State Of California
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
http://www.waterboards.ca.gov/santaana

ORDER NO. R8-2020-0040
NPDES NO. CA0001163

WASTE DISCHARGE REQUIREMENTS FOR AES HUNTINGTON BEACH, L.L.C. HUNTINGTON BEACH GENERATING STATION ORANGE COUNTY

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

Table 1. Discharger/Facility Information

Discharger	AES Huntington Beach, L.L.C.
Name of Facility	Huntington Beach Generating Station
Facility Address	21730 Newland Street
	Huntington Beach, CA, 92646
	Orange County

Discharges by AES Huntington Beach L.L.C. from the discharge point identified in Table 2, below, are subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Once-through condenser cooling waters, wastewater associated with bio-fouling control and heat treatment, boiler blowdown, condensate overboard; treated wastewater from retention basin (in-plant drains), stormwater runoff from the generating station, and urban runoff from the City of Huntington Beach and wildlife center rainfall drains[1]	33º 38' 19" N	117º 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 under Regional Water Board Order No. R8-2009-0030 (Amended by R8-2010-0062). 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 on:	December 4, 2020
This Order shall become effective on:	January 1, 2021
This Order expires on:	December 31, 2025
The Discharger shall file a Report of Waste Discharge as an application for reissuance of these waste discharge requirements in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System permit no later than:	July 4, 2025
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, Santa Ana Region have classified this discharge as follows:	Major

IT IS HEREBY ORDERED, that upon the effective date, this Order supersedes Order No. R8-2014-0076 except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with § 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Regional Water Board from taking enforcement action for past violations of the previous Order.

I, Hope A. Smythe, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on December 4, 2020.

Hope Smythe Digitally signed by Hope Smythe
Water Boards Date: 2020.12.09 15:43:36 -08'00'

Hope A. Smythe, Executive Officer

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TABLES

ATTACHMENTS

I. DISCHARGER/FACILITY INFORMATION

Information regarding AES Huntington Beach (Discharger) and the Huntington Beach Generating Station (Facility) is summarized in Table 1 and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Discharger's permit application.

II. FINDINGS

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

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

B. **Background and Rationale for Requirements.** The Santa Ana Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for the requirements in this Order, is hereby incorporated into and constitutes Findings for this Order. Attachments A through E, and G through K are also incorporated into this Order.

C. **California Environmental Quality Act (CEQA).** Under Water Code § 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code § 21000, et seq.

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

E. **Consideration of Public Comment.** The Santa Ana 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.

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 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.

G. The discharge to the ocean of chemical metal cleaning wastes is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations

1. Final Effluent Limitations – Discharge Point No. 001

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

Table 4. Effluent Limitations for Discharge Point 001 at Monitoring Location M-001

Parameter	Units	Effluent Limitations				
		6-Month Median	Average Monthly	Maximum Daily[1]	Instantaneous Minimum	Instantaneous Maximum
pH	pH units	--	--	--	6.0	9.0
Copper, Total Recoverable	µg/L	11	--	87	--	240
Zinc, Total Recoverable	µg/L	110		620		1640

Parameter	Units	Effluent Limitations				
		6-Month Median	Average Monthly	Maximum Daily[1]	Instantaneous Minimum	Instantaneous Maximum
Total Residual Chlorine	µg/L	17	--	68[a]	--	200
Chronic Toxicity	TST Pass or Fail			P		

1. Applied as a daily average concentration.

b. **Chronic Toxicity.** The chronic toxicity limitation is expressed as a null hypothesis (H_0) and regulatory management decision (*b* value) of 0.75 for the chronic toxicity methods in Attachment E – Monitoring and Reporting Program. The null hypothesis for the effluent discharge from the Facility is:

H_0: Mean response (11.76% effluent) ≤ 0.75 mean response (control)

Results obtained from a single-concentration chronic toxicity test shall be analyzed using the Test of Significant Toxicity hypothesis testing approach (EPA 833-R-10-003, 2010) in Attachment E – Monitoring and Reporting Program. Compliance with this chronic toxicity limitation is demonstrated by rejecting the null hypothesis, resulting in a "Pass" or "P", as described in section V.A. of Attachment E.

c. **Total Residual Chlorine.** Total residual chlorine may not be discharged from any unit for more than two hours in any one day, unless the Discharger demonstrates to the satisfaction of the Santa Ana Water Board Executive Officer that discharges for more than two hours are required for the control of bio-fouling and that such discharges will not adversely affect water quality. In addition, not more than one unit may discharge total residual chlorine at any one time.

d. **Temperature.**

i. During normal operation, the temperature of wastes discharged at Discharge Point No. 001 shall not exceed the natural temperature of the receiving waters, as measured by the intake water temperature, by more than 30°F.

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

2. Final Effluent Limitations – Low Volume and Metal Cleaning Wastes (Monitoring Locations M-INTB1 and M-INTB2)

a. The Discharger shall maintain compliance with the following effluent limitations for low volume and metal cleaning wastes, with compliance measured at Monitoring Locations M-INTB1 and M-INTB2 as described in the Monitoring and Reporting Program, Attachment E:

Table 5. Effluent Limitations at Monitoring Locations M-INTB1 and M-INB2

Parameter	Units	Effluent Limitations				
		6-Month Median	Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH	pH Units	--	--	--	6.0	9.0
Total Suspended Solids	mg/L	--	30.0	100.0	--	--
	lbs/day	--	See Section IV.A.2.b	See Section IV.A.2.b	--	--
Oil and Grease	mg/L	--	15.0	20.0	--	--
	lbs/day	--	See Section IV.A.2.b	See Section IV.A.2.b	--	--
Copper, Total Recoverable	lbs/day	See Section IV.A.2.c	--	See Section IV.A.2.c	--	--
Zinc, Total Recoverable	lbs/day	See Section IV.A.2.c		See Section IV.A.2.c		
Iron, Total Recoverable	mg/L		1.0	1.0		
	lbs/day		See Section IV.A.2.b	See Section IV.A.2.b		

b. **Mass Limitations**

The Discharger shall calculate the mass emission rate limitation utilizing the general formula:

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

Where,

Ce = The effluent concentration limitation specified in Table 5 (Effluent Limitations at Monitoring Location M-INTB1 and M-INTB2) for the specific pollutant considered (in units of mg/L).

Q = The sum of the observed flow rates discharged at Monitoring Location M-INTB1 and M-INTB2 (in units of MGD).

c. **Total Recoverable Copper and Zinc Mass Limitations**

The Discharger shall calculate the mass emission rate limitation utilizing the general formula:

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

Where,

Ce = The effluent concentration limitation specified in Table 4 (Effluent Limitations at Monitoring Location M-001) for total recoverable copper or zinc (in units of µg/L).

Q = The sum of the observed flow rate discharged at Monitoring Location M-INTB1 and M-INTB2 (in units of MGD).

d. Discharge Mass Emission Rate for M-INTB1 & M-INTB2

The discharge mass emission rate shall be computed for each Monitoring Location M-INTB1 and M-INTB2 and the sum of both shall be used for determining compliance with mass emission limitations of this section IV.A.2.

B. Land Discharge Specifications – Not Applicable

C. Recycling Specifications – Not Applicable

D. Storm Water Requirements

The Discharger shall provide certification to the Santa Ana Water Board that industrial stormwater that is generated within the Facility is managed by internal drainage systems at the Facility, where stormwater is captured, treated, and discharged with the treated wastewater regulated under this Order. The certification shall be included in the Stormwater Management Plan required below.

1. Stormwater Management Plan

The Discharger shall file with the Santa Ana Water Board, within 180 days of the effective date of this Order, a Stormwater Management Plan for discharges of

stormwater associated with industrial activities excluding construction activities at its Facility.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

1. Thermal Characteristics

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

b. The maximum discharge temperature shall not exceed the natural temperature of receiving waters by more than 30°F.

c. The discharge shall occur at a sufficient distance from the areas of special biological significance to assure the maintenance of natural temperature in areas designated as “areas of special biological significance”.

d. The discharge shall occur at a sufficient distance away from the shoreline to achieve dispersion through the vertical water column.

2. Chemical, Physical, and Biological Limitations

Discharges from Facility 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.

a. **Bacterial Characteristics**

i. Water-Contact Standards:

(a) 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.

(1) Fecal Coliform

(i) A 30-day geometric mean, calculated based on the five most recent samples from each site, shall not exceed 200 per 100 mL; and

(ii) A single sample maximum shall not exceed 400 per 100 mL.

(2) Enterococci

(i) A 6-week rolling geometric mean shall not exceed 30 colony forming units (cfu) per 100mL, calculated weekly; and

(ii) A statistical threshold value of 110 cfu per 100 mL shall not be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner.

(b) 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.

ii. 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.

b. **Physical Characteristics**

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

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

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

iv. 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.

v. Trash from the discharge shall not be present in ocean waters, along shorelines, or adjacent areas in amounts that adversely affect beneficial uses or cause nuisance.

c. **Chemical Characteristics**

i. 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.

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

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

iv. The concentration of substances set forth in Chapter II, Table 3, of the 2019 Ocean Plan shall not be increased in marine sediments to levels that would degrade indigenous biota.

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

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

vii. Numerical water quality objectives established in Chapter II, Table 3, of the 2019 Ocean Plan shall not be exceeded as a result of discharges from the Facility through Discharge Point No. 001.

d. **Biological Characteristics**

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

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

iii. The concentration of organic materials in fish, shellfish, or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.

e. **Radioactivity**

i. Discharge of radioactive waste, which meets the definition of “pollutant” at 40 C.F.R. 122.2, shall not degrade marine life.

ii. The radioactivity in the receiving waters shall not exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, section 30253 of the California Code of Regulations (CCR). The reference to section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.

B. Groundwater Limitations – Not Applicable

VI. PROVISIONS

A. Standard Provisions

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

2. The Facility shall be protected to reduce infrastructure vulnerability to extreme wet weather events, flooding, storm surges, and projected sea level rise resulting from current and future impact associated with climate change.

3. Minor Modification of Permits: Upon the consent of the Discharger, the Executive Officer may modify the Permit to make the corrections or allowances for changes in the permitted activity listed under 40 CFR 122.63(a) through (g), without following the procedures of 40 CFR 124. Any permit modification not processed as a minor modification under 40 CFR 122.63 must be made for cause and comply with public participation requirements set forth in 40 CFR part 124, including circulation of a draft permit and public notice as required in 40 CFR 122.62.
4. This Order expires on December 31, 2025, after which, the terms and conditions of this Order are automatically continued pending issuance of a new Order, provided that all requirements of USEPA's NPDES regulations at 40 CFR part 122.6 and the State's regulations at CCR Title 23, § 2235.4 regarding the continuation of expired permits and waste discharge requirements are met.
5. The Discharger shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:
    a. 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., 6-month median, average monthly, maximum daily, and instantaneous maximum effluent limitations), or receiving water limitation of this Order, the Discharger shall notify the Santa Ana 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 Santa Ana Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and, prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.
    c. Neither the treatment nor the discharge of pollutants shall create a pollution, contamination, or nuisance as defined by § 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.

   i. Violation of any terms or conditions of this Order;

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

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

f. If an effluent standard or discharge prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under § 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.

g. The Discharger shall file with the Santa Ana Water Board a Report of Waste Discharge at least 180 days before making any material change in the character, location, or volume of the discharge. A material change includes, but is not limited to, the following:

   i. Adding a major industrial waste discharge to a discharge of essentially domestic sewage or adding a new process or product by an industrial facility resulting in a change in the character of the waste.

   ii. Significantly changing the disposal method or location, such as changing the disposal to another drainage area or water body.

   iii. Significantly changing the method of treatment.

   iv. Increasing the treatment plant design capacity beyond that specified in this Order.

h. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.

i. The Discharger shall maintain a copy of this Order at the site so that it is available to site operating personnel at all times. Key operating personnel shall be familiar with its content.

j. The Discharger shall optimize chemical additions needed in the treatment process to meet waste discharge requirements so as to minimize total dissolved solid increases in the treated wastewater.

k. Collected screenings, sludge, and other solids removed from liquid wastes shall be disposed of in a manner acceptable to the Regional Water Board's Executive Officer.

l. In the event of any change in control or ownership of land or waste discharge facility presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to the Santa Ana Water Board.

B. Monitoring and Reporting Program Requirements

The Discharger shall comply with the Monitoring and Reporting Program, and future revisions thereto, in Attachment E of this Order. This monitoring and reporting program may be modified by the Executive Officer at any time during the term of this Order, and may include an increase in the number of parameters to be monitored, the frequency of the monitoring or the number and size of samples to be collected. Any increase in the number of parameters to be monitored, the frequency of the monitoring or the number and size of samples to be collected may be reduced back to the levels specified in the original monitoring and reporting program at the discretion of the Executive Officer.

C. Special Provisions

1. Reopener Provisions

a. This Order will be reopened to address any changes in State or federal statutes, 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 C.F.R. 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 be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

e. This Order may be reopened to include requirements necessary to assure compliance with the CWA § 316(b) Phase II regulations and with relevant State policy for implementing those regulations.

f. This Order may be reopened when the use of the once-through-cooling water ceases and/or if the discharge is commingled with the brine discharge that would originate from the proposed Poseidon's Huntington Beach Desalinization Facility.

g. 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.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Toxicity Reduction Requirements**

i. The Discharger shall conduct chronic toxicity monitoring of discharges as specified in the MRP (Attachment E).

ii. The Discharger shall update, as necessary, its Initial Investigation Toxicity Reduction Evaluation (IITRE) work plan. This work plan shall describe the steps the Discharger intends to follow if required by Special Provision VI.C.2.a.ii(d), below. The work plan shall include at a minimum:

(a) 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.

(b) A description of the methods to be used for investigating and maximizing in-house treatment efficiency and good housekeeping practices.

(c) A description of the evaluation process to be used to determine if implementation of a more detailed Toxicity Reduction Evaluation and Toxicity Identification Evaluation (TRE\TIE) is necessary.

(d) The Discharger shall implement the IITRE work plan whenever the chronic toxicity effluent limitation is exceeded.

(e) The Discharger shall update, as necessary, its detailed 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.

(f) 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:

(1) Further actions to investigate and identify the cause of toxicity;

(2) Actions the Discharger will take to mitigate the impact of the discharge and to prevent the recurrence of toxicity; and

(3) A schedule for these actions.

(g) The Discharger shall implement the TRE/TIE work plan 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.

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

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 develop and conduct a Pollutant Minimization Program (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:

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

ii. The concentration of the pollutant is reported as ND and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in MRP Section X.B.4.

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 § 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:

i. 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;

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

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

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

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

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

(b) A list of potential sources of the reportable 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.

c. **Retention Basins Maintenance.** Within three months following the adoption of this Order, the Discharger shall submit an updated plan for periodic cleaning of the retention basins to prevent the mobilization and ocean discharge of pollutants during storm events. This plan must be implemented upon approval by the Santa Ana Water Board's Executive Officer.

4. Climate Change Action Plan

Changing climate conditions may fundamentally alter the way power generation stations are designed and operated. Climate change research indicates the overarching driver of change is increased atmospheric carbon dioxide (CO_2) from human activity. The increased CO_2 emissions trigger changes to climatic patterns, which increase the intensity of sea level rise and coastal storm surges (Sea Level Changes), lead to more erratic rainfall and local weather patterns

(Weather Patterns Changes), trigger a gradual warming of freshwater and ocean temperatures (Water Temperature Changes) and trigger changes to ocean water chemistry (Water pH Changes).

The Discharger shall prepare and submit a Climate Change Action Plan (CCAP) within 180 days of the effective date of this Order. The CCAP shall identify the following:

a. Projected regional impacts on the Facility and operations due to climate change if current trends continue.

b. Steps being taken or planned to address:

   i. Greenhouse gas emissions, directly and indirectly, attributable to the Facility operations and effluent discharge process;

   ii. Flooding and sea level rise risks that may affect the operations including discharges at the Facility;

   iii. Volatile rain period impacts (both dry and wet weather);

   iv. Impacts on process design parameters due to changes caused by climate change;

   v. Impacts on the Facility's operations and effluent water quality; and

   vi. Impacts to the mitigation site(s) approved by the Santa Ana Water Board.

c. Potential need to adjust the conditions of this Order.

d. Financing needed to pay for planned actions;

e. Conformity with plans and requirements by other agencies, including but not limited to the California Air Resources Board, the Air Pollution Control District, and the California Coastal Commission.

f. Schedules to update the CCAP as more information on climate change and its effects become available.

g. Any other factors as appropriate.

The Santa Ana Water Board will consult with other state agencies with regulatory authority over the Facility in its review of the CCAP. The Discharger shall implement the CCAP upon approval by the Santa Ana Water Board.

5. 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 to 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.

f. **Asset Management**. The Discharger shall develop an asset management program (AMP) to cover wastewater treatment processes of the Facility and intake and outfall structures. The Discharger shall:

i. Procure, populate, and utilize an asset management and/or work order management software. This software shall: Inventory all critical assets valued over $5,000 into a single database (assets may include, but are not limited to pipelines, manholes, outfalls, pump stations, force mains, catch basins, and wastewater treatment facilities assets); automated work order production and tracking; and prioritize system maintenance and rehabilitation projects. Each entry shall include: Name and identification number; location (GPS coordinate or equivalent identifier): current performance/condition; purchase and installation date; purchase price; replacement cost; quantitative consequence of failure; and quantitative likelihood of failure.

ii. Within 180 days from the effective date of the Order the Discharger shall submit to the Santa Ana Water board the AMP. The AMP shall be updated and re-evaluated every 5 years. The AMP shall include the following components: A Rehabilitation and Replacement Plan identifying and prioritizing upcoming asset rehabilitation and replacement projects costing greater than $5,000 and outline a proposed schedule for completion of each project; a Maintenance Plan that identifies categories

of maintenance activities and frequency performed and estimates ongoing and projected costs of maintenance activities.

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

7. Other Special Provisions – Not Applicable

8. Once-Through Cooling Compliance Schedule

a. **Compliance Date and Alternatives**

The Discharger submitted an implementation plan (IP) for compliance with the State Water Resources Control Board's (State Water Board's) Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling (OTC Policy) on April 1, 2011, which the Discharger later amended on June 17, 2011. According to its IP, the facility consists of four steam-powered electric generating units (Units 1, 2, 3, and 4). Units 3 and 4 were operated sparingly after 1989 and were retired from service in 1995. However, upon completion of a retool project in 2003, these units were brought back into operation, but in October 31, 2012 ceased operations as electric utility steam boilers and were changed to synchronous condensers. These synchronous condensers would continue to operate the OTC system with substantially less ocean intake water volumes. Per its original IP, its amendment, and further correspondence, the Discharger proposed to bring Units 1, 2, 3, and 4 into compliance using Track 1 with the construction of two dry-cooled natural gas fired combined cycle gas turbine (CCGT) power blocks. The construction would be completed in two phases and Units 1, 2, 3, and 4 would cease the intake of OTC seawater by the Final Compliance Date specified for the HBGS in the OTC Policy of December 31, 2020.

