CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

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ORDER R4-2019-XXXX
NPDES NO. CA0061191

WASTE DISCHARGE REQUIREMENTS FOR THE SOUTHERN CALIFORNIA EDISON COMPANY PEBBLY BEACH DESALINATION PLANT

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

Table 1. Discharger Information

Discharger	Southern California Edison Company
Name of Facility	Pebbly Beach Desalination Plant
Facility Address	1 Pebbly Beach Road
	Avalon, CA 90704
	Los Angeles County

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Reverse osmosis brine, product water, filter backwash, untreated seawater including seawater from flushing the seawater supply pipeline	33.333861°	-118.309639°	Pacific Ocean Nearshore Zone

Table 3. Administrative Information

This Order was adopted on:	**December 12, 2019**
This Order shall become effective on:	**February 1, 2020**
This Order shall expire on:	**January 31, 2025**
The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDRs in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	**180 days prior to the Order expiration date**
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, Los Angeles Region have classified this discharge as follows:	**Minor**

I, Renee Purdy, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on December 12, 2019.

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Renee Purdy, Executive Officer

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I. FACILITY INFORMATION

Information describing the Pebbly Beach Desalination Plant (Facility) is summarized in Table 1 and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility's permit application.

II. FINDINGS

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

A. Legal Authorities. This Order serves as waste discharge requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as a National Pollutant Discharge Elimination System (NPDES) permit authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 2 subject to the WDRs in this Order.

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

C. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections IV.B, IV.C, and V.B are included to implement state law only. However, there are no such provisions or requirements in this Order.

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

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

THEREFORE, IT IS HEREBY ORDERED, that this Order supersedes Order R4-2011-0165-A01 except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the 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.

III. DISCHARGE PROHIBITIONS

A. Wastes discharged shall be limited to a maximum of 0.720 million gallons per day (MGD) of reverse osmosis brine, product water, filter backwash water, untreated seawater, and

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wastewater from flushing the seawater supply pipelines through Discharge Point 001. The discharge of any other wastewater, storm water, and wastes from accidental spills or other sources is prohibited unless it is authorized by another WDR and/or NPDES permit.

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

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

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

E. The discharge shall not cause a violation of any applicable water quality standards for receiving waters adopted by the Regional Water Board or the State Water Resources Control Board (State Water Board) as required by the federal CWA and regulations adopted thereunder.

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

G. Pipeline discharge of sludge to the ocean is prohibited by federal law. The discharge of municipal and industrial waste sludge directly to the ocean, or into a waste stream that discharges to the ocean, is prohibited by the State Water Board's *Water Quality Control Plan for Ocean Waters of California* (Ocean Plan). 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.

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

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

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

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

L. Waste shall not be discharged to designated Areas of Special Biological Significance (ASBS).

M. The discharge of any debris from construction sites is prohibited.

N. The discharge of trash to surface waters of the State or the deposition of trash where it may be discharged into surface waters of the State is prohibited.

O. The by-passing of untreated wastes containing concentrations of pollutants in excess of those of Table 1 or Table 2 of the Ocean Plan, to the ocean is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Points 001

1. Final Effluent Limitations –Discharge Point 001

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

Table 4. Effluent Limitations at Discharge Point 001

Pollutant	Units[3]	6-Month Median	Average Monthly (30-day Average)	7-Day Average	Maximum Daily	Instantaneous Maximum
Biochemical Oxygen Demand (5-day @ 20 Degrees Centigrade)	mg/L	--	20	---	60	--
Biochemical Oxygen Demand (5-day @ 20 Degrees Centigrade)	lbs/day	--	120	--	360	--
Oil and Grease	mg/L	--	10	--	15	--
Oil and Grease	lbs/day	--	60	--	90	--
Total Suspended Solids (TSS)	mg/L	--	50	--	150	--
Total Suspended Solids (TSS)	lbs/day	--	300	--	901	--
Salinity	ppt	--	--	--	96.94	--
Chronic Toxicity[1]	Pass or Fail, % Effect	--	Pass[2]	--	Pass or % Effect < 50	--
Settleable Solids	ml/L	--	0.1	--	0.3	--
Turbidity	NTU	--	50	100	150	--
Copper, TR[4]	µg/L	8	--	--	62	170
Copper, TR	lbs/day	0.048	--	--	0.37	1.0
Chromium (VI)	µg/L	12	--	--	48	120
Chromium (VI)	lbs/day	0.072	--	--	0.29	0.7
Mercury, TR	µg/L	0.24	--	--	0.96	2.4
Mercury, TR	lbs/day	0.0014	--	--	0.0058	0.014
Zinc, TR	µg/L	80	--	--	440	1,160

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Pollutant	Units[3]	6-Month Median	Average Monthly (30-day Average)	7-Day Average	Maximum Daily	Instantaneous Maximum
Zinc, TR	lbs/day	0.48	--	--	2.6	7.0
Tributyltin	µg/L	--	0.0084	--	--	--
Tributyltin	lbs/day	--	5.0×10^{-5}	--	--	--

1. "Pass" or "Fail" for Median Monthly Effluent Limitation (MMEL). "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL). The MMEL for chronic toxicity shall only apply when there is a discharge more than one day in a calendar month period. During such calendar months, up to three independent toxicity tests are required when one toxicity test results in "Fail".
2. This is a MMEL.
3. Acronyms and Abbreviations
   µg/L = micrograms per Liter.
   lbs/day = pounds per day
   ppt = parts per thousand
   mg/L = milligram per Liter
   ml/L = milliliter per Liter
   NTU = nephelometric turbidity units
4. TR = Total Recoverable

b. The mass-based effluent limitations emission rates (lbs/day) are based on the flow rate of 0.720 MGD, and are calculated as follows: Flow (MGD) X Concentration (mg/L) X 8.34 (conversion factor) = lbs/day.

c. The following are effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program, Attachment E:

1. Bacteria Limitations:

i. Total Coliform - The median of total coliform density shall not exceed 70 per 100 ml, and not more than 10 percent of the samples shall exceed 230 per 100 ml. Compliance shall be determined based on sample results over any six-month period.

ii. Fecal Coliform - The fecal coliform density shall not exceed: (a) a 30-day geometric mean of 200 per 100 ml, calculated based on the five most recent samples, and (b) a single sample maximum of 400 per 100 ml.

iii. Enterococci - The enterococci density shall not exceed; (a) a six-week rolling geometric mean not to exceed 30 colony forming units per 100 milliliters, calculated weekly, and (b) a statistical threshold value of 110 colony forming units (cfu) per 100 ml by more than 10 percent of the samples collected in a calendar month, calculated in a static manner.

2. Temperature Limitations:

The temperature effluent limitations for the discharge are as follows:

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i. The maximum temperature of thermal waste discharges shall not exceed the natural temperature of the receiving waters by more than 20 degrees Fahrenheit (ºF).

ii. The discharge of elevated temperature wastes shall not result in increases in the natural water temperature exceeding 4°F at the shoreline, the surface of any ocean substrate, or 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.

3. pH Limitations

The pH of wastes discharged shall at all times be within the range of 6.0 to 9.0 pH units.

B. Land Discharge Specifications – Not Applicable

C. Recycling Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitation

Receiving water limitations are based on water quality objectives contained in the Ocean Plan, including the latest amendment to the Ocean Plan revising the bacteria provisions for ocean waters (effective March 22, 2019)[1], and are a required part of this Order. Unless specifically excepted by this Order, the discharge, by itself or jointly with any other discharge(s), shall not cause violation of the following water quality objectives. Compliance with these objectives shall be determined by samples collected at stations representative of the area within the waste field where initial dilution is completed (i.e., outside the zone of initial dilution (ZID)).

1. Bacterial Characteristics

a. State Water Board Water Contact Standard

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 (i.e., waters designated as REC-1), but including all kelp beds, the following water quality objectives shall be maintained throughout the water column.

Fecal Coliform

A 30-day geometric mean (GM) of fecal coliform density not to exceed 200 per 100 milliliters (ml), calculated based on the five most recent

[1] The amendment is titled, the *Amendment to the Water Quality Control Plan for Ocean Waters of California – Bacterial Provisions and Water Quality Standards Variance Policy*, adopted by the State Water Board on August 7, 2018, and approved by the Office of Administrative Law (OAL) on February 4, 2019, and the United States Environmental Protection Agency (U.S. EPA) on March 22, 2019 (Bacteria Provisions or Ocean Plan Amendment).

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samples from each site, and a single sample maximum (SSM) not to exceed 400 per 100 ml

Enterococci

A six-week rolling GM of *enterococci* shall not exceed 30 colony forming units (cfu) per 100 ml, calculated weekly, and a statistical threshold value (STV) of 110 cfu/100 mL shall not be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner. U.S. EPA recommends using U.S. EPA Method 1600 or other equivalent method to measure culturable enterococci.

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

b. Shellfish Harvesting Standards

At all areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the discharge shall not cause the exceedance of the following bacterial objectives throughout the water column:

The median total coliform density shall not exceed 70 per 100 ml, and not more than 10 percent of the samples shall exceed 230 per 100 ml. Compliance shall be determined based on the sample results over any six-month period.

2. Physical Characteristics

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

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

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

d. The rate of deposition of inert solids and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded.

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

3. Chemical Characteristics

a. The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials.

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

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

d. The concentration of substances set forth in Chapter II, Table 1 of the Ocean Plan, shall not be increased in marine sediments to levels that would degrade indigenous biota.

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

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

g. Numeric water quality objectives established in Chapter II, Table 1 of the Ocean Plan shall not be exceeded outside of the zone of initial dilution as a result of discharges from the Facility.

4. Biological Characteristics

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

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

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

5. Radioactivity

Discharge of radioactive waste shall not degrade marine life.

6. Salinity

Discharges shall not exceed a daily maximum of 2.0 ppt above natural background salinity measured no further than 100 meters (328 ft.) horizontally from each discharge point. There is no vertical limit to this zone. Compliance with the salinity receiving water limitation will be based on the effluent limitation for salinity at Discharge Point 001.

B. Groundwater Limitations – Not Applicable

VI. PROVISIONS

A. Standard Provisions

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

2. 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. The Discharger must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges of

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

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

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

d. Nothing in this Order shall be construed to preclude the institution of any legal action or relieve the Discharger from any responsibilities, liabilities or penalties established pursuant to any applicable state law or regulation under authority preserved by section 510 of the CWA.

e. Nothing in this Order shall be construed to preclude the institution of any legal action or relieve the Discharger from any responsibilities, liabilities or penalties to which the Discharger is or may be subject to under section 311 of the CWA.

f. Collection, treatment, and disposal systems shall be operated in a manner that precludes public contact with wastewater.

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

h. 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 impacts associated with climate change.

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

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

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

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

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

k. If there is any storage of hazardous or toxic materials or hydrocarbons at this facility and if the facility is not manned at all times, a 24-hour emergency

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response telephone number shall be prominently posted where it can easily be read from the outside.

l. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Regional Water Board as soon as they know or have reason to believe that they have begun or expect to begin to use or manufacture an intermediate or final product or byproduct of any toxic pollutant that was not reported on their application.

m. The Discharger shall file with the Regional Water Board a report of waste discharge at least 180 days before making any material change or proposed change in the character, location or volume of the discharge.

n. In the event of any change in name, ownership, or control of these waste disposal facilities, the discharger shall notify this Regional Water Board of such change and shall notify the succeeding owner or operator of the existence of this Order by letter, copy of which shall be forwarded to the Regional Water Board, 30 days prior to the change taking effect.

o. CWC section 13385(h)(1) requires the Regional Water Board to assess a mandatory minimum penalty of three-thousand dollars ($3,000) for each serious violation. Pursuant to CWC section 13385(h)(2), a "serious violation" is defined as any waste discharge that violates the effluent limitations contained in the applicable waste discharge requirements for a Group II pollutant by 20 percent or more, or for a Group I pollutant by 40 percent or more. Appendix A of 40 CFR § 123.45 specifies the Group I and II pollutants. Pursuant to CWC section 13385.1(a)(1), a "serious violation" is also defined as "a failure to file a discharge monitoring report required pursuant to section 13383 for each complete period of 30 days following the deadline for submitting the report, if the report is designed to ensure compliance with limitations contained in waste discharge requirements that contain effluent limitations."

p. CWC section 13385(i) requires the Regional Water Board to assess a mandatory minimum penalty of three-thousand dollars ($3,000) for each violation whenever a person violates a waste discharge requirement effluent limitation four or more times in any period of six consecutive months, except that the requirement to assess the mandatory minimum penalty shall not be applicable to the first three violations within that time period. Pursuant to CWC section 13385.1(d), for the purposes of section 13385.1 and subdivisions (h), (i), and (j) of section 13385, "effluent limitation" means a numeric restriction or a numerically expressed narrative restriction, on the quantity, discharge rate, concentration, or toxicity units of a pollutant or pollutants that may be discharged from an authorized location. An effluent limitation may be final or interim and may be expressed as a prohibition. An effluent limitation, for these purposes, does not include a receiving water limitation, a compliance schedule, or a best management practice.

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

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

i. Name and general composition of the chemical,

ii. Frequency of use,

iii. Quantities to be used,

iv. Proposed discharge concentrations, and

v. U.S. EPA registration number, if applicable.

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

t. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, maximum daily effluent limitation, average monthly effluent limitation, instantaneous maximum or instantaneous minimum effluent limitation, six-month median limitation, or receiving water limitation of this Order, the Discharger shall notify the Regional Water Board by telephone (213) 576-6600 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and, prevent recurrence including, where applicable, a schedule of implementation. The written notification shall also be submitted via email with reference to CI-6899 to losangeles@waterboards.ca.gov. Other noncompliance requires written notification as above at the time of the normal monitoring report.

u. The provisions of this order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.

B. Monitoring and Reporting Program (MRP) Requirements

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

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C. Special Provisions

1. Reopener Provisions

a. This Order may be reopened for modification to include an effluent limitation if monitoring establishes that the discharge causes, has the reasonable potential to cause, or contributes to an excursion above a California Ocean Plan (Ocean Plan) Table 1 or Table 2 water quality objective.

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

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

d. This Order may be reopened and modified, to revise effluent limitations as a result of the delisting of a pollutant from the 303(d) list.

e. This Order may be reopened and modified, to incorporate in accordance with the provisions set forth in 40 CFR parts 122 and 124, to include requirements for the implementation of the watershed management approach or to include new minimum levels (MLs).

f. This Order may be reopened and modified to revise effluent limitations as a result of future Basin Plan Amendments, such as an update of an objective or the adoption of a TMDL for the receiving water (i.e., the Pacific Ocean).

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

h. 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.

i. This Order may be modified, revoked, reissued, or terminated in accordance with the provisions of 40 CFR sections 122.44, 122.62, 122.63, 122.64, 125.62 and 125.64. Causes for taking such actions include, but are not limited to: failure to comply with any condition of this Order; endangerment to human health or the environment resulting from the permitted activity; or acquisition of newly-obtained information which would have justified the application of different conditions if known at the time of Order adoption.

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j. This Order may be reopened and modified to revise any and/or all of the chronic toxicity testing provisions and effluent limitations, to the extent necessary, to be consistent with a revised Ocean Plan or a Toxicity Plan that is subsequently adopted by the State Water Board, after U.S. EPA approval of such plan.

k. This Order will be reopened and modified to the extent necessary, to be consistent with new policies, a new state-wide plan, new laws, or new regulations.

l. This Order may be reopened for modification as a result of the Discharger's proposed expansion of the existing Facility, which must be approved as per the Water Code section 13142.5(b) determination as per the Ocean Plan Amendment in Chapter III.M.

m. The filing of a request by the Discharger for an Order modification, revocation, and issuance or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

n. This Order may be reopened to modify the dilution factor or salinity effluent limitation upon completion of the brine modeling study, which will accompany the 13142.5(b) Determination Request**.**

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Updated Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan. The Discharger shall submit to the Regional Water Board an Initial Investigation TRE workplan within 90 days of the effective date of this permit. This plan shall describe the steps the Discharger intends to follow in the event that toxicity is detected. See section V of the Monitoring and Reporting Program (Attachment E) for an overview of TRE requirements. The workplan shall include information such as procedures on information and data acquisition, facility performance evaluation, toxicity identification evaluation, toxicity control evaluation, and toxicity control implementation.

b. Compliance Demonstration for New RO Unit Configuration. To determine the impact of the new reverse osmosis unit (Plant 2, installed in 2015-2016), operating in series with the existing Plant 1 on the effluent concentrations, the Regional Water Board requires the Discharger to conduct a study to assess the ability of this mode of operation to achieve compliance. The Discharger shall submit to this Regional Water Board a workplan within 90 days of the effective date of this permit. The workplan shall describe the actions/timelines to be taken to conduct a study to assess compliance for the Mode 1.A operation when Plant 1 brine is being further treated by Plant 2 (Attachment C-2, Mode 1.A, With Plant 1 and 2 Operating in Series, No New Wells). The workplan shall include information including but not limited to an evaluation of this mode of operation, the procedures for information and data acquisition, and effluent monitoring representative of the discharge compared to the normal mode of operation(Mode 0: Existing Setup (No New Unit; No New Well) depicted in Attachment C-1) the existing

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seawater wells taking in 0.720 MGD which is treated at Plant 1 generating 0.202 MGD of freshwater product and discharging up to 0.720 MGD of brine reject via Discharge Outfall 001.

3. Best Management Practices and Pollution Prevention

a. Storm Water Management Plan

The Discharger shall submit, within 90 days of the effective date of this Order:

An updated Storm Water Management Plan (SMP) that describes site-specific management practices for minimizing contamination of storm water runoff and for preventing contaminated storm water runoff and trash from being discharged directly to waters of the State. The SMP shall cover all areas of the Facility and shall include an updated drainage map for the Facility. The Discharger shall identify on a map, of appropriate scale the areas that contribute runoff to the receiving water, describe the activities in each area and the potential for contamination of storm water runoff and the discharge of trash or hazardous waste/material; and address the feasibility of containment and/or treatment of storm water. In addition, the SMP shall address and include best management practices procedures that the Discharger will implement to prohibit the discharge of trash from the Facility to the receiving water.

