regulated by separate waste discharge requirements issued by the Regional Board. Therefore, this Order does not include limits or monitoring requirements for this discharge from the City of Huntington Beach.*

AES recently identified a connection to the discharge outfall DP 001 from a storm drain located on Newland Avenue adjacent to the facility. This storm drain inlet receives urban runoff from Newland Avenue and is owned and operated by the City of Huntington Beach. The City of Huntington Beach[9] is required to monitor the stormwater runoff by the City's municipal separate storm sewer system (MS4). The stormwater runoff from the City may be a source of pollutants to the environment. The Discharger has no control over what is discharged from this storm drain and may eliminate this connection.

d. The discharge of fuel delivery pipeline hydrotest water to the retention basin has been eliminated.

**3. Wastewater Treatment System:**

a. Retention Basin: All condensate demineralizer regeneration wastes, fireside and air preheater washes, boiler blowdown, miscellaneous plant and yard drains, treated metal chemical cleaning wastes, reverse osmosis regeneration and backwash waste streams are sent to the retention basin, which provides oil removal and sedimentation prior to discharge through DP 001.

b. Lime Precipitation and Sludge Disposal: Metal Chemical Cleaning Wastes from Units 1 through 4 are discharged to portable tanks before treatment in a mobile lime precipitation unit to remove metals. Supernatant from the mobile treatment unit is directed to the retention basin prior to discharge through DP 001. The sludge produced from the mobile treatment unit is disposed of at an approved disposal site.

Schematics of flow at the facility, including waste treatment systems and disposal, are shown in Attachment "C".

**4. Total Volume of Wastes**

Under peak operating conditions, when generating Units 1 - 4 are operating at full capacity simultaneously, the HBGS discharges approximately 514 mgd. Under typical operating conditions when 5 of the 8 water circulation pumps are running, the average discharge flow is approximately 321 mgd.

[9] *Waste Discharge Requirements Order No. R8-2002-0010, NPDES No. CAS618030 issued to the County of Orange, Orange County Flood Control District and the Incorporated Cities of Orange County within the Santa Ana Region regulate Areawide Urban Storm Water Runoff. This Order regulates the City of Huntington Beach's stormwater discharges into AES Discharge Point 001. If necessary, requirements for monitoring conducted by the City pursuant to the MS4 permit will be revised to assure appropriate monitoring of these discharges.*

## B. Discharge Points and Receiving Water

### 1. Wastewater Discharge Point

Industrial wastes are currently discharged at Ocean Discharge Point 001. Discharge Point (DP) 001 is the ocean outfall approximately 1,500 feet offshore into the Pacific Ocean in water that is 25 feet deep and that is connected to the 21-foot diameter Facility discharge pipeline. DP 001 is located at latitude 33°38'19"N and longitude 117°58'57"W.

The following table summarizes wastewater sources and treatments.

**Table 2. Wastewater Discharge Points and Sources**

| Discharge/Outfall Point | Wastewater Discharged | Treatment Process | Flow (mgd) |
|---|---|---|---|
| 001 to ocean | Once-through condenser cooling water; bio-fouling control; heat treatment; boiler blowdown; condensate overboard; treated wastewater from retention basin; urban runoff from the City of Huntington Beach and wildlife center rainfall drains outfall. | Ocean discharge | 514 |
| In-plant INTA | Boiler blowdown | Ocean discharge | 0.04 |
| In-plant INTB | Chemical Metal Cleaning; Reverse Osmosis/Electro-deionization Unit, non-chemical metal cleaning (fireside and air preheater washes, Pretreatment Filters), Softeners; yard drain, units flooring drains; in-plant stormwater. | Retention basin provides oil removal and sedimentation | 0.20 average<br>0.52 max |
| In-plant INTBa | Treated wastewater from in-plant metal cleaning unit | Lime precipitation and sludge disposal | 0.4 |
| In-plant INTC | Stormwater and Urban runoff from the City of Huntington Beach, Wildlife Center via Newland Street Drain[10] | Ocean discharge | Varies |

Attachment "B" shows the facility location map. Schematics of flow at the facility, including waste treatment systems and disposal, are shown in Attachment "C".

### 2. Receiving Water

The receiving water is the Pacific Ocean Nearshore zone from the San Gabriel River to Poppy Street in Corona del Mar, and the Pacific Ocean Offshore Zone between the nearshore zone and the limit of the State waters, all waters of the U.S.

---

10 *The stormwater runoff from the City of Huntington Beach, via the drain under Newland Street and the Wildlife Center, is regulated by separate waste discharge requirements issued by the Regional Board. Therefore, this Order does not include limits or monitoring requirements for this discharge from the City of Huntington Beach.*

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

Effluent limitations/Discharge Specifications contained in the existing Order for discharges from Discharge Point 001 and representative monitoring data collected at Monitoring Location M-001 during the term of the previous Order are as follows:

**Table 3. Summary of Existing Monitoring Data in Year 2004 at DP 001**

| Parameter | Monitoring Data | | | |
|---|---|---|---|---|
| | Unit | Maximum Daily | 30 day Average | Long Term Average |
| a. Biochemical Oxygen Demand *(BOD)* | mg/L | <1.0 | | |
| b. Chemical Oxygen Demand *(COD)* | mg/L | 280 | | |
| c. Total Organic Carbon *(TOC)* | mg/L | <5 | | |
| d. Total Suspended Solids *(TSS)* | mg/L | 4.7 | | |
| e. Ammonia *(as N)* | mg/L | <0.10 | | |
| f. Flow | MGD | | 263 | 305 |
| g. Temperature *(winter)* | $^0$C | | 34.0 | 35 |
| h. Temperature *(summer)* | $^0$C | | 33.4 | 29 |
| i. pH | Standard Unit | | Minimum 7.85/ Maximum 8.11 | |
| | | | | |
| a. Bromide (24959-67-9) | mg/L | 79 | | |
| b. Chlorine, Total Residual | mg/L | | 0.16 | 0.18 |
| c. Color | Color Unit | <5 | | |
| d. Fecal Coliform | mpn/100 ml | 90 | 26 | |
| e. Fluoride (16984-48-8) | mg/L | 0.74 | | |
| f. Nitrate-Nitrite (as N) | mg/L | <1 | | |
| g. Nitrogen, Total Organic (as N) | mg/L | <0.50 | | |
| h. Oil and Grease | mg/L | <1.4 | <1.4 | |
| i. Phosphorus (as P), Total (7723-14-0) | mg/L | <0.1 | <0.1 | |
| **Radioactivity** | | | | |
| (1) Alpha, Total | pCi/L | 5.9□3.7 | | |
| (2) Beta, Total | pCi/L | 224□39 | | |
| (3) Radium, Total | pCi/L | <5.9□3.7 | | |
| (4) Radium 226, Total | pCi/L | 0.15□0.13 | | |
| k. Sulfate *(as SO4) (14808-79-8)* | µg/L | 2,410 | | |
| l. Sulfide (as S) | µg/L | <0.02 | | |
| m. Sulfite *(as SO3) (14265-45-3)* | µg/L | <1 | | |
| n. Surfactants | µg/L | 0.11 | | |
| o. Aluminum, Total (7429-90-5) | µg/L | 158 | | |
| p. Barium, Total (7440-39-3) | µg/L | 15.6 | | |
| q. Boron, Total (7440-42-8) | µg/L | 3.99 | | |
| r. Cobalt, Total (7440-48-4) | mg/L | 1.93 | | |

**Table 3. Summary of Existing Monitoring Data in Year 2004 at DP 001**

| Parameter | Monitoring Data | | | |
|---|---|---|---|---|
| | Unit | Maximum Daily | 30 day Average | Long Term Average |
| s. Iron, Total (7439-89-4) | µg/L | 74.1 | | |
| t. Magnesium, Total (7439-95-4) | µg/L | 1,140 | | |
| u. Molybdenum, Total (7439-98-7) | µg/L | 12.6 | | |
| v. Manganese, Total (7439-96-5) | µg/L | 16.7 | | |
| w. Tin, Total (7440-31-5) | µg/L | 0.03 | | |
| x. Titanium, Total (7440-32-6) | µg/L | 7.74 | | |
| 1m. Antimony, Total (7440-36-0) | µg/L | 0.1 | | |
| 2M. Arsenic, Total (7440-38-2) | µg/L | 1.16 | | |
| 3M. Beryllium, Total (7440-41-7) | µg/L | 0.02 | | |
| 4M. Cadmium, Total (7440-43-9) | µg/L | 0.12 | | |
| 5M Chromium, Total (7440-47-3) | µg/L | 0.79 | | |
| 6M Copper, Total (7440-50-8) | µg/L | 1.16 | | |
| 7M lead, Total (7439-92-1) | µg/L | 0.16 | | |
| 8M Mercury, Total (7439-97-6) | µg/L | <0.005 | | |
| 9M Nickel, Total (7440-02-0) | µg/L | 40 | | |
| 10M Selenium, Total (7782-49-2) | µg/L | <0.01 | | |
| 11M Silver, Total (7440-22-4) | µg/L | <0.005 | | |
| 12M Thallium, Total (7440-28-0) | µg/L | 0.007 | | |
| 13M Zinc, Total (7440-66-6) | µg/L | 15.7 | | |
| 14M Cyanide, Total (57-12-5) | µg/L | <0.05 | | |
| 15M Phenols, Total | µg/L | <0.10 | | |
| **Dioxin** | | | | |
| 2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764--01-6) | pg/L | 1.1447 | | |
| **GC/MS - VOLATILE COMPOUNDS** | | | | |
| *1V. Acrolein (107-02-8)* | µg/L | <12 | <12 | |
| *2V Acrylonitrille(107-13-1)* | µg/L | <10 | <10 | |
| 3V Benzene (71-43-2) | µg/L | <0.3 | <0.3 | |
| 4V Bis *(Chloromethyl) Ether (542-88-1)* | µg/L | <1.0 | <1.0 | |
| 5V Bromoform (75-25-2) | µg/L | <0.3 | <0.3 | |
| 6V Carbon Tetrachloride (56-23-5) | µg/L | <0.3 | <0.3 | |
| 7V Chlorobenzene (108-90-7) | µg/L | <0.3 | <0.3 | |
| 8V Chlorodibromomethane (124-48-1) | µg/L | <0.4 | <0.4 | |
| 9V Chloroethane (75-00-3) | µg/L | <0.3 | <0.3 | |
| 10V 2-Chloroethylvinyl Ether (110-75-8) | µg/L | <2.0 | <2.0 | |
| 11V Chloroform (67-66-3) | µg/L | <0.3 | <0.3 | |
| 12V Dichlorobromoethane (75-71-8) | µg/L | <0.3 | <0.3 | |
| 13V Dichloro-difluoromethane (75-71-8) | µg/L | <0.4 | <0.4 | |
| 14V 1,1-Dichloroethane (75-34-3) | µg/L | <0.2 | <0.2 | |
| 15V 1,2-Dichloroethane (107-06-2) | µg/L | <0.4 | <0.4 | |