In addition, the Discharger requested an extension of the Final Compliance Date of Units 1 and 2 to December 31, 2022, because of delays in the first phase with the expected shutdown of the synchronous condensers by December 2018, which would delay the demolition of Units 3 and 4, and construction of the new second CCGT power block. At the time of adoption of the 2014 Order, the OTC Policy had not been amended to allow a change in the OTC Final Compliance Date for HBGS and compliance with the OTC Policy was set, then, for December 31, 2020. In 2016 the Discharger changed their IP to include the construction of one 644 MW CCGT power block instead of two CCGT power blocks (939 MW combined), as originally proposed. As of November 2020, the retired Unit 5 was demolished in 2016, the operation of Units 1, 3, and 4 has completely ceased[1], the new CCGT

[1] Because the four units are interconnected the demolition of the four units will be done once Unit 2 ceases operations. Also, it is anticipated that by December 31, 2023, new sources of power generation will be built to replace the power output from Unit 2 (preferably from renewable energy sources).

power block has been constructed and is in operation, and Unit 2 would remain operational until December 31, 2020.

Due to system-wide electrical grid reliability issues that were projected to arise if Unit 2 of the HBGS and three other OTC generating stations were to permanently discontinue power generation by December 31, 2020, the State Water Board adopted an OTC Policy amendment on September 1, 2020 that extended the OTC Policy's Final Compliance Date for HBGS' Unit 2 to December 31, 2023. The State Water Board's amendment to the OTC Policy will go into effect upon approval by the Office of Administrative Law. The Discharger shall comply with the OTC Policy in accordance with the following schedule:

Table 6. Schedule of Compliance with OTC Policy

Task	Compliance Date
1. Submit Workplan for OTC compliance under Track 1.	December 1, 2015
2. Submit first progress Report on compliance actions	December 1, 2016
3. Submit second progress Report	December 1, 2017
4. Submit third progress Report.	December 1, 2018
5. Submit fourth progress Report	December 1, 2019
6. Submit fifth progress Report	December 1, 2020
7. Achieve full compliance with Units 1, 3, and 4	December 31, 2020
8. Submit sixth progress Report	December 1, 2021
9. Submit seventh progress Report	December 1, 2022
10. Achieve full compliance with the OTC Policy for Unit 2.	No later than the date stated in Table 1 in section 3.E of the OTC Policy or any later date established by the suspension provisions in section 2.B(2) of the OTC Policy as noted below

Based on the need for continued operation to maintain the reliability of the electric system, the State Water Board may further suspend, modify, or

amend the Final Compliance Date for this Facility under any of the circumstances set forth in section 2.B.(2) of the OTC Policy. The Final Compliance Date for the Facility in this Order will be superseded by any later date established by the State Water Board in accordance with the suspension provisions in section 2.B.(2) of the OTC Policy. Additionally, if, in accordance with the OTC Policy, the State Water Board extends the Final Compliance Date for Unit 2 of the Facility, the Discharger shall continue to submit annual progress reports on December 1 of each year that Unit 2 continues to operate and until such time that full compliance is achieved.

b. **Immediate and Interim Requirements.** The Discharger shall implement the following immediate and interim actions:

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

   ii. The discharge of waste and/or intake of water shall not impact the function of Marine Protected Areas, unless the impacts are mitigated to the satisfaction of the State Water Board.

   iii. The Discharger shall continue to implement measures to mitigate interim impingement and entrainment impacts of Unit 2 until full compliance with the OTC Policy is achieved. The Discharger may comply with this requirement by:

      a. Demonstrating to the State Water Board's satisfaction that the Discharger is compensating for the interim impingement and entrainment impacts through existing mitigation efforts, including any projects that were required by state or federal permits as of October 1, 2010, or

      b. Demonstrating to the State Water Board's satisfaction that the interim impacts are compensated for by the Discharger by providing funding to the California Coastal Conservancy which will work with the California Ocean Protection Council to fund an appropriate mitigation project[2], or

      c. Developing and implementing a mitigation project for the facility, approved by the State Water Board, which will compensate for the interim impingement and entrainment impacts. Such a project must be overseen by an advisory panel of experts convened by the State Water Board.

[2] It is the preference of the State Water Board that funding is directed toward mitigation projects addressing increases in marine life associated with the State's Marine Protected Areas in the area of the discharge.

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 Attachment E (Monitoring and Reporting Program)) and Attachment G (Minimum Levels) 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 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. **Maximum Daily Effluent Limitation (MDEL).**

If a daily discharge or when applicable, the median 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.

E. **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).

F. **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).

G. **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.

H. **Mass and Concentration Limitations.**

Compliance with mass and concentration effluent limitations for the same parameter shall be determined separately with their respective limitations. When the concentration of a constituent in an effluent sample is determined to be "Not Detected" (ND) or "Detectable but not quantifiable" (DNQ), the corresponding mass emission rate (MER) determined from that sample concentration shall also be reported as "ND" or "DNQ".

I. **Ocean Plan Table 3 Constituents Provisions.**

1. **Sampling Reporting Protocols.**

a. The Discharger shall report with each sample result the reported Minimum Level (ML) and the laboratory's current Method Detection Limit (MDL).

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

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

ii. Sample results less than the reported ML, but greater than or equal to the laboratory's MDL, must be reported as "Detected, but Not Quantified", or DNQ. The laboratory must write the estimated chemical concentration of the sample next to DNQ.

iii. Sample results less than the laboratory's MDL must be reported as "Not Detected", or ND.

2. **Compliance Determination.**

Sufficient sampling and analysis shall be required to determine compliance with the effluent limitation.

a. **Compliance with Single-Constituent Effluent Limitations.**

The Discharger shall be deemed out of compliance with an effluent limitation or discharge specification if, based on reliable data, the concentration of the constituent in the monitoring sample is greater than the effluent limitation or discharge specification and greater than or equal to the ML.

b. **Compliance with Effluent Limitations Expressed as a Sum of Constituents.**

The Discharger shall be deemed out of compliance with an effluent limitation that applies to the sum of a group of chemicals (e.g., chlorinated phenolics) if, based on reliable data, the sum of the individual pollutant concentrations is greater than the effluent limitation. Individual pollutants of the group will be considered to have a concentration of zero if the constituent is reported as ND or DNQ.

c. **Mass Emission Rate.** The mass emission rate (MER), in pounds per day, shall be obtained from the following calculation for any calendar day:

Mass Emission Rate (lbs/day) = 8.34 x Q x C

In which Q and C are the flow rate in million gallons per day and the constituent concentration in mg/L, respectively, and 8.34 is a conversion factor (lbs/gallon of water). If a composite sample is taken, then C is the

concentration measured in the composite sample and Q is the average flow rate occurring during the period over which the samples are composited.

ATTACHMENT A – DEFINITIONS

Acute Toxicity

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

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

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

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

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

where:

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

Areas of Special Biological Significance (ASBS)
Those areas designated by the State Water Resources Control Board (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.

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

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

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

a. Chronic Toxicity (TUc)
Expressed as Toxic Units Chronic (TUc)

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

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 Ocean Plan Appendix II.

Daily Discharge
Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

DDT
Shall mean the sum of 4,4’DDT, 2,4’DDT, 4,4’DDE, 2,4’DDE, 4,4’DDD, and 2,4’DDD.

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

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

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

Downstream Ocean Waters
Waters downstream with respect to ocean currents.

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

Enclosed Bays
Indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

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

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

Grab Sample
A grab sample is an individual sample of at least 100 mL 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
The process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

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

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

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

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

Kelp Beds
For purposes of the bacteriological standards of the Ocean Plan, are significant aggregations of marine algae of the genera *Macrocystis* and *Nereocystis*. Kelp beds include the total foliage canopy of *Macrocystis* and *Nereocystis* plants throughout the water column.

Mariculture
The culture of plants and animals in marine waters independent of any pollution source.

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

Maximum Daily Effluent Limitation (MDEL)
The highest allowable daily discharge of a pollutant.

Method Detection Limit (MDL)
The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 C.F.R. part 136, Attachment B.

Minimum Level (ML)
The concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

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

Not Detected (ND)
Those sample results less than the laboratory's MDL.

Ocean Waters
The territorial marine waters of the state as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. If a discharge outside the territorial waters of the state could affect the quality of the waters of the state, the discharge may be regulated to assure no violation of the Ocean Plan will occur in ocean waters.

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

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

Pollutant Minimization Program (PMP)
PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of Ocean Plan Table 1 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 §13263.3(d), shall be considered to fulfill the PMP requirements.

Reported Minimum Level
The reported ML (also known as the Reporting Level or RL) is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the ML's included in this Order, including an additional factor if applicable as discussed herein. The ML's 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
Organisms identified by the California Department of Health Services as shellfish for public health purposes (i.e., mussels, clams and oysters).

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

Six-Month Median Effluent Limitation
The highest allowable moving median of all daily discharges for any 180-day period.

State Water Quality Protection Areas (SWQPAs)
Non-terrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality. All Areas of Special Biological Significance (ASBS) that were previously designated by the State Water Board in Resolutions 74-28, 74-32, and 75-61 are now also classified as a subset of State Water Quality Protection Areas and require special protections afforded by the Ocean Plan. SWQPAs also include Marine Protected Areas (MPAs), as defined in the California Public Resources Code as State Marine Reserves, State Marine Parks and State Marine Conservation Areas, established by the Fish and Game Commission, or the Parks and Recreation Commission

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

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

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

ATTACHMENT B – MAP

ATTACHMENT C – FLOW SCHEMATIC

HUNTINGTON BEACH GENERATING STATION
WATER FLOW SCHEMATIC – JANUARY 2020 TO DECEMBER 2023

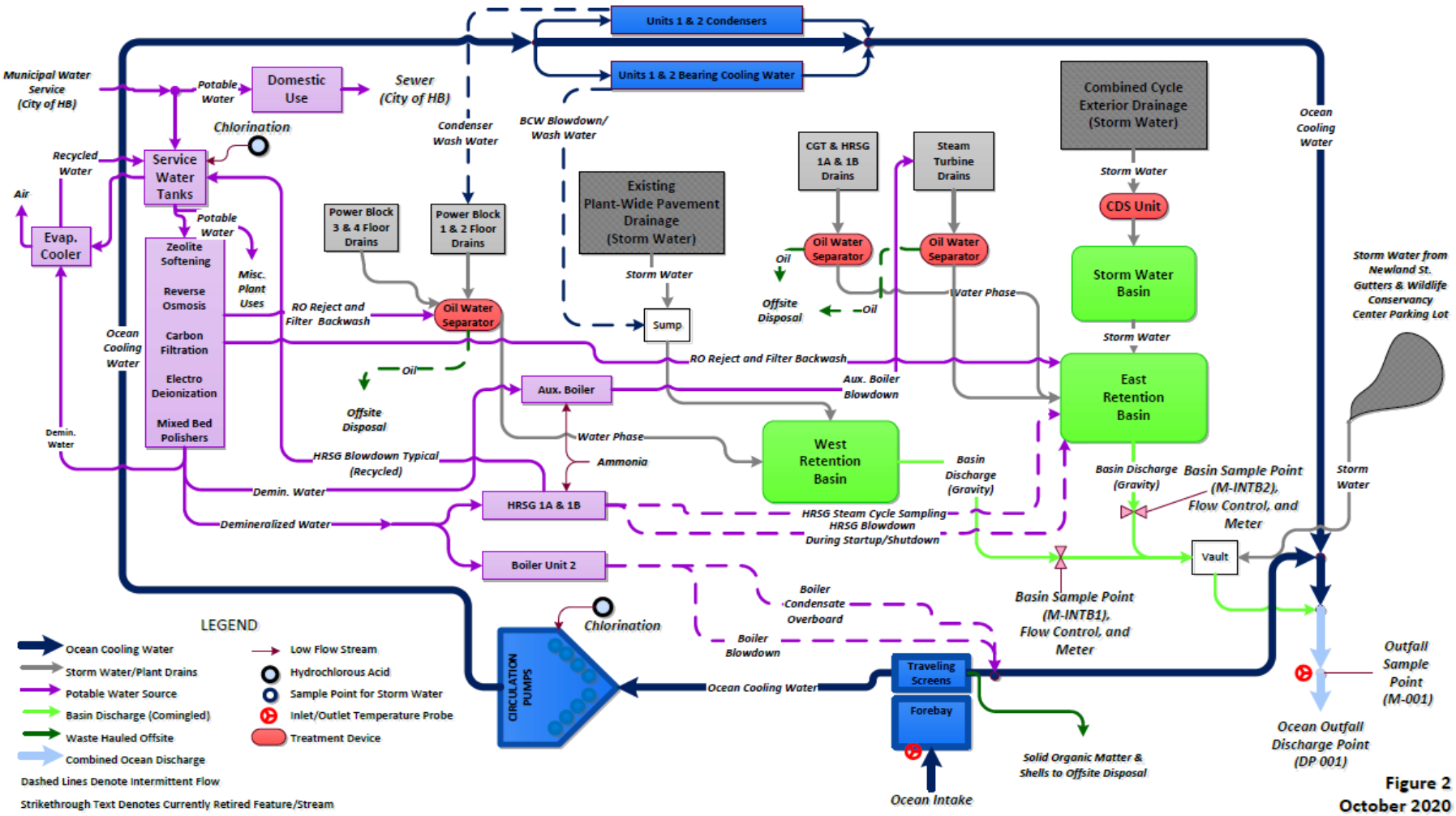

Figure 2
October 2020

ATTACHMENT D – FEDERAL STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. § 122.41(a); Wat. Code, §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)
2. The Discharger shall comply with effluent standards or prohibitions established under § 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under § 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

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

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, U.S. EPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (33 U.S.C. § 1318(a)(4)(b); 40 C.F.R. § 122.41(i); Wat. Code, §§ 13267, 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(b)(i); 40 C.F.R. § 122.41(i)(1); Wat. Code, §§ 13267, 13383);
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(b)(ii); 40 C.F.R. § 122.41(i)(2); Wat. Code, §§ 13267, 13383);
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C. § 1318(a)(4)(b)(ii); 40 C.F.R. § 122.41(i)(3); Wat. Code, §§ 13267, 13383); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C. § 1318(a)(4)(b); 40 C.F.R. § 122.41(i)(4); Wat. Code, §§ 13267, 13383.)

G. Bypass

1. Definitions
   a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)
   b. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)

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

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));

   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and

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

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

5. Notice

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

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

H. Upset

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

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

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

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

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

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

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

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

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

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

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

IV. STANDARD PROVISIONS – RECORDS

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

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

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

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

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and
2. Permit applications and attachments, permits, and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

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

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)
2. All permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 C.F.R. § 122.22(a)(1).)
3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
    a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));
    b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named

individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and

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

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

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

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

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.41(l)(4).)

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

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)

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

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):
    a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
    b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

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

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

the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R.§ 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

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

H. Other Noncompliance

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

I. Other Information

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

VI. STANDARD PROVISIONS – ENFORCEMENT

The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, §§ 13268, 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 C.F.R. § 122.42(a)):

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. § 122.42(a)(1)):
    a. 100 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(1)(i));
    b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(1)(ii));
    c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(1)(iii)); or

d. The level established by the Regional Water Board in accordance with §122.44(f). (40 C.F.R. § 122.42(a)(1)(iv).)

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

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

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

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

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

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

CONTENTS

TABLES

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

California Water Code §§ 13267 and 13383 authorize the Regional Water Quality Control Board to require technical and monitoring reports. § 308 of the federal Clean Water Act (CWA) and §§ 122.41(h), (j)-(*l*), 122.44(i), and 122.48 of title 40 of the Code of Federal Regulations (40 C.F.R.) require that all NPDES permits specify monitoring and reporting requirements. This Monitoring and Reporting Program (MRP) establishes monitoring, reporting, and recordkeeping requirements that implement California and federal laws and/or regulations.

I. GENERAL MONITORING PROVISIONS

A. 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).

B. All laboratory analyses shall be performed in accordance with test procedures under 40 C.F.R. 136 "*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.

C. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the California Department of Public Health in accordance with Water Code § 13176, and must include quality assurance/quality control data with the reports, or at laboratories approved by the Regional Water Board's Executive Officer or the USEPA.

D. 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.

E. In conformance with federal regulations 40 C.F.R. 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 C.F.R. 136 may be used to measure compliance with Chromium (VI) monitoring requirements.

F. For effluent and ambient receiving water monitoring:

1. The Discharger shall require its testing laboratory to calibrate the analytical system down to the minimum level[1] (ML) 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[2]. 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. For analysis of priority pollutants without effluent limitations, the Discharger shall use an ML value that is below the trigger values listed in Attachment "K". If no ML value is below the effluent limitation, or the trigger value listed in Attachment "K", then the lowest ML and associated analytical method 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.

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

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

   b. Sample results less than the reported ML, but greater than or equal to the laboratory's current Method Detection Limit[3] (MDL) , shall be reported as "Detected, but Not Quantified," or "DNQ." The estimated chemical concentration of the sample shall also be reported.

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

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[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] An alternative minimum level may be considered if the Discharger can demonstrate that the laboratory is using its best technical limits, but the ML remains unattainable.

[3] 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 C.F.R. 136, Appendix B.

G. 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 1 of the Ocean Plan. The Discharger shall report with each sample result:

1. The reporting level achieved by the testing laboratory; and
2. The laboratory's current MDL, as determined by the procedure found in 40 C.F.R. 136.

H. 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 C.F.R. 136. In situations where the most stringent applicable receiving water objective, as specified for that pollutant in Table 3 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.

I. 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 C.F.R. 136.

J. 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.

K. 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.

L. 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:

1. The information listed in Attachment D- IV Standard Provisions – Records, subparagraph B. of this Order;
2. The laboratory which performed the analyses;
3. The modification(s) to analytical techniques or methods used;

4. All sampling and analytical results, including:
    a. Units of measurement used;
    b. Minimum level (ML) for the analysis:
    c. Estimated values for results less than the minimum level, but above the method detection limit (MDL);
    d. Data qualifiers and a description of the qualifiers;
    e. Quality control test results (and a written copy of the laboratory quality assurance plan);
    f. Dilution factors, if used; and
    g. Sample matrix type; and
5. All monitoring equipment calibration and maintenance records;
6. All original strip charts from continuous monitoring devices;
7. All data used to complete the application for this Order; and,
8. Copies of all reports required by this Order.
9. Electronic data and information generated by the Supervisory Control and Data Acquisition (SCADA) System.

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

N. 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.

O. Monitoring and reporting shall be in accordance with the following:
    1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
    2. 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.
    3. 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 Regional Water Board's Executive Officer.

4. A grab sample is defined as any individual sample collected in less than 15 minutes.
5. 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.
6. 24-hour composite samples shall be collected continuously during a 24-hour operation of the facility.
7. Daily samples shall be collected on each day of the week.
8. Monthly samples shall be collected on any representative day of each month.
9. Quarterly samples shall be collected by any representative day of January, April, July, and October.
10. Annual samples shall be collected in accordance with the following schedule:

Table E-1. Annual Sampling Schedule[4]

Year	Annual Samples
2021	April
2022	July
2023	October
2024	January
2025	April

P. Laboratory Certification. Laboratories analyzing monitoring samples shall be certified by the State Water Resources Control Board, Division of Drinking Water, in accordance with the provision of Water Code § 13176 and must include quality assurance/quality control data with their reports.

[4] Does not apply to receiving water monitoring.