4. Construction, Operation and Maintenance Specifications

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

a. ***Climate Change Effects Vulnerability Assessment and Mitigation Plan*****:** The Permittee shall consider the impacts of climate change as they affect the operation of the treatment facility due to flooding, wildfire, or other climate-related changes. The Permittee shall develop a Climate Change Effects Vulnerability Assessment and Mitigation Plan (Climate Change Plan) to assess and manage climate change-related effects that may impact the wastewater treatment facility's operation, water supplies, its collection system, and water quality including any projected changes to the influent water temperature and pollutant concentrations, and beneficial uses. For facilities that discharge to the ocean including desalination plants, the Climate Change Plan shall also include the impacts from sea level rise. The Climate Change Plan is due 12 months after adoption of this Order.

b. ***Alternate Power Source*****:** The Permittee shall maintain in good working order a sufficient alternate power source for operating the desalination treatment and disposal facilities. All equipment shall be located and secured to minimize failure due to moisture, liquid spray, flooding, wildfires, and other physical phenomena. The alternate power source shall be designed to allow inspection and maintenance and shall provide for periodic testing. If such alternate power source is not in existence, the discharger shall halt, reduce,

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or otherwise control all discharges upon the reduction, loss, or failure of the primary source of power. The Permittee shall provide standby or emergency power facilities and/or storage capacity or other means so that in the event of plant upset or outage due to power failure or other cause, discharge of raw or inadequately treated brine or wastewater does not occur.

5. Other Special Provisions – Not Applicable

6. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

A. Single Constituent Effluent Limitation

If the concentration of the pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (see Reporting Requirement I.G. of the MRP), then the Discharger is out of compliance.

B. Effluent Limitations Expressed as Sum of Several Constituents

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

C. Effluent Limitations Expressed as a Median

In determining compliance with a median limitation, the analytical results in a set of data will be arranged in order of magnitude (either increasing or decreasing order); and

1. If the number of measurements (n) is odd, then the median will be calculated as = X(n+1)/2, or

2. If the number of measurements (n) is even, then the median will be calculated as= [Xn/2 + X(n/2)+1]/2, i.e. the midpoint between the n/2 and n/2+1 data points.

D. Multiple Sample Data

When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or ND. In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

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

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

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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.

E. Average Monthly (30-Day Average) Effluent Limitation (AMEL)

If the average (or when applicable, the median determined by section D 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 for the purpose of calculating mandatory minimum penalties; 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) for the purpose of calculating discretionary administrative civil liabilities. 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. If multiple samples are taken the Discharger will only be considered out of compliance for days when the discharge occurs. For anyone calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

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

1. If the analytical result of a single sample, monitored monthly, quarterly, semiannually, or annually, does not exceed the AMEL for that constituent, the Discharger has demonstrated compliance with the AMEL for that month;
2. If the analytical result of a single sample, monitored monthly, quarterly, semiannually, or annually, exceeds the AMEL for any constituent, the Discharger shall collect up to four additional samples at approximately equal intervals during the month. All five analytical results shall be reported in the monitoring report for that month, or 45 days after results for the additional samples were received, whichever is later. The concentration of a pollutant (an arithmetic mean or a median) in these samples estimated from the “Multiple Sample Data Reduction” section above, will be used for compliance determination.
3. In the event of noncompliance with an AMEL, the sampling frequency for that constituent shall be increased to weekly and shall continue at this level until compliance with the AMEL has been demonstrated.

F. Average Weekly Effluent Limitation (AWEL) or 7-Day Average

If the average of daily discharges over a calendar week exceeds the AWEL for a given parameter, a potential violation will be flagged and the Discharger will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of non—compliance. The average of daily discharges over the calendar week that exceeds the AWEL for a parameter will be considered out of compliance for that week only. If only a single sample is collected during the calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that calendar week. For any one calendar week during which no sample (daily discharge) is collected, no compliance determination can be made for that calendar week with respect to the AWEL

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

G. Maximum Daily Effluent Limitation (MDEL)

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

H. Instantaneous Minimum Effluent Limitation

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

I. Instantaneous Maximum Effluent Limitation

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

J. Six-Month Median Effluent Limitation

If the median of daily discharges over any 180-day period exceeds the six-month median effluent limitation for a given parameter, a potential violation will be flagged and the Discharger will be considered out of compliance for each day of that 180-day period for that parameter. The next assessment of compliance will occur after the next sample is collected. If only a single sample is collected 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 collected, no compliance determination can be made for the six-month median effluent limitation.

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

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measurement shall be used to determine compliance with the effluent limitation for the entire time period.

K. Median Monthly Effluent Limitation (MMEL)

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

L. Chronic Toxicity

The discharge is subject to determination of “Pass” or “Fail” and “Percent Effect” from a single effluent concentration chronic toxicity test at the discharge IWC using the Test of Significant Toxicity (TST) statistical approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (U.S. EPA 833-R-10-003, 2010), Appendix A, Figure A-1, and Table A-1. The null hypothesis (Ho) for the TST statistical approach is: Mean discharge IWC response ≤0.75 × Mean control response. A test result that rejects this null hypothesis is reported as “Pass”. A test result that does not reject this null hypothesis Is reported as “Fail”. The relative “Percent Effect” at the discharge IWC is defined and reported as: ((Mean control response - Mean discharge IWC response) ÷ Mean control response) × 100%.

Chronic toxicity for the discharge is evaluated at the IWC (0.60% of the wastewater discharge effluent for Discharge Point 001) and expressed in units of the TST statistical approach ("Pass" or "Fail" and percent effect). All NPDES effluent monitoring for the chronic toxicity shall be reported using only the IWC effluent concentration and negative control, expressed in units of the TST. The TST hypothesis (H0) (see above) is statistically analyzed using the IWC and a negative control. Effluent toxicity tests shall be run using *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (U.S. EPA/600/R-95/136, 1995). The Regional Water Board's review of reported toxicity test results will include review of concentration-response patterns as appropriate (see Fact Sheet discussion at IV.C.7). As described in the laboratory audit directives to the San Jose Creek Water Quality Laboratory from the State Water Resources Control Board dated August 07, 2014, and from U.S. EPA dated December 24, 2013, the Percent Minimum Significant Difference (PMSD) criteria only apply to compliance reporting for the No Observed Effect Concentration (NOEC) and the sublethal statistical endpoints of the NOEC, and therefore are not used to interpret TST results, barring Test Acceptability Criteria (TAC). Standard Operating Procedures used by the toxicity testing laboratory to identify and report valid, invalid, anomalous, or inconclusive effluent (and receiving water) toxicity test measurement results from the TST statistical approach, including those that incorporate a consideration of concentration-response patterns, must be submitted to the Regional Water Board (40 CFR § 122.41 (h)). The Regional Water

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Board will make a final determination as to whether a toxicity test result is valid, and may consult with the Discharger, the U.S. EPA, the State Water Board's Quality Assurance Officer, or the State Water Board's Environmental Laboratory Accreditation Program as needed. The Regional Water Board may consider the results of any TIE/TRE studies in an enforcement action.

M. Mass-Based Effluent Limitations

Compliance with mass effluent will be estimated based on flow and concentration. When the concentration for the parameter in a sample is reported as Not Detected (ND) or Detected but Not Quantified (DNQ), the corresponding mass emission rate determined using that sample concentration shall also be reported as ND or DNQ.

N. Mass and Concentration- Based Effluent Limitations

Compliance with mass effluent limitations and concentration-based effluent limitations for the same parameter shall be determined separately. When the concentration for a parameter in a sample is reported as ND or DNQ, the corresponding mass emission-n rate determined using that sample concentration shall also be reported as ND or DNQ.

O. Bacterial Standards and Analyses

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

$$\text{Geometric Mean} = (C1 \times C2 \times \ldots \times Cn)^{1/n}$$

where n is the number of days samples were collected during the period and C is the concentration of bacteria (MPN/100 mL or CFU/100 mL) found on each day of sampling. For bacterial analyses, sample dilutions should be performed so the expected range of values is bracketed (for example, with multiple tube fermentation method or membrane filtration method, 2 to 16,000 per 100 ml for total and fecal coliform, at a minimum, and 1 to 1000 per 100 ml for *Enterococcus*). The detection method used for each analysis shall be reported with the results of the analysis.

Detection methods used for coliforms (total, fecal, *E. coli*) and *Enterococcus* shall be those presented in Table 1A of part 136 (revised August 28, 2017), unless alternate methods have been approved by U.S. EPA pursuant to 40 CFR part 136 or improved methods have been determined by the Executive Officer and/or U.S. EPA. Detection method for *Enterococcus* may be those presented in the U.S. EPA's publication U.S. EPA 600/4-85/076, *Test Methods for Escherichia coli and Enterococci in Water by Membrane Filter Procedure.*

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ATTACHMENT A – DEFINITIONS

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.

Arithmetic Mean (□)
Also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \sum x / n$ where: $\sum x$ is the sum of the measured ambient water concentrations, and n is the number of samples

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

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

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

Brine
Brine is the byproduct of desalinated water having a salinity concentration greater than a desalination facility's intake source water.

Brine Mixing Zone
Brine mixing zone is the area where salinity may exceed 2.0 parts per thousand above natural background salinity, or the concentration of salinity approved as part of an alternative receiving water limitation. The standard brine mixing zone shall not exceed 100 meters (328 feet) laterally from the points of discharge and throughout the water column. An alternative brine mixing zone, if approved as described in chapter III.M.3.d of the 2015 Ocean Plan, shall not exceed 200 meters (656 feet) laterally from the points of discharge and throughout the water column. The brine mixing zone is an allocated impact zone where there may be toxic effects on marine life due to elevated salinity.

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

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

Coefficient of Variation (CV)
CV is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetc mean of the observed values.

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

For other than flow rate measurement, composite sample means:

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

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

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

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

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

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

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

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

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

Debris
Litter, rubble, discarded refuse, and remains of destroyed inorganic anthropogenic waste.

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.

Desalination Facility
Desalination Facility is an industrial facility that processes water to remove salts and other components from the source water to produce water that is less saline than the source water.

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.

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

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.

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

Estuaries 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 saltwater occurs in the open coastal waters. The waters described by this definition include but are not limited to the Sacramento-San Joaquin Delta as defined by section 12220 of the California Water Code, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, and Russian Rivers.

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

Halomethanes 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 Los Angeles Regional Quality Control Board, whichever results in the lower estimate for initial dilution.

Inland Surface Waters
All surface waters of the state that do not include the ocean, enclosed bays, or estuaries.

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

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.

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

Method Detection Limit (MDL)
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 CFR 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.

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Mixing Zone
Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Natural Background Salinity
Natural background salinity is the salinity at a location that results from naturally occurring processes and is without apparent human influence. For purposes of determining natural background salinity, the regional water board may approve the use of:

(1) the mean monthly natural background salinity. Mean monthly natural background salinity shall be determined by averaging 20 years of historical salinity data in the proximity of the proposed discharge location and at the depth of the proposed discharge, when feasible. For historical data not recorded in parts per thousand, the regional water boards may accept converted data at their discretion. When historical data are not available, natural background salinity shall be determined by measuring salinity at depth of proposed discharge for three years, on a weekly basis prior to a desalination facility discharging brine, and the mean monthly natural salinity* shall be used to determine natural background salinity; or

(2) the actual salinity at a reference location, or reference locations, that is representative of natural background salinity at the discharge location. The reference locations shall be without apparent human influence, including wastewater outfalls and brine discharges.

Either method to establish natural background salinity may be used for the purpose of determining compliance with the receiving water limitation or an effluent limitation for salinity. If a reference location(s) is used for compliance monitoring, the permit should specify that historical data shall be used if reference location data becomes unavailable. An owner or operator shall submit to the regional water board all necessary information to establish natural background salinity.

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.

Nonchemical Metal Cleaning Wastes
The term nonchemical metal cleaning waste means any wastewater resulting from the cleaning of any metal process equipment without chemical cleaning compounds, including, but not limited to, boiler tube cleaning, boiler fireside cleaning, and air preheater cleaning.

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.

Once-Through Cooling Water
The term once-through cooling water means water passed through the main cooling condensers in one or two passes for the purpose of removing waste heat.

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.

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

Phenolic Compounds (Chlorinated)
The sum of 2-chlorophenol, 2,4-dichlorophenol, 4-chloro-3-methylphenol, 2,4,6-trichlorophenol, and pentachlorophenol.

Phenolic Compounds (Non-Chlorinated)
Non-chlorinated phenolic compounds shall mean the sum of phenol, 2,4-dimethylphenol, 2-nitrophenol, 4-nitrophenol, 2,4-dinitrophenol, and 2-methyl-4,6-dinitrophenol.

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 section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention
Any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in ewe section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear

environmental benefits of such an approach are identified to the satisfaction of the State Water Resources Control Board (State Water Board), Regional Water Board, or U.S. EPA.

Reported Minimum Level
The reported ML (also known as the Reporting Level or RL) is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order, including an additional factor if applicable as discussed herein. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board 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.

Salinity
Salinity is a measure of the dissolved salts in a volume of water. For the purposes of the Ocean Plan, salinity shall be measured using a standard method approved by the Regional Water Board (e.g. Standard Method 2520 B, EPA Method 120.1, EPA Method 160.1) and reported in parts per thousand (ppt). For historical salinity data not recorded in parts per thousand, the regional water boards may accept converted data at their discretion.

Seawater
Seawater is salt water that is in or from the ocean. For the purposes of chapter III.M of the Ocean Plan, seawater includes tidally influenced waters in coastal estuaries and coastal lagoons and underground salt water beneath the seafloor, beach, or other contiguous land with hydrologic connectivity to the ocean.

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

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

Single Sample Maximum (SSM)
Maximum value not to be exceeded in any single sample.

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

Standard Deviation (σ)
Standard Deviation is a measure of variability that is calculated as follows:

$\sigma = (\Sigma[(x - \mu)^2)/(n - 1))^{0.5}$

where:

x is the observed value;
μ is the arithmetic mean of the observed values; and
n is the number of samples.

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.

State Water Quality Protection Areas – General Protection (SWQPA-GP)
Designated by the State Water Board to protect marine species and biological communities from an undesirable alteration in natural water quality within State Marine Parks and State Marine Conservation Areas.

STATISTICAL THRESHOLD VALUE (STV)
The STV for the bacteria water quality objective is a set value that approximates the 90th percentile of the water quality distribution of a bacterial population. The STV for the bacteria water quality objective is 110 cfu/100mL

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

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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.)

Trash
All improperly discarded solid material from any production, manufacturing, or processing operation including, but not limited to, products, product packaging, or containers constructed of plastic, steel, aluminum, glass, paper, or other synthetic or natural material.

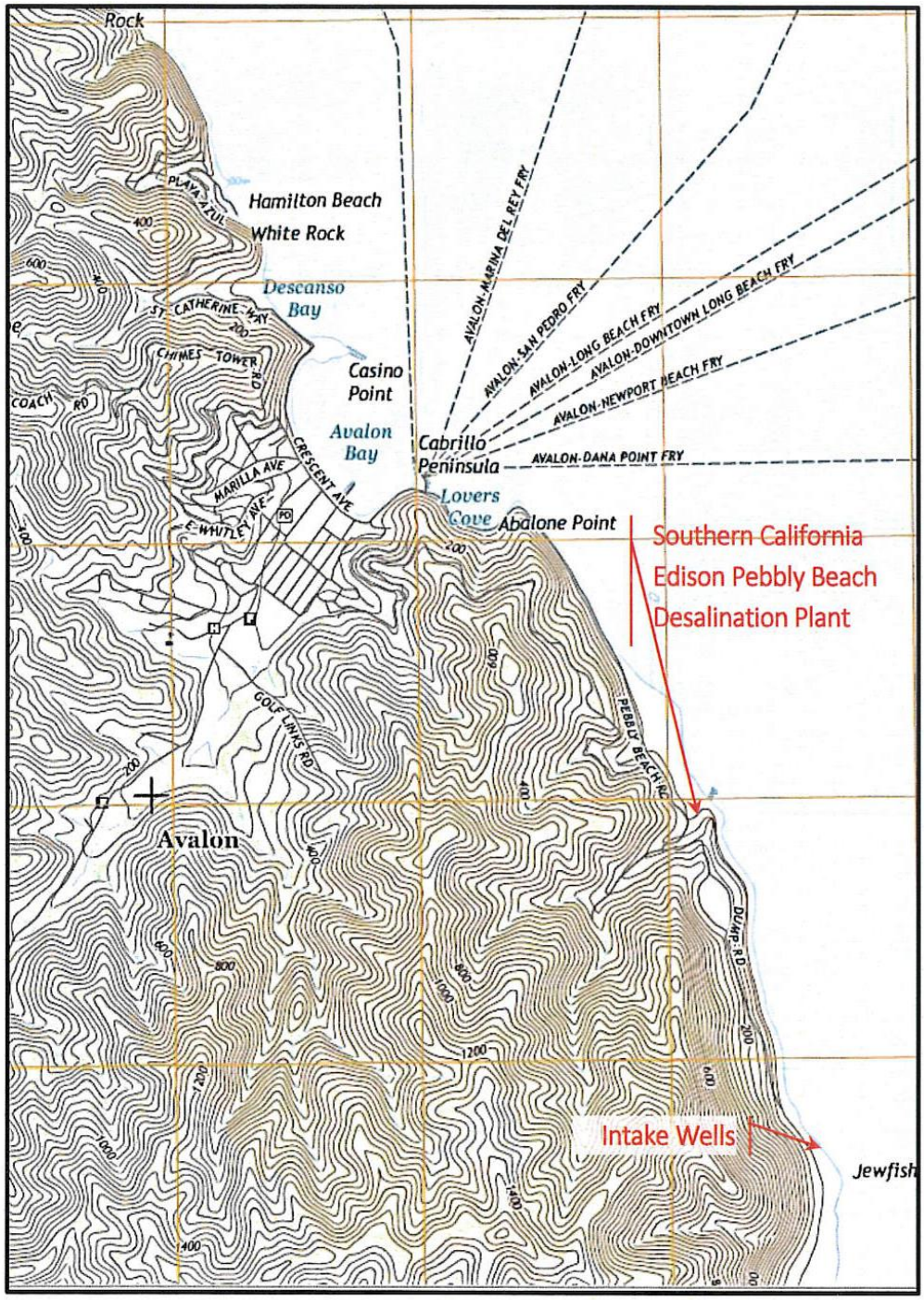
Trash Provisions
Water quality objective for Trash, as well as the prohibition of discharge set forth in Chapter III.I and implementation requirements set forth in Chapter III.L of the Ocean Plan.