**Table 3. Summary of Existing Monitoring Data in Year 2004 at DP 001**

| Parameter | Monitoring Data | | | |
|---|---|---|---|---|
| | Unit | Maximum Daily | 30 day Average | Long Term Average |
| 16V 1,1-Dichloroethylene (75335-4) | µg/L | <0.3 | <0.3 | |
| 17V 1,2-Dichloropropane (78-87-5) | µg/L | <0.3 | <0.3 | |
| 18V 1,3-Dichloropropylene (542-76-6) | µg/L | <0.5 | <0.5 | |
| 19V Ethylbenzene (100-41-4) | µg/L | <0.2 | <0.2 | |
| 20V Methyl Bromide (74-83-9) | µg/L | <1.0 | <1.0 | |
| 21V Methyl Chloride (74-87-3) | µg/L | <0.3 | <0.3 | |
| 22 V MethyleneChloride (75-09-2) | µg/L | <0.3 | <0.3 | |
| 23V 1,1,2,2-Tetra-Chloroethane (79-34-5) | µg/L | <0.4 | <0.4 | |
| 24V Tetrachloroe-thylene (127-18-4) | µg/L | <0.4 | <0.4 | |
| 25V Toluene (108-88-3) | µg/L | <0.3 | <0.3 | |
| 26V 1,2-Trans-Dichloroethylene(156-60-5) | µg/L | <0.3 | <0.3 | |
| 27V 1,1,1-Tri-chloroethane (71-55-6) | µg/L | <0.2 | <0.2 | |
| 28V 1,1,2-Tri-chloroethane (79-00-5) | µg/L | <0.3 | <0.3 | |
| 29V Trichloro-ethylene(79-01-6) | µg/L | <0.3 | <0.3 | |
| 30V Trichloro-fluoromethane (75-69-4) | µg/L | <0.3 | <0.3 | |
| 31V VinylChloride (75-01-4) | µg/L | <0.3 | <0.3 | |
| **GC/MS FRACTION - ACID COMPOUNDS** | | | | |
| 1A 2-Chlorophenol(95-57-8) | µg/L | <3.0 | | |
| 2A 2,4-Dichlorophenol(120-83-2) | µg/L | <5.0 | | |
| 3A 2,4-Dimethyl-phenol(105-67-9) | µg/L | <5.0 | | |
| 4A 4,6-Dinitro-O-cresol (534-52-1) | µg/L | <10 | | |
| 5A 2,4-Dinitrophenol(51-28-5) | µg/L | <15 | | |
| 6A 2-Nitrophenol(88-75-5) | µg/L | <4.0 | | |
| 7A 4-Ntrophenol(100-02-7) | µg/L | <10 | | |
| 8A P-Chloro-M-Cresol (59-50-7) | µg/L | <2.0 | | |
| 9A Penta-chlorophenol(87-86-5) | µg/L | <10 | | |
| 10A Phenol (10/-95-2) | µg/L | <2.0 | | |
| 11A 2,4,6-Tri-chlorophenol(88-06-2) | µg/L | <2.0 | | |
| **GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS** | | | | |
| 1B Acenphthene(83-32-9) | µg/L | <3.0 | | |
| 2B Acenaphtylene(208-96-8) | µg/L | <2.0 | | |
| 3B Anthracene (120-12-7) | µg/L | <10 | | |
| 4B Benzidine (92-87-5) | µg/L | <13 | | |
| 5B Benzo (a) Anthracene (56-55-3) | µg/L | <2.0 | | |
| 6B Benzo (a) Pyrene (50-32 -8) | µg/L | <2.0 | | |
| 7B 3,4-Benzofluoranthene (205-99-2) | µg/L | <5.0 | | |
| 8B Benzo (ghi) Perylene (191-24-2) | µg/L | <2.0 | | |
| 9B Benzo (k) Fluoranthene (207-08-9) | µg/L | <5.0 | | |

**Table 3. Summary of Existing Monitoring Data in Year 2004 at DP 001**

| Parameter | Monitoring Data | | | |
|---|---|---|---|---|
| | Unit | Maximum Daily | 30 day Average | Long Term Average |
| 10B Bis *(2Chloroethoxy)* Methane (111-91-1) | µg/L | <2.0 | | |
| 11B Bis *(2-Chloroethyl)* Ether (111-44-4) | µg/L | <3.0 | | |
| 12B Bis *(2Chloroisepropyl)* Ether (102 - 60-1 | µg/L | <4.0 | | |
| 13B Bis*(2-Ethylhexyl)* Phthalate (117-81-7) | µg/L | <4.0 | | |
| 14 B 4-Bromophenyl Phenyl Ether (101 - 55-3) | µg/L | <2.0 | | |
| 15B Butyl Benzyl Phthalate (85-68-7) | µg/L | <4.0 | | |
| 16B 2-Chloronaphthalene (91-68-7) | µg/L | <3.0 | | |
| 17B 4-Chlorophenyl Phenyl Ether (7005 - 72-3) | µg/L | <2.0 | | |
| 18B Chrysene (218-01-9) | µg/L | <2.0 | | |
| 19B Dibenzo (a,h) Anthracene (53-70-3) | µg/L | <5.0 | | |
| 20B 1,2-Dichloro-benzene (95-50-1) | µg/L | <3.0 | | |
| 21B 1,3-Dichloro-benzene (541-73-1) | µg/L | <2.0 | | |
| 22B 1,4-Dichloro-benzene (106-46-7) | µg/L | <3.0 | | |
| 23B 3,3'-Dichloro-benzidine (91-94-1) | µg/L | <5.0 | | |
| 24B Diethyl Phthalate (84-66-2) | µg/L | <2.0 | | |
| 25B Dimethyl Phthalate (131-11-3) | µg/L | <2.0 | | |
| 26B Di-N-Butyl Phthalate (131-11-3) | µg/L | <2.0 | | |
| 27B 2,4-Dinitrotoluene (121-14-2) | µg/L | <2.0 | | |
| 28B 2,6-Dinitrotoluene (606-20-2) | µg/L | <2.0 | | |
| 29B Di-N-Octyl Phthalate (117-84-0) | µg/L | <4.0 | | |
| 30B 1,2-Diphenyl -hydrazine *(as Azo-benzene)*(122-66-7) | µg/L | <2.0 | | |
| 31B Fluoranthene (206-44-0) | µg/L | <2.0 | | |
| 32B Fluorene (86-73-7) | µg/L | <2.0 | | |
| 33B Hexa-chlorobenzene (118-74-1) | µg/L | <5.0 | | |
| 34B Hexa-chlorobutadiene (87-68-3) | µg/L | <2.0 | | |
| 35B Hexachloro-cyclopentadiene(77-47-4) | µg/L | <6.0 | | |
| 36B Hexachloroethane (67-72-1) | µg/L | <3.0 | | |
| 37B Indeno *(1,2,3-cd)* Pyrene(193-39-5) | µg/L | <2.0 | | |
| 38B Isophorone(78-59-1) | µg/L | <3.0 | | |
| 39B Napthalene(91-20-3) | µg/L | <6.0 | | |
| 40B Nitrobenzene (98-95-3) | µg/L | <5.0 | | |
| 41B N-Nitro-sodimethylamine(62-75-9) | µg/L | <7.0 | | |
| 42B N-Nitrosdi-N -Propylamine(621-64-7) | µg/L | <4.0 | | |
| 43B N-Nitrosodiphenylamine (86-30-6) | µg/L | <2.0 | | |
| 44B Phenanthrene (85-01-/ | µg/L | <2.0 | | |

**Table 3. Summary of Existing Monitoring Data in Year 2004 at DP 001**

| Parameter | Monitoring Data | | | |
|---|---|---|---|---|
| | Unit | Maximum Daily | 30 day Average | Long Term Average |
| 45B Pyrene (129-00-0) | µg/L | <3.0 | | |
| 46B 1,2,4-Trichlorobenzene (120-82-1) | µg/L | <5.0 | | |
| **GC/MS FRACTION – PESTICIDES** | | | | |
| 1P Aldrin (309-00-2) | µg/L | <0.10 | | |
| 2P Alpha-BHC (319-84-6) | µg/L | <0.10 | | |
| 3P Beta-BHC (319-85-7) | µg/L | <0.10 | | |
| 4P Gamma-BHC (58-89-9) | µg/L | <0.10 | | |
| 5P Delta-BHC (319-86-8) | µg/L | <0.10 | | |
| 6P Chlordane (57-74-9) | µg/L | <0.10 | | |
| 7P 4,4'-DDT (50-29-3) | µg/L | <0.10 | | |
| 8P 4,4'-DDE (72-55-9) | µg/L | <0.10 | | |
| 9P 4,4'-DDD (72-54-8) | µg/L | <0.10 | | |
| 10P Dieldrin (60-57-1) | µg/L | <0.10 | | |
| 11P a-Endosulfan (115-29-7) | µg/L | <0.10 | | |
| 12P b-Endosulfan (115-29-7 | µg/L | <0.10 | | |
| 13P Endosulfan Sulfate (1031-07-8) | µg/L | <0.10 | | |
| 14P Endrin (72-20-8) | µg/L | <0.10 | | |
| 15P Endrin Aldehyde (7421-93-4) | µg/L | <0.10 | | |
| 16P Hepta-chlor (76-44-8) | µg/L | <0.10 | | |
| 17P HeptachlorExpxide (1024-57-3) | µg/L | <0.10 | | |
| 18P PCB-1242 (53469-21-9) | µg/L | <1.0 | | |
| 19P PCB-1254 (11097-69-1) | µg/L | <1.0 | | |
| 20P PCB-1221 (11104-28-2) | µg/L | <1.0 | | |
| 21P PCB-1232 (11141-16-5) | µg/L | <1.0 | | |
| 22P PCB-1248 (12672-29-6) | µg/L | <1.0 | | |
| 23P PCB-1260 (11096-82-5) | µg/L | <1.0 | | |
| 24P PCB-1016 (12674-11-2) | µg/L | <1.0 | | |
| 25P Toxaphene (8001-35-2) | µg/L | <2.0 | | |

**Table 4. Total Chlorine Residual Data**

| *Maximum Total Residual Chlorine (mg/L)* | JAN. | FEB. | MARCH | APRIL | MAY | JUNE | JULY | AUG. | SEPT. | OCT. | NOV. | DEC. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| ***2001*** | | | | | | | | | | | | |
| | 0.20 | 0.20 | 0.19 | 0.19 | 0.20 | 0.08 | 0.17 | 0.16 | 0.09 | 0.02 | 0.09 | 0.10 |
| ***2002*** | | | | | | | | | | | | |
| | 0.08 | 0.12 | 0.18 | 0.20 | 0.19 | 0.19 | 0.14 | 0.15 | 0.17 | 0.14 | 0.18 | 0.20 |
| ***2003*** | | | | | | | | | | | | |
| | 0.19 | 0.19 | 0.15 | 0.15 | 0.2 | 0.21 | 0.19 | 0.21 | 0.16 | 0.18 | 0.19 | 0.19 |
| ***2004*** | | | | | | | | | | | | |
| | 0.19 | 0.19 | 0.17 | 0.18 | 0.1 | 0.18 | 0.16 | 0.19 | 0.18 | 0.16 | 0.16 | 0.18 |
| ***2005*** | | | | | | | | | | | | |
| | 0.19 | 0.20 | 0.20 | 0.11 | 0.11 | 0.20 | 0.20 | 0.19 | 0.18 | 0.20 | 0.18 | 0.20 |
| ***2006*** | | | | | | | | | | | | |
| | 0.18 | 0.16 | 0.14 | | | | | | | | | |