II. MONITORING LOCATIONS

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

Table E-2. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
Intake Monitoring Locations		
--	M-INFA	Cooling Water Intake well from ocean for flow and temperature monitoring (33º 38’ 37”N; 117º 58’ 44”W)
Effluent and Internal Outfall Monitoring Locations		
001	M-001	Outfall discharge to ocean (33º 38’ 37”N; 117º 58’ 44”W)
INTA	M-INTA	In-plant monitoring wastes from Boiler Blowdown Processing—internal monitoring point prior to discharge to Discharge Point No. 001 (33º 38’ 37”N; 117º 58’ 44”W)
INTB	M-INTB	For calculated data submittal through CIWQS of flow-weighted averages and mass emission rates for constituents monitored at M-INTB1 and M-INTB2
INTB	M-INTB1	In-plant monitoring wastes from West Retention Basin —internal monitoring point prior to discharge to Discharge Point No. 001 (33º 38’ 37”N; 117º 58’ 44”W)
INTB	M-INTB2	In-plant monitoring wastes from East Retention Basin —internal monitoring point prior to discharge to Discharge Point No. 001 (33º 38’ 37”N; 117º 58’ 44”W)
Receiving Water, Benthic, and Bioaccumulation Monitoring Locations		
--	Ocean monitoring stations (see Attachment H.)	Ocean water as Receiving Water (See Attachment H)

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 E-3. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Recorder	Continuous (See Section X.A.2.a, below.)	--
Temperature	°F	Meter	Continuous (See Section X.A.2.b., below.)	--

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location M-001

1. The Discharger shall monitor effluent flow through Discharge Point No. 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 E-4. Effluent Monitoring at M-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Recorder	Continuous (See Section X.A.2.a., below.)	--
Temperature	°F	Meter	Continuous (See Section X.A.2.b., below.)	--
Total Residual Chlorine[a]	mg/L	Grab	Daily (See Section IV.A.3, below)	See Section I.B, above
pH	pH Unit	"	Weekly	"
Total Coliform	Density	"	Monthly	"
Fecal Coliform	"	"	"	"

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Enterococcus	"	"	"	"
Oil & Grease	mg/L	"	"	"
Total Suspended Solids	"	"	"	"
Chronic Toxicity	TST Pass or Fail	"	See below Section V.	See below Section V.
Copper, Total Recoverable	µg/L	"	Monthly	See Sections I.B. and I.F, above
Zinc, Total Recoverable	µg/L	"	Monthly	See Sections I.B. and I.F, above
Ammonia-Nitrogen	µg/L	"	Monthly	See Sections I.B. and I.F, above
Ocean Plan Table 3 Pollutants[b]	"	"	"	"

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

b. A statement certifying that radioactive pollutants were not added to the discharge may be submitted in lieu of monitoring. Also, PCBs as defined in Attachment A.

2. Temperature in degrees Fahrenheit (^oF) 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-day 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 (deltaT) and the maximum daily difference (deltaTm) between the intake and discharge temperatures shall also be reported.

3. Monitoring for total chlorine residual is only applicable during periods of chlorine addition. A statement certifying that chlorination did not occur during the day may be submitted in lieu of an analysis. Grab samples shall be collected between 20 and 60 minutes following the start of chlorination.

B. Low Volume and Metal Cleaning Waste Flows - Monitoring Locations M-INTA and M-INTB (1 & 2)

1. The Discharger shall monitor at Monitoring Location M-INTB1 and M-INTB2 as follows:

Table E-5. Combined Low-Volume and In-Plant Discharge at M-INTB1 & M-INTB2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Flow	MGD	Recorder	Continuous (See Section X.A.2.a., below.)	--
pH	pH Units	Grab	Monthly	See Section I.B., above
Total Suspended Solids	mg/L	"	"	"
Oil and Grease	mg/L	"	"	"
Copper, Total Recoverable	µg/L	"	"	See Sections I.B.and I.F., above
Ammonia as Nitrogen	µg/L	"	"	See Sections I.B.and I.F., above
Zinc, Total Recoverable	µg/L	"	"	See Sections I.B.and I.F., above
Iron, Total Recoverable	µg/L	"	"	"

2. The Discharger shall estimate the flow at M-INTA on a daily basis.
3. Copies of all hazardous wastes hauler's reports for metal cleaning wastes that are hauled off site shall be submitted each month.

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.

2. The Discharger shall use EPA's approach of Test of Significant Toxicity (TST) hypothesis testing approach in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010) to evaluate toxicity data. The Discharger shall report "Pass" or "P" if the TST's null hypothesis for chronic toxicity is rejected. The null hypothesis is:

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

The Discharger shall use an in-stream waste concentration (IWC) of 11.76 percent effluent for evaluating toxicity.

B. Quality Assurance/Control

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

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 11.76 percent effluent. All chronic toxicity test results from multi-concentration tests required by this Order must be reviewed and reported (for informational purposes) according to guidance on the evaluation of concentration-response relationships found in *Method Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing* (40 CFR 136) (EPA/821/B-00-004, 2000).
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 14 days.

4. 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. Effluent dilution water and control water should be prepared and used as specified in the test methods manual *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) and/or *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms* (EPA/821/R-02/014, 2002). If the dilution water is different from the test organisms culture water, then a second control using culture water shall also be used. If the use of artificial sea salts is considered provisional in the test method, then artificial sea salts shall not be used to increase the salinity of the effluent sample prior to toxicity testing without written approval by the permitting authority.

5. 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 specified in the above document 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) 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.

6. 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 (not "Pass" or "P") is detected, the Discharger shall increase the frequency of chronic toxicity testing to every two weeks. The first test under the accelerated schedule shall be conducted within two weeks of receiving notice of the test that exceeds the applicable effluent limit ("Pass" or "P") and every two weeks thereafter. The Discharger may resume the regular test schedule when two consecutive chronic toxicity tests result in "Pass" or when the results of the Initial Investigation Toxicity Reduction Evaluation (IITRE) conducted by the Discharger have adequately addressed the identified toxicity problem.

2. However, if implementation of the IITRE 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.

D. Toxicity Reduction Evaluation/Toxicity Identification Evaluation (TRE/TIE)

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 work plan 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 work plan 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.

E. 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 West Coast Marine and Estuarine Organisms (EPA/600/R-95/136, 1995)*. 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 Self-Monitoring Report (SMR) for the month in which the toxicity tests are conducted. A full report shall consist of: (1) toxicity test results ("Pass" or Fail" and "Percent Effect"); (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 following the Toxicity Standardized Electronic Reporting Form (TSERF) (Standardized Electronic Reporting Format for Monitoring Effluent Toxicity: October 1994 Format, State Water Resources Control Board, 1995).

   "Percent Effect" (or Effect, in %) = [(Control mean response – IWC mean Response) ÷ Control mean response] x 100.

   If the IITRE work plan 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 IITRE workplan occurred to the Santa Ana Water Board, State Water Board, and USEPA.

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

   a. Findings of the IITRE 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. RECYCLED WATER MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS

Receiving water monitoring in the vicinity of the outfall shall be conducted as specified below and at monitoring stations shown in Attachment H and in VIII.A.1 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 shall be conducted 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.).

A. Receiving Water Monitoring Stations

1. The Discharger shall monitor ocean water at Monitoring Locations as follows (for Sampling Station Location, see Attachment H):
    a. Transect T1 – Seven stations shall be established and located as indicated:
        i. Station 1A: 1650 ft (500 m) upcoast of the discharge structure.
        ii. Station 1B: 330 ft (100 m) upcoast of the discharge structure.
        iii. Station 1C: 165 ft (50 m) upcoast of the discharge structure.
        iv. Station 1D: At the point of discharge.
        v. Station 1E: 165 ft (50 m) downcoast of the discharge structure.
        vi. Station 1F: 330 ft (100 m) downcoast of the discharge structure.
        vii. 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.
        i. Station 2A 495 ft (150 m) from the discharge structure at a depth of 20-ft (6.1 m) below MLLW.
        ii. Station 2B: 825 feet (250 m) from the discharge structure at a depth of 30-ft (9.1 m) below MLLW.

    c. Control Station

i. Station CUA: 5280-ft (1600 m) upcoast from the discharge conduit at a depth of 25-ft (7.6 m) below MLLW.

ii. Station DC: 5280-ft (1600 m) downcoast from the discharge conduit at a depth of 25-ft (7.6 m) below MLLW.

d. Bottom Trawl Stations

i. Station N1: Parallel to the shore, offshore, but as close as practical to the discharge conduit. The trawl track shall be centered on the discharge conduit.

ii. Station N2: Parallel to shore at Station CUA.

iii. Station N3: Parallel to shore at Station DC.

2. **Monitoring Program**

a. 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.

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

i. 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.).

ii. 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.).

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

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

v. 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.

c. **Sampling Requirements**

i. Chemical Monitoring: A homogenized 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.

ii. **Biological Monitoring**

(a) **Macroscopic Benthic Biota.** At Stations CUA, 1E, and 1G, a 3.3 ft X 49.2 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.

iii. **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.

iv. **Bacterial and Light Transmittance Monitoring.** The Discharger shall update and continue to implement the bacteria and light transmittance monitoring program. The purpose of this program is to assess compliance with the bacterial and light transmittance criteria specified in this Order. The previously approved and updated bacterial and light transmittance monitoring program shall become part of this monitoring program.

IX. OTHER 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 section IV.D. of the Order.

2. The Discharger shall record the date and time when the Retention Basins are cleaned of oil and grease and sediments and report it in the annual report.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Federal Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. For continuously monitored parameters:
   a. Total flow for each day and average daily flow for the month shall be reported.
   b. 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 (deltaT) and the maximum daily difference (deltaTm) between the intake and discharge temperatures shall also be reported.

B. Self-Monitoring Reports (SMR's)

1. The Discharger shall electronically submit SMR's using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). The CIWQS Web site will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.
2. Receiving water monitoring raw data files should be stored in a SWAMP comparable electronic format which is uploadable into the California Environmental Data Exchange Network (CEDEN), or an alternative electronic format specified by the Santa Ana Water Board. The Discharger may be required to start uploading the receiving water raw data files into CEDEN during the term of this Order.
3. The Discharger shall report in the SMR the results for all monitoring specified in this Monitoring and Reporting Program. Additionally, the Discharger shall report in the SMR the results of any special studies, chronic toxicity testing, TRE/TIE, PMP, retention basin maintenance, and once-through cooling policy activities required by Special Provisions-VI. C. of this Order. The Discharger shall submit monthly, quarterly, and annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

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

Table E-6. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On	Monitoring Period	SMR Due Date
Continuous	The effective date of this Order	All	Submit with monthly SMR
Daily	The effective date of this Order	(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	The effective date of this Order	Sunday through Saturday	Submit with monthly SMR
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1st day of calendar month through last day of calendar month	First day of the second month following the reporting period, submit as monthly SMR
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	First day of the second month following the reporting period, submit with monthly SMR due on February 1, May 1, August 1, and November 1
Annually	January 1 following (or on) permit effective date	January 1 through December 31	First day of the second month following sampling, submit with monthly SMR
1 / Discharge Event	The effective date of this Order	1st day of calendar month through last day of calendar month	First day of the second month following sampling, submit with monthly SMR

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

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

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

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

   For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

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

d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve. In accordance with Ocean Plan Chapter III.C.5.b, the Discharger's laboratory may employ a calibration standard lower than the ML in Appendix II of the Ocean Plan.

6. **Compliance Determination.** Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined above, Attachment "A", and Attachment "G". For purposes of reporting and administrative enforcement by the Regional Water Board, 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).

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

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

   b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data

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

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

C. Discharge Monitoring Reports (DMR's)

1. The Discharger shall electronically submit DMR's using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). The CIWQS Web site will provide additional information for DMR submittal in the event there will be a planned service interruption for electronic submittal.

D. Other Reports

1. The Discharger shall report the results of any special studies, chronic toxicity testing, TRE/TIE, PMP, and Pollution Prevention Plan required by Special Provisions – VI.C. The Discharger shall report the progress in satisfaction of compliance schedule dates specified in Special Provisions – VI.C.8. The Discharger shall submit reports in compliance with SMR reporting requirements described in subsection X.B., above.

2. No later than 180 days before the expiration of this Order, a permit application consistent with 40 CFR section 122.21(r)(2)-(13) and 40 CFR 122.95(f). If the Discharger plans to retire Unit 2 before the end of the next permit cycle, the permit application need not comply with the requirements in section 122.21(r)(7), (9), (10), (11), (12), or (13) provided the Discharger's application includes a signed certification statement specifying the last operating date of Unit 2.

ATTACHMENT F – FACT SHEET

CONTENTS

TABLES

ATTACHMENT F – FACT SHEET

As described in Section II.B of this Order, the Regional Water Board incorporates this Fact Sheet as findings of the Regional Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Discharger/Facility Information

WDID	8 302015004
Discharger	AES Huntington Beach, LLC
Mailing Address	21730 Newland Street, Huntington Beach, CA 92646
Name of Facility	Huntington Beach Generating Station
Facility Address	21730 Newland Street, Huntington Beach, CA 92646
Facility Contact, Title and Phone	Weikko Wirta, Plant Manager, (714) 374-1421
Billing Address	21730 Newland Street, Huntington Beach, CA 92646
Type of Facility	Steam Electric Power Generation, Industrial with SIC code 4911
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	N
Recycling Requirements	N/A
Facility Permitted Flow	127 million gallons per day (MGD)
Facility Design Flow	127 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 the Huntington Beach Generating Station (hereinafter Facility), a steam electric

generating plant.

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. Wastewater from the Facility is discharged to the Pacific Ocean, a water of the United States. The Discharger is regulated by Order No. R8-2014-0076 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0001163, which was adopted on December 12, 2014 and expired on December 31, 2019. The permit was administratively extended until replaced by this Order. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

C. The Discharger filed a report of waste discharge and submitted an application for reissuance of its WDR's and NPDES permit on May 23, 2018. Supplemental information was requested on October 5 - 7, 2020 and received on October 6 - 7, 2020. The application was deemed complete on April 30, 2019. A site visit was conducted on April 30, 2019, to observe operations and collect additional data to develop permit limitations and requirements for waste discharge.

II. FACILITY DESCRIPTION

A. Description of Wastewater Treatment and Controls

The Facility is located in the SE¼ of Section 13, T6S, R11W, SBB & M, at 21730 Newland Street, in the Huntington Beach area of Orange County. The Facility has been operating at its current location since 1958. The Discharger acquired ownership of the Facility from Southern California Edison in 1998.

Originally, the generating station consisted of four fossil-fueled, steam powered electric generating units that used once-through cooling seawater and a fifth unit (Unit 5) that was a multiple jet turbine peaker unit which was retired from service in 2002 and demolished in 2016. The Facility had a total combined generating capacity of approximately 900 megawatts (MW). At the time of adoption of Order No. R8-2014-0076 (2014 Order), two units produced power (Units 1 and 2) and two units were operating as synchronous condensers (Units 3 and 4). Units 1 and 2 are rated at 225 MW each. Between 2003 and 2013, Units 3 and 4 were operated as power generating units but as proposed in the Discharger's Once-Through Cooling Water Implementation Plan, these units were converted to synchronous condensers, in June 2013, to regulate voltage levels in the region's power transmission grid. These Units did not longer combust fuel, produce steam or produce significant quantities of electrical energy and by September 2018 Units 3 and 4 ceased all operations and are scheduled to be demolished. In addition, Unit 1 operations and its use of once-through cooling seawater cease as of December 31, 2019.

The Discharger has implemented operating restrictions for the intake circulation pumps and has ceased all intake flows that are not directly engaged in power-generating activities or critical system maintenance. The operational requirements for cooling water at the Facility were provided to the State Water Resources Control

Board (State Water Board) in the Discharger's Implementation Plan, dated April 1, 2011, http://www.swrcb.ca.gov/water_issues/programs/ocean/cwa316/powerplants/huntington_beach/.

Steam powered Unit 2 will continue to be available for power generation and will use once-through cooling seawater for its operation until the Final Compliance Date for this Facility established in section 3.E., Table 1 of the OTC Policy, or any later date established in accordance with the Final Compliance Date suspension provisions in section 2.B.(2) of the OTC Policy. For Unit 2, steam is supplied to the turbine generator from a gas-fired boiler. Also, the Discharger has built and, as of February 2020, is operating commercially a new air-cooled 644 MW combined-cycle gas turbine (CCGT) power block that consist of two natural-gas-fired combustion turbine generators (CTG) in a combined-cycle configuration with two unfired heat recovery steam generators (HRSG), one stream turbine generator, an air-cooled condenser, an auxiliary boiler, and related ancillary equipment. The CCGT power block generates low volume waste similar in characteristics to the low volume waste generated by Unit 2.

1. **Once-Through Cooling Water Intake Structure and Treatment**

   a. **Once-Through Cooling Water Intake Structure**

      Cooling water for Unit 2 is withdrawn from the Pacific Ocean through a concrete conduit with internal dimensions of 14 feet (inside diameter). The intake conduit extends offshore approximately 1,650 feet terminating at a depth of approximately 33 feet mean lower low water, with the inlet rising 11.7 feet above the sea floor. The intake pipe is fitted with a velocity cap that is mounted on a vertical riser with an internal diameter of 21 feet. The vertical opening between the riser and the velocity cap is approximately 5 feet. The riser elevates the inlet above the seabed to minimize any direct disturbance to the sea floor that may result from currents created by the intake flow. The velocity cap minimizes the entrainment of motile fishes through the intake conduit by creating a rapid directional change in the inflow current, thereby triggering a flight response in many fish. The velocity cap does not eliminate the entrainment of all motile organisms into the intake conduit. The maximum mean water velocity at the inlet to the cooling water conduit is 2.0 feet per second.

      The onshore portion of the intake structure consists of a forebay, bar racks to remove large debris, and vertical traveling screens that rotate periodically to remove smaller debris and any impinged organisms. There are four sets of conventional vertical traveling screens which are 10 feet wide, have a screen mesh size of 3/8 inches, and extend approximately 35 feet below the concrete pad upon which the intake structure sits. These screens remove trash, algae, marine life, and other incidental debris incoming with the once-through cooling water. In addition, they act to prevent fish and other large marine organisms from passing through the cooling water intake system.

Impingement occurs when organisms larger than the traveling screen mesh size become trapped against the screens. Marine organisms may become trapped either because they are too fatigued to swim against the intake flow at the screens or because they are dead.

Once-through cooling water may be drawn into the Facility with four cooling water circulating water pumps, each of which is capable of delivering approximately 44,000 gallons per minute (63.4 MGD) for a maximum of about 254 MGD. However, for the operation of Unit 2 up to two pumps are operated for a total volume of 127 MGD and the other two pumps will remain as standby equipment (redundancy). After flowing through the forebay and screen system, the cooling water is conveyed to the steam condensers in Units 1 and 2, each of which is paired to a single turbine generator. At full load, the temperature increase through the condensers is approximately 20°F to 25°F. Cooling water is then collected from Unit 2 and directed to a single 14 foot concrete conduit which extends approximately 1,500 feet offshore to the ocean outfall (i.e., Discharge Point No. 001). The outfall structure is like the intake structure except there is no velocity cap.

b. **Once-Through Cooling Water Heat Treatment**

Marine biofouling of the cooling water conduits and forebay is controlled by heat treatments. During heat treatments, a portion of the heated discharge water is diverted into the forebay and intake conduits to raise water temperature for about one hour. This effectively increases the temperature of the circulating water and extirpates many encrusting organisms that adhere to cooling structures. The target temperature during heat treatment within the discharge waters is between 112º – 122ºF. Calcareous shell debris accumulates in the intake structure because of heat treatments. On a periodic basis, this shell debris is manually removed from the forebay and in-plant conduits and discharged to the ocean.

c. **Once-Through Cooling Water Chlorine Injection**

The use of ocean water as a matrix for heat removal can result in biofouling of conduits and heat-transfer structures within a plant. Biofouling is the formation of an insulating layer of slime-producing organisms. Biological growths which accumulate within the structures of the once-through cooling water system reduce the heat transfer efficiency of the condensers.