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.

Zone of Initial Dilution (ZID)
Zone of Initial Dilution (ZID) means, for purposes of designating monitoring stations, the region within which initial dilution of the discharge in the receiving water occurs, and at the boundary of which initial dilution is completed.

ATTACHMENT B-1 – VICINITY MAP



SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

Southern California Edison

Pebbly Beach Desalination Plant

Vicinity Map

Not to Scale

N

Base Map Source:
The National Map; US Topo Maps; usgs.gov
Santa Catalina East Quadrangle; California-Los Angeles County
7.5-Minute Series; 2015

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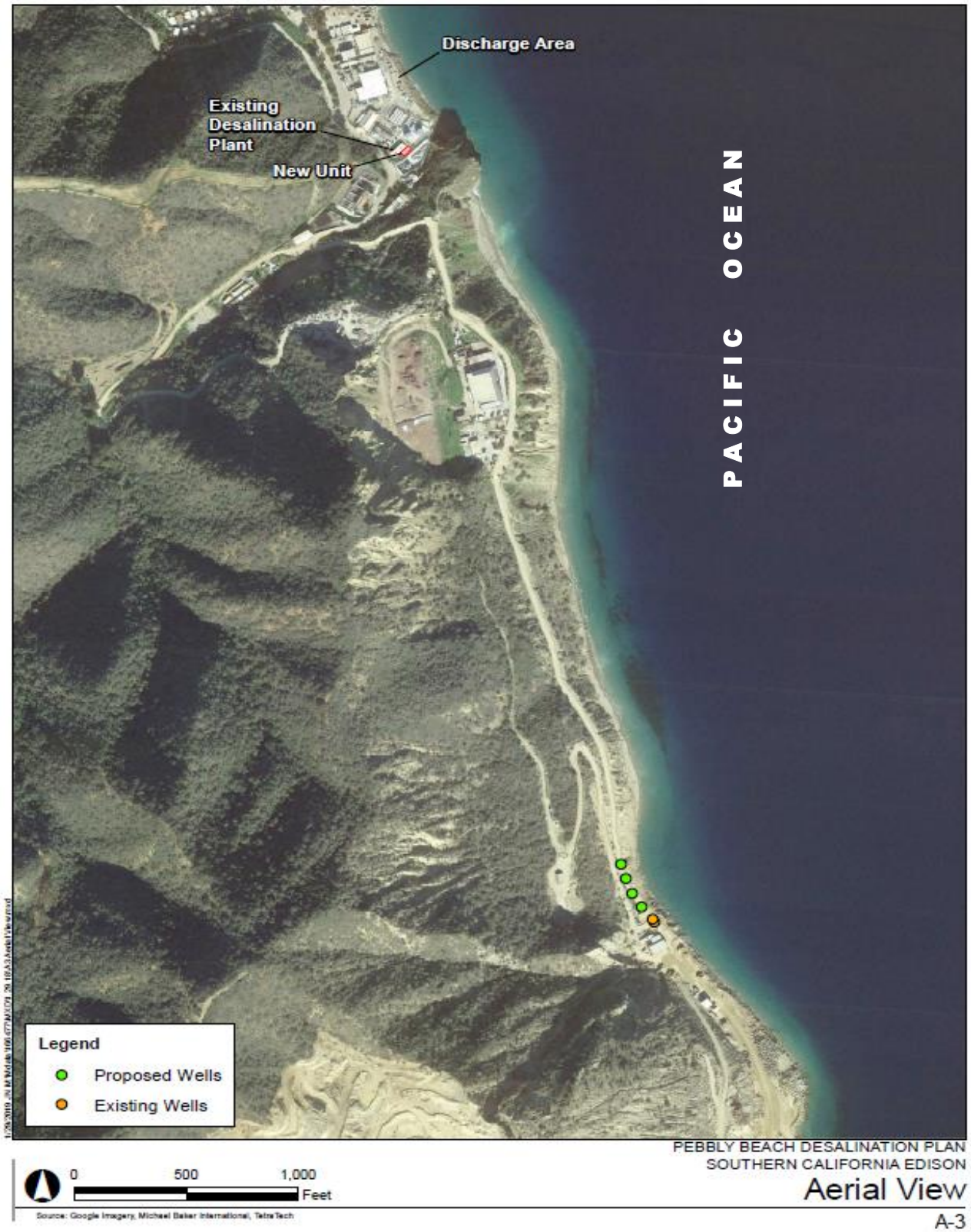
Vicinity Map

ATTACHMENT B-2 – AERIAL VIEW OF FACILITY LOCATION



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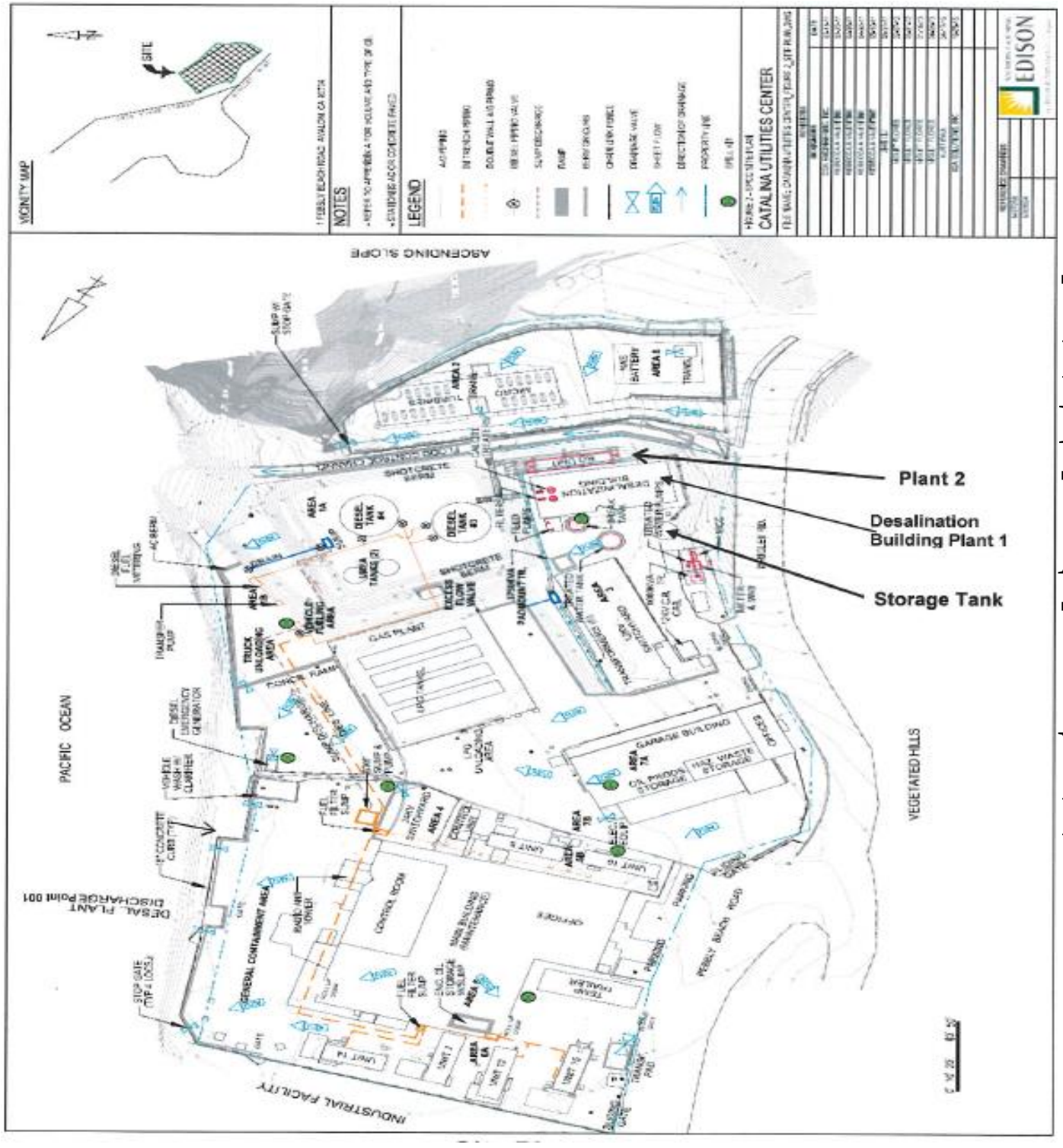
ATTACHMENT B-3 – SITE PLAN



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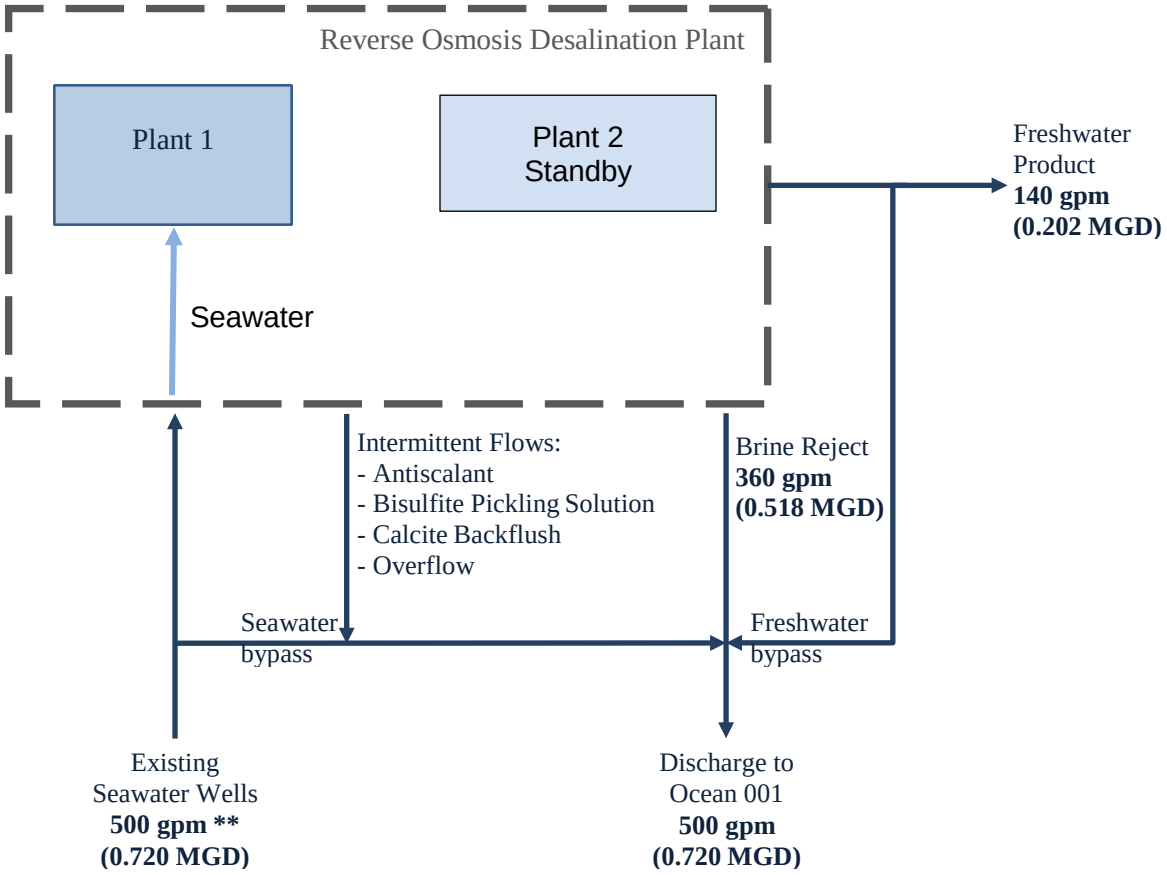
ATTACHMENT C-1 – FLOW SCHEMATIC

Mode 0: Existing Setup (No New Unit; No New Well)



* In this diagram, ratio between fresh water product and brine reject will vary depending on production needs.
**The design flow is provided here, rather than the actual flow that can be achieved by the system in its current condition.

Figure 1 Linear Flow Diagram of Plant Operation Mode 0

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ATTACHMENT C-2 – FLOW SCHEMATIC CONTINUED

Mode 1.A, With Plant 1 and Plant 2 Operating in Series, No New Wells

In this mode, Plant 2 takes brine water from Plant 1 only, to process and produce more fresh water. A linear diagram of the mode process flow is shown in Figure 2.

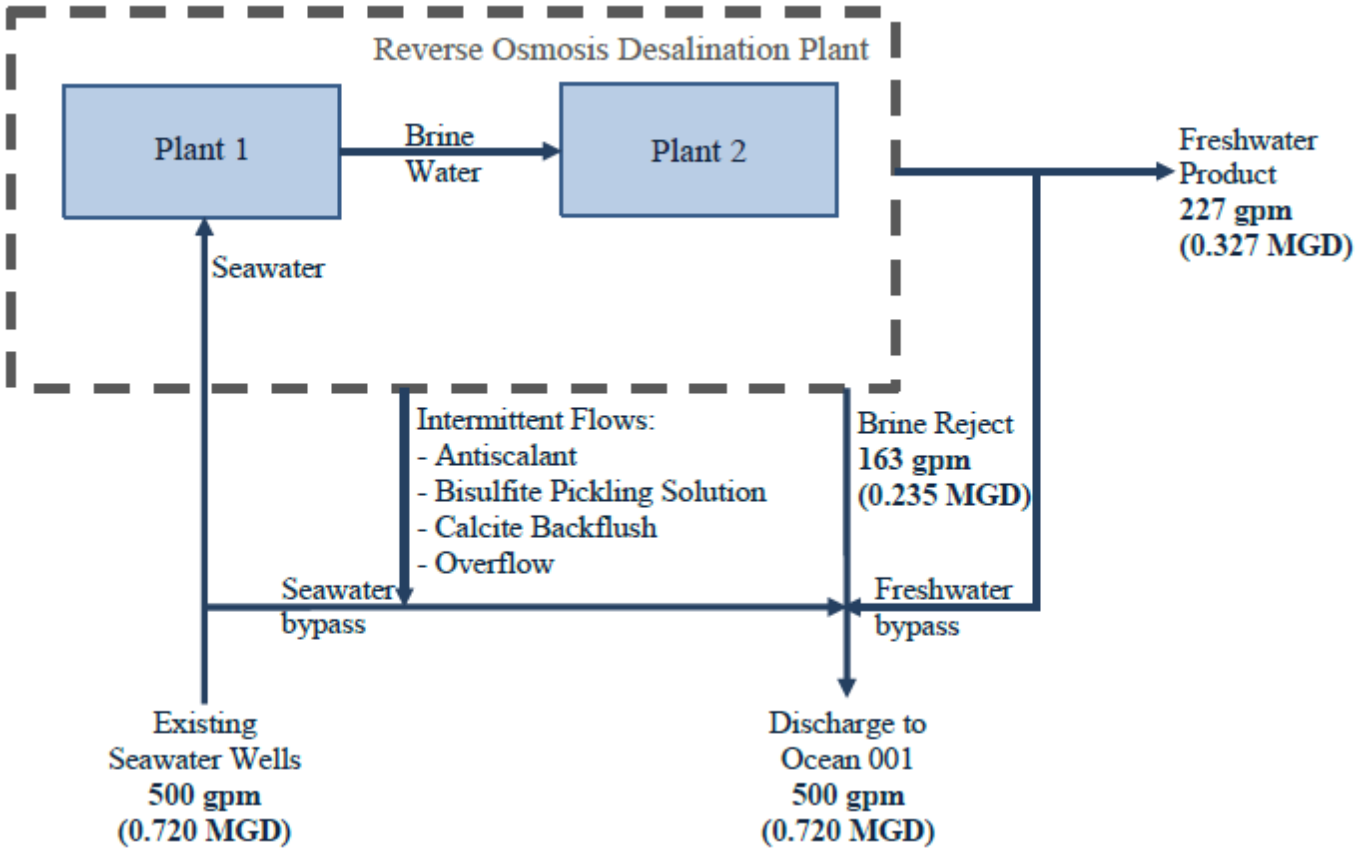

Figure 2 Linear Flow Diagram of Plant Operation Mode 1.A

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ATTACHMENT C-3 – FLOW SCHEMATIC CONTINUED

Mode 1.B With Plant 1 and Plant 2 Operating in Parallel, No New Wells

As shown in Figure 3, in this mode, Plant 1 and Plant 2 work in parallel. Both Plants are fed directly from the seawater wells. Plant 2 also processes brine water from Plant 1.