**Table 5. Summary of Effluent Limits in Previous Order No. 00-5**

| Constituent | Units | Instantaneous Maximum | Daily Maximum | 6-Month Median |
|---|---|---|---|---|
| Arsenic | µg/l | 658 | 250 | 46 |
| | lbs/day | ---- | 1,073 | 196 |
| Cadmium | µg/l | 85 | 34 | 9 |
| | lbs/day | ---- | 146 | 37 |
| Chromium (Hexavalent) | µg/l | 170 | 68 | 17 |
| | lb/day | ---- | 292 | 73 |
| Copper | µg/l | 240 | 87 | 11 |
| | lb/day | ---- | 374 | 45 |
| Lead | µg/l | 170 | 68 | 17 |
| | lb/day | | 292 | 73 |
| Mercury | µg/l | 3.40 | 1.36 | 0.34 |
| | lb/day | ---- | 5.85 | 1.46 |
| Nickel | µg/l | 425 | 170 | 43 |
| | lb/day | ---- | 731 | 183 |
| Silver | µg/l | 58 | 23 | 4.75 |
| | lb/day | ---- | 97 | 20.43 |
| Zinc | µg/l | 1640 | 620 | 110 |
| | lb/day | ---- | 2,666 | 473 |
| Cyanide | µg/l | 85 | 34 | 9 |
| | lb/day | ---- | 146 | 37 |
| Ammonia-Nitrogen | µg/l | 51,000 | 20,400 | 5,100 |
| | lb/day | ---- | 87,790 | 21,948 |
| Phenolic Compounds (non-chlorinated) | µg/l | 2,550 | 1,020 | 255 |
| | lb/day | ---- | 4,390 | 1,097 |
| Chlorinated Phenolics | µg/l | 85 | 34 | 8.5 |
| | lb/day | ---- | 146 | 37 |
| | | | | |
| Total residual chlorine | Not to exceed 0.2 mg/L | | | |
| pH | Between 6 and 9 pH units | | | |
| Temperature | Discharge not to exceed receiving water temperature by more than 30 °F. | | | |
| | | | | |
| **IN-PLANT WASTE STREAMS** | | | | |
| Low volume wastes from the retention basin | | | | |
| Constituents | Concentration limits | | Mass Limits | |
| | Max. Daily | Ave. Monthly | Max. Daily | Ave. Monthly |
| | mg/L | mg/L | Lbs/day | Lbs/day |
| Suspended Solids | 100 | 30 | 2645 | 793 |
| Oil & Grease | 20 | 15 | 529 | 397 |
| | | | | |
| Metal cleaning wastes from the mobile treatment unit | | | | |
| Suspended Solids | 100 | 30 | 400 | 120 |
| Oil & Grease | 20 | 15 | 80 | 60 |
| Total Copper | 1 | 1 | 4 | 4 |
| Total Iron | 1 | 1 | 4 | 4 |

**Table 6. Summary of Effluent Limits in Previous Order No. 00-5**

| TOXICITY | Units of Measurements | Maximum Daily | Weekly Average | Monthly Average |
|---|---|---|---|---|
| Acute Toxicity | TUa | 2.5 | 2.0 | 1.5 |

### D. Compliance Summary

The Discharger was in compliance with Order No. 00-5.

### E. Planned Changes

At this time, there are no planned changes to the facility during this Order term that may impact Order development.

## 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 (Section 13370 *et seq.*). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4, Division 7 of the CWC (Section 13260 *et seq.*).

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

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

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

#### 1. Water Quality Control Plans.

The Regional Water Quality Control Board adopted a Water Quality Control Plan for the Santa Ana Region (hereinafter Basin Plan) that became effective on January 24, 1995 and designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives. In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. For the protection and enhancement of ocean water quality, the Basin Plan incorporates by reference the provisions of the State Board's *Water Quality Control Plan for Ocean Waters of California* (Ocean Plan 2001 and amendments) and the *Water Quality Control Plan for*

*Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972 and its amendment September 18, 1975).

Beneficial uses applicable to Pacific Ocean Nearshore and offshore zones are as follows:

**Table 7. Basin Plan Beneficial Uses**

| Discharge Point | Receiving Water Name | Beneficial Use(s) |
|---|---|---|
| 001 | Pacific Ocean Nearshore[11] Zone from the San Gabriel River to Poppy Street in Corona del Mar | Present or Potential Beneficial Uses:<br>a. Industrial service supply,<br>b. Navigation,<br>c. Water contract recreation,<br>d. Non-contact water recreation,<br>e. Commercial and sport fishing,<br>f. Wildlife habitat,<br>g. Rare, threatened or endangered species,<br>h. Spawning, reproduction, and development,<br>i. Marine habitat, and<br>j. Shellfish harvesting.<br><br>Excepted from municipal and domestic supply beneficial use |
| | Pacific Ocean Offshore Zone between the Nearshore Zone and the limit of the State waters | Present or Potential Beneficial Uses:<br>a. Industrial service supply,<br>b. Navigation,<br>c. Water contact recreation,<br>d. Non-contact water recreation,<br>e. Commercial and sportfishing,<br>f. Wildlife habitat,<br>g. Rare, threatened or endangered species,<br>h. Spawning, reproduction, and development, and<br>i. Marine habitat.<br><br>Excepted from municipal and domestic supply beneficial use |

The receiving waters affected by discharges from the facility are excepted from the municipal and domestic supply beneficial use, pursuant to the exception criteria specified in State Water Board Resolution No. 88-63.

[11] *Nearshore Zone is defined by the Ocean Plan, Chapter II, A.1., as "within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30 foot depth contour, whichever is further form the shoreline.*

## 2. California Ocean Plan.

The State Water Board adopted the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The State Water Board adopted the latest amendment to the Ocean Plan 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 8. 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 migration, 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.

## 3. Thermal Plan

The State Water Board adopted a Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. This Order implements the Thermal 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 CFR 131.21, 65 FR 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. Clean Water Act, Section 316(b)

Section 316(b) of the Clean Water Act specifies, in part, that "Any standard established pursuant to section 301 or section 306 of this Act and applicable to a point source shall require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact." EPA promulgated regulations to implement the 316(b) requirements in 1976, but relevant parts of the requirements were withdrawn in 1977 in response to a successful court challenge. Since that time and until the promulgation of final regulations, discussed next, 316(b) has been implemented on a case by case, site-specific basis. Prior orders for the HBGS (Order Nos. 87- 93, 93-58 and 00-05) implemented 316(b) utilizing draft guidelines prepared by EPA (Draft Guidance for Evaluating the Adverse Impact of Cooling Water Intake Structures on the Aquatic Environment: Section 361(b) P.L. 92-500, 1977). The determination of best technology available was based on best professional judgment.

On February 16, 2004, USEPA finalized regulations regarding cooling water intake structures for existing facilities. The regulations, commonly referred to as "316(b) Phase II final rule", were published in the Federal Register on July 9, 2004, and became effective on September 7, 2004. Facilities that meet the definition of a Phase II existing facility must comply, or demonstrate a compliance strategy, when they become subject to a reissued NPDES permit adopted on or after the effective date of the regulations. These regulations are applicable to AES HBGS.

Phase II of USEPA CWA Section 316(b) regulation establishes national requirements and procedures for implementing regulations applicable to certain existing power producing facilities[12] that employ a cooling water intake structure and are designed to withdraw 50 million gallons per day or more of water from rivers, streams, lakes, reservoirs, estuaries, oceans, or waters of the United States for cooling purposes. These regulations apply to the location, design, construction and capacity of cooling water intake structures. The final rule establishes performance standards that are projected to reduce impingement[13] mortality by 80 to 95 percent and, if applicable, entrainment[14] by 60 to 90 percent.

To comply with 316(b) Phase II regulations reflecting the best technology available for minimizing environmental impact, dischargers are required to demonstrate compliance with one of five alternatives, generally summarized as follows: (1) demonstrate that the facility has reduced cooling water intake velocity to 0.5 feet per second or less; (2) demonstrate that the existing design and construction technologies, operational measures, and/or restoration measures meet the

---

[12] *Facilities that meet the definition of a Phase II existing facility at 40 CFR 125.91*

[13] *Impingement means the entrapment of any life stages of fish and shellfish on the outer part of an intake structure or against a screening device during periods of intake water withdrawal.*

[14] *Entrainment means the incorporation of any life stages of fish and shellfish with intake water flow entering and passing through a cooling water intake structure and into a cooling water system.*

performance standards established by the regulations; (3) demonstrate that the facility has selected design and construction technologies, operational measures, and/or restoration measures that will, in combination with any existing design and construction technologies, operational measures, and/or restoration measures, meet the performance standards; (4) demonstrate that the facility has installed and properly operates and maintains an approved technology; or (5) demonstrate that a site-specific determination of best technology available (BTA) is appropriate.

In conformance with 316(b) Phase II regulations, 40 CFR 125.95 requires that owners or operators of Phase II existing facilities applying for renewal of NPDES permits, collect and submit the following:

a. A Proposal for Information Collection (PIC) that includes the following:

1). A description of the proposed and/or implemented technologies, operation measures, and or restoration measures to be evaluated in the Study;

2). A list and description of any historical studies characterizing impingement mortality and entrainment and/or the physical and biological conditions in the vicinity of the cooling water intake structures and their relevance to this proposed Study. If existing data are to be used, a demonstration of the extent to which the data are representative of current conditions and that the data were collected using appropriate quality assurance/quality control procedures is required;

3). A summary of any past or ongoing consultations with appropriate Federal, State, and Tribal fish and wildlife agencies that are relevant to this Study and a copy of written comments received as a result of such consultations; and

4). A sampling plan for any new field studies that are proposed to be conducted in order to ensure that sufficient data are available to develop a scientifically valid estimate of impingement mortality and entrainment at the site. The sampling plan must document all methods and quality assurance/quality control procedures for sampling and data analysis. The sampling and data analysis methods proposed must be appropriate for a quantitative survey and include consideration of the methods used in other studies performed in the source waterbody. The sampling plan must include a description of the study area (including the area of influence of the cooling water intake structure(s)), and provide a taxonomic identification of the sampled or evaluated biological assemblages (including all life stages of fish and shellfish).

b. Information required in 40 CFR 122.21(r)(2), (r)(3), and (r)(5) and any applicable portions of the requisite Comprehensive Demonstration Study[15] (Study) (see below), except for the Proposal for Information Collection described above; and

c. Submit NPDES permit application in accordance with the time frames specified in 40 CFR 122.21(d)(2).

316(b) Phase II regulations specify that the information required shall be submitted as expeditiously as possible but no later than January 7, 2008.

In accordance with the 316(b) Phase II regulations, HBGS is required to prepare a *Comprehensive Demonstration Study* (CDS) that will include the following components:

a. *Source Waterbody Flow Information,* as described at 40 CFR 125.95 (b) (2);

b. *Impingement Mortality and/or Entrainment Characterization Study,* as described at 40 CFR 125.95 (b) (3), to support development of a calculation baseline for evaluating impingement mortality and entrainment and to characterize current impingement mortality and entrainment;

c. *Design and Construction Technology Plan* and a *Technology Installation and Operation Plan,* as described at 40 CFR 125.95 (b) (4);

d. *Restoration Plan,* as described at 40 CFR 125.95 (b) (5);

e. *Information to Support Site-Specific Determination of BAT*, as described at 40 CFR 125.95 (b) (6); and

f. *Verification Monitoring Plan,* as described at 40 CFR 125.95 (b) (7).

The provisions, compliance requirements, and compliance schedules for the Section 316(b) Phase II rule have been incorporated into this Order.

On August 1, 2005, the Discharger submitted a proposed PIC for Regional Board Approval. On November 16, 2005, Regional Board staff approved the PIC with the following schedule:

[15] *The purpose of the Comprehensive Demonstration Study (The Study) is to characterize impingement mortality and entrainment, to describe the operation of cooling water intake structures, and to confirm that the technologies, operational measures, and/or restoration measures selected and installed, or that will be installed, at the facility meet the applicable requirements of 40 CFR 125.94.*

a. Complete Impingement Mortality &Entrainment Characterization Study: March 1, 2006[16]

b. Make Final Regarding Compliance Alternative: June 1, 2006

c. Final CDS Submittal: January 1, 2007[17]

This Order includes requirements and compliance schedules necessary to implement the Section 316(b) Phase II regulations. The compliance schedules specified are generally consistent with those approved by Regional Board staff. However, the Discharger's schedule assumed that restoration would be a part, at least, of the compliance alternative selected. In light of pending litigation that may eliminate or limit restoration as an acceptable alternative, the final CDS schedule is modified in this Order to require that it be submitted as soon as possible but no later than **January 7, 2008**, in conformance with the 316(b) regulations. Once the requisite investigations are completed, this Order will be reopened, if needed, to include requirements for Facility modifications necessary to comply with the 316(b) regulations, specifically, to ensure that the Facility complies with the impingement and entrainment performance standards established in this Order (see further discussion in 6, below).