Periodic chlorination of intake water is performed to control biological growths on the condenser tubes not sufficiently addressed by heat treatment procedures. Condenser tubes are arranged in banks of two per turbine generator. Condenser tubes are typically treated by the manual injection of sodium hypochlorite into the cooling water flow

2. **Process Wastes and Storm Water**

The Facility is permitted to discharge several process wastewaters which are commingled with once-through cooling water prior to discharge. These permitted

waste streams include: storm water runoff, low volume wastes generated at Unit 2 and the CCGT power block (i.e., boiler blowdown, boiler condensate overboard, reverse osmosis concentrate reject water, pretreatment filter backwash, softener generant, equipment wash water, and boiler system hydrostatic test water), and non-chemical metal cleaning wastes generated at Units 1 and 2 (i.e., boiler fireside and steam side rinse water). Some low volume wastes, non-chemical metal cleaning waste, and onsite stormwater runoff from Units 1 – 4 facilities are treated at the West Retention Basin (WRB) and the effluent discharged from the WRB is monitored at Monitoring Location M-INTB1. Also, all low volume wastes and stormwater runoff from the CCGT power block facilities are mostly treated (see section II.A.2.a.iii) at the East Retention Basin (ERB) and the effluent discharged from the ERB is monitored at Monitoring Location M-INTB2. Both retention basins are adjacent to each other and their effluents commingle at a vault and discharge through Discharge Point No. 001. During periods of retention basin maintenance AES may need to direct all low volume wastes and non-chemical metal cleaning waste from Unit 2 and the CCGT power block to one retention basin. AES is required by this Order to periodically maintain the retention basins and notify the Santa Ana Water Board before redirecting the process wastes. When this occurs effluent monitoring for in-plant wastes will be conducted at the monitoring station location that corresponds to the retention basin in operation.

All chemical metal cleaning wastes are collected and transported to an off-site facility for treatment and disposal. Consequently, chemical metal cleaning wastes are not considered a component of the discharge and the discharge of these wastes from the Facility to the receiving water via Discharge Point No. 001 is not permitted under this Order.

The waste streams from the different processes of Unit 2 and the CCGT power block and areas of the Facility (see Attachment “C”) are as follows and its origin is noted next to the type of waste:

a. **Low Volume Wastes**

i. **Boiler Blowdown (Unit 2 and CCGT).** 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 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. For Unit 2 the boiler blowdown water is directly discharged to Discharge Point No. 001. Boiler blowdown is discharged on an as-needed basis with a maximum estimated discharge of 0.159 MGD. For Unit 2 the boiler blowdown is discharged directly to the outfall without additional

treatment and for the CCGT the boiler blowdown is discharged through the ERB to Discharge point No. 001. Although the CCGT's boiler blowdown does not need to be treated and monitored for, it is discharged through the ERB because a direct discharge connection was not built to Discharge Point No. 001.

ii. **Boiler Condensate Overboard (Unit 2).** Under normal operating conditions there is no condensate overboard discharge. Condensate overboard discharges, which occur only during unit start-up or during abnormal operating conditions, are primarily composed of condensed steam. The volume of condensate overboard discharged is approximately 0.005 MGD. Condensate overboard is discharged directly to the outfall without additional treatment.

iii. **Reverse Osmosis/Electro-deionization Unit, Pretreatment Filters, and Softeners (Unit 2 and CCGT).** This discharge consists of reverse osmosis reject water, zeolite softener regenerant wastes, and multimedia and activated carbon filter backwash with a total maximum flow 0.100 MGD. This type of process wastes from Unit 2 and CCGT can be directed to either WRB or ERB for treatment. Effluent from the WRB and the ERB is monitored at Monitoring Locations M-INTB1 and M-INTB2, respectively, prior to discharge to Discharge Point No. 001.

iv. **In-Plant Drains (Units 1 – 4 and CCGT).** Power block floor drains from Units 1 – 4 and CCGT collect equipment wash water, residual oil and detergent, and a minimal quantity of storm water from power block rain gutters. This discharge is treated in the oil/water separators, then to the WRB for Units 1 – 4 and to ERB for the CCGT. The Unit 1 – 4 and CCGT floor drain maximum flow rate is approximately 0.172 MGD. BCW heat exchanger wash water is conveyed directly to the WRB. Effluent from the WRB and the ERB is monitored at Monitoring Locations M-INTB1 and M-INTB2, respectively, prior to discharge to Discharge Point No. 001.

v. **HRSG's Blowdowns from Starts and Shutdown (CCGT).**

Blowdown for the main steam cycle from the HRSGs is usually recycled to the service water tank for reuse though it can be redirected through the wastewater tank to the ERB during periods of maintenance. Approximately, the maximum flow rate produced from this source is 0.065 MGD. The discharge of effluent from the ERB to Discharge Point No. 001 is monitored at Monitoring Location M-INTB2.

vi. **Steam Sampling System (CCGT).**

Constant low flows of steam and water from various systems (steam, demineralized water, closed cooling water, potable water) are conveyed through insulated tubing to a sample panel to monitor the water/steam chemistry. Drains from the sample panel are routed through the plant drains, to the oil water separator, and ultimately to the ERB. The maximum flow rate from this source is approximately 0.012 MGD. The discharge of effluent from the ERB to Discharge Point No. 001 is monitored at Monitoring Location M-INTB2.

vii. **Hydrostatic Test Water (Unit 2 and CCGT).** Hydrostatic test wastewater is generated when boiler vessels and pipe systems are filled with water from the municipal water system to test the structural integrity of the vessels. Waste test water generated at Unit 2 is treated in the WRB and in the ERB for the CCGT. The maximum flow rate from this source is 0.0023 MGD. Effluents from the WRB and the ERB are monitored at Monitoring Locations M-INTB1 and M-INTB2, respectively, prior to discharge to Discharge Point No. 001.

b. **Metal cleaning wastes.** Metal cleaning wastes, both chemical and non-chemical, are periodically generated when the metallic surfaces of Facility systems are cleaned. Air preheater and boiler fireside washes are conducted manually without the use of chemical cleaning agents. Other Facility equipment (i.e., boilers) require chemical-based cleanings to remove scale, rust, and corrosion accumulated during normal operation.

i. **Non-Chemical Metal Cleaning Wastes (Unit 2).**

Water and dirt fall to the floors underneath the boilers' metal surfaces as they are sprayed with heated, high-pressure water directed upon them. This spraying can be done to the boilers' external metal casing and/or the insides of the boiler (tube areas). Waste fluid generated in this way is termed Non-Chemical Metal Cleaning Waste. Whatever water that does not evaporate drips/falls from the boilers to the concrete power block floors, which are equipped with drains that carry wash fluids first to the oil-water separator and then to the basin. Solids, if any, can drop out in the oil-water separator and/or the basin.

The only additive to the high-pressure hot water sprayer reservoir would be very small amounts of "Simple Green" detergent –if advantageous. The addition of a small amount of "Simple Green" does not make the operation change from "Non-Chemical" to "Chemical".

It is impractical to meter these very small volumes or sample the spray water remnants. However, all such Non-Chemical Metal Cleaning Waste have been and will continue to be subject to the testing that is done on the discharge of the WRB at M-INTB1 or at M-INTB2 when maintenance is done on the WRB and all process wastes are temporarily directed to the ERB.

ii. **Chemical Metal Cleaning Wastes.**

Chemical Metal Cleaning Wastes result from the addition of chemical acidic solution(s), which are used to "de-scale" or clean the internal surfaces of boilers and boiler tubes or air pre-heaters by circulating the solution through the system for specific retention time(s). These wastes are not allowed to enter any area of the plant where they could enter inputs leading to any discharge point. Historically Chemical Metal Cleaning Wastes were directed to specific sumps (e.g., washing air pre-heaters and cleaning other contactors/ducts/metal) –these sumps have not been used for decades and there are no plans for any future use. All Chemical Metal Cleaning Wastes are now directed to covered, secondarily contained tanks/vessels and taken offsite for treatment/disposal at qualified facilities after the required extensive chemical testing is done to adequately characterize the waste.

c. **Storm Water**

i. All precipitation that falls on to the impervious portions within the fence line of the Facility is collected by yard drains, conveyed to the WRB and the ERB where the stormwater commingles with low volume wastes, is treated through sedimentation, monitored at Monitoring Locations M-INTB1 and M-INTB2, and discharged to the receiving water at Discharge Point No. 001. Precipitation that falls in the tank farm areas is contained within secondary containment and is not discharged to the receiving water—instead it either infiltrates or evaporates. Storm water discharges from the Facility are regulated under this Order except where otherwise indicated (see section IV.D.)

ii. **Wildlife Center Storm Water from the City of Huntington Beach.** In addition to storm water runoff generated from areas within the Facility grounds, the Facility's wastewater treatment system possesses a connection to an off-site source of storm water runoff. There is the potential for storm water runoff from a nearby California Department of Transportation owned wetland and a parking lot to drain, via a connection to the City of Huntington Beach municipal storm water system, to drain into the Facility wastewater system. The point of connection is at a vault where effluent from the retention basins and once-through cooling water commingle prior to discharge at Discharge Point No. 001. This is also the location where monitoring prior to final discharge from the Facility occurs (Monitoring Location M-001). The connection is typically closed by a gate which caps the storm sewer outlet into the vault. The gate is a heavy metal plate which hangs by a free acting hinge over the opening of the pipe outlet. Wetland and parking lot storm water can only enter the vault when upstream pressure in the pipe is sufficient to force open the gate.

This storm drain inlet receives urban runoff from Newland Avenue and is owned and operated by the City of Huntington Beach. Waste Discharge Requirements Order No. R8-2009-0030 as amended by Order No. R8-2010-0062, 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 regulates the City of Huntington Beach's stormwater discharges into the Facility and ultimately discharged at Discharge Point No. 001. If necessary, requirements for monitoring conducted by the City of Huntington Beach pursuant to the MS4 permit will be revised to assure appropriate monitoring of these discharges.

3. **Wastewater Treatment System**

   a. **Oil/Water Separators.** The Facility has three oil/water separators, and one is dedicated for Units 1 – 4 and two are dedicated for the CCGT power block. All process waters passing through the power block's floor drains is directed to an oil/water separator and then to a retention basin.

   b. **Retention Basin.** The Facility has two retention basins—a West retention basin (WRB) which is normally utilized to treat process wastes and storm water for Units 1 – 4, and an East retention basin (ERB) which is usually dedicated to treat process wastes and stormwater from the CCGT power block. Low volume wastes (i.e., reverse osmosis concentrate reject water, pretreatment filter backwash, softener generant, equipment wash water, and boiler system hydrostatic test water), non-chemical metal cleaning wastes (i.e., air preheater and boiler fireside washes), and storm water are treated in the retention basins which provides oil removal and sedimentation prior to discharge at Discharge Point No. 001. The volume of the WRB is approximately 900,000 gallons and the volume of the ERB is about 600,000 gallons.

B. Discharge Points and Receiving Waters

Wastewaters generated at the Facility are discharged to the Pacific Ocean at Discharge Point No. 001. The outfall is located approximately 1,500 feet offshore at a depth of 25 feet. The outfall does not possess a diffuser but terminates in a 21-foot diameter pipeline. The outfall is shared with the Huntington Beach Desalination Facility which is owned by Poseidon Resources (Surfside) L.L.C. and regulated under Order No. R8-2012-0007 (NPDES No. CA8000403). The coordinates of the discharge terminus are latitude 33°38'19" N and longitude 117°58'57" W.

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.

Order No. R8-2014-0076 established the minimum initial dilution factor (Dm) for discharges from the Facility at Discharge Point No. 001 to be 7.5 to 1 at the edge a

1,000-foot zone of initial dilution. This dilution ratio was determined by the State Water Board in March 1980 as part of its investigation of the initial dilution factors applicable to power plant ocean outfalls throughout the State.

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

Effluent limitations contained in the existing Order for discharges from Discharge Point No. 001 (Monitoring Location M-001 and M-INTB) and representative monitoring data from the term of the previous Order are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation			Monitoring Data (From January 2015 to September 2020)		
		6-Month Median	Maximum Daily	Instantaneous Maximum	6-Month Median	Maximum Daily	Instantaneous Maximum
pH	pH units	--	--	6.0 – 9.0[1]	--	--	6.26 – 8.9[1]
Temperature	°F	--	--	[2, 3]	--	--	33.2[4]
Copper, Total Recoverable	µg/L	11	87	240	NR	332	332
Total Residual Chlorine	µg/L	17	68	200	NR	190	190
Low Volume Wastes Monitoring Location M-INTB							
pH	pH units			6.0 – 9.0[1]	--	--	7.3 – 10.05
Total Suspended Solids	mg/L	30[5]	100	--	--	34	34[5]
Oil and Grease	mg/L	15[5]	20	--	--	6.9	6.9[5]

[1] Instantaneous minimum and maximum.
[2] During normal operation, the temperature of wastes discharged at Discharge Point No. 001 shall not exceed the natural temperature of the receiving waters, as measured by the intake water temperature, by more than 30°F.
[3] During the heat treatment, the temperature of the waste discharged shall not exceed 125°F, except that temperature fluctuations above 125°F during gate adjustment shall not last more than 30 minutes and shall not exceed 130°F.
[4] Maximum reported difference between effluent and intake temperature. Reported data is limited to the period April 2012 through April 2014.
[5] Monthly average.

Parameter	Units	Effluent Limitation			Monitoring Data (From January 2015 to September 2020)		
		6-Month Median	Maximum Daily	Instantaneous Maximum	6-Month Median	Maximum Daily	Instantaneous Maximum

NR= Not Reported during the period of interest.

D. Compliance Summary

Based on review of effluent monitoring data submitted by the Discharger for the period of January 2015 through September 2020, the following Table shows the compliance summary for the Facility:

Table F-3. Compliance Summary

Violation ID	Description	Violation Date	Violation Type	MMP type
1076413	Temperature probe was not connected properly at the time of pH probe calibration and measurement. Temperature default of 25.0 C was used. Failed to measure Effluent pH properly.	5/11/2020	Effluent Monitoring and Reporting	NA
1076412	Temperature probe was not connected properly at the time of pH probe calibration and measurement. Temperature default of 25.0 C was used. Failed to measure Effluent pH properly.	5/4/2020	Effluent Monitoring and Reporting	NA
1075183	Temperature probe was not connected properly at the time of pH probe calibration and measurement. Temperature default of 25.0 C was used. Failed to measure Effluent pH properly.	4/27/2020	Effluent Monitoring and Reporting	NA
1071427	Copper, Total Recoverable 6-Month Median limit is 0.0074 lbs/day and reported value was 0.0083 lbs/day at M-INTB.	1/13/2020	Effluent	Chron
1069959	Copper, Total Recoverable 6-Month Median limit is 0.0056 lbs/day and reported value was 0.0082 lbs/day at M-INTB.	12/19/2019	Effluent	Serious
1069960	Intermittent flow meter and integrator failures occurred between December 3rd and December 18th. Manual logs were kept by the operators during this period. Reported daily flows during this period were estimated based on the manual logs. Failed to measure Flow properly.	12/3/2019	Effluent Monitoring and Reporting	No
1068234	Copper, Total Recoverable 6-Month Median limit is 0.0038 lbs/day and reported value was 0.0067 lbs/day at M-INTB.	11/5/2019	Effluent	Serious

1067551	Flow meter power failure occurred at approximately 1:00 am on 10/23/2019. Confirmed valve was in closed position on 10/24/2019, at approximately 9:00 am. However, valve may have been open during this time without monitoring. Failed to measure Flow properly.	10/24/2019	Effluent Monitoring and Reporting	No
1067550	Flow meter power failure occurred at approximately 1:00 am on 10/23/2019. Confirmed valve was in closed position on 10/24/2019, at approximately 9:00 am. However, valve may have been open during this time without monitoring. Failed to measure Flow properly.	10/23/2019	Effluent Monitoring and Reporting	No
1067549	pH hold time for the duplicate sample exceeded 15 minutes. Failed to measure pH properly.	10/14/2019	Effluent Monitoring and Reporting	No
1067552	Copper, Total Recoverable 6-Month Median limit is 0.0034 lbs/day and reported value was 0.0066 lbs/day at M-INTB.	10/10/2019	Effluent	Serious
1066061	Copper, Total Recoverable 6-Month Median limit is 0.0033 lbs/day and reported value was 0.0078 lbs/day at M-INTB.	9/10/2019	Effluent	Serious
1064541	Copper, Total 6-Month Median limit is 0.0032 lbs/day and reported value was 0.0084 lbs/day at M-INTB.	8/6/2019	Effluent	Serious
1062054	Temp Diff b/n Intake and Discharge Instantaneous Maximum limit is 30 Degrees C and reported value was 33.2 Degrees C at M-001.	7/18/2019	Effluent	Chron
1062055	Copper, Total Recoverable 6-Month Median limit is 0.0034 lbs/day and reported value was 0.0081 lbs/day at M-INTB.	7/2/2019	Effluent	Serious
1061624	Temp Diff b/n Intake and Discharge Instantaneous Maximum limit is 30.0 Degrees C and reported value was 30.7 Degrees C at M-001.	6/10/2019	Effluent	Chron
1061623	pH Instantaneous Maximum limit is 9 SU and reported value was 10.05 SU at M-INTB.	6/4/2019	Effluent	Chron
1061622	Copper, Total Recoverable 6-Month Median limit is 0.0036 lbs/day and reported value was 0.0083 lbs/day at M-INTB.	6/4/2019	Effluent	Serious
1060197	The retention basin flow totalizer was inadvertently turned off on/around May 7, 2019. Failed to measure Flow properly.	5/7/2019	Effluent Monitoring and Reporting	NA