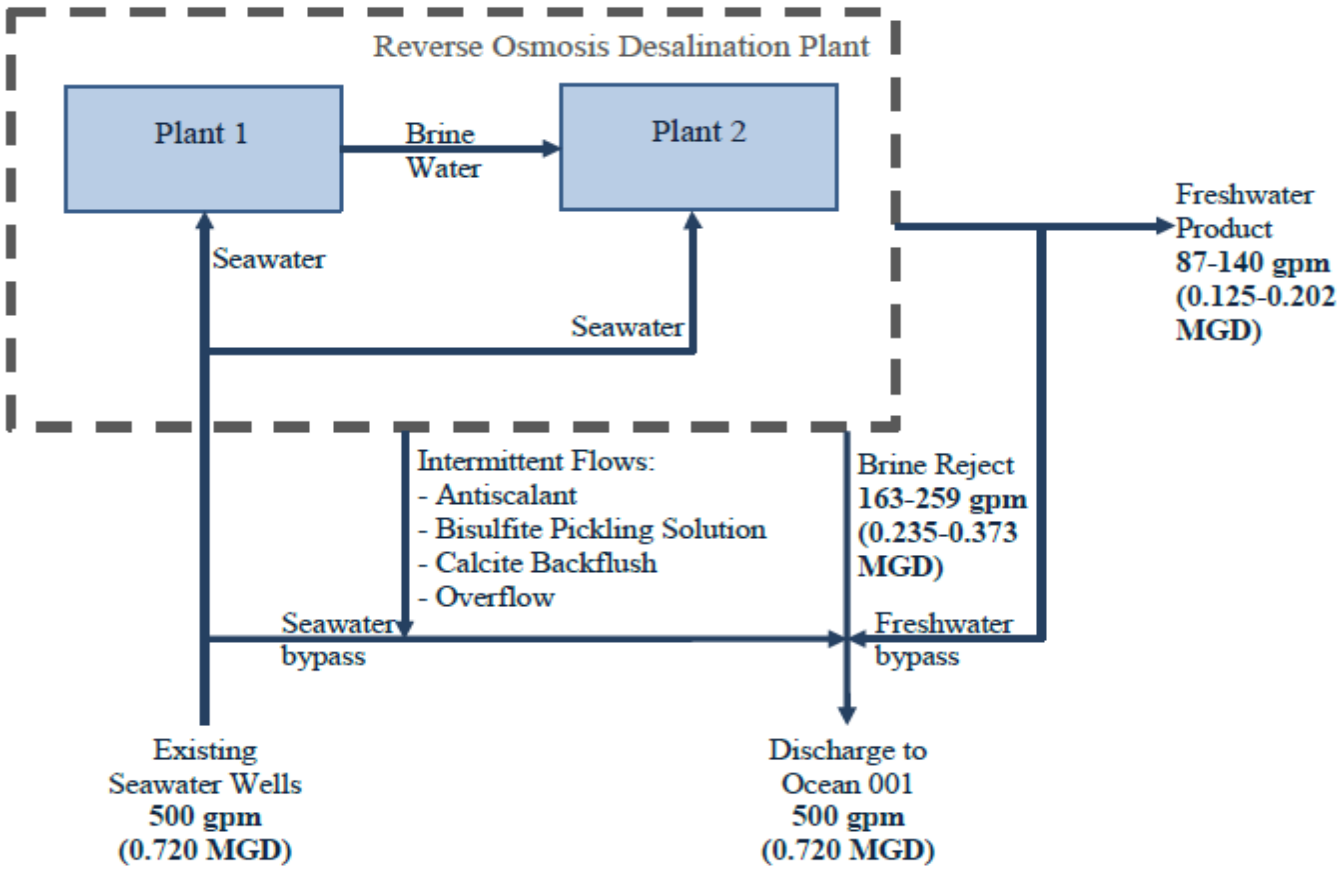

Figure 3 Linear Flow Diagram of Plant Operation Mode 1.B

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ATTACHMENT C-4 – FLOW SCHEMATIC CONTINUED

Mode 2 With Plant 1 and Plant 2, No New Wells

Plant 2 operates at a higher efficiency compared to Plant 1. In this mode of operation, the entire volume of intake is diverted to Plant 2, and Plant 1 is in standby mode.

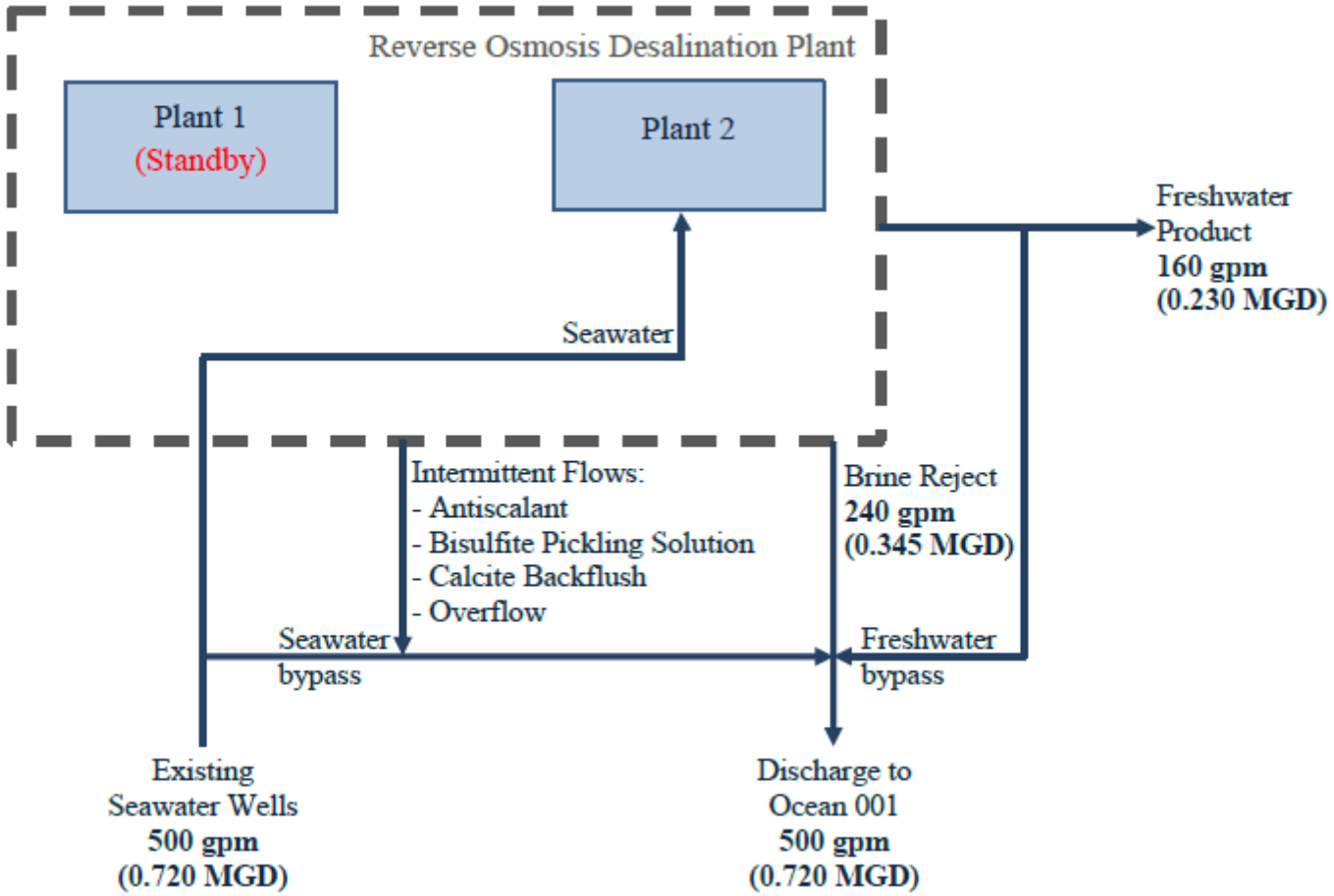

Figure 4 Linear Flow Diagram of Plant Operation Mode 2

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ATTACHMENT C-5 – FLOW SCHEMATIC CONTINUED

Mode 3 With Plant 1 and Plant 2, With New Wells

This mode assumes the addition of new seawater wells. This is a future mode of operation and will be implemented during this permit term. The additional wells will allow the plant to operate at full capacity, enabling both the existing and new units to process only seawater. The flow values provided on the linear diagram shown in Figure 5 are conceptual estimates and assume a maximum total intake capacity of 1,100 GPM (1.584 MGD), and maximum plant intake of 800 GPM, as limited by the transmission pipeline from the wells to the plant.

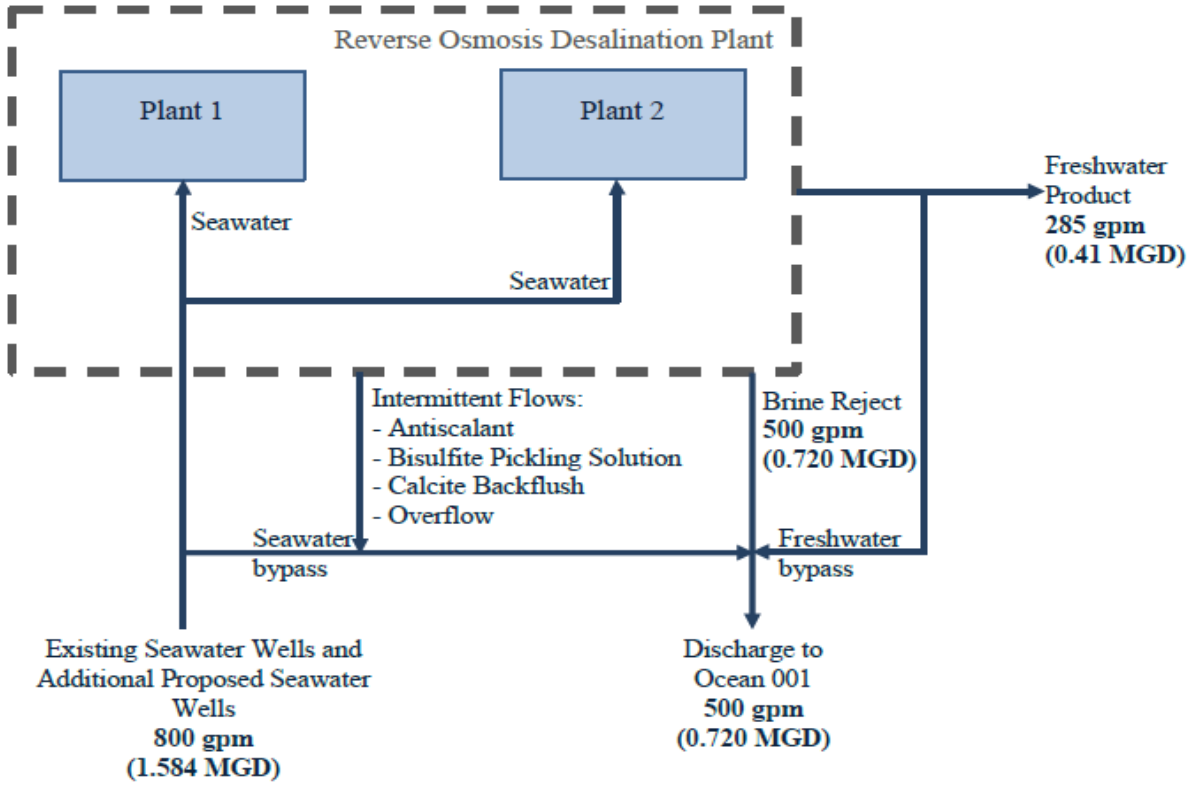

Figure 5 Linear Flow Diagram of Plant Operation Mode 3

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ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 CFR § 122.41(a); Wat. Code, §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)

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

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

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

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

F. Inspection and Entry

The Discharger shall allow the Regional Water 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 CFR § 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 CFR § 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 CFR § 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 CFR § 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 CFR § 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 CFR § 122.41(m)(1)(i).)

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

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

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

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

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

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

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

4. Notice

a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass. As of December 21, 2020, all notices must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 CFR part 3, 40 CFR section 122.22, and 40 CFR part 127. (40 CFR § 122.41(m)(3)(i).)

b. Unanticipated bypass. The Discharger shall submit a notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). As of December 21, 2020, all notices must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 CFR part 3, 40 CFR section 122.22, and 40 CFR part 127. (40 CFR § 122.41(m)(3)(ii).)

H. Upset

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

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

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signed, contemporaneous operating logs or other relevant evidence that (40 CFR § 122.41(n)(3)):

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

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

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

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

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

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 CFR §§ 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 CFR § 122.41(j)(1).)

B. Monitoring must be conducted according to test procedures approved under 40 CFR part 136 for the analyses of pollutants unless another method is required under 40 CFR chapter 1, subchapters N or O. Monitoring must be conducted according to sufficiently sensitive test methods approved under 40 CFR part 136 for the analysis of pollutants

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or pollutant parameters or as required under 40 CFR chapter 1, subchapter N or O. For the purposes of this paragraph, a method is sufficiently sensitive when:

1. The method minimum level (ML) is at or below the level of the most stringent effluent limitation established in the permit for the measured pollutant or pollutant parameter, and either the method ML is at or below the level of the most stringent applicable water quality criterion for the measured pollutant or pollutant parameter or the method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in the facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or

2. The method has the lowest ML of the analytical methods approved under 40 CFR part 136 or required under 40 CFR chapter 1, subchapter N or O for the measured pollutant or pollutant parameter.

C. In the case of pollutants or pollutant parameters for which there are no approved methods under 40 CFR part 136 or otherwise required under 40 CFR chapter 1, subchapters N or O, monitoring must be conducted according to a test procedure specified in this Order for such pollutants or pollutant parameters. (40 CFR §§ 122.21(e)(3),122.41(j)(4), 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 CFR § 122.41(j)(2).)

B. Records of monitoring information shall include:

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

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

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

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

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, 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 CFR § 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, V.B.5, and V.B.6 below. (40 CFR § 122.41(k).)

2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA). (40 CFR § 122.22(a)(3).).

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 CFR § 122.22(b)(1));

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

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

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water

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Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR § 122.22(c).)

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

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

6. Any person providing the electronic signature for documents described in Standard Provisions – V.B.1, V.B.2, or V.B.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting V.B, and shall ensure that all relevant requirements of 40 CFR part 3 (Cross-Media Electronic Reporting) and 40 CFR part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 C.F.R § 122.22(e).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR § 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 the results of monitoring, sludge use, or disposal practices. As of December 21, 2016, all reports and forms must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J and comply with 40 CFR part 3, 40 CFR section 122.22, and 40 CFR part 127. (40 CFR § 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR part 136, or another method required for an industry-specific waste stream under 40 CFR chapter 1, subchapters N, 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 CFR § 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 CFR § 122.41(l)(4)(iii).)

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance which 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 report shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The report 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.

For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (i.e., combined sewer overflow, sanitary sewer overflow, or bypass event), type of overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volume untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the event, and whether the noncompliance was related to wet weather.

As of December 21, 2020, all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J. The reports shall comply with 40 CFR part 3, 40 CFR section 122.22, and 40 CFR part 127. The Regional Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 CFR § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours:

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

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

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

F. Planned Changes

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

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

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 CFR § 122.41(l)(1)(ii).)

G. Anticipated Noncompliance

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

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in Standard Provision – Reporting V.E and the applicable required data in appendix A to 40 CFR part 127. The Regional Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 CFR § 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 CFR § 122.41(l)(8).)

J. Initial Recipient for Electronic Reporting Data

The owner, operator, or the duly authorized representative is required to electronically submit NPDES information specified in appendix A to 40 CFR part 127 to the initial recipient defined in 40 CFR section 127.2(b). U.S. EPA will identify and publish the list of initial recipients on its website and in the Federal Register, by state and by NPDES data group [see 40 CFR section 127.2(c)]. U.S. EPA will update and maintain this listing. (40 CFR § 122.41(l)(9).)

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13268, 13385, 13386, and 13387.

B. The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the CWA, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the CWA, is subject to a civil penalty not to exceed $25,000 per day for each violation. The CWA provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the CWA, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the CWA, or any requirement imposed in a pretreatment

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program approved under section 402(a)(3) or 402(b)(8) of the CWA, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the CWA, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions [40 CFR section 122.41(a)(2)] [Water Code sections 13385 and 13387].

C. Any person may be assessed an administrative penalty by the Regional Water Board for violating section 301, 302, 306, 307, 308, 318 or 405 of this CWA, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this CWA. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000 [40 CFR section 122.41(a)(3)].

D. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both [40 CFR section 122.41(j)(5)].

E. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both [40 CFR section 122.41(k)(2)].

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

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

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

a. 100 µg/L (40 CFR § 122.42(a)(1)(i));

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

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

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

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

a. 500 µg/L (40 CFR § 122.42(a)(2)(i));

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

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

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

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP NO. 6899)

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP No. 6899)

Section 308 of the federal Clean Water Act (CWA) and sections 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. Water Code sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This MRP establishes monitoring, reporting, and recordkeeping requirements that implement the federal and California laws and/or regulations.

I. GENERAL MONITORING PROVISIONS

A. Effluent sampling stations shall be established for the point of discharge (Discharge Point 001: Latitude 33.333861°, Longitude -118.309639°, West) and shall be located where representative samples of that effluent can be obtained.

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

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

D. Pollutants shall be analyzed using the analytical methods described in 40 CFR sections 136.3, 136.4, and 136.5 (revised August 28, 2017); or, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board.

E. Laboratory Certification. Laboratories analyzing monitoring samples shall be certified by the State Water Board, Drinking Water Division (DDW), Environmental Laboratory Accreditation Program (ELAP) in accordance with the provisions of Water Code section 13176, and must include quality assurance/quality control data with their reports. A copy of the laboratory certification shall be provided each time a new certification and/or renewal of the certification is obtained from ELAP.

F. For any analyses performed for which no procedure is specified in the U.S. EPA guidelines or in the MRP, the constituent or parameter analyzed and the method or procedure used must be specified in the monitoring report.

G. Each monitoring report must affirm in writing that "*all analyses were conducted at a laboratory certified for such analyses by the State Water Board or approved by the Executive Officer and in accordance with current U.S. EPA guideline procedures or as specified in this MRP"*.

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

1. An actual numerical value for sample results greater than or equal to the ML; or

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2. "Detected, but Not Quantified (DNQ)" if results are greater than or equal to the laboratory's MDL but less than the ML; or,

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

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

I. The ML represents the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interference. When all specific analytical steps are followed and after appropriate application of method specific factors, the ML also represents the lowest standard in the calibration curve for that specific analytical technique. When there is deviation from the analytical method for dilution or concentration of samples, other factors are applied to the ML depending on the sample preparation. The resulting value is the reported ML. The Discharger shall instruct its laboratories to establish calibration standards so that the ML (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.

J. The MLs employed for effluent analyses to determine compliance with effluent limitations shall be lower than the ML included in Appendix II of the Ocean Plan and the effluent limitations and/or performance goals established in this Order for a given parameter as per the sufficiently sensitive regulations at 40 CFR section 122.44(i)(1)(iv). If the ML value allowable by current technology is not below the effluent limitations, then the lowest ML value and its associated analytical method shall be selected for compliance purposes. At least once a year in the quarterly reports, the Discharger shall submit a list of the analytical methods employed for each test and associated laboratory QA/QC procedures.