**6. Effluent Limitations Guidelines.**

The Environmental Protection Agency (EPA) promulgated Effluent Guidelines and Standards for the "Steam Electric Power Generating Point Source Category" on November 19, 1982. These regulations are contained in 40 CFR Parts 125 and 423 and became effective on January 3, 1983. These regulations established effluent limitation guidelines, pretreatment standards, and new source performance standards for various in plant waste streams and once-through cooling water. These regulations apply to discharges from the Facility.

**7. Antidegradation Policy.**

Section 131.12 of 40 CFR requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16, which incorporates the requirements of the federal antidegradation policy. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The permitted discharge is consistent with the antidegradation provision of 40 CFR §131.12 and State Water Board Resolution 68-16.

---

[16] *Regional Board staff approved subsequent AES requests to change the March 1, 2006 date to June 30, 2006.*

[17] *AES has requested and Regional Board staff agreed that CDS submittal date be changed to as soon as practicable but no later than January 7, 2008.*

**8. Anti-Backsliding Requirements.**

Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations[18], 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.

**9. Monitoring and Reporting Requirements.**

Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and State requirements. This MRP is provided in Attachment E.

**10. Stormwater Requirements.**

On April 17, 1997, the State Board adopted the General Industrial Storm Water Permit, Order No. 97-03-DWQ, NPDES No. CAS000001. That General Permit implements the Final Regulations (40 CFR 122, 123, and 124) for storm water runoff published on November 16, 1990 by the U.S. EPA in compliance with Section 402(p) of the CWA. This Order includes pertinent provisions of the General Industrial Storm Water Permit.

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

On July 25, 2003, the U.S.EPA gave final approval to California's 2002 list of impaired water bodies, prepared by the State Board pursuant to Section 303(d) of the CWA. These waters are not expected to meet applicable water quality standards after implementation of technology-based effluent limitations for point sources. Huntington Beach State Park is included in the 303d list for enterococci. The nearshore and offshore zones of Huntington Beach State Park are the immediately affected receiving waters of discharges from the AES-HBGS facility.

## E. Other Plans, Polices and Regulations

Based on Best Professional Judgment of the requirements necessary to assure protection of the beneficial uses of the ocean waters affected by the operation of and discharges from the HBGS, this Order establishes requirements implementing the Clean Water Act Section 316(b) Phase II rule. These requirements are based, in part, on consideration of the following:

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

1. On April 20, 2006, the California Ocean Protection Council adopted a resolution regarding the use of the Once-Through Cooling Technologies in Coastal waters. The resolution determined adverse impacts occur due to entrainment of aquatic organisms; impingement and entrainment result in changes to community structure and the possible cumulative impacts of entrainment and impingement are currently unknown. The resolution also urges the California Energy Commission and the State Water Resources Control Board to develop and implement policies that eliminate the impacts of once-through cooling on the environment.

2. On April 17, 2006, California State Lands Commission adopted a resolution regarding once-through cooling in California power plants. The Commission resolved that as of the date of the Resolution, the Commission will not approve leases for new power facilities that include once-through cooling technologies and will not approve new leases for power facilities, or leases for re-powering existing facilities, or extensions or amendments of existing leases for existing power facilities, whose operations include once-through cooling, unless the power plant is in full compliance, or engaged in an agency-directed process to achieve full compliance, with requirements imposed to implement both Clean Water Act Section 316(b) and California water quality law as determined by the appropriate agency, and with any additional requirements imposed by state and federal agencies for the purpose of minimizing the impacts of cooling systems on the environment. The Commission found that once-through cooling systems adversely affect fish populations used for subsistence by low-income communities and communities of color thereby imposing an undue burden on these communities and that regulations adopted under Section 316(b) of the federal Clean Water Act recognize the adverse impacts of once-through cooling by effectively prohibiting new power plants from using such systems, and by requiring existing facilities to reduce impacts by up to 90-95%.

3. April 2005 Entrainment and Impingement Study Final Report for the AES Huntington Beach Generating Station (HBGS) Units 3 & 4 retool Project.

   As part of the approval for the retool of units 3 and 4 of HBGS, the California Energy Commission (CEC) required AES to fund a study to determine whether there is a feasible methodology to reduce impingement and entrainment losses at HBGS. The study determined that entrainment in the cooling water used for units 3 and 4 was equivalent to the loss of productivity of 192 acres[19] of coastal habitat. This loss of productivity represents a loss of functional value of fish, wildlife and plant habitat and a degradation of the foraging habitat of the endangered California Least Tern, endangered Brown Pelican and threatened Western Snowy Plover. CEC staff determined entrainment losses due to water withdrawal for units 3 and 4 to be significant. The California Department of Fish and Game, Coastal Commission and National Marine Fisheries Service agreed with the CEC staff determination of significant impact.

[19] *AES does not agree with this determination.*

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 40 CFR Section 125.3 of the NPDES regulations authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the permit writer must consider specific factors outlined in 40 CFR Section 125.3.

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

Pursuant to Section 306 (b) (1) (B) of the CWA, U.S. EPA has established standards of performance for the steam electric power point source category, for existing and new sources, at 40 CFR Part 423. These regulations apply to HBGS as "an establishment primarily engaged in the generation of electricity for distribution and sale which results primarily from a process utilizing fossil-type fuel (coal, oil, or gas) or nuclear fuel in conjunction with a thermal cycle employing the steam water system as the thermodynamic medium" of 40 CFR 423.10. Standards of performance for existing facilities (instead of new source performance standards) are applicable to HBGS, because construction of the Facility was commenced before the publication of regulations on November 19, 1982, which proposed standards of performance for the industry. Following are the applicable technology-based standards of performance (BPT and BAT) applicable to HBGS from the effluent limitations guidelines for existing sources at 40 CFR 423. The guidelines do not include standards of performance based on BCT.

a. **Standards of Performance Based on BPT** - applicable to Combined Low Volume and In-Plant wastewaters from In-plant DPs INTA and INTB

1). Based on 40 CFR 423.12 (b) (1), Section IV. B of the Order specifies that the pH of all discharges shall be within the range of 6.0 – 9.0.

2). Based on 40 CFR 423.12 (b)(3), Section IV. B.1 & 2. of the Order specifies that the quantity of pollutants discharged from low volume waste sources shall not exceed the quantity determined by multiplying the flow of low volume waste sources times the concentration listed in the following table . Mass-based limitations for TSS, oil and grease are based on an effluent wastewater flow measured at M-INTA and M-INTB.

**Table 9. 40CFR423.12(b)(3) Criteria**

| Pollutant | Daily Max (mg/L) | 30-Day Avg (mg/L) |
|---|---|---|
| Total Suspended Solids | 100 | 30 |
| Oil and Grease | 20 | 15 |

The mass emissions rate limits are calculated utilizing the general formula:
Mass Limit (lbs/day) = 8.34 x Ce x Q
Where:

Ce = the specified effluent concentration limit for the specific pollutant considered, mg/L

Q = observed flow rate in million gallons per day discharged from DP INTA or DP INTB.

3). Based on 40 CFR 423.12 (b) (5), Section IV. C.1. of the Order specifies that the quantity of pollutants discharged in metal cleaning wastes shall not exceed the quantity determined by multiplying the flow of metal cleaning wastes times the concentration listed in the following table.

**Table 10. 40CFR423.12(b)(5) Criteria**

| Pollutant | Daily Max (mg/L) | 30-Day Avg (mg/L) |
|---|---|---|
| Total Suspended Solids | 100 | 30 |
| Oil and Grease | 20 | 15 |
| Copper, total | 1.0 | 1.0 |
| Iron, total | 1.0 | 1.0 |

The mass emissions rate limits are calculated utilizing the same general formula shown above and the effluent concentration in the table.

### b. Standards of Performance Based on BAT

Based on 40 CFR 423.13 (a), Section III. D. of the Order specifies that the discharge of polychlorinated biphenyl compounds, such as those commonly used for transformer fluid, is prohibited.

### c. Application of BPT and BAT

All applicable standards of performance from 40 CFR 423 that were incorporated into Order No. 00-5 are retained in this Order. The technology-based pH, total suspended solids, oil and grease, total copper, and iron effluent limitations in Order No. 00-5 are retained in this Order.

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

### 1. Scope and Authority

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

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

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

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

All applicable beneficial uses are listed in Section III.C.1., above.

## 3. Determining the Need for WQBELs at Outfall DP 001

a. The facility has been retooled in the last 5 years. Except for chlorine, there is not adequate information at the present time to make the necessary reasonable potential analysis for other pollutants that may be discharged from the Facility. Consequently, it is appropriate to adopt a conservative approach by using the same constituents that were limited in the previous Orders when four generating units were operational.

## 4. WQBEL Calculations

### a. Concentration Calculation

The water quality objectives listed below were derived from Table B, Page 7 of the California Ocean Plan and were utilized to calculate effluent Limitations in this Order:

**Table 11. Objectives for the Protection of Aquatic Life**

| Parameters | Limiting Concentrations | | | |
|---|---|---|---|---|
| | Units of Measurement | 6-Month Median | Daily Maximum | Instantaneous maximum |
| Arsenic | µg/L | 8 | 32 | 80. |
| Cadmium | µg/L | 1 | 4. | 10. |
| Chromium (Hexavalent) | µg/L | 2 | 8. | 20. |
| Copper | µg/L | 3 | 12. | 30. |
| Lead | µg/L | 2 | 8. | 20. |
| Mercury | µg/L | 0.04 | 0.16 | 0.4 |
| Nickel | µg/L | 5 | 20. | 50. |
| Selenium | µg/L | 15 | 60. | 150. |
| Silver | µg/L | 0.7 | 2.8 | 7. |
| Zinc | µg/L | 20. | 80. | 200. |
| Cyanide | µg/L | 1. | 4. | 10. |
| Total Residual Chlorine | µg/L | 2. | 8. | 60. |
| Ammonia (Expressed as Nitrogen) | µg/L | 600. | 2400. | 6000. |
| Chronic Toxicity | TUc | N/A | 1. | N/A |
| Phenolic Compounds (non-chlorinated) | µg/L | 30 | 120. | 300. |
| Chlorinated Phenolics | µg/L | 1. | 4. | 10. |

Dilution. The Ocean Plan takes into account the "minimum probable initial dilution" in determining effluent limitations for toxic pollutants. Initial dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge. For the purposes of the Ocean Plan, minimum initial dilution is the lowest average initial dilution within any single month of the year. Dilution estimates must be based on

observed waste flow characteristics, observed receiving water density structure, and the assumption that no currents of sufficient strength to influence the initial dilution process flow across the discharge structure. The State Board investigated the initial dilution factor for the power station ocean outfalls throughout the State. On March 13, 1980, the State Board assigned an initial dilution factor of 7.5:1 to the Discharger's HBGS outfall. It is appropriate to apply this dilution factor in establishing effluent limitations for discharges from this facility.

The following equation from Section III.C.4.a of the Ocean Plan was used to calculate all concentration-based, effluent limitations:

$Ce = Co + Dm (Co - Cs)$ Equation 1

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

Background concentrations for all Table B parameters were assumed to be zero (Cs = 0), except for the following five metals.

**Table 12. Background Concentration in Ocean Plan**

| Constituent | Background Concentration, µg/L |
|---|---|
| Arsenic | 3. |
| Copper | 2. |
| Mercury | 0.0005 |
| Silver | 0.16 |
| Zinc | 8. |

Two sample calculations using the Equation 1 are shown below for calculating effluent limitations for copper and chloroform. These limits are specified in Section IV. A. 1 of the Order.