1060198	Copper, Total Recoverable 6-Month Median limit is 0.0036 lbs/day and reported value was 0.0071 lbs/day at M-INTB.	5/2/2019	Effluent	Serious
1060196	pH Instantaneous Maximum limit is 9 SU and reported value was 9.36 SU at M-INTB.	5/2/2019	Effluent	Chron
1059029	Copper, Total Recoverable 6-Month Median limit is 0.0035 lbs/day and reported value was 0.0060 lbs/day at M-INTB.	4/10/2019	Effluent	Serious
1058234	Copper, Total Recoverable 6-Month Median limit is 0.0031 lbs/day and reported value was 0.0043 lbs/day at M-INTB.	3/7/2019	Effluent	Serious
1057145	Copper, Total Recoverable 6-Month Median limit is 0.0025 lbs/day and reported value was 0.0036 lbs/day at M-INTB.	2/6/2019	Effluent	Serious
1056263	Copper, Total Recoverable 6-Month Median limit is 0.0025 lbs/day and reported value was 0.0036 lbs/day at M-INTB.	1/9/2019	Effluent	Serious
1055476	pH sample collection time was estimated. Failed to measure pH properly.	12/24/2018	Effluent Monitoring and Reporting	NA
1055477	Copper, Total Recoverable 6-Month Median limit is 0.0023 lbs/day and reported value was 0.0036 lbs/day at M-INTB.	12/4/2018	Effluent	Serious
1054131	Copper, Total Recoverable 6-Month Median limit is 0.0023 lbs/day and reported value was 0.0052 lbs/day at M-INTB.	11/8/2018	Effluent	Serious
1053198	Copper, Total Recoverable 6-Month Median limit is 0.0024 lbs/day and reported value was 0.0036 lbs/day at M-INTB.	10/3/2018	Effluent	Serious
1049638	Copper, Total Recoverable 6-Month Median limit is 0.002 lbs/day and reported value was 0.004 lbs/day at M-INTB.	9/6/2018	Effluent	Serious
1048955	Copper, Total Recoverable 6-Month Median limit is 0.002 lbs/day and reported value was 0.009 lbs/day at M-INTB.	8/9/2018	Effluent	Serious
1047929	Copper, Total Recoverable 6-Month Median limit is 0.002 lbs/day and reported value was 0.005 lbs/day at M-INTB.	7/5/2018	Effluent	Serious
1046090	Copper, Total Recoverable 6-Month Median limit is 0.010 lbs/day and reported value was 0.023 lbs/day at M-INTB.	6/5/2018	Effluent	Serious
1045186	Copper, Total Recoverable 6-Month Median limit is 0.010 lbs/day and reported value was 0.023 lbs/day at M-INTB.	5/2/2018	Effluent	Serious

1043881	Copper, Total 6-Month Median limit is 0.010 lbs/day and reported value was 0.018 lbs/day at M-INTB.	4/5/2018	Effluent	Serious
1040912	Copper, Total 6-Month Median limit is 0.012 lbs/day and reported value was 0.022 lbs/day at M-INTB.	2/1/2018	Effluent	Serious
1036106	Recorder for circ pump operation was not functioning. Failed to measure Effluent Flow properly.	11/9/2017	Effluent Monitoring and Reporting	NA
1036119	Recorder for circ pump operation was not functioning. Failed to measure Influent Flow properly.	11/9/2017	Influent Monitoring and Reporting	NA
1036118	Recorder for circ pump operation was not functioning. Failed to measure Influent Flow properly.	11/8/2017	Influent Monitoring and Reporting	NA
1036113	Recorder for circ pump operation was not functioning. Failed to measure Effluent Flow properly.	11/8/2017	Effluent Monitoring and Reporting	NA
1036117	Recorder for circ pump operation was not functioning. Failed to measure Influent Flow properly.	11/7/2017	Influent Monitoring and Reporting	NA
1036103	Recorder for circ pump operation was not functioning. Failed to measure Effluent Flow properly.	11/7/2017	Effluent Monitoring and Reporting	NA
1036110	Recorder for circ pump operation was not functioning. Failed to measure Effluent Flow properly.	11/6/2017	Effluent Monitoring and Reporting	NA
1036116	Recorder for circ pump operation was not functioning. Failed to measure Influent Flow properly.	11/6/2017	Influent Monitoring and Reporting	NA
1036112	Recorder for circ pump operation was not functioning. Failed to measure Effluent Flow properly.	11/5/2017	Effluent Monitoring and Reporting	NA
1036115	Recorder for circ pump operation was not functioning. Failed to measure Influent Flow properly.	11/5/2017	Influent Monitoring	NA

			and Reporting	
1036104	Recorder for circ pump operation was not functioning. Failed to measure Effluent Flow properly.	11/4/2017	Effluent Monitoring and Reporting	NA
1036114	Recorder for circ pump operation was not functioning. Failed to measure Influent Flow properly.	11/4/2017	Influent Monitoring and Reporting	NA
1036107	Recorder for circ pump operation was not functioning. Failed to measure Effluent Flow properly.	11/3/2017	Effluent Monitoring and Reporting	NA
1036108	Recorder for circ pump operation was not functioning. Failed to measure Influent Flow properly.	11/3/2017	Influent Monitoring and Reporting	NA
1036102	Recorder for circ pump operation was not functioning. Failed to measure Influent Flow properly.	11/2/2017	Influent Monitoring and Reporting	NA
1036105	Recorder for circ pump operation was not functioning. Failed to measure Effluent Flow properly.	11/2/2017	Effluent Monitoring and Reporting	NA
1036109	Recorder for circ pump operation was not functioning. Failed to measure Influent Flow properly.	11/1/2017	Influent Monitoring and Reporting	NA
1036111	Recorder for circ pump operation was not functioning. Failed to measure Effluent Flow properly.	11/1/2017	Effluent Monitoring and Reporting	NA
1039189	Recorder for circ pump operation was not functioning. Failed to measure Effluent Flow properly.	10/31/2017	Effluent Monitoring and Reporting	NA
1039187	Recorder for circ pump operation was not functioning. Failed to measure Influent Flow properly.	10/31/2017	Influent Monitoring and Reporting	NA
1039181	Recorder for circ pump operation was not functioning. Failed to measure Influent Flow properly.	10/30/2017	Influent Monitoring	NA

			and Reporting	
1039190	Recorder for circ pump operation was not functioning. Failed to measure Effluent Flow properly.	10/30/2017	Effluent Monitoring and Reporting	NA
1039183	Recorder for circ pump operation was not functioning. Failed to measure Effluent Flow properly.	10/29/2017	Effluent Monitoring and Reporting	NA
1039180	Recorder for circ pump operation was not functioning. Failed to measure Influent Flow properly.	10/29/2017	Influent Monitoring and Reporting	NA
1039185	Recorder for circ pump operation was not functioning. Failed to measure Influent Flow properly.	10/28/2017	Influent Monitoring and Reporting	NA
1039179	Recorder for circ pump operation was not functioning. Failed to measure Effluent Flow properly.	10/28/2017	Effluent Monitoring and Reporting	NA
1039188	Recorder for circ pump operation was not functioning. Failed to measure Influent Flow properly.	10/27/2017	Influent Monitoring and Reporting	NA
1039186	Recorder for circ pump operation was not functioning. Failed to measure Effluent Flow properly.	10/27/2017	Effluent Monitoring and Reporting	NA
1039182	Recorder for circ pump operation was not functioning. Failed to measure Effluent Flow properly.	10/26/2017	Effluent Monitoring and Reporting	NA
1039184	Recorder for circ pump operation was not functioning. Failed to measure Influent Flow properly.	10/26/2017	Influent Monitoring and Reporting	NA
1032607	Operator inadvertently entered the incorrect hour for the sample and analysis time. Failed to Sample Effluent properly.	8/7/2017	Effluent Monitoring and Reporting	NA
1032608	The sample was analyzed outside the analyte's hold time. Failed to Sample Effluent properly.	8/2/2017	Effluent Monitoring	NA

			and Reporting	
1014599	During the first week of September a valid pH was not collected from outfall M-001. Review of the incident indicates that there was Operator confusion regarding pH collection and whether the sample was collected from the retention basin or outfall. Subsequent to this event, we retrained Operators on collecting proper pH. Failed to Sample pH properly.	9/5/2016	Effluent Monitoring and Reporting	NA
1013347	On August 2, there was an invalid pH calibration completed (slope outside acceptable range) prior to collecting a sample from the outfall 001. This was an accidental oversight at the time of calibration and another pH was not taken for the outfall during the week of August 1st. The pH readings (8.05 and 8.06) have been reported in the PET tool and we are reporting this as a monitoring error in our SMR. Failed to measure Effluent pH properly.	8/2/2016	Effluent Monitoring and Reporting	NA
1004072	Total Suspended Solids (TSS) Monthly Average (Mean) limit is 30 mg/L and reported value was 34 mg/L at M-INTB.	1/31/2016	Effluent	Chron

Note: MMP = Violation subject to mandatory minimum penalty pursuant to CWC §§ 13385(h) and 13385(i); Serious = Serious violation pursuant to CWC § 13385(h); Chron = Non-serious violation pursuant to CWC § 13385(i).

E. Planned Changes

On February 2020, the air-cooled natural gas fired combined cycle gas turbine (CCGT) power block was put into service. The CCGT power block does not require the use of ocean water for cooling. Synchronous condensers (Units 3 and 4) have ceased operation as of September 2018 and are scheduled to be demolished. The operation of Unit 1 has been permanently discontinued as of December 31, 2019 and Unit 2 is scheduled to be retired from service by December 31, 2023. At that time, use of ocean water at the Facility will cease. In addition, low volume wastes and stormwater runoff from the Facility would be discharged through the brine discharge from the proposed Huntington Beach Desalination Facility that would use the intake and outfall structures of the Facility for its operations.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

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

B. California Environmental Quality Act (CEQA)

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

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

1. **Water Quality Control Plan.** The Regional Water Board adopted a Water Quality Control Plan for the Santa Ana Basin (hereinafter Basin Plan) on January 24, 1995 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 (Sources of Drinking Water Policy) requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic water supply use to water bodies. 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, 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).

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

Table F-4. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean Nearshore Zone[6] from the San Gabriel River to Poppy Street in Corona del Mar	Industrial service supply (IND); navigation (NAV); contact (REC-1) and non-contact (REC-2) water recreation; commercial and sport fishing (COMM); wildlife habitat (WILD); rare, threatened, or endangered species (RARE); spawning, reproduction, and development (SPWN); marine habitat (MAR); and shellfish harvesting (SHELL).
	Pacific Ocean Offshore Zone between the Nearshore Zone and the limits of State waters	Industrial service supply (IND); navigation (NAV); contact (REC-1) and non-contact (REC-2) water recreation; commercial and sport fishing (COMM); wildlife habitat (WILD); rare, threatened, or endangered species (RARE); spawning, reproduction, and development (SPWN); and marine habitat (MAR).

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

3. **California Ocean Plan.** The State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, 2005, 2009, 2012, 2015 and 2019. The State Water Board adopted the latest amendment on August 7, 2018, and it became effective on February 4, 2019. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the state to be protected as summarized below:

Table F-5. Ocean Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
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

[6] 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”.

		Biological Significance (ASBS); rare and endangered species; marine habitat; fish spawning and shellfish harvesting

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

4. **Antidegradation Policy.** Federal regulation 40 C.F.R. § 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California"). Resolution 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of § 131.12 and State Water Board Resolution 68-16.

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

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

7. **Clean Water Act § 316(b)/OTC Policy – Impingement and Entrainment.**

   CWA § 316(b) requires that the location, design, construction, and capacity of cooling water intake structures reflect the Best Technology Available for minimizing adverse environmental impacts related to entrainment (i.e., drawing organisms into the cooling water system) and impingement (i.e., trapping organisms against the intake screens).

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

Administrative Law (OAL) on September 27, 2010. The OTC Policy became effective on October 1, 2010. The OTC Policy was amended by the State Water Board on June 18, 2013, primarily to recognize that Regional Water Boards are responsible for all NPDES permit actions for existing power plants subject to the Policy. The State Water Board adopted an OTC Policy amendment on September 1, 2020, to extend the final compliance date of four generating stations. The final compliance date for the AES HBGS' Unit 2 was extended to December 31, 2023.

The State Water Board adopted an OTC Policy amendment on September 1, 2020, that extended the Final Compliance Date for the AES HBGS' Unit 2 to December 31, 2023. The OTC Policy amendment and the extended Final Compliance Date will go into effect upon approval by OAL. The State Water Board may further suspend, modify, or amend the Final Compliance Date for the Facility under any of the circumstances set forth in section 2.B.(2) of the OTC Policy. The Final Compliance Date for the Facility in this Order is the date included in Table 1 of Section 3.E of the OTC Policy or any later date established in accordance with the Final Compliance Date suspension provisions in section 2.B.(2) of the OTC Policy.

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

The Policy requires compliance under two alternatives:

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

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

The Discharger chose Track 1 to come into OTC compliance for Units 1, 2, 3 and 4. The Discharger proposed to repower the HBGS in two phases; with the construction of two dry-cooled natural gas fired combined cycle gas turbine

(CCGT) power blocks. The two phases include early retirement of Units 3 and 4, and construction of the first power block and then retirement of Units 1 and 2 and construction of the second power block. In addition, the Discharger requested an extension of the Final Compliance Date of Units 1 and 2 to December 31, 2022 because of delays in the first phase with the expected shutdown of the Units 3 and 4 synchronous condensers by December 2018, which would delay the demolition of Units 3 and 4 and construction of the new second CCGT power block. At the time of adoption of the 2014 Order, the OTC Policy had not been amended to allow a change in the OTC Final Compliance Date for HBGS and compliance with the OTC Policy was set, then, for December 31, 2020. In 2016, the Discharger changed their implementation plan to include the construction of one 644 MW CCGT power block instead of two CCGT power blocks (939 MW combined), as originally proposed. As of November 2020, retired Unit 5 has been demolished (in 2016), the operation of Units 1, 3, and 4 has ceased, the new 644 MW CCGT power block has been constructed and is in operation, and Unit 2 would be kept operational until December 31, 2020. However, due to system-wide electrical grid reliability issues that were projected to arise if Unit 2 of HBGS and three other OTC generating stations were to permanently discontinue power generation by December 31, 2020, the State Water Board adopted an OTC Policy amendment on September 1, 2020 that extended the OTC Policy's Final Compliance Date for HBGS' Unit 2 to December 31, 2023. Compliance with the OTC Policy shall be in accordance with the established OTC Policy Final Compliance Date, as amended on September 1, 2020 by the State Water Board and provided in Table 1 of section 3.E. of the OTC Policy or any later date established in accordance with the Final Compliance Date suspension provisions in section 2.B.(2) of the OTC Policy. A schedule for compliance with the OTC Policy is included in Table 6 of this Order.

8. **Storm Water Requirements.** On April 17, 1997, the State Board adopted the General Industrial Storm Water Permit, Order No. 97-03-DWQ, NPDES No. CAS000001. Order No. 97-03-DWQ has been renewed by Order No. 2014-0057-DWQ, which becomes effective on July 1, 2015. The General Industrial Permit implements the Final Regulations (40 C.F.R. 122, 123, and 124) for storm water runoff published on November 16, 1990 by the U.S. EPA in compliance with §402(p) of the CWA. This Order does not include pertinent provisions of the General Industrial Storm Water Permit as Order No. R8-2014-0076 included. The Discharger has indicated that all industrial stormwater generated within the Facility is collected by various drains and conveyed to retention basins for treatment before being discharged through Discharge Point No. 001. In addition, stormwater that is captured by in-plant drains from power blocks is also treated through oil water separators before entering the retention basins. This Order requires the Discharger to certify to the Santa Ana Water Board that industrial stormwater is managed by internal drainage systems of the Facility, where stormwater is captured, treated, and discharged with the treated low volume wastes wastewater regulated under this Order at Monitoring Locations M-INTB1 and M-INTB2. This Order requires the Discharger to submit and implement a Stormwater Management Plan to address onsite stormwater quality (see section IV.D. of the Order).

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

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

On November 10, 2010, the USEPA approved the State Water Board's 2010 303(d) List of Water Quality Limited Segments (hereinafter 303(d) list). The 303(d) list identifies water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations by point sources (water quality limited water bodies).

There are no active TMDLs applicable to discharges from the Facility to the Pacific Ocean. The nearshore and offshore zones of Huntington Beach State Park are the immediately affected receiving waters of discharges from the Facility. Huntington Beach State Park is listed on the 303(d) list for PCBs.

E. Other Plans, Polices and Regulations – Not Applicable

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other

requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 C.F.R. § 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. § 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

A. Discharge Prohibitions

The discharge prohibitions in this Order are based on the Federal Clean Water Act, Basin Plan, Ocean Plan, State Water Board's plans and policies, U.S. Environmental Protection Agency guidance and regulations, and the previous waste discharge requirements contained in Order No. R8-2014-0076, and are consistent with the discharge prohibitions set for other discharges regulated by waste discharge requirements adopted by the Santa Ana Water Board.

As discussed in Sections IV.B.3, the discharge of PCBs is prohibited based on the standards applicable to steam-electric generating facilities contained in 40 C.F.R. 423.

B. Technology-Based Effluent Limitations

1. Scope and Authority

§ 301(b) of the CWA and implementing USEPA permit regulations at 40 C.F.R. §122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category in 40 C.F.R. part 423.

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

a. Best practicable treatment control technology (BPT) represents the average of the best existing performance by well-operated facilities within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.

b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.

c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering a two-part reasonableness test. The 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. §402(a)(1) of the CWA and 40 C.F.R. § 125.3 authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the Santa Ana Water Board must consider specific factors outlined in 40 C.F.R. § 125.3.

2. Applicable Technology-Based Effluent Limitations

Pursuant to § 306 (b) (1) of the CWA, USEPA has established standards of performance for the steam electric power point source category, for existing and new sources, at 40 C.F.R. part 423. These regulations apply to the Facility as "*an establishment primarily engaged in the generation of electricity for distribution and sale which results primarily from a process utilizing fossil-type fuel…in conjunction with a thermal cycle employing the steam water system as the thermodynamic medium.*" (40 C.F.R. § 423.10) Standards of performance for existing facilities (instead of New Source Performance Standards [NSPS]) are applicable to discharges originating from the Facility because its construction was completed or commenced prior to publication of regulations on November 19, 1982, which proposed standards of performance for the industry. The following are applicable technology based-standards of performance (BPT and BAT) applicable to the Facility from the effluent limitation guidelines for existing sources at 40 C.F.R. part 423. The guidelines do not include standards of performance based on BCT.

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

Table F-6. Plant Waste Streams Subject to Effluent Limitation Guidelines

Outfall	Waste Stream	ELG Classification
Discharge Point No. 001	Once-through cooling water	Once-through cooling water
	Boiler blowdown	Low volume waste source
	Condensate overboard	Low volume waste source
	Reverse osmosis reject water	Low volume waste source
	Water softener generant waste	Low volume waste source
	Carbon filter backwash	Low volume waste source
	Yard drains	Low volume waste source
	In-plant drains	Low volume waste source and storm water
	Air preheater wash water	Metal cleaning wastes
	Boiler fireside washes	Metal cleaning wastes
	Storm water	Not applicable

ELGs at 40 C.F.R. 423 contains standards applicable to the following process waters: low volume wastes, fly ash transport water, bottom ash transport water, metal cleaning wastes (both chemical and non-chemical), cooling tower blowdown, and discharges of coal pile runoff. Discharges from the Facility covered under 40 C.F.R. 423 include low volume wastes, metal cleaning wastes (non-chemical), and once-through cooling water at Discharge Point No. 001.

As discussed in Section II.A of the Fact Sheet, chemical metal cleaning wastes are no longer discharged from the Facility to the receiving water.