K. The MLs employed for effluent analyses not associated with determining compliance with effluent limitations in this Order shall be lower than the lowest applicable water quality objective, for a given parameter as per the sufficiently sensitive regulations at 40 CFR section 122.44(i)(1)(iv). Water quality objectives for parameters may be found in Table 1 of the Ocean Plan. If the ML value allowable by current technology is not below the water quality objective, then the lowest ML value and its associated analytical method shall be selected for compliance purposes. At least once a year, the Discharger shall submit a list of the analytical methods employed for each test, the associated laboratory QA/QC procedures, reporting levels (RLs), and method detection limits (MDLs).

Where no U.S. EPA-approved method exists, the Regional Water Board, in consultation with the State Water Board Quality Assurance Program, shall establish a ML that is not contained in Appendix II of the Ocean Plan to be included in the Discharger's permit in any of the following situations:

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1. When the pollutant under consideration is not included in Appendix II of the Ocean Plan;
2. When the Discharger and Regional Water Board agree to include in the permit a test method that is more sensitive than that specified in 40 CFR Part 136 (revised May 18, 2012);
3. When the Discharger agrees to use an ML that is lower than that listed in Appendix II of the Ocean Plan;
4. When the Discharger demonstrates that the calibration standard matrix is sufficiently different from that used to establish the ML in Appendix II of the Ocean Plan, and proposes an appropriate ML for their matrix; or,
5. When the Discharger uses a method whose quantification practices are not consistent with the definition of an ML. Examples of such methods are the U.S. EPA-approved method 1613 for dioxins and furans, method 1624 for volatile organic substances, and method 1625 for semi-volatile organic substances. In such cases, the Discharger, the Regional Water Board, and the State Water Board shall agree on a lowest quantifiable limit and that limit will substitute for the ML for reporting and compliance determination purposes.

L. Water/wastewater samples must be analyzed within allowable holding time limits as specified in 40 CFR section 136.3. All QA/QC items must be run on the same dates the samples were actually analyzed, and the results shall be reported in the Regional Water Board format, when it becomes available, and submitted with the laboratory reports. Proper chain of custody procedures must be followed, and a copy of the chain of custody shall be submitted with the report.

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

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

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

P. The Discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. Unless otherwise specified in the analytical method, duplicate samples must be analyzed at a frequency of 5% (1 in 20 samples) with at least one if there is fewer than 20 samples in a batch. A batch is defined as a single analytical run encompassing no more than 24 hours from start to finish. A similar frequency shall be maintained for analyzing spiked samples.

Q. For parameters that both average monthly and daily maximum limits are specified, and the monitoring frequency is less than four times a month, the following shall apply. If an analytical result is greater than the average monthly limit, the Discharger shall collect four additional samples at approximately equal intervals during the month, until compliance with the average monthly limit has been demonstrated. All five analytical results shall be reported in the monitoring report for that month, or 45 days after results for the additional samples were received, whichever is later. In the event of noncompliance with an average monthly effluent limitation, the sampling frequency for that constituent may be increased to weekly and may continue at this level until compliance with the average monthly effluent limitation has been demonstrated. The Discharger shall provide for the approval of the Executive Officer a program to ensure future compliance with the average monthly limit.

R. In the event wastes are transported to a different disposal site during the reporting period, the following shall be reported in the monitoring report:

1. Types of wastes and quantity of each type;
2. Name and address for each hauler of wastes (or method of transport if other than by hauling); and
3. Location of the final point(s) of disposal for each type of waste.

If no wastes are transported off-site during the reporting period, a statement to that effect shall be submitted.

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

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in accordance with Table E-1. The North latitude and West longitude information in Table E-1 is approximate for administrative purposes in this Order:

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Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
Effluent Monitoring		
001	EFF-001	Representative sample of effluent, prior to discharge to the rip-rap seawall and into the Pacific Ocean. Latitude: 33.333861°; Longitude: -118.309639°
Receiving Water Monitoring		
--	RSW-001	A point extending 100 meters (328 feet) from the rip-rap seawall where initial mixing occurs (at the edge of the ZID or mixing zone)

III. INFLUENT MONITORING REQUIREMENTS

Not Applicable

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor reverse osmosis brine, product water, filter backwash, untreated seawater, and wastewater from flushing the seawater supply pipelines, at monitoring Location EFF-001 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level required to demonstrate compliance with effluent limitations or with the most stringent water quality criteria.

a. Effluent monitoring for reverse osmosis brine, filter backwash, and untreated seawater:

Table E-2. Effluent Monitoring at Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]
Flow	MGD	Meter	Once per Day[2]	--
Temperature	°F	Grab	Once per Week	--
Salinity	ppt	Grab	Once per Week	SM 2520B, EPA Method 120.1, or EPA Method 160.1
Total Chlorine Residual	µg/L and lbs/day[3]	Grab	Once per Week[4]	--
pH	standard units	Grab	Once per Month	--
Settleable Solids	ml/L	Grab	Once per Month	--
Turbidity	NTU	Grab	Once per Month	--
Total Suspended Solids (TSS)	mg/L and lbs/day	Grab or 24-hour Composite[5]	Once per Month	--
Oil and Grease	mg/L and lbs/day	Grab	Once per Month	--
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L and lbs/day	Grab or 24-hour Composite	Once per Quarter	--

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Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]
Methylene Blue Active Substances (MBAS)	µg/L and lbs/day	Grab or 24-hour Composite	Once per Quarter	--
Total Coliform[6]	MPN or CFU/ 100 mL	Grab	Once per Week	--
Total Coliform Bacteria, Moving 6-Month Median	MPN or CFU/ 100 mL	Calculate	Once per Week[7]	
Fecal Coliform[6]	MPN or CFU/ 100 mL	Grab	Five per Month[8]	-
Fecal Coliform Density, 30-Day Geometric Mean	MPN or CFU/ 100 mL	Calculate	Once per Month[9]	
Enterococcus[6]	CFU/ 100 mL	Grab	Once per Week	--
Enterococcus, Rolling 6-Week Geometric Mean	CFU/ 100 mL	Calculate	Once per Week[10]	
Ammonia Nitrogen, Total (as N)	mg/L and lbs/day	Grab or 24-hour Composite	Once per Year	--
Methyl Tertiary Butyl Ether (MTBE)	µg/L and lbs/day	Grab	Once per Year	--
Chronic Toxicity[11]	Pass or Fail, % effect	Grab or 24-hour Composite	Once per Year[12]	--
Arsenic, TR	µg/L and lbs/day	Grab or 24-hour Composite	Once per Quarter	--
Cadmium, TR	µg/L and lbs/day	Grab or 24-hour Composite	Once per Quarter	--
Chromium (III)	µg/L and lbs/day	Grab or 24-hour Composite	Once per Quarter	
Chromium (VI)	µg/L and lbs/day	Grab or 24-hour Composite	Once per Month	--
Copper, TR[13]	µg/L and lbs/day	Grab or 24-hour Composite	Once per Month	--
Lead, TR	µg/L and lbs/day	Grab or 24-hour Composite	Once per Quarter	--
Mercury, TR	µg/L and lbs/day	Grab or 24-hour Composite	Once per Month	EPA Method 1631E or EPA Method 245.7
Nickel, TR	µg/L and lbs/day	Grab or 24-hour Composite	Once per Quarter	--
Selenium, TR	µg/L and lbs/day	Grab or 24-hour Composite	Once per Quarter	--
Silver, TR	µg/L and lbs/day	Grab or 24-hour Composite	Once per Quarter	--
Zinc, TR[13]	µg/L and lbs/day	Grab or 24-hour Composite	Once per Month	--
Bis (2-Ethylhexyl) Phthalate	µg/L and lbs/day	Grab or 24-hour Composite	Once every Six Months	--

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Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]
Tributyltin	µg/L and lbs/day	Grab or 24-hour Composite	Once per Month	--
Aldrin	µg/L and lbs/day	Grab or 24-hour Composite	Once per Year	--
DDT[14]	µg/L and lbs/day	Grab or 24-hour Composite	Once per Year	--
Dieldrin	µg/L and lbs/day	Grab or 24-hour Composite	Once per Year	--
Endosulfan[15]	µg/L and lbs/day	Grab or 24-hour Composite	Once per Year	--
Endrin	µg/L and lbs/day	Grab or 24-hour Composite	Once per Year	--
Hexachlorocyclohexane (HCH)[16]	µg/L and lbs/day	Grab or 24-hour Composite	Once per Year	--
PAHs[17]	µg/L and lbs/day	Grab or 24-hour Composite	Once per Year	--
PCBs (as Aroclors)[18]	µg/L and lbs/day	Grab or 24-hour Composite	Once per Year	--
PCBs (as Congeners)[18]	µg/L and lbs/day	Grab or 24-hour Composite	Once per Year	--
TCDD Equivalents[19]	µg/L	Grab or 24-hour Composite	Once per Year	--
Remaining Ocean Plan Table 1 Parameters	µg/L and lbs/day	Grab or 24-hour Composite	Once per Year	--

1. Pollutants shall be analyzed using the analytical methods described in 40 CFR part 136; the methods chosen must meet the lowest MLs specified in Appendix II of the Ocean Plan and be sufficiently sensitive to determine compliance with applicable effluent limitations and/or water quality criteria. Where no methods are specified for a given pollutant, the methods must be approved by the Regional Water Board or the State Water Board. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding ML necessary to demonstrate compliance with applicable effluent limitations.
2. Total daily flow must be recorded for each day. The Discharger shall report the daily recordings in each quarterly report.
3. The mass emission (lbs/day) for the discharge shall be calculated and reported using the measured concentration and the actual flow rate measured at the time of discharge, using the formula:

   $$M = 0.00834 \times Ce \times Q$$

   where: M = mass discharge for a pollutant, lbs/day
   Ce = measured concentration for a pollutant, µg/L
   Q = actual discharge flow rate, MGD
4. Weekly samples shall be collected when chlorinated/dechlorinated water is discharged. Monthly samples shall be collected when no chlorinated/dechlorinated water is discharged. The Discharger will indicate in the corresponding monitoring report, under penalty of perjury, each discharge event when chlorinated/dechlorinated water was discharged to surface water during the reporting period.
5. For these parameters, the Discharger has the options to either:
   a. collect a grab sample; or
   b. collect a flow-weighted composite sample for the discharge. See Attachment A for definition of a composite sample

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However, grab samples **must** be collected where a composite sample for the parameter is not feasible as specified in the respective analytical method in 40 CFR Part 136 or in other U.S. EPA methods.

6. Sample dilutions for fecal coliform bacterial analyses shall range from 2 to 16,000. Sample dilutions for *Enterococcus* bacterial analyses shall range from 1 to 10,000 per 100 mL Each test method number or name (e.g., U.S. EPA publication U.S. EPA 600/4-85/076*, Test Methods for Escherichia coli and Enterococci in Water by Membrane Filter Procedure*) used for each analysis shall be specified and reported with the results. Test methods used for coliforms (total and fecal) shall be those presented in Table 1A of 40 CFR Part 136, unless alternate methods have been approved in advance by U.S. EPA pursuant to 40 CFR Part 136. U.S. EPA recommends using U.S. EPA Method 1600 or other equivalent method to measure culturable enterococci determined by the Regional Water Board to be appropriate.
7. The Discharge shall calculate the median total coliform density using the results of samples collected during the 6-month period ending on that week. The median result shall be reported in the corresponding quarterly monitoring report.
8. At least five evenly spaced samples for fecal coliform shall be collected each month.
9. The 30-day geometric mean shall be reported monthly for fecal coliform based on the results from the five most recent samples collected during that calendar month.
10. The 6-week rolling geometric mean shall be calculated each week for enterococci using the results from samples collected during the 6-week period ending on that week. The weekly results shall be reported in the corresponding quarterly monitoring report.
11. Refer to section V, Whole Effluent Toxicity Testing Requirements.
12. Monthly sampling is required in the first three months of this Order. Species sensitivity screening shall be conducted during first three monthly monitoring events. The species that exhibits the highest "Percent Effect" at the discharge instream waste concentration during species sensitivity screening shall be used for the routine annual monitoring.
13. The Discharger shall report the six-month median as a moving median of daily values obtained for any 180-day period.
14. 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.
15. Endosulfan shall mean the sum of Endosulfan-alpha, Endosulfan-beta, and Endosulfan Sulfate.
16. HCH shall mean the sum of alpha, beta, gamma (Lindane), and delta isomers of hexachlorocyclohexane.
17. 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, fluorene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene.
18. Monitoring for PCBs as Aroclors using U.S. EPA Method 608 is required. PCBs as aroclors shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260. Monitoring for PCBs as congeners using U.S.EPA Method 1668c is also requested. PCBs as congeners should be analyzed using EPA Method 1668c for three years and an alternate method may be used if none of the PCB congeners are detected for three years and an alternate method may be used if none of the PCB congeners are detected for three years. PCB congeners whose analytical characteristics resemble those of PCB-8, 18, 28, 37, 44, 49, 52, 66, 70, 74, 77, 81, 87, 99, 101, 105, 110, 114, 118, 119, 123, 126, 128, 138, 149, 151, 153, 156, 157, 158, 167, 168, 169, 170, 177, 180, 183, 187, 189, 194, 195, 201, 206 and 209 should be reported as a sum and individually quantified (or quantified as mixtures of isomers of a single congener in co-elutions as appropriate).
19. 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. U. S. EPA method 1613 may be used to analyze dioxin and furan congeners.

Dioxin-TEQ (TCDD Equivalents) = Σ (C_x x TEF_x),

where:

Dioxin-TEQ (TCDD Equivalents) = Σ (C_x x TEF_x)
C_x = concentration of dioxin or furan congener x
TEF_x = TEF for congener x

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Toxicity Equivalency Factors

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

b. Effluent monitoring for wastewater from flushing the seawater supply pipeline:

Table E-3. Effluent Monitoring (Flushing Activity), Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]
Flow	MGD	Meter	Once per Day[2]	--
pH	standard units	Grab	Once per Discharge Event	--
Biochemical Oxygen Demand (5-day @ 20 degrees Centigrade)	mg/L and lbs/day[3]	Grab or 24-hour Composite[4]	Once per Discharge Event	--
Oil and Grease	mg/L and lbs/day	Grab	Once per Discharge Event	--
TSS	mgLand lbs/day	Grab or 24-hour Composite	Once per Discharge Event	--
Settleable Solids	ml/L	Grab or 24-hour Composite	Once per Discharge Event	--
Temperature	°F	Grab	Once per Discharge Event	--
Bis (2-Ethylhexyl) Phthalate	µg/L and lbs/day	Grab or24-hour Composite[4]	Once every Six Months	--
Turbidity	NTU	Grab or 24-hour Composite	Once per Discharge Event	--
Total Coliform[5]	MPN or CFU/100 ml	Grab	Once per Discharge Event[7]	[6]
Fecal Coliform[5]	MPN or CFU/100 ml	Grab	Once per Discharge Event[8]	[, 6]

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Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]
Enterococcus[5]	CFU/100 ml	Grab	Once per Discharge Event[9]	, 6
Salinity	ppt	Grab	Once per Discharge Event	SM 2520B, EPA Method 120.1, or EPA Method 160.1
Chronic Toxicity[10]	Pass or Fail, and % Effect (TST)	Grab	Once per Year[11]	--
Chromium (VI)	µg/L and lbs/day	Grab or 24-hour Composite	Once per Discharge Event	--
Copper, Total Recoverable	µg/L and lbs/day	Grab or 24-hour Composite	Once per Discharge Event	--
Mercury, Total Recoverable	µg/L and lbs/day	Grab or 24-hour Composite	Once per Discharge Event	
Zinc, Total Recoverable	µg/L and lbs/day	Grab or 24-hour Composite	Once per Discharge Event	--
Tributyltin	µg/L and lbs/day	Grab or 24-hour Composite	Once per Discharge Event	
Remaining Ocean Plan Table 1 Parameters[3]	µg/L	Grab or 24-hour Composite	1/Year	--

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1. Pollutants shall be analyzed using the analytical methods described in 40 CFR part 136; the methods chosen must meet the lowest MLs specified in Appendix II of the Ocean Plan and be sufficiently sensitive to determine compliance with applicable effluent limitations and/or water quality criteria. Where no methods are specified for a given pollutant, the methods must be approved by the Regional Water Board or the State Water Board. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding ML necessary to demonstrate compliance with applicable effluent limitations.
2. Total daily flow must be recorded for each day. The Discharger shall report the daily recordings in each quarterly report.
3. The mass emission (lbs/day) for the discharge shall be calculated and reported using the measured concentration and the actual flow rate measured at the time of discharge, using the formula

   $$m = 0.00834 \times Ce \times Q$$

   where: m = mass discharge for a pollutant, lbs/day
   Ce = measured concentration for a pollutant, µg/L
   Q = actual discharge flow rate, MGD

4. For these parameters, the Discharger has the options to either:
   a. collect a grab sample; or
   b. collect a flow-weighted composite sample for the discharge. See Attachment A for definition of a composite sample

However, grab samples **must** be collected where a composite sample for the parameter is not feasible as specified in the respective analytical method in 40 CFR Part 136 or in other U.S. EPA methods.