- *Copper*

  Ce = 3 + 7.5 (3 – 2) = 10.5 µg/L (6-Month Median)
  Ce = 12 + 7.5 (12 – 2) = 87 µg/L (Daily Maximum)
  Ce = 30 + 7.5 (30 – 2) = 240 µg/L (Instantaneous Maximum)

- *Total Residual Chlorine (TRC)*

To determine the appropriate effluent limitations for total residual chlorine (TRC), calculations were performed based on the TRC objectives specified in the Ocean Plan and on the national recommended saltwater TRC criteria. The more stringent of the resultant TRC limits are specified in this Order. This Order assumes that discharges of chlorine from the Facility are continuous, rather than intermittent, as previously assumed in Order No. 00-5. The Ocean Plan objectives and recommended saltwater criteria and the effluent limitations calculations are shown below.

1). Effluent Limits based on TRC objectives in Table B of the Ocean Plan:

**Table 13. Total Chlorine Residual – Water Quality Objectives (µg/L)**

| 6-Month Median | Daily Max. | Instantaneous Max. |
|---|---|---|
| 2 | 8 | 60 |

Using Equation 1 and the allowed initial dilution rate of 7.5, the TRC effluents limits are as follows:

**Table 14. Total Chlorine Residual – Effluent Limits (µg/L)**

| 6-Month Median | Daily Max. | Instantaneous Max. |
|---|---|---|
| 17 | 68 | 510 |

2). Calculation of TRC effluent limits based on national recommended saltwater TRC criteria and based on calculation procedures in the USEPA Technical Support Document:

**Table 15. Total Chlorine Residual – National Saltwater Criteria (µg/L)**

| Parameter | Criteria maximum Concentration[21] (CMC) | Criteria Continous Concentration[22] (CCC), |
|---|---|---|
| Total Residual Chlorine | 13 µg/L | 7.5 µg/L |

[21] *Determined as 1-hour average*
[22] *Determined as a 4-day average*

**Table 16. TSD based TCR effluent limit calculation**

*AES PERMIT LIMIT CALCULATION AND DETERMINATION OF THE MOST APPROPRIATE ML VALUE CONSIDERING CV*

| | | | CV = 0.6 | | | Aquatic | | Human | | Permit Limit | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Acute M | Chronic M | LTA | Objective/limits | | Health Limits | | Concentration Limit | |
| | Salt Water | | 0.321 | 0.527 | | **3.11** | **1.55** | **2.01** | | | |
| Constituent | CMC | CCC | Acute LTA | Chronic LTA | | MDEL | AMEL | MDEL | AMEL | MDEL | AMEL |
| total chlorine residual | 13.0 | 7.5 | 7.61 | 5.67 | ***5.67*** | 9.81 | 6.92 | | | **9.8** | **6.9** |

**Table 17. TRC Limit with Allowed Dilution Ratio of 7.5**

| Parameter | Maximum Daily Concentration | Average Monthly Concentration |
|---|---|---|
| Total Residual Chlorine | 83.3 µg/L | 58.7 µg/L |

As shown in the tables above, the effluent limitations based on the Ocean Plan, TRC water quality criteria are more stringent. The more stringent effluent limitations on Table 13 are specified in this Order.

### b. Concentration Limits vs. Mass Limits

1). Section III.C.8.d of the Ocean Plan requires that effluent limits based on Table B of the Ocean Plan shall also be expressed as mass emission limits. This Order implements the Ocean Plan procedures to calculate the mass emission effluent limits for Table B parameters.

2). Most of the water quality based effluent limitations in Order No. 00-5 are retained in this Order.

### c. Total Residual Chlorine.

Order No. 00-5 established total residual chlorine limits based solely on the USEPA effluent limitations guideline for the "Steam Electric Power Generating Point Source Category". This Order specifies TRC limits based on the Ocean Plan. Furthermore, this Order assumes that discharges of chlorine from the Facility are continuous rather than intermittent, as was assumed in Order No. 00-5. The rationale for this is that there are situations when chlorination will occur for more than two hours per day. The Ocean Plan considers only chlorination not lasting for more than two hours per day as intermittent. The TRC limits based on continuous discharges are more stringent than limits calculated based on intermittent discharges.

**d. Temperature Limitations**

This order implements the provisions of the Thermal Plan using certain findings from the April 2005 "AES HBGS Entrainment and Impingement Study". The relevant findings were as follows:

1). This Order retains the same temperature limits listed in Order No. 00-5 as the following: the temperature of wastes discharged shall not exceed the natural temperature of the receiving waters, as measured by the intake water temperature, by more than $30^0$F.

2). During heat treatments, temperature of discharge waters is about $112^0$F to $122^0$F. This temperature is maintained for about one hour.

3). The temperature limits in Order No. 00-05 are retained in this Order. This Order specifies that temperature fluctuations during gate adjustment above $125^0$F shall not last more than 30 minutes and shall not exceed $130^0$F.

4). The facility is considered an existing Discharger because operation of and discharges from the facility commenced in 1958, before the Thermal Plan was adopted (May 18, 1972). No material change to the permitted volume, nature or location of discharges has occurred since the commencement of operation of the facility. Consequently, the 20°F specified in the Thermal Plan for new dischargers does not apply.

**5. Whole Effluent Toxicity (WET)**

As specified in Table B of the Ocean Plan, the water quality objective for chronic toxicity is I Toxic Units Chronic (TUc).

Calculations for Chronic Toxicity:

Using Equation 1, effluent limitation is calculated as follows:

Ce = Co + Dm (Co – Cs) Equation 1
Ce = 1 + 7.5 (1 - 0) = 8.5 TUc (Daily Maximum)

**D. Final Effluent Limitations**

Final effluent limitations required by this Order are shown in Section IV, Effluent Limitations and Discharge Specifications of the Order.

**E. Interim Effluent Limitations – N/A**

**F. Land Discharge Specifications – N/A**

### G. Reclamation Specifications – N/A

## V. RATIONALE FOR RECEIVING WATER LIMITATIONS

### A. Surface Ocean Water

This Order incorporates the receiving water limitations specified in the Ocean Plan and Thermal Plan.

### B. Groundwater – N/A

## VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 of 40 CFR requires all NPDES permits to specify recording and reporting of monitoring results. Sections 13267 and 13383 of the California Water Code authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program, 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 Monitoring and Reporting Program (MRP) for this Facility.

### A. Influent Monitoring

Order No. 00-5 required taking daily grab sample for intake water to monitor flow, pH, and temperature in degrees Fahrenheit. This monitoring is to implement the Thermal Plan requirements listed in Effluent Specifications. This requirement is retained in this Order.

### B. Effluent Monitoring

1. The Discharger is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are given in the proposed monitoring and reporting program (Attachment E). This provision requires compliance with the monitoring and reporting program, and is based on 40 CFR 122.44(i), 122.62, 122.63 and 124.5. The SMP is a standard requirement in almost all NPDES permits (including the proposed Order) issued by the Regional Water Board. In addition to containing definitions of terms, it specifies general sampling/analytical protocols and the requirements of reporting of spills, violations, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Regional Water Board's policies.

## C. Whole Effluent Toxicity Testing Requirements

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

The Basin Plan specifies a narrative objective for toxicity, requiring that all waters be maintained free of toxic substances in concentrations that are lethal to or produce other detrimental response in aquatic organisms. Detrimental response includes but is not limited to decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota.

In accordance with the Ocean Plan, this Order requires the Discharger to conduct chronic toxicity testing. In addition, the Order establishes thresholds that, when exceeded, require the Discharger to conduct accelerated toxicity testing and/or toxicity identification evaluation (TIE) studies.

This Order requires the Discharger to conduct chronic toxicity testing of the effluent on a monthly basis. The Order also requires the Discharger to conduct an Initial Investigation Toxicity Reduction Evaluation (IITRE) program when either the two-month median of toxicity test results exceeds 8.5 TUc or when any single test exceeds 14.5 TUc for survival endpoint. Based on the results of this investigation program and at the discretion of the Executive Officer, a more rigorous Toxicity Reduction Evaluation/Toxicity Identification Evaluation (TRE/TIE) may be required.

## D. Receiving Ocean Water Monitoring

Receiving water monitoring is required to determine compliance with receiving water limitations and to characterize the water quality of the receiving water. The receiving water monitoring requirements in this Order are based on the Ocean Plan and Thermal plan and the requirements stipulated in Order No. 00-5.

### E. Other Monitoring Requirements

#### 1. Marine Life Entrainment Monitoring

Until such time that the required Comprehensive Demonstration Study is completed, the marine life entrainment monitoring and receiving water monitoring requirements that were specified in Order No. 00-05 are continued in this Order.

#### 2. Special Studies and Additional Monitoring Requirements - 316(b)

In accordance with the 316(b) Phase II regulations and as required for renewal of the Facility NPDES permit, the Discharger is conducting a Comprehensive Demonstration Study. This study requires that certain monitoring be conducted to determine impingement and entrainment. This study will be completed in the early part of 2007. This Order will be reopened to incorporate requirements necessary to implement the provisions of the 316(b) Phase II regulations.

## VII. RATIONALE FOR PROVISIONS

### A. Standard Provisions

Standard Provisions, which in accordance with 40 CFR §§122.41and 122.42 apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D to the Order.

Title 40 CFR 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. 40 CFR 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 40 CFR Sections 122.41(j)(5) and (k)(2) because the enforcement authority under the CWC is more stringent. In lieu of these conditions, this Order incorporates by reference CWC Section 13387(e).

### B. Special Provisions

#### 1. Reopener Provisions

This provision is based on 40 CFR Part 123. The Regional Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new regulations, or adoption of new regulations by the State Board or Regional Water Board, including revisions to the Basin Plan, the Ocean Plan and the Proposed Statewide Policy on Clean Water Act Section 316(b) Regulations.

## 2 Special Studies and Additional Monitoring Requirements

Section 402 of the Clean Water Act and U.S. EPA regulations 40 CFR 122.44 (k) authorize the requirement for best management practices, or BMPs, in NPDES permits. BMPs are measures for controlling the generation of pollutants and their release to waterways. These measures are important tools for waste minimization and pollution prevention.

The tentative Order requires the Discharger to maintain a BMP Plan that incorporates practices to achieve the objectives and specific requirements in the permit. The BMP Plan must be revised as new practices are developed for the facility.

The BMP Plan must be designed to prevent, or minimize the potential for, the release of toxic or hazardous pollutants, including any such pollutants from ancillary activities to waters of the United States. The BMP Plan shall be consistent with the general guidance contained in the U.S. EPA *Guidance Manual for Developing Best Management Practices (BMPs)* (EPA 833-B-93-004). The Discharger shall maintain the BMP Plan in an up-to-date condition and shall amend the BMP Plan in accordance with 40 CFR 125.100 - 125.104 whenever there is a change in facility design, construction, operation, or maintenance that materially affects the potential for discharge from the facility of significant amounts of hazardous or toxic pollutants into waters of the United States.

## 3. Best Management Practices and Pollution Prevention

In accordance with Section 402 (p) of the Federal Clean Water Act, EPA published the final regulations for storm water runoff on November 16, 1990 (40 CFR Parts 122, 123 and 124). Industrial facilities, including POTW sites, are required to obtain NPDES Permits for storm water discharges. On April 17, 1997, the State Board adopted a General Industrial Storm Water Permit, Order No. 97-03-DWQ, NPDES No. CAS000001. This Order includes pertinent provisions of the General Industrial Storm Water Permit appropriate for this discharge.

## 4. Construction, Operation, and Maintenance Specifications - N/A

## 5. Other Special Provisions – N/A

## 6. Compliance Schedules

The requirements specified in Section VI.C.7.a. – Compliance Schedules of the Order were based on the requirements specified in the CWA 316(b) Phase II regulations.

## VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Santa Ana 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 AES facility. 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. Notification was provided through the posting of Notice of Public Hearing at Huntington Beach City Hall and at local newspaper on July 27, 2006; and at the Regional Water Board website: http://www.waterboards.ca.gov/santaana on July 26, 2006.

### 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 August 7, 2006,

Jane Qiu
California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501-3348

### 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: | August 25, 2006 |
| Time: | 9:00 A.M. |
| Location: | Orange County Sanitation District<br>10844 Ellis Avenue<br>Fountain 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 http://www.waterboards.ca.gov/santaana where you can access the current agenda for changes in dates and locations.