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

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

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

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

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

Table F-7. BPT Effluent Limitations for Low Volume Wastes

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	Six-Month Median
TSS	mg/L	30.0	--	100.0	--	--	--
Oil and Grease	mg/L	15.0	--	20.0	--	--	--

iv. Metal cleaning wastes are defined as any wastewater resulting from cleaning (with or without chemical cleaning compounds) any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning, and air preheater cleaning. The quantity of pollutants discharged in metal cleaning wastes shall not exceed the quantity determined by multiplying the flow of metal cleaning wastes times the concentration listed in the following table [40 C.F.R. § 423.12 (b) (5)]:

Table F-8. BPT Effluent Limitations for Metal Cleaning Wastes

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	Six-Month Median
TSS	mg/L	30.0	--	100.0	--	--	--
Oil and Grease	mg/L	15.0	--	20.0	--	--	--
Copper, Total Recoverable	mg/L	1.0	--	1.0	--	--	--
Iron, Total Recoverable	mg/L	1.0	--	1.0	--	--	--

v. Once-through cooling water is defined as water passed through the main cooling condensers in one or two passes for the purpose of removing waste heat. The quantity of pollutants discharged in once through cooling water shall not exceed the quantity determined by multiplying the flow of once through cooling water sources times the concentration listed in the following table: [40 C.F.R. § 423.12 (b) (6)]:

Table F-9. BPT Effluent Limitations for Once-Through Cooling Water

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	Six-Month Median
Free Available Chlorine	mg/L	--	--	0.2[a]	--	0.5	--

a. Applied as an average daily concentration.

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

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

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

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

ii. For any plant with a total rated electric generating capacity of 25 or more megawatts, the quantity of pollutants discharged in once through cooling water from each discharge point shall not exceed the quantity determined by multiplying the flow of once through cooling water from each discharge point times the concentration listed in the following table [40 C.F.R. § 423.13 (b) (1)]:

Table F-10. BAT Effluent Limitations for Once-Through Cooling Water

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	Six-Month Median
Total Residual Chlorine	mg/L	--	--	--	--	0.2	--

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

3. Summary of Technology-based Effluent Limitations

The Facility discharges once-through cooling water to the Pacific Ocean via Discharge Point No. 001. The total flow volume into the Pacific Ocean through Discharge Point No. 001 is a combination of once-through cooling water, storm water, and in-plant waste streams that consist of low volume waste source wastewater and metal cleaning wastes, as defined in 40 C.F.R. part 423. Chemical metal cleaning wastes no longer contribute to the discharge to the receiving water as discussed in section II.A of the Fact Sheet. However, non-chemical metal cleaning wastes are generated and, consequently, TBELs for metal cleaning wastes are implemented in this Order. However, in the case of copper the water quality based effluent limits derived from the Ocean Plan are more protective and are applied accordingly (see Table F-15). The Ocean Plan does not include a water quality objective for total recoverable iron and BPT effluent limits for iron are applied at M-INTB1 and M-INTB2. BAT effluent limit for total residual chlorine, as instantaneous maximum, is applied at M-001 because is more protective than the water quality based effluent limits derived from the Ocean Plan (see Table F-14).

40 C.F.R. § 423.12(b)(13) and § 423.13(n) state that in the event that waste streams from various sources are combined for treatment or discharge, the quantity of each pollutant or pollutant property shall not exceed the limitations specified. In order to ensure that the discharge from each individual waste stream is in compliance with 40 C.F.R. part 423 and consistent with Order No. R8-2006-0011, effluent limitations have been applied at the discharge of each waste stream before commingling with other waste streams and being discharged through Discharge Point No. 001

This Order incorporates the following technology-based effluent limitations.

a. **Discharge Point No. 001 (Monitoring Location M-001)**

i. **PCBs.** There shall be no discharge of PCBs. This limitation is based on 40 C.F.R. parts 423.12 (b) (2) and 423.13 (a). This limitation has been applied in this Order as a Discharge Prohibition.

ii. **Total residual chlorine.** Total residual chlorine may not be discharged from any unit for more than two hours in any one day, unless the Discharger demonstrates to the satisfaction of the Santa Ana Water Board Executive Officer that discharges for more than two hours are required for the control of bio-fouling and that such discharges will not adversely affect water quality. In addition, not more than one unit may discharge total residual chlorine at any one time. This limitation is based on 40 C.F.R. part 423.12 (b) (8) and 40 C.F.R. part 423.12 (b) (6).

b. **Low Volume and Metal Cleaning Wastes (Monitoring Locations M-INTB1 and M-INTB2)**

i. **pH.** The pH shall be within the range of 6.0 -9.0. This limitation is based on 40 C.F.R. § 423.12(b)(1).

ii. **PCBs.** There shall be no discharge of PCBs. This limitation is based on 40 C.F.R. parts 423.12 (b) (2) and 423.13 (a).

iii. Total Recoverable Iron. Average monthly limit of 1 mg/L and maximum daily limit of 1 mg/L. These limitations are based on 40 C.F.R. § 423.12 (b) (5).

iv. The quantity of pollutants discharged from low volume waste sources shall not exceed the quantity determined by multiplying the flow of the low volume waste sources times the concentration listed in the following table. These limitations are based on 40 C.F.R. part 423.12 (b) (3).

Table F-11. Effluent Limitations for Low Volume and Metal Cleaning Wastes (Monitoring Locations M-INTB1 and M-INTB2)

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instant-aneous Minimum	Instant-aneous Maximum	Six-Month Median
TSS	mg/L	30.0	--	100.0	--	--	--
	lbs/day	See Section IV.B.3.b.iv.	--	See Section IV.B.3.b.iv.	--	--	--
Oil and Grease	mg/L	15.0	--	20.0	--	--	--
	lbs/day	See Section IV.B.3.b.iv.	--	See Section IV.B.3.b.iv.	--	--	--

v. The Discharger shall calculate the mass emission rate limitation utilizing the general formula:

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

Where,

Ce = The effluent concentration limitation specified in Table F-11 for the specific pollutant considered (in units of mg/L).

Q = The sum of the observed flow rate discharged at Monitoring Locations M-INTB1 and M-INTB2 (in units of MGD).

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

CWA § 301(b) and 40 C.F.R. § 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

§ 122.44(d)(1)(i) of 40 C.F.R. requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA § 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 §122.44(d)(1)(vi).

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

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan and Ocean Plan designate beneficial uses, establish water quality objectives, and contain implementation programs and policies to achieve those objectives for all waters.

a. **Basin Plan.** The beneficial uses specified in the Basin Plan applicable to the Pacific Ocean are summarized in section III.C.1 of this Fact Sheet. The Basin Plan incorporates by reference the requirements of the Ocean Plan whereby it states, "*The State Board's Water Quality Control Plan for Ocean Waters of California (Ocean Plan), 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), and any revisions thereto shall also apply to all ocean waters of the Region.*"

b. **Ocean Plan.** As noted in Section III.C of this Fact Sheet, the State Water Board adopted an Ocean Plan that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Ocean Plan. The beneficial uses applicable to the Pacific Ocean are summarized in Section III.C.1 of this Fact Sheet. The Ocean Plan includes both narrative and numeric water quality objectives applicable to the receiving water.

Table 3 of the Ocean Plan (also known as Table B in previous editions of the Ocean Plan) includes the following water quality objectives for toxic pollutants and whole effluent toxicity:

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

ii. 30-day average objectives for 20 non-carcinogenic chemicals for the protection of human health.30-day average objectives for 42 carcinogenic chemicals for the protection of human health.

iii. Daily maximum objectives for acute and chronic toxicity.

c. **Thermal Plan.** The Thermal Plan includes narrative water quality objectives for discharges of elevated temperature wastes for existing discharges (those discharges at least under construction prior to the adoption of the Plan) and for new discharges. The Facility, as presently operating, is considered an existing discharge per definition ten of the Thermal Plan.

Water Quality Objective 3.A.1 is applicable to existing thermal discharges to the coastal waters of California:

> *Elevated temperature wastes shall comply with limitations necessary to assure protection of the beneficial uses and areas of special biological significance.*

3. Determining the Need for WQBEL's

a. **Reasonable Potential Analysis Methodology**

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

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

Endpoint 1: An effluent limitation is required and monitoring is required;

Endpoint 2: An effluent limitation is not required and the Regional Water Board may require monitoring; and

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

b. **Minimum Initial Dilution**

The implementation provisions for Table 3 in section III.C of the Ocean Plan specify that the minimum initial dilution is the lowest average initial dilution within any single month of the year. Dilution estimates are to 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. Before establishing a dilution credit for a discharge, it must first be determined if, and how much, receiving water is available to dilute the discharge.

Order No. R8-2014-0076 established the minimum initial dilution factor (Dm) for discharges from the Facility at Discharge Point No. 001 to be 7.5 to 1 at the edge a 1,000-foot zone of initial dilution. This dilution ratio was determined by the State Water Board in March 1980 as part of its investigation of the initial dilution factors applicable to power plant ocean outfalls throughout the State.

Comprehensive hydrodynamic modeling of a variety of Facility discharge scenarios has been assessed by Dr. Scott Jenkins and Joseph Waysl. In evaluating the range of potential intake flows and oceanographic conditions, Jenkins and Waysl determined that minimum initial dilution conditions occur with a combination of tranquil tide, wind, current, thermal characteristics, and minimum intake flows of 126.7 MGD. Jenkins and Waysl estimate the probability of occurrence for such minimum mixing oceanographic conditions at less than 1%. A dilution of 8:1 was simulated 1,000 feet from the outlet structure under stand-alone (126.7 MGD cold water) conditions. Thus, the continued application of the previous outfall dilution ratio of 7.5 to 1 is considered conservative and protective of the beneficial uses of the receiving water.

The Discharger has indicated that no additions or modifications to the Facility or the outfall at Discharge Point No. 001 have been proposed that would alter the previously determined dilution characteristics. Therefore, the dilution ratios established in Order No. R8-2014-0076 have been retained in this Order and applied to the RPA and WQBEL's established herein.

c. **RPA for Ocean Plan Table 3 Pollutants**

Effluent data submitted to the Santa Ana Water Board for the period from January 2015 through September 2020 for Discharge Point No. 001 was considered in the RPA. The dilution credits applicable to the ocean outfall (7.5:1) were considered to evaluate reasonable potential in accordance with the procedures contained in the Ocean Plan. Based on the evaluation using the *RPcalc 2.2* software tool, which was developed by the State Water Board for the purpose of conducting RPAs of ocean discharges, the discharge demonstrates reasonable potential to cause or contribute to an excursion above an Ocean Plan Table 3 water quality objective for copper, zinc, chronic toxicity, and total chlorine residual (Endpoint 1).

Order R8-2014-0076 included effluent limitations for copper and total chlorine residual. With the exception of copper, zinc, chronic toxicity, and total chlorine residual, the RPA resulted in Endpoint 2, which indicates there is no reasonable potential to exceed Ocean Plan water quality objectives. Effluent limitations for copper and total chlorine residual that did exhibit RP are retained in this Order. For zinc the parametric RPA done through the *RPcalc* software tool resulted in a lognormal UCB (0.95, 0.95, 12) of 22.0058 µg/L which exceeded the water quality objective for zinc of 20 µg/L included in Table 3 of the Ocean Plan, therefore, an endpoint 1 is recommended. This parametric RPA result was based on 12 zinc concentration data points and three out of the twelve data points were uncensored (two quantified values above the reporting level of the laboratory and a DNQ value) and the other nine data points were set to the MDL of the laboratory. The DNQ value was just below the laboratory reporting level of 5 µg/L but above the ML listed for ICP/MS methodology in Attachment II of the Ocean Plan for zinc determination which is 1 µg/L. Therefore, based on BPJ the zinc DNQ concentration value was used uncensored for the RPA. This order includes effluent limitations for zinc and chronic toxicity as discussed further in the Fact Sheet section IV.B.2, IV.B.3, and IV.C.4.

For many of the Table 3 parameters, most of the sampling events yielded non-detect results. Evaluation using the *RPcalc 2.2* software tool yielded Endpoint 3 result. This result means the RPA was inconclusive. For pollutant monitoring data that yields an Endpoint 3, the Ocean Plan indicates monitoring for that pollutant is required and also indicates that any existing effluent limitation for that pollutant, contained in Order No R8-2014-0076, shall be retained in the permit. Order No. R8-2014-0076 did not include WQBEL's for constituents displaying Endpoint 3 in this reasonable potential analysis. Effluent limitations for all other pollutants displaying Endpoint 3 have not been included in this Order.

A summary of the RPA results is provided below:

Table F-12. RPA Results Summary

Pollutant	Units	n[a]	MEC[b, c]	Most Stringent Criteria	Background	RPA Endpoint[d]
Objectives for Protection of Marine Aquatic Life						
Arsenic, Total Recoverable	µg/L	12	1.64	8	3	Endpoint 2
Cadmium, Total Recoverable	µg/L	12	1.2	1	0	Endpoint 3
Chromium (Hexavalent), Total Recoverable	µg/L	12	<0.41	2	0	Endpoint 3
Copper, Total Recoverable	µg/L	37	332	3	2	Endpoint 1
Lead, Total Recoverable	µg/L	12	<1.0	2	0	Endpoint 3
Mercury	µg/L	12	<0.2	0.04	0.0005	Endpoint 3
Nickel, Total Recoverable	µg/L	12	14.2	5	0	Endpoint 2
Selenium, Total Recoverable	µg/L	12	1.45	15	0	Endpoint 3
Silver, Total Recoverable	µg/L	12	<1.0	0.7	0.16	Endpoint 3
Zinc, Total Recoverable	µg/L	12	44.1	20	8	Endpoint 1
Cyanide	µg/L	12	<0.692	1	0	Endpoint 3
Total Chlorine Residual	µg/L	15	190	2	0	Endpoint 1
Ammonia (expressed as N)	µg/L	12	67	600	0	Endpoint 2
Acute Toxicity	TUa	[e]	[e]	0.3	0	Endpoint 3
Chronic Toxicity	TUc	168	10	1	0	Endpoint 1

Pollutant	Units	n[a]	MEC[b, c]	Most Stringent Criteria	Background	RPA Endpoint[d]
Phenolic Compounds (non-chlorinated)[f]	µg/L	6	<0.88	30	0	Endpoint 3
Chlorinated Phenolics[g]	µg/L	6	<0.7	1	0	Endpoint 3
Endosulfan	µg/L	6	<0.0007	0.009	0	Endpoint 3
Endrin	µg/L	6	<0.0007	0.002	0	Endpoint 3
HCH[h]	µg/L	6	<0.0005	0.004	0	Endpoint 2
Objectives for Protection of Human Health – Non-Carcinogens						
Acrolein	µg/L	6	<3.8	220	0	Endpoint 3
Antimony	µg/L	6	<5	1200	0	Endpoint 3
Bis(2-chloroethoxy) methane	µg/L	6	<0.066	4.4	0	Endpoint 3
Bis(2-chloroisopropyl) ether	µg/L	6	<0.068	1200	0	Endpoint 3
Chlorobenzene	µg/L	6	<0.4	570	0	Endpoint 3
Chromium (III)	µg/L	11	52.7	190,000	0	Endpoint 2
Di-n-butyl-phthalate	µg/L	6	<0.073	3,500	0	Endpoint 3
Dichlorobenzenes	µg/L	12	<0.12	5,100	0	Endpoint 3
Diethyl phthalate	µg/L	6	<1.5	33,000	0	Endpoint 3
Dimethyl phthalate	µg/L	6	<0.11	820,000	0	Endpoint 3
4,6-dinitro-2-methylphenol	µg/L	6	<0.82	220	0	Endpoint 3

Pollutant	Units	n[a]	MEC[b, c]	Most Stringent Criteria	Background	RPA Endpoint[d]
2,4-dinitrophenol	µg/L	6	<0.93	4.0	0	Endpoint 3
Ethylbenzene	µg/L	6	<0.4	4,100	0	Endpoint 3
Fluoranthene	µg/L	6	<0.098	15	0	Endpoint 3
Hexachlorocyclopentadiene	µg/L	6	<0.15	58	0	Endpoint 3
Nitrobenzene	µg/L	6	<0.24	4.9	0	Endpoint 3
Thallium	µg/L	11	<5.04	2	0	Endpoint 3
Toluene	µg/L	6	<0.4	85,000	0	Endpoint 3
Tributyltin (TBT)	µg/L	6	<0.0014	0.0014	0	Endpoint 3
1,1,1-trichloroethane	µg/L	6	<0.4	540,000	0	Endpoint 3
Objectives for Protection of Human Health – Carcinogens						
Acrylonitrile	µg/L	6	<1.7	0.10	0	Endpoint 3
Aldrin	µg/L	6	<0.0007	$2.2x10^{-5}$	0	Endpoint 3
Benzene	µg/L	6	<0.25	5.9	0	Endpoint 3
Benzidine	µg/L	6	<2.2	$6.9x10^{-5}$	0	Endpoint 3
Beryllium	µg/L	11	<4.2	0.033	0	Endpoint 3
Bis(2-chloroethyl) ether	µg/L	6	<0.096	0.045	0	Endpoint 3
Bis(2-ethylhexyl) phthalate	µg/L	6	<2.5	3.5	0	Endpoint 3

Pollutant	Units	n[a]	MEC[b, c]	Most Stringent Criteria	Background	RPA Endpoint[d]
Carbon tetrachloride	µg/L	6	<0.25	0.90	0	Endpoint 3
Chlordane	µg/L	6	<0.0065	$2.3x10^{-5}$	0	Endpoint 3
Chlorodibromomethane	µg/L	6	<0.15	8.6	0	Endpoint 3
Chloroform	µg/L	6	0.12	130	0	Endpoint 3
DDT[i]	µg/L	6	<0.0083	0.00017	0	Endpoint 3
1,4-dichlorobenzene	µg/L	6	<0.049	18	0	Endpoint 3
3,3'-dichlorobenzidine	µg/L	6	<1.2	0.0081	0	Endpoint 3
1,2-dichloroethane	µg/L	6	<0.12	28	0	Endpoint 3
1,1-dichloroethylene	µg/L	6	<0.4	0.9	0	Endpoint 3
Dichlorobromomethane	µg/L	6	<0.4	6.2	0	Endpoint 3
Dichloromethane	µg/L	6	<0.86	450	0	Endpoint 3
1,3-dichloropropene	µg/L	6	<0.082	8.9	0	Endpoint 3
Dieldrin	µg/L	6	<0.00062	0.00004	0	Endpoint 3
2,4-dinitrotoluene	µg/L	7	<1.3	2.6	0	Endpoint 3
1,2-diphenylhydrazine	µg/L	6	<0.098	0.16	0	Endpoint 3
Halomethanes[j]	µg/L	6	<0.4	130	0	Endpoint 3
Heptachlor	µg/L	6	<0.0007	0.00005	0	Endpoint 3

Pollutant	Units	n[a]	MEC[b, c]	Most Stringent Criteria	Background	RPA Endpoint[d]
Heptachlor epoxide	µg/L	6	<0.00064	0.00002	0	Endpoint 3
Hexachlorobenzene	µg/L	12	<0.19	0.00021	0	Endpoint 3
Hexachlorobutadiene	µg/L	6	<0.33	14	0	Endpoint 3
Hexachloroethane	µg/L	6	<0.3	2.5	0	Endpoint 3
Isophorone	µg/L	6	<0.14	730	0	Endpoint 3
N-nitrosodimethylamine	µg/L	6	<0.18	7.3	0	Endpoint 3
N-nitrosodi-N-propylamine	µg/L	6	<0.92	0.38	0	Endpoint 3
N-nitrosodiphenylamine	µg/L	6	<0.14	2.5	0	Endpoint 3
PAHs[k]	µg/L	6	<0.17	0.0088	0	Endpoint 3
PCBs[l]	µg/L	6	<0.05	0.000019	0	Endpoint 3
TCDD equivalents[m]	µg/L	6	$<1.98\times10^{-5}$	3.9×10^{-9}	0	Endpoint 3
1,1,2,2-tetrachloroethane	µg/L	6	<0.4	2.3	0	Endpoint 3
Tetrachloroethylene	µg/L	6	<0.25	2.0	0	Endpoint 3
Toxaphene	µg/L	6	<0.05	0.00021	0	Endpoint 3
Trichloroethylene	µg/L	6	<0.14	27	0	Endpoint 3
1,1,2-trichloroethane	µg/L	6	<0.4	9.4	0	Endpoint 3
2,4,6-trichlorophenol	µg/L	6	<0.033	0.29	0	Endpoint 3