5. If a single sample exceeds any of the single sample maximum (SSM) standards, repeat sampling shall be conducted to determine the extent and persistent of the exceedance. Repeat sampling shall be conducted within 24 hours of receiving analytical results and continued until the sample result is less than the SSM standard. When repeat sampling is required because of an exceedance of any one single sample density, values from all samples collected during that 30-day period will be used to calculate the geometric mean. The geometric mean shall be calculated using the five most recent samples results.
6. Detection methods used for coliforms (total and fecal) and *Enterococcus* shall be those presented in Table 1A of 40 C.F.R part 136 (revised August 28, 2017), unless alternate methods have been approved by U.S. EPA pursuant to 40 C.F.R part 136 or improved methods have been determined by the Executive Officer and/or U.S. EPA. See section VII.M (Compliance Determination, Bacterial Standards and Analyses) of the Order for additional specifications.
7. The Discharge shall calculate the median total coliform density using the results of samples collected during the 6-month period ending on that week. The median result shall be reported in the corresponding quarterly monitoring report.
8. At least five evenly spaced samples for fecal coliform shall be collected during discharge event. The 30-day geometric mean shall be reported monthly for fecal coliform based on the results from the five most recent samples collected during that calendar month during discharge event.
9. The 6-week rolling geometric mean shall be calculated each week for enterococci using the results from samples collected during the 6-week period ending on that week during discharge event. The weekly results shall be reported in the corresponding quarterly monitoring report.
10. Refer to section V, Whole Effluent Toxicity Testing Requirements. The median monthly summary result shall be reported as “Pass” or “Fail.” The maximum daily single result shall be reported as “Pass or Fail” and “% Effect.” When there is discharge more than one day in a calendar month period, up to three independent toxicity tests are required when one toxicity test results in “Fail.”
11. Monthly sampling is required in the first three months of this Order. Species sensitivity screening shall be conducted during first three monthly monitoring events. The species that exhibits the highest “Percent Effect” at the discharge instream waste concentration during species sensitivity screening shall be used for the routine annual monitoring.

c. During periods of discharge of product water and/or filter backwash, the Discharger shall, in addition to the requirements in IV A.1.a (Table E-2), monitor the combined effluent at EFF-001 for the additional, parameter as follows:

Table E-4. Effluent Monitoring (Product Water and Filter Backwash Discharge), Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Chlorine Residual	µg/L	Grab	1/Discharge Event	[1]

[1] Pollutants shall be analyzed using the analytical methods described in 40 CFR part 136; the methods chosen must meet the lowest MLs specified in Appendix II of the Ocean Plan and be sufficiently sensitive to determine compliance with applicable effluent limitations and/or water quality criteria. Where no methods are specified for a given pollutant, the methods must be approved by the Regional Water Board or the State Water Board. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding ML necessary to demonstrate compliance with applicable effluent limitations.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS (FOR DISCHARGE POINTS 001)

A. Chronic Toxicity

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

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The chronic toxicity IWC for this discharge at Discharge Point 001 is 17 percent [100/(5+1)] effluent. For receiving water monitoring, the IWC shall be 100% of the sample collected at the specified station location for receiving water monitoring.

2. Sample Volume and Holding Time

The total sample volume shall be determined by the specific toxicity test method used. Sufficient sample volume shall be collected to perform the required toxicity test. For the receiving water, sufficient sample volume shall also be collected during accelerated monitoring at each sampling event for subsequent Toxicity Identification Evaluation (TIE)/Toxicity Reduction Evaluation (TRE) studies if required. All toxicity tests shall be conducted as soon as possible following sample collection. No more than 36 hours shall elapse before the conclusion of sample collection and test initiation.

3. Chronic Marine and Estuarine Species and Test Methods

If effluent samples are collected from outfalls discharging to receiving waters with salinity ≥1 ppt, the Discharger shall conduct the following chronic toxicity tests on effluent samples—at the in-stream waste concentration for the discharge—in accordance with species and test methods in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995). Artificial sea salts shall be used to increase sample salinity. In no case shall these species be substituted with another test species unless written authorization from the Executive Officer is received.

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

b. A static non-renewal toxicity test with the purple sea urchin, *Strongylocentrotus purpuratus*, and the sand dollar, *Dendraster excentricus* (Fertilization Test Method 1008.0), or a static non-renewal toxicity test with the red abalone, *Haliotis rufescens* (Larval Shell Development Test Method).

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

4. Species Sensitivity Screening

Species sensitivity screening shall be conducted during the first three months of discharge after the effective date of this permit. For each monthly sampling event, the Discharger shall collect a single effluent sample to initiate and concurrently conduct three toxicity tests using the fish, an invertebrate, and the alga species previously referenced. This sample shall also be analyzed for the parameters required in accordance with the effluent monitoring schedule listed in Table E-2. As allowed under the test method for the *Atherinops affinis*, a second and third sample may be collected for use as test solution renewal water as the seven-day toxicity test progresses. If the result of all three species is "Pass", then the species that exhibits the highest "Percent Effect" at the

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discharge IWC during species sensitivity screening shall be used for routine monitoring during the permit cycle. If only one species fails, then that species shall be used for routine monitoring during the permit cycle. Likewise, if two or more species result in "Fail", then the species that exhibits the highest "Percent Effect" at the discharge IWC during the suite of species sensitivity screening shall be used for routine monitoring during the permit cycle, until such time when a rescreening is required.

Species sensitivity rescreening is required every 5 years. If rescreening is necessary, the Discharger shall rescreen with the marine vertebrate species, a marine invertebrate species, and the alga species previously referenced, and continue to monitor with the most sensitive species. If the first suite of rescreening tests demonstrates that the same species is the most sensitive, then the rescreening does not need to include more than one suite of tests. If a different species is the most sensitive or if there is ambiguity, then the Discharger may proceed with suites of screening tests for a minimum of three, but not to exceed five suites.

During the calendar month, all toxicity tests used to determine the most sensitive test species shall be reported.

5. Quality Assurance and Additional Requirements

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

a. The discharge is subject to determination of "Pass" or "Fail" from a chronic toxicity test using the Test of Significant Toxicity statistical t-test approach described in the *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document,* Appendix A, Figure A-1, and Table A-1, and Appendix B, Table B-1(U.S. EPA 833-R-10-003, 2010). The null hypothesis (Ho) for the TST statistical approach is: Mean discharge IWC response ≤ 0.75 x Mean control response. A test result that rejects this null hypothesis is reported as "Pass." A test result that does not reject this null hypothesis is reported as "Fail." The relative "Percent Effect" at the discharge IWC is defined and reported for each toxicity test as: ((Mean control response - Mean discharge IWC response) / Mean control response)) x 100%. This is a t-test (formally Student's t-Test), a statistical analysis comparing two sets of replicate observations – in the case of WET, only two test concentrations (i.e. a control and IWC). The purpose of this statistical test is to determine if the means of the two sets of observations are different (i.e. if the IWC or receiving water concentration differs from the control (the test result is "Pass" or "Fail")). The Welch's t-test employed by the TST statistical approach is an adaptation of Student's t-test and is used with two samples having unequal variances.

b. If the effluent toxicity test does not meet all test acceptability criteria (TAC) specified in the referenced test method *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (U.S. EPA/600/R-95/136, 1995) (see Table E-5 below), then the Discharger must resample and re-test within 14 days.

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Table E-5. U.S. EPA Test Method and Test Acceptability Criteria

Species & U.S. EPA Test Method Number	Test Acceptability Criteria (TAC)
Topsmelt, *Atherinops affinis,* Larval Survival and Growth Test Method 1006.0. (Table 3 of Test Method)	(1) The mean survival of larvae must be at least 80% in the controls. (2) If the test starts with 9-day old larvae, the mean weight per larva must exceed 0.85 mg in the reference and brine controls; the mean weight of preserved larvae must exceed 0.72 mg. (3) The LC50 for survival must be within two standard deviations of the control chart mean for the laboratory. The LC50 for survival with copper must be <205 µg/L. (4) The "minimum significant difference" (%MSD) of <25% relative to the control for survival for the reference toxicant test. The (%MSD) of <50% relative to the control for growth for the reference toxicant test.
Red Abalone, *Haliotis rufescens,* Larval Shell Development Test Method (Table 3 of Test Method)	(1) The mean larval normality must be at least 80% in the controls. (2) The response from 56 µg/L zinc treatment must be significantly different from the control response. (3) The minimum significant difference (%MSD) is <20% relative to the control for the reference toxicant
Giant Kelp, *Macrocystis pyrifera*, Germination and Growth Test Method 1009.0 (Table 3 of Test Method)	(1) Mean control germination must be at least 70% in the controls. (2) Mean germination-tube length in the controls must be at least 10 µm in the controls. (3) The germination-tube growth NOEC must be below 35 µg/L in the reference toxicant test (4) The minimum significant difference (%MSD) is <20% relative to the control for both germination and germ-tube length in the reference toxicant test.

c. Dilution water and control water, including brine controls, shall be 1-µm-filtered uncontaminated natural seawater, hypersaline brine prepared using uncontaminated natural seawater, or laboratory water prepared and used as specified in the test methods manual. If dilution water and control water is different from test organism culture water, then a second control using culture water shall also be used.

d. Monthly reference toxicant testing is sufficient. All reference toxicant test results should be reviewed and reported using the EC_{25}. EC_{25} is a point estimate of the toxicant concentration that would cause an observable adverse effect (e.g. death, immobilization, or serious incapacitation) in 25 percent of the test organisms.

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

6. Preparation of Initial Investigation Toxicity Reduction Evaluation (TRE) Work Plan

The Discharger shall prepare and submit a generic initial investigation TRE work plan to be ready to respond to toxicity events within 90 days of the permit effective date for Executive Officer approval. If the Executive Officer does not disapprove the work plan within 60 days, the work plan shall become effective. This work plan shall describe the steps that the Discharger intends to follow if toxicity is detected. The Discharger shall review and update this work plan as necessary, so it remains current and applicable to the discharge. At a minimum the work plan shall include:

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

b. A description of the Facility's methods for maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in the operation of the Facility, and

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

7. Accelerated Monitoring Schedule for Median Monthly Summary Result: "Fail" (or Maximum Daily Single Result: "Fail and % Effect ≥50")

When there is discharge on more than one day in a calendar month, the Median Monthly Summary Result shall be used to determine if accelerated testing needs to be conducted. When there is discharge on only one day in a calendar month, the Maximum Daily single result shall be used to determine if accelerated testing needs to be conducted.

Once the Discharger becomes aware of this result, the Discharger shall implement an accelerated monitoring schedule within 5 calendar days of the receipt of the result. However, if the sample is contracted out to a commercial laboratory, the Discharger shall ensure that the first of four accelerated monitoring tests is initiated within seven calendar days of the Discharger becoming aware of the result. The accelerated monitoring schedule shall consist of four toxicity tests (including the discharge IWC), conducted at approximately two-week intervals, over an eight-week period; in preparation for the TRE process and associated reporting, these results shall also be reported using the EC25. If each of the accelerated toxicity tests results in "Pass," the Discharger shall return to routine monitoring for the next monitoring period. If one of the accelerated toxicity tests results in "Fail," the Discharger shall immediately implement the TRE Process conditions set forth below. During accelerated monitoring schedules, only TST results ("Pass" or "Fail")

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for chronic toxicity tests shall be reported as effluent compliance results for the chronic MDEL.

8. Toxicity Reduction Evaluation (TRE) Process

In the event of a toxicity test resulting in “Fail”, the Permittee shall immediately implement the TRE process. During the TRE Process, effluent monitoring shall resume and TST results “Pass” or “Fail” and percent effect) for chronic toxicity tests shall be reported to satisfy the chronic toxicity monitoring requirement

a. Preparation and Implementation of Detailed TRE Work Plan. Preparation and Implementation of Detailed TRE Work Plan. The Discharger shall immediately initiate a TRE and, within 15 days, submit to the Executive Officer a Detailed TRE Work Plan, which shall follow the generic Initial Investigation TRE Work Plan revised as appropriate for this toxicity event. It shall include the following information, and comply with additional conditions set by the Executive Officer:

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

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

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

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

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

d. The Discharger determination purposes while the TIE and/or TRE is taking place. Additional accelerated monitoring and TRE work plans shall continue to conduct routine effluent monitoring for compliance are not required once a TRE has begun.

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

9. Reporting

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

a. The valid toxicity test results for the TST statistical approach, reported as "Pass" or "Fail" and "Percent Effect" at the chronic toxicity IWC for the discharge. All toxicity test results (whether identified as valid or otherwise) conducted during the calendar month shall be reported on the SMR due date specified in Table E-7.

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

c. The statistical analysis used in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* Appendix A, Figure A-1 and Table A-1, and Appendix B, Table B-1 (U.S. EPA 833-R-10-003, 2010).

d. TRE/TIE results. The Executive Officer shall be notified no later than 30 days from completion of each aspect of TRE/TIE analyses. Prior to completion of the final TIE/TRE report, the Discharger shall provide status updates in the monthly monitoring reports, indicating which TIE/TRE steps are underway and which steps have been completed.

e. Statistical program (e.g., TST calculator, Comprehensive Environmental Toxicity Information System (CETIS), etc.) output results, including graphical plots, for each toxicity test.

f. Graphical plots and tabular data clearly showing the laboratory's performance of the reference toxicant, for each solution, for the previous 20 tests and the laboratory's performance of the control mean, control standard deviation, and control coefficient of variation, for each solution, for the previous 12-month period.

g. Any additional QA/QC documentation or any additional chronic toxicity-related information, upon written request of the Regional Water Board Chief Deputy Executive Officer or Executive Officer.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS

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A. Surface Water Monitoring (Monitoring Locations RSW-001)

1. The Discharger shall monitor the Pacific Ocean at Monitoring Locations RSW-001 as follows:

Table E-6. Receiving Water Monitoring Requirements (Monitoring Location RSW-001)

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method[1]
Chronic Toxicity	Pass or Fail and Percent Effect	Grab	Once per Year	--
Total Coliform[2]	MPN or CFU/100 ml	Grab[3]	Once per six months[4]	--
Fecal Coliform[2]	MPN or CFU/100 ml	Grab[3]	Once per six months[5]	--
Enterococcus[2]	CFU/100 ml	Grab[3]	Once per six months[6]	--
Salinity[7]	ppt	Profile[8]	Once per week[9]	SM 2520B, EPA Method 120.1, or EPA Method 160.1
MTBE	µg/L	Grab	Annually	--
MBAS	mg/L	Grab	Annually	--
Aldrin	µg/L	Grab	Annually	--
DDT[10]	µg/L	Grab	Annually	--
Dieldrin	µg/L	Grab	Annually	--
Endosulfan[11]	µg/L	Grab	Annually	--
Endrin	µg/L	Grab	Annually	--
HCH[12]	µg/L	Grab	Annually	--
PAHs[13]	µg/L	Grab	Annually	--
PCBs[14]	µg/L	Grab	Annually	--
TCDD Equivalents[15]	µg/L	Grab	Annually	--
Remaining Ocean Plan Table 1 Parameters	µg/L	Grab	Annually	--

1. Pollutants shall be analyzed using the analytical methods described in 40 CFR part 136; the methods chosen must meet the lowest MLs specified in Appendix II of the Ocean Plan and be sufficiently sensitive to determine compliance with applicable effluent limitations and/or water quality criteria. Where no methods are specified for a given pollutant, the methods must be approved by the Regional Water Board or the State Water Board. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding ML necessary to demonstrate compliance with applicable effluent limitations.
2. Detection methods used for coliforms (total and fecal) and *Enterococcus* shall be those presented in Table 1A of 40 CFR part 136 (revised May 18, 2012), unless alternate methods have been approved by U.S. EPA pursuant to 40 C.F.R part 136 or improved methods have been determined by the Executive Officer and/or U.S. EPA. See section VII.M (Compliance Determination, Bacterial Standards and Analyses) of the Order for additional specifications.
3. Receiving water samples must be collected for analysis at the same time the effluent samples from flushing activity are collected for analysis during one semi-annual period.

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4. For each semi-annual period, the Discharge shall calculate the median total coliform density using the results of samples collected during the 6-month period ending on that week of the semi-annual period. The median result shall be reported in the corresponding semi-annual monitoring period.
5. At least five evenly spaced samples for fecal coliform shall be collected during the semi-annual period. The 30-day geometric mean shall be reported semi-annually for fecal coliform based on the results from the five most recent samples collected during that semi-annual period.
6. For each semi-annual period, the 6-week rolling geometric mean shall be calculated each week for enterococci using the results from samples collected during the 6-week period ending on that week of the semi-annual period. The weekly results shall be reported in the corresponding semi-annual monitoring period.
7. Salinity shall be monitored at the following locations: (a) within 3 feet of the discharge point, (b) at 100 meters from the discharge point, and (c) at 150 meters from the discharge point.
8. Salinity shall be measured at surface, mid-depth, and bottom. One of the samples shall be collected at the depth of the discharge.
9. Salinity shall be measured on a weekly basis. The Discharger shall report mean monthly salinity and individual results in SMRs.
10. 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.
11. Endosulfan shall mean the sum of Endosulfan-alpha, Endosulfan-beta, and Endosulfan Sulfate.
12. HCH shall mean the sum of alpha, beta, gamma (Lindane), and delta isomers of hexachlorocyclohexane.
13. 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, fluorene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene.
14. PCBs shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.
15. 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. U. S. EPA method 1613 may be used to analyze dioxin and furan congeners.

Dioxin-TEQ (TCDD Equivalents) = Σ (C_x x TEF_x),
where: C_x = concentration of dioxin or furan congener x
TEF_x = TEF for congener x

Toxicity Equivalency Factors

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

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IX. OTHER MONITORING REQUIREMENTS

A. Visual Monitoring at EFF-001

A visual observation station shall be established at Discharge Point 001 to the receiving water. During sample events, general observations of the receiving water shall be made at each discharge point. During periods of no discharge, the receiving water

observations shall be made on a quarterly basis. All receiving water observations shall be reported in the quarterly monitoring report. If no discharge occurred during the observation period, this shall be reported. Observations shall be descriptive where applicable, to note colors, approximate amounts, or types of materials present. The following observations shall be made:

1. Tidal stage, time, and date of monitoring;
2. Weather conditions;
3. Color of water;
4. Appearance of oil films or grease, or floatable materials;
5. Extent of visible turbidity or color patches;
6. Direction of tidal flow;
7. Description of odor, if any, of the receiving water; and
8. Presence and activity of California Least Tern and California Brown Pelican

B. Regional Monitoring Program

The Discharger may participate in regional monitoring activities coordinated by the Southern California Coastal Water Research Project (SCCWRP), and other appropriate agencies approved by the Regional Water Board and U.S. EPA. The intent of regional monitoring activities is to maximize the efforts of all monitoring partners using a cost-effective monitoring design and to best utilize the pooled scientific resources of the region. During these coordinated monitoring efforts, the Discharger's sampling and analytical effort may be reallocated to provide a regional assessment of the impact of wastewater discharges to the Southern California Bight; however, certain core elements shall remain unchanged. Thus, revisions to the routine compliance monitoring program may be made under the direction of the U.S. EPA and Regional Water Board as necessary to accomplish the goal of assessing regional impacts from all contaminant sources; and may include resource exchanges. Regular regional monitoring for the Southern California Bight occurs every four to five years. The most recent bight wide regional monitoring program was conducted in 2018.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. If there is no discharge during any reporting period, the Discharger shall indicate under penalty of perjury in the corresponding monitoring report that no effluent was discharged to surface water during the reporting period.
3. If the Discharger conducts monitoring more frequently than required by this Order using approved analytical methods, the results of those analyses shall be included in the monitoring report. These results shall be reflected in the

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calculation of the average (or median) used in demonstrating compliance with this Order.