## D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be 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

## E. 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 9:00 a.m. and 3:00 p.m. Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (951) 782-3258.

## F. Register of Interested Persons

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

## G. Additional Information

Requests for additional information or questions regarding this Order should be directed to Jane Qiu at (951) 320-2008.

# ATTACHMENT G– MINIMUM LEVELS OF OCEAN PLAN APPENDIX II

## APPENDIX II
## 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

| | | Minimum* Level (ug/L) | |
|---|---|---|---|
| **Volatile Chemicals** | **CAS Number** | **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] |
|---|---|---|---|---|---|
| Acenapthylene | 208968 | -- | 10 | 0.2 | -- |
| Anthracene | 120127 | -- | 10 | 2 | -- |
| Benzidine | 92875 | -- | 5 | -- | -- |
| Benzo(a)anthracene | 56553 | -- | 10 | 2 | -- |
| Benzo(a)pyrene | 50328 | -- | 10 | 2 | -- |
| Benzo(b)fluoranthene | 205992 | -- | 10 | 10 | -- |
| Benzo(g,h,i)perylene | 191242 | -- | 5 | 0.1 | -- |
| Benzo(k)floranthene | 207089 | -- | 10 | 2 | -- |
| 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 | -- | -- |

| Semi-Volatile Chemicals | CAS Number | 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").

| 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] |
|---|---|---|---|---|---|---|---|---|---|---|
| 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**

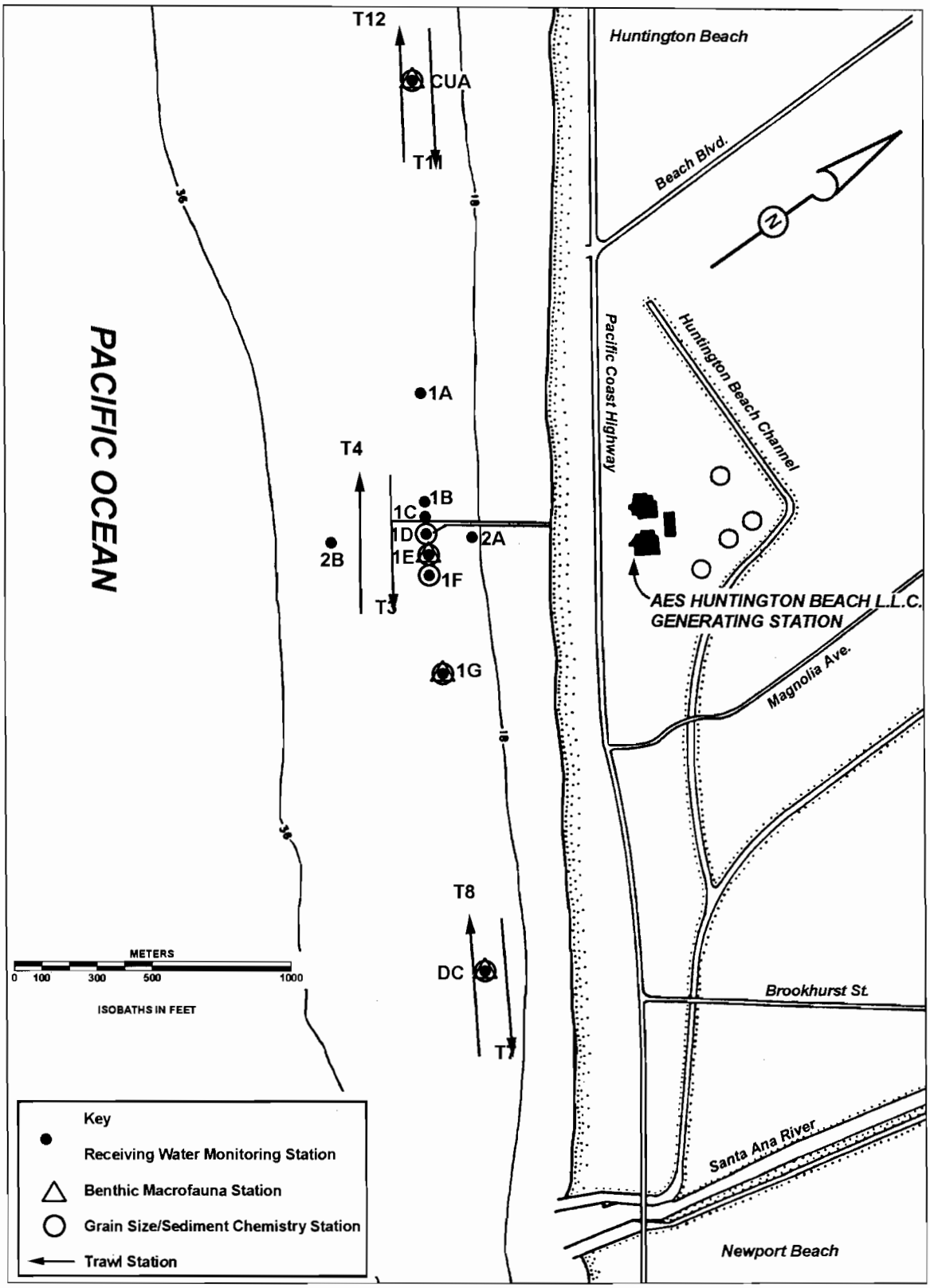
| Pesticides – PCB's | CAS Number | Minimum* Level (ug/L) GC Method[a,*] |
|---|---|---|
| Aldrin | 309002 | 0.005 |
| Chlordane | 57749 | 0.1 |
| 4,4'-DDD | 72548 | 0.05 |
| 4,4'-DDE | 72559 | 0.05 |
| 4,4'-DDT | 50293 | 0.01 |
| Dieldrin | 60571 | 0.01 |
| a-Endosulfan | 959988 | 0.02 |
| b-Endosulfan | 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").

## Attachment H. Receiving Water Monitoring Stations – AES Huntington Beach Generating Station



## ATTACHMENT I - STORM WATER POLLUTION PREVENTION PLAN REQUIREMENTS

1. *Implementation Schedule*

The storm water pollution prevention plan (SWPPP) shall be updated and implemented in a timely manner, but in no case later than October 1, 2006.

2. *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 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, dischargers should consider the five phase process for SWPPP development and implementation as shown in Table A, below.

The SWPPP requirements are designed to be sufficiently flexible to meet the various needs of the facility. SWPPP requirements that are not applicable to the 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.

3. *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 Stormwater monitoring program of Order No. R8-2006-0011. The SWPPP shall clearly identify the storm water pollution prevention related responsibilities, duties, and activities of each team member.

*b. Review Other Requirements and Existing Facility Plans*

The SWPPP may incorporate or reference the appropriate elements of other regulatory requirements. The discharger shall review all local, state, and federal requirements that impact, complement, or are consistent with the requirements of Order No. R8-2006-0011. The discharger shall identify any existing facility plans that contain storm water pollutant control measures or relate to the requirements of Order No. R8-2006-0011. As examples, dischargers 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, the discharger whose facilities are subject to air quality related permits and regulations may already have evaluated industrial activities that generate dust or particulates.

*4. 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, the discharger may provide the required information on multiple site maps. 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, ponds) and municipal storm drain inlets where the facility's storm water discharges and authorized non-storm water discharges may be received.

b. The location of the storm water collection and conveyance system, associated points of discharge, and direction of flow. Include any structural control measures that affect storm water discharges, authorized non-storm water discharges, and run-on. Examples of structural control measures are catch basins, berms, detention ponds, secondary containment, oil/water separators, diversion barriers, etc.

c. An outline of all impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures.

d. Locations where materials are directly exposed to precipitation and the locations where significant spills or leaks identified in Section 6.a.(4)., below, have occurred.

e. Areas of industrial activity. This shall include the locations of all storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage/maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas, cleaning and rinsing areas, and other areas of industrial activity which are potential pollutant sources.

5. *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.

6. *Description of Potential Pollutant Sources*

a. The SWPPP shall include a narrative description of the facility's industrial activities, as identified in Section 4.e., above, associated potential pollutant sources, and potential pollutants that could be discharged in storm water discharges or authorized non-storm water discharges. At a minimum, the following items related to a facility's industrial activities shall be considered:

1). Industrial Processes

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

2). Material Handling and Storage Areas

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

3). Dust and Particulate Generating Activities

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

4). Significant Spills and Leaks

Describe materials that have spilled or leaked in significant quantities in storm water discharges or non-storm water discharges. Include toxic chemicals (listed in 40 Code of Federal Regulations [CFR] Part 302) that have been discharged to storm water as reported on U.S. Environmental Protection Agency (U.S. EPA) Form R, and oil and hazardous substances in excess of reportable quantities (see 40 CFR, Parts 110, 117, and 302).

The description shall include the type, characteristics, and approximate quantity of the material spilled or leaked, the cleanup or remedial actions that have occurred or are planned, the approximate remaining quantity of materials that may be exposed to storm water or non-storm water discharges, and the preventative measures taken to ensure spills or leaks do not reoccur. Such list shall be updated as appropriate during the term of Order No. R8-2006-0011.

5). Non-Storm Water Discharges

The discharger shall investigate the facility to identify all non-storm water discharges and their sources. As part of this investigation, all drains (inlets and outlets) shall be evaluated to identify whether they connect to the storm drain system.

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

Non-storm water discharges that contain significant quantities of pollutants or that do not meet the conditions of Order No. R8-2006-0011 are prohibited. (Examples of prohibited non-storm water discharges are contact and non-contact cooling water, boiler blowdown, rinse water, wash water, etc.). The SWPPP must include BMPs to prevent or reduce contact of non-storm water discharges with significant materials or equipment.

6). Soil Erosion

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

b. The SWPPP shall include a summary of all areas of industrial activities, potential pollutant sources, and potential pollutants. This information should be summarized similar to Table B, below. The last column of Table B, "Control Practices", should be completed in accordance with Section 8., below.

7. *Assessment of Potential Pollutant Sources*

   a. The SWPPP shall include a narrative assessment of all industrial activities and potential pollutant sources as described in Section 6., above, to determine:

      1). Which areas of the facility are likely sources of pollutants in storm water discharges and authorized non-storm water discharges, and

      2). Which pollutants are likely to be present in storm water discharges and authorized non-storm water discharges. The discharger 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. The discharger 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.

      The discharger is required to develop and implement additional BMPs as appropriate and necessary to prevent or reduce pollutants associated with each pollutant source. The BMPs will be narratively described in Section 8., below.

8. *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 6. and 7., above). The BMPs shall be developed and implemented to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Each pollutant and its source may require one or more BMPs. Some BMPs may be implemented for multiple pollutants and their sources, while other BMPs will be implemented for a very specific pollutant and its source.

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.

The discharger 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. The discharger should consider all possible non-structural BMPs options before considering additional structural BMPs (see Section 8.b., below). Below is a list of non-structural BMPs that should be considered:

1). Good Housekeeping: Good housekeeping generally consist of practical procedures to maintain a clean and orderly facility.

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

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

4). Material Handling and Storage: This includes all procedures to minimize the potential for spills and leaks and to minimize exposure of significant materials to storm water and authorized non-storm water discharges.

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

6). Waste Handling/Recycling: This includes the procedures or processes to handle, store, or dispose of waste materials or recyclable materials.

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

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

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

10). Quality Assurance: This includes the procedures to ensure that all elements of the SWPPP and Monitoring Program are adequately conducted.

b. Structural BMPs: Where non-structural BMPs as identified in Section 8.a., above, are not effective, structural BMPs shall be considered. Structural BMPs generally consist of structural devices that reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Below is a list of structural BMPs that should be considered:

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

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

3). Control Devices: This includes berms or other devices that channel or route run-on and runoff away from pollutant sources.