Pollutant	Units	n[a]	MEC[b, c]	Most Stringent Criteria	Background	RPA Endpoint[d]
Vinyl chloride	µg/L	6	<0.25	36	0	Endpoint 3

a. Number of data points available for the RPA.
b. If there is a detected value, the highest reported value is summarized in the table. If there are no detected values, the lowest MDL is summarized in the table.
c. Note that the reported MEC does not account for dilution. The RPA does account for dilution; therefore, it is possible for a parameter with an MEC in exceedance of the most stringent criteria not to present an Endpoint 1. The Minimal Initial Dilution is 7.5 (see section IV.C.3.b.).
d. End Point 1 – RP determined, limit required, monitoring required.
End Point 2 – Discharger determined not to have RP, monitoring may be established.
End Point 3 – RPA was inconclusive, carry over previous limitations if applicable, and establish monitoring.
e. No monitoring data was collected for this pollutant during the term of Order No. R8-2014-0076.
f. Non-chlorinated phenolic compounds represent the sum of 2-nitrophenol; phenol; 2,4-dimethylphenol; 2,4-dinitrophenol; 2-methyl-4,6-dinitrophenol; and 4-nitrophenol.
g. Chlorinated phenolic compounds represent the sum of 2-chlorophenol; 2,4-dichlorophenol; 2,4,6-trichlorophenol; 4-chloro-3-methylphenol; and pentachlorophenol.
h. HCH shall mean the sum of alpha, beta, gamma (lindane), and delta isomers of hexachlorocyclohexane.
i. 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.
j. Halomethanes shall mean the sum of bromoform, bromomethane (methyl bromide), and chloromethane (methyl chloride).
k. PAHs shall mean the sum of acenaphthylene; anthracene; 1,2-benzanthracene; 3,4-benzofluoranthene; benzo(k)fluoranthene; 1,12-benzoperylene; benzo(a)pyrene; chrysene; dibenzo(a,h)anthracene; fluorine; indeno(1,2,3-cd)pyrene; phenanthrene; and pyrene.
l. PCBs shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Arolclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.
m. TCDD Equivalents shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below. USEPA method 1613 may be used to analyze dioxin and furan congeners.

   Dioxin-TEQ (TCDD Equivalents) = Sum (C_x x TEF_x)

   Where:

Pollutant	Units	n[a]	MEC[b, c]	Most Stringent Criteria	Background	RPA Endpoint[d]

C_x = concentration of dioxin or furan congener x

TEF_x = TEF for congener x

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

4. WQBEL Calculations

From the Table 3 water quality objectives of the Ocean Plan, effluent limitations are calculated according to Equation 1 of the Ocean Plan for all pollutants, except for acute toxicity (if applicable) and radioactivity:

Ce = Co + Dm (Co - Cs)

Where:

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

As discussed in sections II.B and IV.C.3.b. of the Fact Sheet, the Dm, developed and approved by the State Water Board is 7.5 to 1.

Table 5 of the Ocean Plan establishes background concentrations (represented as "Cs") for some pollutants to be used when determining reasonable potential. In accordance with Table 3 implementation procedures, Cs equals zero for all pollutants not established in Table 5. The background concentrations provided in Table 3 are summarized below:

Table F-13. Background Seawater Concentrations (Cs)

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

Section III.C.8.d of the Ocean Plan describes compliance determination procedures for Table 3 pollutants for dischargers that use a large volume of ocean water for once-through cooling and states:

> *Effluent concentration values (C_e) shall be determined through the use of equation 1 considering the minimum probable initial dilution of the combined effluent (in-plant waste streams plus cooling water flow). These concentration values shall then be converted to mass emission limitations as indicated in equation 3. The mass emission limits will then serve as requirements applied to all in-plant waste streams taken together which discharge into the cooling water flow, except for total chlorine residual, acute [if applicable per Section 3 (c)] and chronic toxicity, and instantaneous maximum concentrations in Table 3 shall apply to, and be measured in, the combined final effluent, as adjusted for dilution with ocean water.*

Section III.C.4.j of the Ocean Plan contains implementation provisions applicable to dischargers using a large volume of ocean water for once-through cooling water. This provision states that the permit "*shall also specify effluent limitations in terms of mass emission rate limits*" applicable to the commingled discharge in addition to concentration-based WQBELs. In accordance with Ocean Plan, this Order establishes:

1. Instantaneous maximum concentration-based WQBELs applicable to the combined discharge for all Ocean Plan Table 3 parameters, and
2. Daily maximum, average monthly, and 6-month median mass emission limitations applicable to the combined flow of low volume, in-plant wastes for parameters in place of similar concentration-based WQBELs.

Consistent with Order No. R8-2014-0076, mass emission rate effluent limitations shall be computed according to the following general equation:

Mass Limit (lbs/day) = 0.00834 x C_e x Q

Where,

C_e = The corresponding concentration-based effluent limitation for the parameter (in µg/L).

Q = The sum of the observed flow rate at Monitoring Locations, M-INTB1 and M-INTB2.

Consistent with Order No. R8-2014-0076 and anti-backsliding requirements, this Order retains 6-month median and maximum daily concentration-based effluent limitations for copper and total residual chlorine. Also, based on the results from the RP, effluent limitations for zinc are added to this Order.

The following demonstrates how the WQBELs, taking copper and Zinc as an examples, are established:

Copper

Compute effluent concentration limitations and values at Discharge Point No. 001:

C_e = 3 µg/L + 7.5 (3 µg/L – 2) = 11 µg/L (6-Month Median)
C_e = 12 µg/L + 7.5 (12 µg/L – 2) = 87 µg/L (Daily Maximum)
C_e = 30 µg/L + 7.5 (30 µg/L – 2) = 240 µg/L (Instantaneous Maximum)

Zinc

Compute effluent concentration limitations and values at Discharge Point No. 001:

C_e = 20 µg/L + 7.5 (20 µg/L – 8) = 110 µg/L (6-Month Median)

C_e = 80 µg/L + 7.5 (80 µg/L – 8) = 620 µg/L (Daily Maximum)

C_e = 200 µg/L + 7.5 (200 µg/L – 8) = 1640 µg/L (Instantaneous Maximum)

Compute mass emission limitations for Low Volume Waste (Monitoring Locations M-INTB1 and M-INTB2) when the sum of the observed low volume wastes flow rates is 0.5 MGD:

Mass Limit = 0.00834 x 11 µg/L x 0.5 MGD = 0.046 lbs/day (6-Month Median)
Mass Limit = 0.00834 x 87 µg/L x 0.5 MGD = 0.36 lbs/day (Daily Maximum)

5. Temperature

This Order implements the provisions of the Thermal Plan using certain findings from the Discharger's April 2005 study, titled "*AES HBGS Entrainment and Impingement Study*". The relevant findings from the report were as follows:

a. During heat treatments, temperature of discharge waters is about 112°F to 122°F. This temperature is maintained for about one hour.

b. 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.

This Order retains the same temperature limits listed in Order No. R8-2014-0076 as the follows:

a. 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°F, and

b. Temperature fluctuations during gate adjustment above 125°F shall not last more than 30 minutes and shall not exceed 130°F.

6. Whole Effluent Toxicity (WET)

Whole effluent toxicity (WET) is an indicator of the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative “no toxics in toxic amounts” criterion while implementing numeric criteria for toxicity. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth. This Order stablishes effluent limitations for chronic toxicity based on the results from the reasonable potential analysis, which shows that the discharge exceeds the Ocean Plan’s Table 3 WQO for chronic toxicity and best professional judgement (BPJ) considerations per Step 13 of the Ocean Plan’s RPA methodology (Appendix VI of the Ocean Plan). A pollutant at a low concentration could show chronic effects but no acute effects. Thus, chronic toxicity represents a more stringent compliance threshold than acute toxicity.

Section III.C of the Ocean Plan requires only chronic, not acute, toxicity monitoring when the minimum initial dilution is below 100 to 1. The Dm for the discharge at Discharge Point No. 001 is 7.5 to 1. Based on Ocean Plan requirements, this Order requires only chronic toxicity monitoring at Discharge Point No. 001.

This Ocean Plan establishes a daily maximum chronic toxicity objective of 1 TUc. In 2010, U.S. EPA endorsed the peer reviewed Test of Significant Toxicity (TST) hypothesis testing approach in the *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010) as an improved hypothesis testing tool to evaluate WET data. U.S. EPA concluded that the TST is a superior approach for addressing statistical

uncertainty when used in combination with U.S. EPA's toxicity testing methods and is implemented in federal permits issued by EPA Region 9. This Order implements U.S. EPA's TST approach for evaluating compliance with WET.

This Order contains requirements to monitor and evaluate toxicity using EPA's TST approach at an in-stream waste concentration (IWC) of 11.76 percent for chronic toxicity, as described in section V of Attachment E of this Order. The IWC for toxicity is based on a minimum month initial dilution of 7.5:1 as discussed in sections II.B. and IV.C.3.b. This Order contains requirements to monitor chronic toxicity in the discharge and to undertake toxicity reduction activities in the event that toxicity in the discharge exceeds effluent limitations.

D. Final Effluent Limitation Considerations

1. Anti-Backsliding Requirements

§§ 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. §122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order.

Existing and newly established effluent limitations (for total recoverable zinc and chronic toxicity) were established based on Ocean Plan procedures and objectives. As such, the protection afforded under this Order results in an equal level of protection of beneficial uses to the previous conditions established under Order No. R8-2014-0076.

2. Antidegradation Policies

§ 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16. Resolution 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Santa Ana Water Board's Basin Plan and the Ocean Plan implement, and incorporate by reference, the State and federal antidegradation policies. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge.

This Order does not provide for an increase in the permitted design flow or allow for a reduction in the level of treatment. The final limitations in this Order hold the Discharger to performance levels that will not cause or contribute to water quality impairment or degradation of water quality. Therefore, the permitted discharge is consistent with the antidegradation provision of § 131.12 and State Water Board Resolution 68-16.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on free available chlorine, total residual chlorine (instantaneous maximum), iron, oil and grease, PCBs, pH, and TSS. Restrictions on these pollutants are discussed in Section IV.B. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. These limitations are not more stringent than required by the CWA.

Water quality-based effluent limitations have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. The procedures for calculating the individual water quality-based effluent limitations are based on the Ocean Plan, most recently amended, effective February 4, 2019. All beneficial uses and water quality objectives contained in the Ocean Plan were approved under state law and submitted to and approved by USEPA and are applicable water quality standards pursuant to 40 C.F.R. § 131.21(c)(2). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

4. Summary of Effluent Limitations

a. Discharge Point No. 001 (Monitoring Location M-001)

i. Effluent limitations applicable at Discharge Point No. 001 are as follows:

Table F-14. Summary of Final Effluent Limitations for Discharge Point No. 001

Pollutant	Units	Six-month median	Average Monthly	Maximum Daily[c]	Instant-aneous Minimum	Instant-aneous Maximum	Basis
pH	pH Units	--	--	--	6.0	9.0	E, OP
Temperature	°F	--	--	See Section IV.D.4.a.iii, below.	--	--	E, TP
Copper, Total Recoverable	µg/L	11	--	87	--	240	E, OP
Zinc, Total Recoverable	µg/L	110	--	620	--	1640	OP
Chronic Toxicity	Pass or Fail					"Pass"	OP

Pollutant	Units	Six-month median	Average Monthly	Maximum Daily[c]	Instant-aneous Minimum	Instant-aneous Maximum	Basis
PCBs	µg/L	--	--	[a]	--	--	E, ELG
Total Residual Chlorine (See also Section IV.D.4.a.ii., below)	µg/L	17	--	68	--	200[b]	E, ELG, OP

E = Existing Order, OP = Ocean Plan (effective February 4, 2019), ELG = Effluent Limitation Guidelines and Standards (40 C.F.R. 423), TP = Thermal Plan.

a. The Discharge of PCBs is prohibited.

b. The ELG is more stringent than the WQBEL instantaneous maximum effluent limit and has therefore the more stringent ELG has been applied in this Order.

c. Applied as an average daily concentration.

ii. **Total Residual Chorine.** Total residual chlorine may not be discharged from any unit for more than two hours in any one day, unless the Discharger demonstrates to the satisfaction of the Santa Ana Water Board Executive Officer that discharges for more than two hours are required for the control of bio-fouling and that such discharges will not adversely affect water quality. In addition, not more than one unit may discharge total residual chlorine at any one time.

iii. **Temperature**

(a) During normal operation, the temperature of wastes discharged at Discharge Point No. 001 shall not exceed the natural temperature of the receiving waters, as measured by the intake water temperature, by more than 30°F.

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

b. **Low Volume Wastes (Monitoring Location M-INTB1 and M-INTB2)**

i. Effluent limitations applicable to low volume wastes with compliance evaluated at Monitoring Locations M-INTB1 and M-INTB2 are as follows

Table F-15. Summary of Final Effluent Limitations for Low Volume and Metal Cleaning Wastes (Monitoring Location M-INTB1 and M-INTB2)

Pollutant	Units	6-month median	Average Monthly	Maximum Daily	Instant-aneous Minimum	Instant-aneous Maximum	Basis[1]
pH	pH Units	--	--	--	6.0	9.0	E, ELG
Total Suspended Solids	mg/L	--	30.0	100.0	--	--	E, ELG
	lbs/day	--	See Section IV.D.4.b.ii, below	See Section IV.D.4.b.ii, below	--	--	
Oil and Grease	mg/L	--	15.0	20.0	--	--	E, ELG
	lbs/day	--	See Section IV.D.4.b.ii, below	See Section IV.D.4.b.ii, below	--	--	
Copper, Total Recoverable	lbs/day	See Section IV.D.4.b.iii, below	--	See Section IV.D.4.b.iii, below	--	--	E, ELG, OP
Zinc, Total Recoverable	lbs/day	See Section IV.D.4.b.iii, below	--	See Section IV.D.4.b.iii, below	--	--	OP
Iron, Total Recoverable	mg/L		1.0	1.0			ELG
	lbs/day		See Section IV.D.4.b.ii, below	See Section IV.D.4.b.ii, below			

ii. **Mass Limitations**

The Discharger shall calculate the mass emission rate limitation utilizing the general formula:

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

Where,

Ce = The effluent concentration limitation specified in Table F-15 for the specific pollutant considered (in units of mg/L).

Q = The sum of the observed flow rate discharged at Monitoring Locations M-INTB1 and M-INTB2 (in units of MGD).

iii. **Total Recoverable Copper and Zinc Mass Limitations**

The Discharger shall calculate the mass emission rate limitation utilizing the general formula:

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

Where,

Ce = The effluent concentration limitation specified in Table F-14 (Effluent Limitations at Monitoring Location M-001) for total recoverable copper or for total recoverable zinc (in units of µg/L).

Q = The sum of the observed flow rate discharged at Monitoring Locations M-INTB and M-INTB2 (in units of MGD).

c. Metal Cleaning Wastes

Although the Discharger no longer discharges chemical metal cleaning wastes to the Ocean, it still discharges non-chemical metal cleaning wastes. Therefore, effluent limits are specified in this Order. Also, the discharge of chemical metal cleaning waste is prohibited.

E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Specifications – Not Applicable

G. Recycling Specifications – Not Applicable

H. Storm Water Specifications

This Order requires the Discharger to certify to the Santa Ana Water Board that industrial stormwater is managed by internal drainage systems of the Facility, where stormwater is captured, treated, and discharged with the treated low volume wastes wastewater regulated under this Order at Monitoring Locations M-INTB1 and M-INTB2. This Order requires the Discharger to submit and implement a Stormwater Management Plan to address onsite stormwater quality (see section IV.D. of the Order).

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

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

B. Groundwater – Not Applicable

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. § 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. § 122.42, are provided in Attachment D to the Order.

§§ 122.41(a)(1) and (b) through (n) of 40 C.F.R. establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. § 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. § 123.25, this Order omits federal conditions that address enforcement authority specified in 40 C.F.R. §§ 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code § 13387(e).

B. Special Provisions

1. Reopener Provisions

The reopener provisions are based on 40 C.F.R. 122.44(c) and 123. The Santa Ana Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new regulations, modification in sludge use or disposal practices, or adoption of new regulations by the State Water Board or Santa Ana Water Board, including revisions to the Basin Plan or to the Ocean Plan.

2. Special Studies and Additional Monitoring Requirements

a. **Toxicity Reduction Requirements.** This Order requires the Discharger to develop procedures to conduct Toxicity Identification and Reduction Evaluations. This provision is based on section III.C.10 of the Ocean Plan.

3. Best Management Practices and Pollution Prevention

a. **Best Management Practices.**

§ 402 of the Clean Water Act and U.S. EPA regulations 40 C.F.R. 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 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 C.F.R. 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.

b. **Pollutant Minimization Program.** This provision is based on requirements contained in Section III.C.9 of the Ocean Plan and Water Code § 13263.3 (d). The goal of the Pollutant Minimization Program is to reduce all potential sources of a pollutant through pollutant minimization strategies, including pollution prevention measures, in order to maintain the effluent concentration at or below the effluent limitation.

c. **Retention Basin Maintenance.** This provision is retained from Order No. R8-2014-0076. Consistent with 40 C.F.R. 122.41, the Discharger is to take proper and necessary actions to ensure the proper operation and maintenance of wastewater treatment units at the Facility, including actions to prevent the mobilization and ocean discharge of pollutants from the retention basins during storm events.

4. Climate Change Action Plan

Changing climate conditions may fundamentally alter the way power generation stations are designed and operated. Climate change research indicates the overarching driver of change is increased atmospheric carbon dioxide (CO2) from human activity. The increased CO2 emissions trigger changes to climatic patterns, which increase the intensity of sea level rise and coastal storm surges (Sea Level Changes), lead to more erratic rainfall and local weather patterns (Weather Patterns Changes), trigger a gradual warming of freshwater and ocean

temperatures (Water Temperatures Changes) and trigger changes to ocean water chemistry (Water pH Changes).

This Order requires the Discharger to develop and implement a Climate Change Action Plan (CCAP) within 18 months of the effective date of this Order. The purpose of the CCAP is to project potential climate change impacts on the Facility and operations and document steps to address potential impacts on the Facility.

5. Construction, Operation, and Maintenance Specifications

a. **Operation and Maintenance Manual.** This provision is retained from Order No. R8-2014-0076 and this Order also requires the Discharger to develop and implement an asset management program.