4. Each monitoring report shall contain a separate section titled "Summary of Non-Compliance" which discusses the compliance record and corrective actions taken or planned and a proposed time schedule for planned corrective actions that may be needed to bring the discharge into full compliance with waste discharge requirements. This section shall clearly list all non-compliance with waste discharge requirements, as well as all excursions of effluent limitations.

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

6. The date and time of sampling (as appropriate) shall be reported with the analytical values determined.

7. The pollutant mass discharged shall be reported in addition to the reported concentration for those pollutants with mass-based final effluent limitations.

8. The Discharger shall report the results of chronic toxicity testing, TRE and TIE as required in the Attachment E, Monitoring and Reporting, section V.

B. Self-Monitoring Reports (SMRs)

1. The Discharger shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program website at <http://www.waterboards.ca.gov/water_issues/programs/ciwqs/>. The CIWQS website will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP. The Discharger shall submit quarterly SMRs including the results of all required monitoring using U.S. EPA-approved test methods or other test methods specified in this Order. SMRs are to include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

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

Table E-7. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
1/Day	February 1, 2020	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with quarterly SMR

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Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
1/Week	February 1, 2020	Sunday through Saturday	Submit with quarterly SMR
1/Month	February 1, 2020	1st day of calendar month through last day of calendar month	Submit with quarterly SMR
1/Quarter	February 1, 2020	January 1 – March 31 April 1 – June 30 July 1 – September 30 October 1 – December 31	May 1 August 1 November 1 February 1
1/Discharge Event	February 1, 2020	January 1 – March 31 April 1 – June 30 July 1 – September 30 October 1 – December 31	May 1 August 1 November 1 February 1
1/Semi-Annual Period	February 1, 2020	January 1 – June 30 July 1 – December 31	Submit with quarterly SMR
1/Year	February 1, 2020	January 1 through December 31	February 1

4. 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 CFR 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

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is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. Compliance Determination. Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined above and Attachment A. For purposes of reporting and administrative enforcement by the Regional Water Board and State 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 ML.

6. Multiple Sample Data. When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of DNQ or ND, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

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

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

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

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

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

C. Discharge Monitoring Reports (DMRs)

DMRs are U.S. EPA reporting requirements. The Discharger shall electronically certify and submit DMRs together with SMRs using Electronic Self-Monitoring Reports module eSMR 2.5

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or any upgraded version. Electronic DMR submittal shall be in addition to electronic SMR submittal. Information about electronic DMR submittal is available at the DMR website at:

http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring.

D. Other Reports

1. The Discharger shall submit the Initial Investigation TRE Workplan, and the Workplan for Compliance Demonstration for the New Reverse Osmosis Units, Plant 2, operating in series with the existing Plant 1 on the pollutant concentrations of the effluent as required by Special Provisions – VI.B.2.a, and VI.B.2.b in the Order.

2. The Storm Water Management Plan (SMP) shall be reviewed at a minimum once per year and updated as needed to ensure all actual or potential sources of trash and pollutants in wastewater and storm water discharged from the Facility are addressed. In addition, the SMP shall address and include best management practices procedures that the Discharger will implement to prohibit the discharge of trash from the Facility to the receiving water. All changes or revisions to the SMP shall be submitted to the Regional Water Board within 30 days of revisions. The Discharger is required to submit the SMP to the Regional Water Board annually.

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ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section II.B of this Order, the 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. Facility Information

WDID	4B192111010
Discharger	Southern California Edison Company
Name of Facility	Pebbly Beach Desalination Plant
Facility Address	1 Pebbly Beach Road
	Avalon, CA 90704
	Los Angeles County
Facility Contact, Title and Phone	Ronald Hite, Catalina District Manager (310) 510-4315
Authorized Person to Sign and Submit Reports	Same as above.
Mailing Address	Same as Facility Address
Billing Address	Same as Facility Address.
Type of Facility	Desalination Plant, Industrial, SIC Code 4941
Major or Minor Facility	Minor
Threat to Water Quality	3
Complexity	C
Pretreatment Program	NA
Recycling Requirements	NA
Facility Permitted Flow	0.720 million gallons per day (MGD)
Facility Design Flow	0.720 MGD
Watershed	Channel Islands Watershed Management Area
Receiving Water	Pacific Ocean Nearshore Zone
Receiving Water Type	Ocean waters

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A. Southern California Edison Company (hereinafter Discharger) is the owner and operator of the Pebbly Beach Desalination Plant (hereinafter Facility), a desalination facility providing potable water supply.

B. 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.

C. The Facility discharges wastewater to the Pacific Ocean, a water of the United States. The discharge was previously regulated by Order R4-2011-0165, (adopted on October 6, 2011), as amended by Order R4-2011-0165-A01, which was adopted on October 9, 2014, and it expired on September 10, 2016. This Order serves as a permit under the National Pollutant Discharge Elimination System (NPDES) Program (NPDES Permit No. CA0061191). Attachments B-1 – Vicinity Map, B-2 – Aerial View, and B-3 – Site Plan provide maps of the area around the Facility. Attachment C provides a flow schematic of the Facility.

D. Regulations at 40 CFR section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the duration of the discharge authorization. However, pursuant to California Code of Regulations, title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all federal NPDES requirements for continuation of expired permits.

E. In accordance with Title 23, California Code of Regulations (CCR) and Title 40, Code of Federal Regulations (CFR), respectively, the Discharger is required to file a report of waste discharge (ROWD) at least 180 days prior to the expiration of the existing permit. The Discharger filed an ROWD and applied for renewal of its waste discharge requirements (WDRs) and NPDES permit on March 11, 2016.[1] The ROWD included a request for increased seawater intake volume through installation of new subsurface wells and an increase in the brine discharge volume. Had it been implemented, this proposed increase in the permitted discharge flow rate would have constituted a facility expansion based on the Ocean Plan 2015 - Chapter III.M.2 and it would have required a Water Code Section 13142.5(b) Determination. The 13142.5(b) Determination requirement of the Ocean Plan requires the Discharger to provide the information necessary for the Regional Water Board staff (with assistance from the State Water Board) to conduct the analysis which includes review of a feasibility study to determine the best alternative to minimize intake and mortality of all forms of marine life. The process for analysis/evaluation/approval of the Determination has been estimated to take up to 2 years or more.

F. Per the Regional Water Board's request, the Discharger filed a revised ROWD and resubmitted an application for reissuance of its WDRs and NPDES permit on December 19, 2018. The revised ROWD included a request for increased seawater intake volume only through installation of new subsurface wells and does not include any increase in the brine discharge volume. It also includes a request for a Time Schedule Order to provide milestone tasks and a timeline to comply with the requirements of the Ocean Plan. Supplementary information was requested on January 28, 2019 and was received on February 7, 2019. The application was deemed complete on February 7, 2019. A site visit was conducted on June 18, 2019, to observe

[1] The delay in renewal of the permit for the Facility is due to the requirements of Section M. *Implementation Provisions for Desalination Facilities* in the Ocean Plan Desalination Amendment.

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operations and collect additional data to develop permit limitations and requirements for waste discharge.

II. FACILITY DESCRIPTION

The Facility is a desalination plant located on Santa Catalina Island, approximately 22 miles from the mainland. The Facility provides potable water to the City of Avalon. The desalination plant site is located within the confines of the Southern California Edison (SCE) Pebbly Beach Generating Station, which provides electricity and gas for Santa Catalina Island. Seawater is pumped to the Facility from two intake wells located approximately 75 feet inland from the shoreline, approximately one mile southeast of the desalination plant. A subsurface pipeline conveys seawater approximately 1 mile north to the desalination plant. The desalination plant has a freshwater production design capacity of 0.202 MGD (140 gallons per minute, GPM). Any potable water produced that is not immediately used is stored in a storage tank. The Facility is permitted to discharge up to 0.720 MGD (500 GPM) of reject brine, saltwater bypass (untreated seawater), filter backwash from the desalination process, and wastewater from flushing the seawater supply pipeline through Discharge Point 001, a rip rap slope to the Pacific Ocean.

Due to severe statewide drought conditions, the Discharger evaluated several alternatives for reliable and sustainable sources of additional potable water for the island. The selected alternative includes additional desalination units and adding seawater intake wells to maximize the production capacity of the desalination plant. Based on the evaluation of these alternatives and the feasibility study conducted, the Discharger decided to add to the desalination capacity of the existing plant as an emergency response to the drought, and address the long term need for a reliable source of water by installing additional seawater intake wells.

In June 2015, the Discharger proceeded with the design and installation of an additional desalination unit (New Unit) at the Facility to implement the drought-triggered measures planned to increase the water supply for the City of Avalon. The New Unit is a self-contained and preassembled reverse osmosis system to interconnect with the existing water treatment infrastructure. It provides increases to the plant's production capacity, operational efficiency and redundancy. The performance during pilot testing demonstrates that the new system can operate within the parameters of the existing system and meet primary drinking water regulations.

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A. Desalination Units and Operational Modes

The Facility has two housing units for reverse osmosis (RO) desalination. Both units are located adjacent to each other in the southern section of the site. The current unit is referred to in this Order as the "Existing Unit or Plant 1" and the newly installed unit is referred to in this Order as the "New Unit or Plant 2". Both Plant 1 and Plant 2 are online and operational. The State Water Resources Control Board (State Water Board), Division of Drinking Water (DDW) issued an approval letter for the main operating mode of Plant 2 (Mode 2. operation on March 21, 2016, and Modes 1.B and 2 operation on July 15, 2016).

1. Existing Unit (Plant 1)

Plant 1 is located within a building and it consists of four sets of five RO modules. Each set consists of pretreatment filtration (5 micron and 1 micron) and five RO

vessels. Filtered seawater flows through three parallel vessels. Brine from the three vessels passes through two additional vessels and is collected from the four sets to an underground pipe which conveys it to Discharge Point 001. As mentioned above, Plant 1 has a freshwater production design capacity of 0.202 MGD (140 GPM).

2. New Unit (Plant 2)

Plant 2 is located in a separate structure adjacent to Plant 1. Plant 2 includes 12 pressure vessels. As part of Plant 2, an additional break tank was installed in 2016 to provide flow equalization between Plant 1 and Plant 2.

After commissioning of Plant 2, the total maximum production capacity of the Facility will increase from its current volume of 0.202 MGD. The maximum production volume of the plant will depend on its operational mode.

3. Operational Modes

For operational flexibility, the desalination system is configured to handle multiple operating modes as described below. Intake water for the Mode 0, Mode 1.A, Mode 1.B and Mode 2 is from the two existing seawater wells. See Attachments C-1 (Figure 1), C-2 (Figure 2), C-3 (Figure 3), and C-4 (Figure 4) of the schematic diagrams. Mode 3 includes the two new proposed seawater wells and with both Plants1and 2 operating (Attachment C-5 (Figure 5)) for the schematic diagrams.

Table F-2. System Modes of Operation

Operation Mode	System Condition	Mode Characteristics
Mode 0	• Plant 1 online; • Plant 2 does not operate; • Intake from the two existing seawater wells only.	Used when Plant 2 is undergoing maintenance.
Mode 1.A	• Plant 1 operates at 100%; • Plant 2 operates at less than 100% (low flow condition); • Plant 2 treats brine discharge of existing system; • Intake from the two existing seawater wells only.	Maximizes plant production capacity prior to installation of new wells.
Mode 1.B	• Plant 1 operates at 25-100%; • Plant 2 operates at less than 100% (low flow condition); • Plant 2 treating brine discharge of existing system and seawater that bypasses existing system; • Intake from the two existing seawater wells only.	Minimizes plant stoppage during routine maintenance events and unexpected plant shutdown.
Mode 2	• Plant 1 operates at 0%; • Plant 2 operates at 100%; • Plant 2 treating seawater;	Maximizes plant production efficiency with the existing wells' capacity.

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	• Intake from the two existing seawater wells only.	
Mode 3 (not currently permitted, not currently occurring)	• Plant 1 operates at 100%; • Plant 2 operates at 100%; • Plant 1 and 2 treating seawater; • Increased intake total of 800 GPM.	Maximizes plant production capacity, keeping brine discharge volume consistent.

B. Facility Status

The Facility is considered an *existing facility* as per the Ocean Plan Desalination Amendments in chapter III.M. The Ocean Plan defines *existing facilities* and *expanded facilities* as follows:

> (1) For purposes of chapter III.M, "existing facilities" means desalination facilities that have been issued an NPDES permit and all building permits and other governmental approvals necessary to commence construction for which the owner or operator has relied in good faith on those previously-issued permits and approvals and commenced construction of the facility beyond site grading prior to January 28, 2016 [effective date of the Ocean Plan amendments].
>
> (2) For purposes of chapter III.M, "expanded facilities" means existing facilities for which, after January 28, 2016], the owner or operator does either of the following in a manner that could increase intake or mortality of all forms of marine life beyond that which was originally approved in any NPDES permit or Water Code section 13142.5, subdivision (b) (hereafter Water Code section 13142.5(b)) determination: 1) increases the amount of seawater* used either exclusively by the facility or used by the facility in conjunction with other facilities or uses, or 2) changes the design or operation of the facility. To the extent that the desalination facility* is co-located with another facility that withdraws water for a different purpose and that other facility reduces the volume of water withdrawn to a level less than the desalination facility's* volume of water withdrawn, the desalination facility* is considered to be an expanded facility.

The Facility has operated as a desalination plant since the late 1980s and is therefore considered and existing facility. The produced water from the Facility is a primary source of drinking water for the City of Avalon. The Discharger has recently added additional desalination units and plans to install two new seawater intake wells. The Ocean Plan includes provisions regulating the intake of seawater for desalination facilities pursuant to the authority contained in section 13142.5 subdivision (b) of the California Water Code (Stats. 1976, Chap. 1330). Recent testing of the two current wells demonstrated that intake or mortality of all forms of marine life at the wells is minimal. The installation of two additional subsurface seawater intake wells will likely result in even less potential for the intake or mortality of marine life. Subsurface intakes such as the wells implemented at the Pebbly Beach Facility are the preferred technologies for desalination facilities specified in the Ocean Plan.

The two new seawater intake wells do not result in an increase in the flow discharged or a change to the overall design and operation of the Facility. The limitations in this

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Order hold the Discharger to existing levels of treatment and discharge. The Facility changes will not increase intake or mortality of marine life beyond that which would have occurred during the term of Order R4-2011-0165 as amended by Order R4-2011-0165-A01. Therefore, the additional desalination unit and the installation of two intake wells do not meet the description of an expanded facility. Further description of the Facility including recent modifications are discussed in Section II.A and the installation of the two new wells are discussed in Section II.G of this Fact Sheet.

C. Description of Wastewater and Treatment

Wastewater generated from both Plant 1 and Plant 2 includes RO brine, calcite filter backwash, untreated seawater including seawater from flushing the seawater supply pipeline, and product water. The permitted flow in this Order is 0.720 MGD and is based on the maximum capacity of the intake wells to supply water to the desalination plant. This flow may be reached if the Facility is flushing the seawater supply line. The highest observed discharge rate from May 2013 through September 2018 was 0.633 MGD.

1. Brine Discharge

The reverse osmosis process removes dissolved inorganic solids, mainly salts from seawater, which generates a brine wastewater. The Facility discharges untreated brine through Discharge Point 001. The Discharger reported an average brine discharge of 0.4 MGD.

Prior to desalination, source water undergoes cartridge filtration for solids removal and is treated with an anti-scalent, Hypersperse MDC™ (membrane deposit control agent), which may be present in the discharge through Discharge Point 001. The dosage of anti-scalent is dependent on the water supply, but it is estimated as 2 gallons per day (GPD). In addition, a bisulfite pickling solution is applied to the RO membranes for preservation. Up to 6,000 gallons per year is released through Discharge Point 001, approximately 2 days per week, which roughly equates to 115 GPD.

The brine discharge waste stream also includes a small amount of product water from inline water quality analyzers. The ROWD indicates this amount is an average of 400 gallons per day and that the water is dechlorinated prior to discharge.

2. Calcite Filter Backwash

Water that has passed through the RO vessels is routed to one of two calcite filters (one each) for the Existing Unit and the New Unit. Minerals are added to the calcite filters to prevent leaching of metals and to improve the taste of the drinking water. The calcite filters are periodically backwashed to remove accumulated solids from the filter. Backwash operations are triggered by turbidity measurements which occur approximately one day per month. The backwash events are conducted on one unit at a time for approximately 20 minutes followed by a 10-minute settling period prior to discharge. This cycle is repeated a second time, however the backwash duration is only 10 minutes, followed by a 10-minute settling period prior to discharge. The average flow from calcite filter backwash, as reported in the ROWD is 5,500 gallons per month.

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3. Product Water

Following desalination and calcite filtration, RO permeate water is injected with carbon dioxide (corrosion control), sodium hypochlorite (disinfection), and zinc ortho phosphate (corrosion control) and stored in two product (potable) water storage tanks, one of which was installed as part of the New Unit expansion. As reported in the ROWD, excess product water is periodically released to Discharge Point 001 at a maximum rate of 4,000 GPD approximately one day per week for 4 months of the year. The Facility dechlorinates this water with sodium metabisulfate and zinc chloride prior to discharge through Discharge Point 001.

4. Untreated Seawater Including Seawater from Flushing the Seawater Supply Pipeline

Bypass valves are located at the desalination plant to divert the seawater withdrawn from the intake wells directly to Discharge Point 001. Periodically, the Facility will perform a bypass in order to flush the system and control biological growth in the pipeline. As reported in the ROWD, the maximum design discharge rate for bypasses is 0.720 MGD. The Discharger performs this activity as needed throughout the year typically during the summer months when seawater temperatures increase naturally, as the higher temperatures are more conducive to biofilm formation and growth. This permit allows the Discharger to conduct periodic flushing of the seawater supply pipelines to control the presence of biofilm in conformance with the applicable requirements and provisions in this permit while performing this activity.