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

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

9. *Annual Comprehensive Site Compliance Evaluation*

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

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

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

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

d. An evaluation report that includes, (1) identification of personnel performing the evaluation, (2) the date(s) of the evaluation, (3) necessary SWPPP revisions, (4) schedule, as required in Section 10.e, below, for implementing SWPPP revisions, (5) any incidents of non-compliance and the corrective actions taken, and (6) a certification that the discharger is in compliance with Order No. R8-2006-0011. If the above certification cannot be provided, explain in the evaluation report why the discharger is not in compliance with this order. The evaluation report shall be submitted as part of the annual report, retained for at least five years, and signed and certified.

10. *SWPPP General Requirements*

a. The SWPPP shall be retained on site and made available upon request by 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 discharger 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 discharger shall submit a SWPPP revision and implementation schedule that meets the minimum requirements of this section to the Regional Water Board and/or local agency that requested the SWPPP revisions. Within 14 days after implementing the required SWPPP revisions, the discharger shall provide written certification to the Regional Water Board and/or local agency that the revisions have been implemented.

c. The SWPPP shall be revised, as appropriate, and implemented prior to changes in industrial activities which (1) may significantly increase the quantities of pollutants in storm water discharge, (2) cause a new area of industrial activity at the facility to be exposed to storm water, or (3) 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 discharger determines that the SWPPP is in violation of any requirement(s) of Order No. R8-2006-0011.

e. When any part of the SWPPP is infeasible to implement by the deadlines specified in Order No. R8-2006-0011, due to proposed significant structural changes, the discharger shall submit a report to the Regional Water Board prior to the applicable deadline that (1) describes the portion of the SWPPP that is infeasible to implement by the deadline, (2) provides justification for a time extension, (3) provides a schedule for completing and implementing that portion of the SWPPP, and (4) 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. The discharger 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.

## TABLE A

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

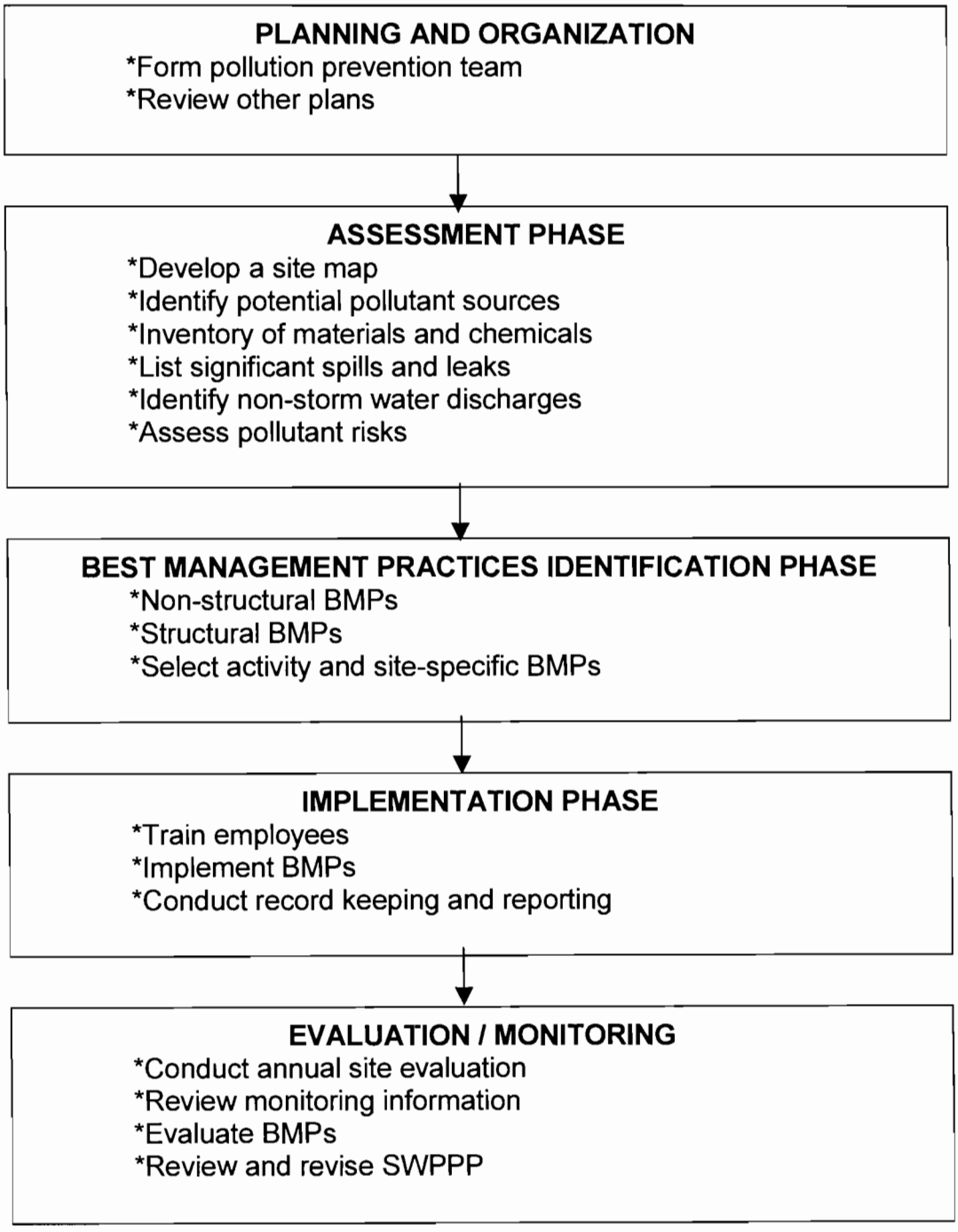


**TABLE B**

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

# ATTACHMENT J - STORMWATER MONITORING PROGRAM AND REPORTING REQUIREMENTS

1. *Implementation Schedule*

The discharger shall continue to implement their existing Stormwater monitoring program and implement any necessary revisions to their Stormwater monitoring program in a timely manner, but in no case later than October 1, 2006. The discharger may use the monitoring results conducted in accordance with their existing Stormwater monitoring program to satisfy the pollutant/parameter reduction requirements in Section 5.c., below, and Sampling and Analysis Exemptions and Reduction Certifications in Section 10, below.

2. *Objectives*

The objectives of the monitoring program are to:

a. Ensure that storm water discharges are in compliance with waste discharge requirements specified in Order No. R8-2006-0011.

b. Ensure practices at the facility to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges are evaluated and revised to meet changing conditions.

c. Aid in the implementation and revision of the SWPPP required by Attachment "I" Stormwater Pollution Prevention Plan of Order No. R8-2006-0011.

d. Measure the effectiveness of best management practices (BMPs) to prevent or reduce pollutants in storm water discharges and authorized non-storm water discharges. Much of the information necessary to develop the monitoring program, such as discharge locations, drainage areas, pollutant sources, etc., should be found in the Storm Water Pollution Prevention Plan (SWPPP). The facility's monitoring program shall be a written, site-specific document that shall be revised whenever appropriate and be readily available for review by employees or Regional Water Board inspectors.

3. *Non-Storm Water Discharge Visual Observations*

a. The discharger shall visually observe all drainage areas within their facility for the presence of unauthorized non-storm water discharges;

b. The discharger shall visually observe the facility's authorized non-storm water discharges and their sources;

c. The visual observations required above shall occur quarterly, during daylight hours, on days with no storm water discharges, and during scheduled facility operating hours[1]. Quarterly visual observations shall be conducted in each of the following periods: January-March, April-June, July-September, and October-December. The discharger shall conduct quarterly visual observations within 6-18 weeks of each other.

d. Visual observations shall document the presence of any discolorations, stains, odors, floating materials, etc., as well as the source of any discharge. Records shall be maintained of the visual observation dates, locations observed, observations, and response taken to eliminate unauthorized non-storm water discharges and to reduce or prevent pollutants from contacting non-storm water discharges. The SWPPP shall be revised, as necessary, and implemented in accordance with Attachment "I" Stormwater Pollution Prevention Plan of Order No. R8-2006-0011.

4. *Storm Water Discharge Visual Observations*

a. With the exception of those facilities described in Section 4.d., below, the discharger shall visually observe storm water discharges from one storm event per month during the wet season (October 1-May 30). These visual observations shall occur during the first hour of discharge and at all discharge locations. Visual observations of stored or contained storm water shall occur at the time of release.

b. Visual observations are only required of storm water discharges that occur during daylight hours that are preceded by at least three (3) working days[2] without storm water discharges and that occur during scheduled facility operating hours.

c. Visual observations shall document the presence of any floating and suspended material, oil and grease, discolorations, turbidity, odor, and source of any pollutants. Records shall be maintained of observation dates, locations observed, observations, and response taken to reduce or prevent pollutants in storm water discharges. The SWPPP shall be revised, as necessary, and implemented in accordance with Attachment "I" Stormwater Pollution Prevention Plan of Order No. R8-2006-0011.

---

1 *"Scheduled facility operating hours" are the time periods when the facility is staffed to conduct any function related to industrial activity, but excluding time periods where only routine maintenance, emergency response, security, and/or janitorial services are performed.*

2 *Three (3) working days may be separated by non-working days such as weekends and holidays provided that no storm water discharges occur during the three (3) working days and the non-working days.*

d. The discharger with storm water containment facilities shall conduct monthly inspections of their containment areas to detect leaks and ensure maintenance of adequate freeboard. Records shall be maintained of the inspection dates, observations, and any response taken to eliminate leaks and to maintain adequate freeboard.

5. *Sampling and Analysis*

a. The discharger shall collect storm water samples during the first hour of discharge from (1) the first storm event of the wet season, and (2) at least one other storm event in the wet season. All storm water discharge locations shall be sampled. Sampling of stored or contained storm water shall occur at the time the stored or contained storm water is released. The discharger that does not collect samples from the first storm event of the wet season are still required to collect samples from two other storm events of the wet season and shall explain in the "Annual Stormwater Report" (see Section 12, below) why the first storm event was not sampled.

b. Sample collection is only required of storm water discharges that occur during scheduled facility operating hours and that are preceded by at least (3) three working days without storm water discharge.

c. The samples shall be analyzed for:

1). Total suspended solids (TSS) pH, specific conductance, and total organic carbon (TOC). Oil and grease (O&G) may be substituted for TOC;

2). Toxic chemicals and other pollutants that are likely to be present in storm water discharges in significant quantities. If these pollutants are not detected in significant quantities after two consecutive sampling events, the discharger may eliminate the pollutant from future sample analysis until the pollutant is likely to be present again;

3). The discharger is not required to analyze a parameter when either of the two following conditions are met: (a) the parameter has not been detected in significant quantities from the last two consecutive sampling events, or (b) the parameter is not likely to be present in storm water discharges and authorized non-storm water discharges in significant quantities based upon the discharger's evaluation of the facilities industrial activities, potential pollutant sources, and SWPPP; and

4). Other parameters as required by the Regional Water Board.

6. *Sample Storm Water Discharge Locations*

   a. The discharger shall visually observe and collect samples of storm water discharges from all drainage areas that represent the quality and quantity of the facility's storm water discharges from the storm event.

   b. If the facility's storm water discharges are commingled with run-on from surrounding areas, the discharger should identify other visual observation and sample collection locations that have not been commingled by run-on and that represent the quality and quantity of the facility's storm water discharges from the storm event.

   c. If visual observation and sample collection locations are difficult to observe or sample (e.g., sheet flow, submerged outfalls), the discharger shall identify and collect samples from other locations that represent the quality and quantity of the facility's storm water discharges from the storm event.

   d. The discharger that determines that the industrial activities and BMPs within two or more drainage areas are substantially identical may either (1) collect samples from a reduced number of substantially identical drainage areas, or (2) collect samples from each substantially identical drainage area and analyze a combined sample from each substantially identical drainage area. The discharger must document such a determination in the annual Stormwater report.