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

7. Other Special Provisions – Not Applicable

8. Once-Through Cooling Water Implementation Plan and Schedules

a. **Compliance Date and Alternatives**

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

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

The Discharger submitted an implementation plan (IP) for compliance with the State Water Board's Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling (OTC Policy) on April 2, 2011, and amended it on June 17, 2011. Per its original IP, its amendment, and further correspondence, the Discharger had proposed to bring Units 1, 2, 3, and 4, into compliance using Track 1. The Track 1 compliance would be completed in two phases and consisted in the construction of two dry-cooled natural gas fired combined cycle gas turbine (CCGT) power blocks. In addition, the Discharger requested an extension of the Final Compliance Date of Units 1 and 2 to December 31, 2022 because of delays in the first phase with the expected shutdown of the Units 3 and 4 synchronous condensers by December 2018, which in turn would delay the demolition of Units 3 and 4 and construction of the second CCGT power block.

At the time of adoption of the 2014 Order, the OTC Policy had not been amended to allow a change in the OTC Final Compliance Date for HBGS and compliance with the OTC Policy was set, then, for December 31, 2020.

In 2016, the Discharger changed their IP to include the construction of one 644 MW CCGT power block instead of the two CCGT power blocks (939 MW combined), as originally proposed. As of November 2020, retired Unit 5 has been demolished (in 2016), the operation of Units 1, 3, and 4 has ceased, the new 644 MW CCGT power block has been constructed and is in operation, and Unit 2 would be kept operational until December 31, 2020. However, due to system-wide electrical grid reliability issues that were projected to arise if Unit 2 of HBGS and three other OTC generating stations were to permanently discontinue power generation by December 31, 2020, the State Water Board adopted an OTC Policy amendment on September 1, 2020 that extended the OTC Policy's Final Compliance Date for HBGS' Unit 2 to December 31, 2023. The September 1, 2020 OTC Policy amendment will become effective upon approval by the Office of Administrative Law. In addition, the State Water Board may further suspend, modify, or amend the Final Compliance Date for this Facility under any of the circumstances set forth in section 2.B.(2) of the OTC Policy. The Discharger's compliance with the OTC Policy shall be in accordance with the following schedule:

Table F-16. Schedule of Compliance with OTC Policy

Task	Compliance Date
1. Submit Workplan for OTC compliance under Track 1.	December 1, 2015
2. Submit first progress Report on compliance actions	December 1, 2016
3. Submit second progress Report	December 1, 2017
4. Submit third progress Report.	December 1, 2018
5. Submit fourth progress Report	December 1, 2019
6. Submit fifth progress Report	December 1, 2020
7. Achieve full compliance with Units 1, 3, and 4.	December 31, 2020
8. Submit sixth progress Report	December 1, 2021
9. Submit seventh progress Report	December 1, 2022
10. Achieve full compliance with OTC Policy for Unit 2.	No later than the date stated in Table 1 in Section 3.E of the OTC Policy or any later date established by the suspension provisions in Section 2.B(2) of the OTC Policy

b. **Immediate and Interim Requirements**

The OTC Policy further requires the immediate and interim requirements:

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

ii. The discharge of waste and/or intake of water shall not impact the function of Marine Protected Areas, unless the impacts are mitigated to the satisfaction of the State Water Board

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

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

Per the submitted Implementation Plan and subsequent correspondence, the Discharger has indicated it has a single ocean water intake structure, which is fitted with a velocity cap. In accordance with Section 2C of the OTC Policy, no later than October 1, 2011, the Discharger must have large-organism exclusion devices on the intake structure. The intake structure currently has large-organism exclusion devices constructed of fiberglass C-Channels on the top and bottom of the assemblies with vertical fiberglass rods between the top and bottom assemblies. The devices were installed in the early 1980s; however, the spacing of each vertical rod was at 15 inches on center. In order to comply with the OTC Policy by October 1, 2011, additional holes were drilled in the existing fiberglass C-Channels to place new additional fiberglass rods at 7 inches on center. This installation of additional fiberglass rods was completed in October 2011 and thus complies with the requirements of Section 2 (C) 1 of the OTC Policy of having a distance between exclusion bars of no greater than 9 inches.

With regard to intake flows when the generating units are offline and no longer generating power, a minimal flow rate of circulating water is continuously required for safe operation of critical plant systems. These critical plant systems include service air system, generator hydrogen sealing system, and instrument air system. These critical plant systems all require cooling water from the bearing cooling water system, which, over time, will rise in temperature requiring the circulation of cooling water to reduce the temperature of the bearing cooling water. At a minimum, one circulating water pump (44,000 GPM) is required for critical plant systems at all times to

reduce bearing cooling water temperatures. The baseline years 2000 through 2005 did not provide the typical operating profile of the ocean water circulation pumps at the HBGS. In 2000 and 2001, only two generating units were in operation. In May 2001, the California Energy Commission approved the license for the retooling and commissioning of Units 3 and 4. Unit 3 came online in late 2002 and Unit 4 became available in early 2003. Since then, the dispatch of the generating units at the HBGS, and consequently the ocean water flows, have varied from year to year, with 2007 and 2008 representing the years with maximum monthly generating capacity at the HBGS over the past 10 years. Current and past operating data demonstrate that there are no months when intake flows at the HBGS are likely to cease completely. Minimum month flows are typically March and April when power generation is expected to be at a minimum; however, as explained previously, there will be a minimum of 44,000 GPM (63.4 MGD) of intake flow in the HBGS at all times.

With regard to the mitigating measures, the Discharger has proposed that as of October 1, 2015 and until HBGS achieves full OTC compliance, it will provide funding to the Coastal Conservancy to be used for mitigation projects directed toward increases in marine life associated with the State's Marine Protected Areas in the local region of the HBGS. The amount to be provided shall be determined by the State Water Board.

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

CWA § 308 and 40 C.F.R. §§ 122.41(h), (j)-(*l*), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code §§ 13267 and 13383 also authorize the Santa Ana Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring, reporting, and recordkeeping requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring

The monitoring requirements for flow and temperature are necessary to evaluate compliance with effluent limitations contained in this Order and compliance with the requirements of the Thermal Plan.

Monitoring requirements for marine life impingement and entrainment have not been implemented in this Order. Under the OTC Policy, as amended on June 18, 2013, only fossil fueled plants that have submitted implementation plans and possessing OTC Policy compliance dates after December 31, 2022 are required to conduct impingement and entrainment studies. As discussed in section VI.C.8 of the Order, the Facility's final compliance date with the OTC Policy was initially set, in Order No, R8-2014-0076, for December 31, 2020 for Units 1 – 4. However, due to system-wide

electrical grid reliability issues that were projected to arise, starting in the summer of 2021, if Unit 2 of the HBGS and three other OTC generating stations were to permanently discontinue power generation by December 31, 2020, the State Water Board adopted an OTC Policy amendment on September 1, 2020 that extended the OTC Policy's final compliance date for HBGS' Unit 2 to December 31, 2023. Therefore, considering that the Discharger is currently mitigating the entrainment and impingement impacts from the intake OTC water, has reduced its intake volume of OTC water necessary for operating Unit 2 only, has already completed its implementation plan, and that the OTC Policy final date has been extended, as amended by the State Water Board on September 1, 2020, there is no need to require monitoring for marine life impingement and entrainment. However, if Unit 2 will continue to operate beyond the expiration date of this Order with an intake volume of OTC water greater than 2 MGD, the Discharger must submit no later than 180 days before the expiration of this Order, a permit application consistent with 40 CFR section 122.21(r)(2)-(13) and 40 CFR 122.95(f). If the Discharger plans to retire Unit 2 before the end of the next permit cycle, the permit application need not comply with the requirements in section 122.21(r)(7), (9), (10), (11), (12), or (13) provided the Discharger's application includes a signed certification statement specifying the last operating date of Unit 2.

B. Effluent Monitoring

The Discharger is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are set forth in the monitoring and reporting program (Attachment E). This provision requires compliance with the monitoring and reporting program and is based on §§ 122.44(i), 122.62, 122.63 and 124.5. The self-monitoring program (SMP) is a standard requirement in all waste discharge requirements (including this proposed Order) issued by the Santa Ana Water Board.

Monitoring for those pollutants contained in Table 3 of the Ocean which do not possess effluent limitations have not been retained in the MRP (Attachment E). Instead, monitoring for all Table 3 pollutants not possessing effluent limitations shall be conducted once per year during the permit term. However, monitoring for ammonia (as nitrogen) has been added as a parameter to the MRP, on a monthly basis, due to the dosing of ammonia to the main steam cycle of the HRSG and ammonia is present in waste streams from the HRSG's blowdowns and Steam Sampling System that are discharged through M-INTB2 (or M-INTB1 when ERB is out of service) to Discharge Point No. 001. Data generated from this monitoring is necessary for evaluating reasonable potential for the discharge to cause or contribute to an exceedance of applicable water quality objectives contained in the Ocean Plan during future permit reissuances.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) is an indicator of the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. An acute toxicity test is

conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth. This Order establishes monitoring and reporting for chronic toxicity to evaluate compliance with effluent limitations.

Section III.C.3.c.(4) of the Ocean Plan requires dischargers to conduct chronic toxicity testing if the minimum initial dilution of the effluent is below 100:1. The Facility has an initial dilution ratio of 7.5 to 1. Therefore, this Order includes monitoring requirements for chronic toxicity in the MRP (Attachment E).

D. Receiving Water Monitoring

1. Surface Water

Monitoring requirements are included in the MRP (Attachment E) to determine compliance with the receiving water limitations established in Limitations and Discharge Requirements, Receiving Water Limitations, Section V.A. For consistency, receiving water monitoring requirements included Order R8-2014-0076 have been retained with some modifications.

2. Groundwater – Not Applicable

E. Other Monitoring Requirements

1. Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program

Under the authority of § 308 of the CWA (33 U.S.C. § 1318), U.S. EPA requires major and selected minor permittees under the NPDES Program to participate in the annual DMR-QA Study Program. The DMR-QA Study evaluates the analytical ability of laboratories that routinely perform or support self-monitoring analyses required by NPDES permits. There are two options to satisfy the requirements of the DMR-QA Study Program: (1) The Discharger can obtain and analyze a DMR-QA sample as part of the DMR-QA Study; or (2) Per the waiver issued by U.S. EPA to the State Water Board, the Discharger can submit the results of the most recent Water Pollution Performance Evaluation Study from its own laboratories or its contract laboratories. A Water Pollution Performance Evaluation Study is similar to the DMR-QA Study. Thus, it also evaluates a laboratory's ability to analyze wastewater samples to produce quality data that ensure the integrity of the NPDES Program. The Discharger shall ensure that the results of the DMR-QA Study or the results of the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Board. The State Water Board's Quality Assurance Program Officer will send the DMR-QA Study results or the results of the most recent Water Pollution Performance Evaluation Study to U.S. EPA's DMR-QA Coordinator and Quality Assurance Manager.

VIII. PUBLIC PARTICIPATION

The Santa Ana Water Board has considered the issuance of WDR's that will serve as an NPDES permit for the Huntington Beach Generating Station. As a step in the WDR

adoption process, the Santa Ana Water Board staff has developed tentative WDR's and has encouraged public participation in the WDR adoption process.

A. Notification of Interested Parties

The Santa Ana Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDR's for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through posting of a Notice of Public Hearing on the Santa Ana Water Board's website

The public had access to the agenda and any changes in dates and locations through the Santa Ana Water Board's web site at: http://www.waterboards.ca.gov/santaana/

B. Written Comments

Interested persons were invited to submit written comments concerning these tentative WDRs by mail to the Executive Officer at the Santa Ana Water Board at the address above on the cover page of this Order, by fax to (951) 781-6288, or by email to Ryan Harris at Ryan.Harris@waterboards.ca.gov.

To be fully responded to by staff and considered by the Santa Ana Water Board, written comments must have been received at the Santa Ana Water Board offices by 5:00 p.m. on November 30, 2020.

C. Public Hearing

The Santa Ana Water Board held a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: December 4, 2020
Time: 9:00 A.M.
Location: Meeting was remote, due to COVID-19 restrictions.

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

D. Reconsideration of Waste Discharge Requirements

Any aggrieved person may petition the State Water Board to review the decision of the Santa Ana Water Board regarding the final WDRs. The petition must be received by the State Water Board at the following address by 5:00 p.m. within 30 calendar days of the Santa Ana Water Board's adoption of this Order, except that if the thirtieth day following the adoption date of this Order falls on a Saturday, Sunday, or a state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street

Sacramento, CA 95812-0100
Or by email at waterqualitypetitions@waterboards.ca.gov

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

E. Information and Copying

The Report of Waste Discharge, other supporting documents, and comments received are on file and may be inspected by appointment, at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Santa Ana Water Board by calling (951) 782-4130.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDR's and NPDES permit should contact the Santa Ana 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 Julio Lara at (951)782-4901 or julio.lara@waterboards.ca.gov.

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 State Water Board. There are four major chemical groupings: volatile chemicals, semi-volatile chemicals, inorganics, pesticides & PCB's. "No Data" is indicated by "--".

TABLE II-1
MINIMUM* LEVELS – VOLATILE CHEMICALS

		Minimum* Level (µg/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

		Minimum* Level (µg/L)			
Semi-Volatile Chemicals	**CAS Number**	**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	--	--

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

Semi-Volatile Chemicals	CAS Number	Minimum* Level (µg/L) GC Method [a,*]	GCMS Method [b,*]	HPLC Method [c,*]	COLOR Method [d]
Hexachloroethane	67721	5	1	--	--
Indeno(1,2,3-cd)pyrene	193395	--	10	0.05	--
Isophorone	78591	10	1	--	--
2-methyl-4,6-dinitrophenol	534521	10	5	--	--
3-methyl-4-chlorophenol	59507	5	1	--	--
N-nitrosodi-n-propylamine	621647	10	5	--	--
N-nitrosodimethylamine	62759	10	5	--	--
N-nitrosodiphenylamine	86306	10	1	--	--
Nitrobenzene	98953	10	1	--	--
2-Nitrophenol	88755	--	10	--	--
4-Nitrophenol	100027	5	10	--	--
Pentachlorophenol	87865	1	5	--	--
Phenanthrene	85018	--	5	0.05	--
Phenol	108952	1	1	--	50
Pyrene	129000	--	10	0.05	--
2,4,6-Trichlorophenol	88062	10	10	--	--

Table II-2 Notes:

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

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

TABLE II-3
MINIMUM* LEVELS - INORGANICS

Inorganic Substances	CAS Number	Minimum* Level (µg/L) 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*

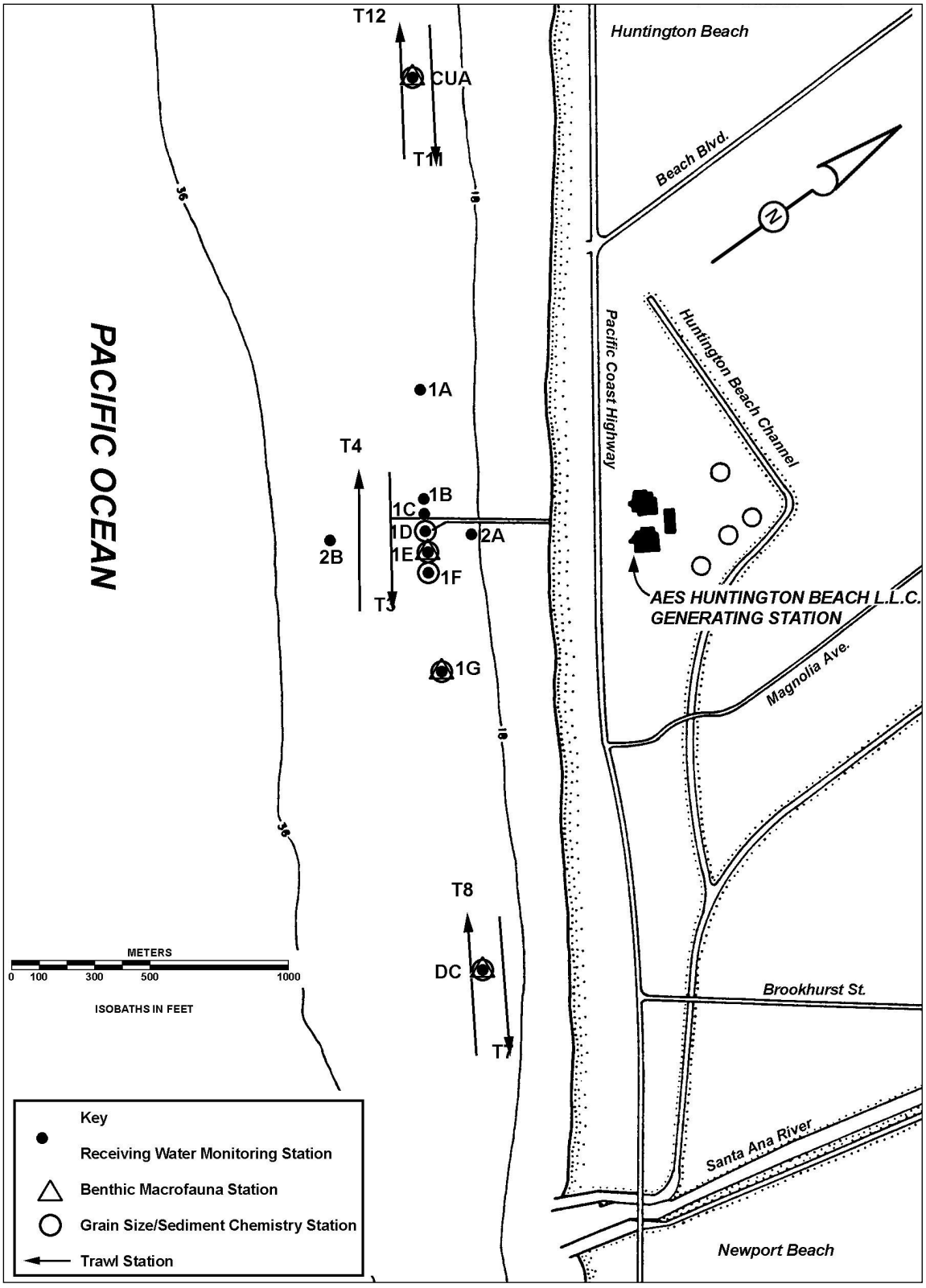
Pesticides – PCB's	CAS Number	Minimum* Level (µg/L) GC Method[a,*]
Aldrin	309002	0.005
Chlordane	57749	0.1
4,4'-DDD	72548	0.05
4,4'-DDE	72559	0.05
4,4'-DDT	50293	0.01
Dieldrin	60571	0.01
a-Endosulfan	959988	0.02
b-Endosulfan	33213659	0.01
Endosulfan Sulfate	1031078	0.05
Endrin	72208	0.01
Heptachlor	76448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



ATTACHMENT I –NOT APPLICABLE

ATTACHMENT J – NOT APPLICABLE

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

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

Constituent	µg/L
ethylbenzene	17425
fluoranthene	64
hexachlorocyclopentadiene	247
nitrobenzene	21
thallium	9
toluene	361250
tributyltin	0.006

Constituent	µg/L
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

ATTACHMENT K – Continued

Constituent	µg/L
toxaphene	0.00089
trichloroethylene	115
1,1,2-trichloroethane	40
2,4,6-trichlorophenol	1.23
vinyl chloride	153