7. Visual Observation and Sample Collection Exceptions

The discharger is required to be prepared to collect samples and conduct visual observations at the beginning of the wet season (October 1) and throughout the wet season until the minimum requirements of Sections 4. and 5., above, are completed with the following exceptions:

   a. The discharger is not required to collect a sample and conduct visual observations in accordance with Section 4 and Section 5, above, due to dangerous weather conditions, such as flooding, electrical storm, etc., when storm water discharges begin after scheduled facility operating hours or when storm water discharges are not preceded by three working days without discharge. Visual observations are only required during daylight hours. The discharger that does not collect the required samples or visual observations during a wet season due to these exceptions shall include an explanation in the "Annual Stormwater Report" why the sampling or visual observations could not be conducted.

b. The discharger may conduct visual observations and sample collection more than one hour after discharge begins if the discharger determines that the objectives of this section will be better satisfied. The discharger shall include an explanation in the "Annual Stormwater Report" why the visual observations and sample collection should be conducted after the first hour of discharge.

8. *Alternative Monitoring Procedures*

The discharger may propose an alternative monitoring program that meets Section 2, above, monitoring program objectives for approval by the Regional Water Board's Executive Officer. The discharger shall continue to comply with the monitoring requirements of this section and may not implement an alternative monitoring plan until the alternative monitoring plan is approved by the Regional Water Board's Executive Officer. Alternative monitoring plans are subject to modification by the Regional Water Board's Executive Officer.

*9. Monitoring Methods*

a. The discharger shall explain how the facility's monitoring program will satisfy the monitoring program objectives of Section 2., above. This shall include:

   1). Rationale and description of the visual observation methods, location, and frequency;

   2). Rationale and description of the sampling methods, location, and frequency; and

   3). Identification of the analytical methods and corresponding method detection limits used to detect pollutants in storm water discharges. This shall include justification that the method detection limits are adequate to satisfy the objectives of the monitoring program.

b. All sampling and sample preservation shall be in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association). All monitoring instruments and equipment (including the discharger's own field instruments for measuring pH and Electro-conductivity) shall be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements. All laboratory analyses must be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in Order No. R8-2006-0011 or by the Regional Water Board's Executive Officer. All metals shall be reported as total recoverable metals or unless otherwise specified in Order No. R8-2006-0011. With the exception of analysis conducted by the discharger, all laboratory analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. The discharger may conduct their own sample analyses if the discharger has sufficient capability (qualified employees, laboratory equipment, etc.) to adequately perform the test procedures.

10. *Sampling and Analysis Exemptions and Reductions*

A discharger who qualifies for sampling and analysis exemptions, as described below in Section 10.a.(1) or who qualifies for reduced sampling and analysis, as described below in Section 10.b., must submit the appropriate certifications and required documentation to the Regional Water Board prior to the wet season (October 1) and certify as part of the annual Stormwater report submittal. A discharger that qualifies for either the Regional Water Board or local agency certification programs, as described below in Section 10.a.(2) and (3), shall submit certification and documentation in accordance with the requirements of those programs. The discharger who provides certification(s) in accordance with this section are still required to comply with all other monitoring program and reporting requirements. The discharger shall prepare and submit their certification(s) using forms and instructions provided by the State Water Board, Regional Water Board, or local agency or shall submit their information on a form that contains equivalent information. The discharger whose facility no longer meets the certification conditions must notify the Regional Water Board's Executive Officer (and local agency) within 30 days and immediately comply with Section 5., Sampling and Analysis requirements. Should a Regional Water Board (or local agency) determine that a certification does not meet the conditions set forth below, the discharger must immediately comply with the Section 5., Sampling and Analysis requirements.

a. Sampling and Analysis Exemptions

A discharger is not required to collect and analyze samples in accordance with Section 5., above, if the discharger meets all of the conditions of one of the following certification programs:

1). No Exposure Certification (NEC)

This exemption is designed primarily for those facilities where all industrial activities are conducted inside buildings and where all materials stored and handled are not exposed to storm water. To qualify for this exemption, the discharger must certify that their facilities meet all of the following conditions:

a). All prohibited non-storm water discharges have been eliminated or otherwise permitted.

b). All authorized non-storm water discharges have been identified and addressed in the SWPPP.

c). All areas of past exposure have been inspected and cleaned, as appropriate.

d). All significant materials related to industrial activity (including waste materials) are not exposed to storm water or authorized non-storm water discharges.

e). All industrial activities and industrial equipment are not exposed to storm water or authorized non-storm water discharges.

f). There is no exposure of storm water to significant materials associated with industrial activity through other direct or indirect pathways such as from industrial activities that generate dust and particulates.

g). There is periodic re-evaluation of the facility to ensure conditions (a), (b), (d), (e), and (f) above are continuously met. At a minimum, re-evaluation shall be conducted once a year.

2). Regional Water Board Certification Programs

The Regional Water Board may grant an exemption to the Section 5. Sampling and Analysis requirements if it determines a discharger has met the conditions set forth in a Regional Water Board certification program. Regional Water Board certification programs may include conditions to (a) exempt the discharger whose facilities infrequently discharge storm water to waters of the United States, and (b) exempt the discharger that demonstrate compliance with the terms and conditions of Order No. R8-2006-0011.

3). Local Agency Certifications

A local agency may develop a local agency certification program. Such programs must be approved by the Regional Water Board. An approved local agency program may either grant an exemption from Section 5. Sampling and Analysis requirements or reduce the frequency of sampling if it determines that a discharger has demonstrated compliance with the terms and conditions of the Industrial Activities Storm Water General Permit Order No. 97-03-DWQ which was adopted by the State Water Resources Control Board on April 17, 1997.

b. Sampling and Analysis Reduction

A discharger may reduce the number of sampling events required to be sampled for the remaining term of Order No. R8-2006-0011 if the discharger provides certification that the following conditions have been met:

1). The discharger has collected and analyzed samples from a minimum of six storm events from all required drainage areas;

2). All prohibited non-storm water discharges have been eliminated or otherwise permitted;

3). The discharger demonstrates compliance with the terms and conditions of the Order No. R8-2006-0011 for the previous two years (i.e., completed Annual Stormwater Reports, performed visual observations, implemented appropriate BMPs, etc.);

4). The discharger demonstrates that the facility's storm water discharges and authorized non-storm water discharges do not contain significant quantities of pollutants; and

5). Conditions (b), (c), and (d) above are expected to remain in effect for a minimum of one year after filing the certification.

*11. Records*

Records of all storm water monitoring information and copies of all reports (including the Annual Stormwater Reports) required by Order No. R8-2006-0011 shall be retained for a period of at least five years. These records shall include:

a. The date, place, and time of site inspections, sampling, visual observations, and/or measurements;

b. The individual(s) who performed the site inspections, sampling, visual observations, and or measurements;

c. Flow measurements or estimates;

d. The date and approximate time of analyses;

e. The individual(s) who performed the analyses;

f. Analytical results, method detection limits, and the analytical techniques or methods used;

g. Quality assurance/quality control records and results;

h. Non-storm water discharge inspections and visual observations and storm water discharge visual observation records (see Sections 3. and 4., above);

i. Visual observation and sample collection exception records (see Section 5.a, 6.d, 7, and 10.b.(2), above;

j. All calibration and maintenance records of on-site instruments used;

k. All Sampling and Analysis Exemption and Reduction certifications and supporting documentation (see Section 10);

l. The records of any corrective actions and follow-up activities that resulted from the visual observations.

*12. Annual Report*

The discharger shall submit an Annual Stormwater Report by July 1 of each year to the Executive Officer of the Regional Water Board and to the local agency (if requested). The report shall include a summary of visual observations and sampling results, an evaluation of the visual observation and sampling and analysis results, laboratory reports, the Annual Comprehensive Site Compliance Evaluation Report required in Section 9. of Attachment "I" of Order No. R8-2006-0011, an explanation of why a facility did not implement any activities required by Order No. R8-2006-0011 (if not already included in the Evaluation Report), and records specified in Section 11., above. The method detection limit of each analytical parameter shall be included. Analytical results that are less than the method detection limit shall be reported as "less than the method detection limit". The discharger shall prepare and submit their Annual Stormwater Reports using the annual report forms provided by the State Water Board or Regional Water Board or shall submit their information on a form that contains equivalent information.

*13. Watershed Monitoring Option*

Regional Water Boards may approve proposals to substitute watershed monitoring for some or all of the requirements of this section if the Regional Water Board finds that the watershed monitoring will provide substantially similar monitoring information in evaluating discharger compliance with the requirements of Order No. R8-2006-0011.

## ATTACHMENT K – TRIGGERS FOR MONITORING POLLUTANTS

The values shown in the table below are fifty percent of the most stringent applicable ocean water as receiving water objectives as specified for that pollutant in California Ocean Plan 2006.

| Constituent | µg/L |
|---|---|
| Arsenic | 329 |
| Cadmium | 43 |
| Chromium (Hexavalent) | 85 |
| Copper | 120 |
| Lead | 85 |
| Mercury | 1.7 |
| Nickel | 213 |
| Selenium | 638 |
| Silver | 29 |
| Zinc | 820 |
| Cyanide | 43 |
| Total Chlorine Residual | 255 |
| Phenolic Compounds(non-chlorinated) | 1275 |
| Chlorinated Phenolics | 43 |
| Endosulfan | 0.115 |
| Endrin | 0.026 |
| HCH* | 0.051 |
| acrolein | 935 |
| antimony | 5100 |
| bis(2-chloroethoxy) methane | 19 |
| bis(2-chloroisopropyl) ether | 5100 |
| chlorobenzene | 2423 |
| chromium (III) | 807500 |
| di-n-butyl phthalate | 14875 |
| dichlorobenzenes* | 21675 |
| diethyl phthalate | 140250 |
| dimethyl phthalate | 3485000 |
| 4,6-dinitro-2-methylphenol | 935 |
| 2,4-dinitrophenol | 17 |
| ethylbenzene | 17425 |
| fluoranthene | 64 |
| hexachlorocyclopentadiene | 247 |
| nitrobenzene | 21 |
| thallium | 9 |
| toluene | 361250 |
| tributyltin | 0.006 |
| | |
| | |

| Constituent | µg/L |
|---|---|
| 1,1,1-trichloroethane | 2295000 |
| acrylonitrile | 0.4 |
| aldrin | 0.000094 |
| benzene | 25 |
| benzidine | 0.00029 |
| beryllium | 0.14 |
| bis(2-chloroethyl) ether | 0.191 |
| bis(2-ethylhexyl) phthalate | 15 |
| carbon tetrachloride | 3.8 |
| chlordane* | 0.000098 |
| chlorodibromomethane | 37 |
| chloroform | 553 |
| DDT* | 0.00072 |
| 1,4-dichlorobenzene | 77 |
| 3,3'-dichlorobenzidine | 0.034 |
| 1,2-dichloroethane | 119 |
| 1,1-dichloroethylene | 3.8 |
| dichlorobromomethane | 26 |
| dichloromethane | 1913 |
| 1,3-dichloropropene | 38 |
| dieldrin | 0.00017 |
| 2,4-dinitrotoluene | 11 |
| 1,2-diphenylhydrazine | 0.68 |
| halomethanes* | 553 |
| heptachlor | 0.00021 |
| heptachlor epoxide | 0.00009 |
| hexachlorobenzene | 0.00089 |
| hexachlorobutadiene | 60 |
| hexachloroethane | 11 |
| isophorone | 3103 |
| N-nitrosodimethylamine | 31 |
| N-nitrosodi-N-propylamine | 1.6 |
| N-nitrosodiphenylamine | 11 |
| PAHs* | 0.0374 |
| PCBs* | 0.000081 |
| TCDD equivalents* | 0.000000017 |
| 1,1,2,2-tetrachloroethane | 10 |
| tetrachloroethylene | 9 |