D. Discharge Points and Receiving Waters

The Facility discharges reverse osmosis brine, filter backwash, excess product water, and untreated seawater used to flush the supply pipelines to a centralized conveyance to the shoreline where effluent cascades down a rip rap slope to Discharge Point 001, to the Pacific Ocean. At this point, the effluent mixes with the seawater over a horizontal distance of 24 to 42 feet before emerging from the rip-rap at the shoreline. The horizontal distance where mixing occurs within the rip-rap is dependent upon tide height. Discharge Point 001 is a shallow water discharge to the Pacific Ocean, a water of the United States (Latitude 33.33385°; Longitude -118.3099°).

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

a. Effluent limitations contained in Order R4-2011-0165-A01 for discharges from Discharge Point 001 (Monitoring Location EFF-001) and representative monitoring data from May 2013 through September 2018 are as follows:

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Table F-3. Discharge Point 001 Historic Effluent Limitations and Monitoring Data

Parameter	Units	6-Month Median	30-day Average	Average Weekly	Maximum Daily	Instantaneous Maximum	Range of Reported Monitoring Data[A]
Biochemical Oxygen Demand	mg/L	--	20	--	60	--	<0.1 – 16
Biochemical Oxygen Demand	lbs/day[1]	--	120.1	--	360.3	--	ND - 55.4[2]
Oil and Grease	mg/L	--	10	--	15	--	<1.3 – 2.8
Oil and Grease	lbs/day[1]	--	60.1	--	90.1	--	ND – 10[2]
pH	standard units	--	--	--	--	6.0 – 9.0[3]	7.36 – 8.0
Settleable Solids	ml/L	--	0.1	--	0.3	--	All <0.1
Turbidity	NTU	--	50	100	150	--	<0.024 – 4.4
Total Suspended Solids	mg/L	--	50	--	150	--	1 – 27
Total Suspended Solids	lbs/day[1]	--	300.2	--	900.7	--	ND – 82.9[2]
Copper, TR	µg/L	8	--	--	62	170	0.12 – 75
Copper, TR	lbs/day[1]	0.048	--	--	0.37	1.02	0.0013 - 0.29[2]
Zinc, TR	µg/L	80	--	--	440	1,160	1.3 – 220
Zinc, TR	lbs/day[1]	0.48	--	--	2.64	6.97	0.016 – 0.84[2]
Bis (2-Ethylhexyl) Phthalate	µg/L	--	21	--	--	--	<2.3 – 5.9
Bis (2-Ethylhexyl) Phthalate	lbs/day[1]	--	0.13	--	--	--	ND - 0.025[2]
Tributyltin	µg/L	--	0.0084	--	--	--	<0.0012 – 0.0025
Tributyltin	lbs/day[1]	--	5.04×10^{-5}	--	--	--	ND – 9.6×10^{-6} [2]
Total Coliform	CFU or MPN/ 100 ml	--	[5]	--	--	[6]	<2 – 1,600
Fecal Coliform	CFU or MPN/ 100 ml	--	[5]	--	--	[6]	<2 – 4
Enterococcus	CFU or MPN/ 100 ml	--	[5]	--	--	[6]	<1 – 63
Temperature	ºF	--	--	--	--	100	50.18 – 100.4

NR = Not Reported; TR = Total Recoverable

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[A] Order R4-2011-0165 was effective on October 6, 2011.Tthe Facility did not have discharges until May 2013. Monitoring data from May 2013 to September 2018 were utilized to perform the reasonable potential analysis in this permit.

1. Mass-based effluent limitations were based on a maximum permitted flow rate of 0.720 MGD
2. The reported mass (lbs/day) were based on the actual measured flow rate during sampling.
3. Instantaneous Minimum – Instantaneous Maximum
4. Chronic toxicity monitoring trigger of 6 TUc in 100% effluent.
5. 30-day Geometric Mean Limits – The geometric mean shall be calculated using the five most recent samples results:
   (1) Total coliform density shall not exceed 1,000 per 100 ml;
   (2) Fecal coliform density shall not exceed 200 per 100 ml; and
   (3) Enterococcus density shall not exceed 35 per 100 ml.
6. Single Sample Maximum:
   (1) Total coliform density shall not 10,000 per 100 ml;
   (2) Fecal coliform density shall not exceed 400 per 100 ml;
   (3) *Enterococcus* density shall not exceed 104 per 100 ml; and
   (4) The total coliform density shall not exceed 1,000 per 100 ml when the fecal coliform/total coliform ratio exceeds 0.1.

b. Chronic testing toxicity trigger:

Order R4-2011-0165-A01 included a daily maximum chronic testing toxicity trigger defined as an exceedance of 6.0 TU_c in a critical life stage test for 100% effluent.

The monitoring data from May 2013 through September 2018 indicates chronic toxicity results of greater than 20 TU_c during monitoring on February 22, 2018.

F. Compliance Summary

Data submitted to the Regional Water Board during the term of Order R4-2011-0165-A01 for the period of November 7, 2011, through September 30, 2018, indicate the following violations of effluent limitations:

Table F-4. Summary of Compliance History

Date	Monitoring Period	Violation Type	Pollutants	Reported Value	Permit Limitation	Units
5/21/2013	2nd Quarter 2013	6-month Median	copper	11.4	8.0	µg/L
4/28/2017	2nd Quarter 2017	Instantaneous Maximum	Temperature	100.4	100	ºF
2/22/2018	1st Quarter 2018	Daily Maximum	chronic toxicity	20	6	TU_c

On October 21, 2014, the Regional Water Board issued a Stipulated Order on Settlement Offer No. R4-2014-0145 for violation of the effluent limitation for copper in the amount of $3,000. On November 24, 2014, the Regional Water Board received the payment of $3,000 as required by “Expedited Payment Program.”

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The violations of the temperature and chronic toxicity limitations, which occurred on April 28, 2017, and February 22, 2018, respectively, are being evaluated for appropriate enforcement action.

The Regional Water Board has also identified violations for deficient monitoring including exceeding holding times and parameters that were not evaluated during the second Quarter 2013, and deficient reporting during the 4th Quarter 2017, during the flushing of the seawater supply pipeline (chronic toxicity and remaining priority pollutants were not reported annually). These violations were classified as Class 3[2] – Minor and not subject to mandatory minimum penalties.

G. Planned Changes

The Facility is planning to install two new intake wells to increase the maximum intake capacity from 400 GPM to 1,100 GPM (1.584 MGD) of seawater. The increase of the intake capacity will expand the production capacity of product water (permeate) from 0.230 MGD to 0.410 MGD. The existing two intake wells have a combined maximum capacity of 400 GPM (200 GPM each) and the proposed two new wells will have maximum capacity of 700 GPM. The total maximum intake capacity will be 1,100 GPM. The pipeline from the sea wells to the Facility has a maximum capacity of 800 GPM, limiting the plant intake to 800 GPM. The extra 300 GPM (1,100 – 800 GPM = 300 GPM) sea well intake capacity would serve as redundant supply in the event a well requires maintenance or well production decreases over time. The Facility will maintain the permitted discharge flow rate of 0.720 MGD.

The new intake wells will be located at the same location as the existing wells. The wells will draw seawater from below the ground surface substrate and will not result in impingement or entrainment of marine life. The results of subsurface-well intake-water sampling conducted on October 10 and 11, 2018, at the Pebbly Beach Desalination Plant's intake wells indicate that entrainment of plankton is not predictably occurring at the subsurface wells. Seawater is believed to be adequately filtered seawater through sediment and geological features of the seafloor to eliminate entrainment or impingement; no marine life mortality is expected at the seawater well intake.

Since the two existing wells are old and in poor condition, and contingent on a detailed assessment of the current and future performance capacity of the existing wells, the Facility is considering one of the following options to achieve the maximum intake capacity of 1,100 GPM seawater:

1. Installation of two new wells with a capacity of 700 GPM (350 GPM each) and keep the two existing wells for a total maximum intake capacity of 1,100 GPM of seawater (400 GPM existing wells capacity plus 700 GPM new wells capacity).

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[2] Class 3 violations are those violations that pose only a minor threat to water quality and have little or no known potential for causing a detrimental impact to human health and the environment. Class 3 violations include statutorily required liability for late reporting when such late filings do not result in causing an unauthorized discharge or allowing one to continue. Class 3 violations should only include violations by dischargers who are first time or infrequent violators and are not part of a pattern of chronic violations.

2. Abandon the two existing wells and install four new wells with a total maximum intake capacity of 1,100 GPM.

This Order allows the Discharger to implement Option 1. If the results of the assessment of the performance capacity of the two existing wells indicate the capacity cannot sustain the production capacity of the plant, the Discharger may submit to this Regional Water Board the assessment report and a request for approval to implement Option 2.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

This Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 2 subject to the WDRs in this Order.

B. California Environmental Quality Act (CEQA)

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

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

1. Water Quality Control Plan. The *Water Quality Control Plan for the Los Angeles Region* (hereinafter Basin Plan) designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. Requirements in this Order implement the Basin Plan. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply (MUN). However, the Pacific Ocean Nearshore Zone was never designated as MUN. Beneficial uses applicable to Santa Catalina Island Nearshore Zone and the Pacific Ocean Nearshore Zone are as follows:

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Table F-5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Islands Nearshore Zone, Santa Catalina Island	Existing: Navigation (NAV); commercial and sport fishing (COMM); water contact recreation (REC-1); non-contact water recreation (REC 2); marine habitat (MAR); wildlife habitat (WILD); preservation of biological habitats (BIOL); rare, threatened, or endangered species (RARE);[1] migration of aquatic species (MIGR)[2]; and shellfish harvesting (SHELL). Potential: Spawning, reproduction, and/or early development (SPWN)[2]
	Pacific Ocean Nearshore Zone	Existing Industrial service supply (IND); NAV; COMM; MAR; WILD; BIOL; RARE[1]; MIGR[2]; SPWN[2]; REC 1; REC 2; and SHELL

1. One or more species utilizes all ocean, bays, estuaries, and coastal wetlands for foraging and/or nesting.
2. Aquatic organisms utilize all bays, estuaries, and coastal wetlands for foraging and/or nesting.

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 May 18, 1972, and again on September 18, 1975 (Resolution No. 75-89). The Thermal Plan contains temperature objectives for coastal waters. This Order contains effluent limitations for temperature that are consistent with 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 has amended it on a number of occasions. The State Water Board adopted the latest amendment on March 22, 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-6. Ocean Plan Beneficial Uses

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

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

4. Alaska Rule. On March 30, 2000, U.S. EPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 CFR part 131.21, 65 Federal Register 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to U.S. EPA after May 30, 2000, must be approved

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by U.S. EPA before being used for Clean Water Act (CWA) purposes. The final rule also provides that standards already in effect and submitted to U.S. EPA by May 30, 2000, may be used for CWA purposes, whether or not approved by U.S. EPA.

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

6. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 CFR section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. This Order includes requirements that are consistent with the federal anti-backsliding regulation, as described in detail in Section IV.D.1 of this Fact Sheet.

7. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, §§ 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.

8. **Trash Amendments.** The State Water Board adopted the "Amendment to the Ocean Plan and Part I Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California" (Trash Amendments) through Resolution 2015-0019, which became effective upon U.S. EPA approval on January 12, 2016. The Trash Amendments amended the Ocean Plan to establish a narrative water quality objective for trash and a prohibition on the discharge of trash, implemented through permits issued pursuant to CWA section 402(p), waste discharge requirements, or waivers of waste discharge requirements.

   The Trash Amendments apply to all surface waters of the State, with the exception of those waters within the jurisdiction of the Los Angeles Regional Water Board where trash or debris TMDLs were in effect prior to the effective date of the Trash

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Amendments. The discharge described in this Order is subject to the Trash Provisions as there are currently no Trash TMDLs for the Pacific Ocean near the discharge. As such, consistent with Sections III.I.6 and III.L.3. of the Ocean Plan, this Order implements the narrative objective of the Trash Provisions through a prohibition of trash discharges to the NPDES discharge points and includes monitoring requirements and effluent limitations for solids to control sediment emission in the discharge. This Order also requires the Discharger to develop and implement a Best Management Practice Plan (BMPP), which shall include specific BMPs used to prevent the discharge of trash from the Facility to the Pacific Ocean. The Discharger is required to detail and submit to the Regional Water Board annually (through their annual BMPP submittal) specific BMPs employed to control and prohibit the discharge of trash and other pollutants from the Facility.

9. **Ocean Plan Desalination Amendment.** On May 6, 2015, the State Water Board approved an amendment to the Ocean Plan through Resolution 2015-0033 to address effects associated with the construction and operation of seawater desalination facilities (Desalination Amendment). The Office of Administrative Law (OAL) approved the Desalination Amendment on January 28, 2016. The U.S. EPA approved the portions of the Desalination Amendment that implement the federal Clean Water Act on April 7, 2016, and it became effective on the same date. The amendment supports the use of ocean water as a reliable supplement to traditional water supplies while protecting marine life and water quality. The Desalination Amendment requires new or expanded seawater desalination plants to use the best available site, design, technology, and mitigation measures feasible to minimize intake and mortality of all forms of marine life. Based on the best available science, the amendment identifies preferred technologies; however, alternative intake and disposal methods can be used if they are as protective of marine life as the preferred technologies. Additionally, mitigation measures are required in order to address damage to marine life that occurs after the best available site, design, and technology feasible are used. The Desalination Amendment also includes receiving water limitations for salinity that are applicable to all desalination facilities discharging brine into ocean waters, including facilities that comingle brine and wastewater. This Order incorporates requirements of the Desalination Amendment.

D. Impaired Water Bodies on the CWA section 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 (WLAs) for point sources and load allocations (LAs) for non-point sources, as appropriate.

The U.S. EPA approved the State's 2014 and 2016 303(d) list of impaired water bodies on April 6, 2018. Certain receiving waters in the Los Angeles and Ventura County watersheds do not fully support beneficial uses and therefore have been classified as impaired on the 303(d) List of Water Quality Limited Segments (hereinafter 303(d) list)

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and have been scheduled for TMDL development. The Facility discharges into the Pacific Ocean off of South Catalina Island.

The 2014-2016 303(d) list identified Avalon Beach as being impaired for indicator bacteria. The area affected is approximately 0.665 miles of beach, extending approximately from the tip of Casino Point to the Catalina Island Ferry Terminal. The Facility is located slightly over one mile south of the area of Avalon Beach which is addressed in the TMDL (the Avalon Beach Bacteria TMDL). The Avalon Beach Bacteria TMDL is being implemented as a single regulatory action (i.e., the responsible entity is limited to the City of Avalon Wastewater Treatment Facility) through State Water Board Order 2006-003-DWQ and Cease and Desist Order (CDO) No. R4-2012-077. Therefore, the Avalon Beach Bacteria TMDL is not applicable to the Facility.

E. Other Plans, Polices and Regulations

Climate Change Adaptation and Mitigation. On March 7, 2017, the State Water Board adopted a resolution in recognition of the challenges posed by climate change that requires a proactive approach to climate change in all State Water Board actions, including drinking water regulation, water quality protection, and financial assistance (Resolution No. 2017-0012). The resolution lays the foundation for a response to climate change that is integrated into all State Water Board actions, by giving direction to the State Water Board divisions and encouraging coordination with the Regional Water Boards. In response to the State Water Board's Resolution (No. 2017-0012), the Los Angeles Water Board adopted "A Resolution to Prioritize Actions to Adapt to and Mitigate the Impacts of Climate Change on the Los Angeles Region's Water Resources and Associated Beneficial Uses" (Resolution No. R18-004) on May 10, 2018. The resolution summarizes the steps taken so far to address the impacts of climate change by the Los Angeles Water Board and lists a series of steps to move forward. These include the identification of potential regulatory adaptation and mitigation measures that could be implemented on a short-term and long-term basis by each of the Los Angeles Water Board's programs to take into account, and assist in mitigating where possible, the effects of climate change on water resources and associated beneficial uses. This Order contains provisions to require planning and actions to address climate change impacts, in accordance with both the State and Regional Water Boards' resolutions.

The Permittee shall develop a Climate Change Effects Vulnerability Assessment and Management Plan (Climate Change Plan) and submit the Climate Change Plan to the Regional Water Board for the Executive Officer's approval no later than 12 months after adoption of this Order. The Climate Change Plan shall include an assessment of short and long term vulnerabilities of the facility and operations as well as plans to address vulnerabilities of collection systems, facilities, treatment systems, and outfalls to predicted impacts in order to ensure that facility operations are not disrupted, compliance with permit conditions is achieved, and receiving waters are not adversely impacted by discharges. Control measures shall include, but are not limited to, emergency procedures, contingency plans, alarm/notification systems, training, backup power and equipment, and the need for planned mitigation to ameliorate climate-induced impacts including, but not limited to, changing influent and receiving water quality and conditions, as well as the impact of rising sea level (where applicable),

wildfires, storm surges and back-to-back severe storms that are expected to become more frequent.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 CFR section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

The list of pollutants of concern is based on constituents that are regulated in the Ocean Plan and are currently detected or regulated in the effluent, as well as pollutants that commonly occur at similar facilities. The RO process concentrates constituents that are present in the source seawater, including salinity. Salinity is therefore considered a pollutant of concern.

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

A. Discharge Prohibitions

Discharge Prohibitions in this Board Order are based on the federal Clean Water Act, Basin Plan, Water Code, the California Ocean Plan and other applicable State Water Board plans and policies, U.S. Environmental Protection Agency guidance and regulations, and provisions from the previous permit (Order No. R4-2011-0165-A01). This Order includes a new trash prohibition (Limitations and Discharge Requirements section III.I) based on the Ocean Plan amendment adopted on April 7, 2015, Resolution 2015-0019 (see section III.C.8 of this Fact Sheet).

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing U.S. EPA permit regulations at 40 CFR section 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards.

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

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

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

c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering a two-part reasonableness test. The first test compares the relationship between the costs of attaining a reduction in effluent discharge and the resulting benefits. The second test examines the cost and level of reduction of pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources. Effluent limitations must be reasonable under both tests.

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

The CWA requires U.S. EPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and 40 CFR section 125.3 authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the Regional Water Board must consider specific factors outlined in 40 CFR section 125.3 and CWA section 301(b)(2)(A).

2. Applicable Technology-Based Effluent Limitations

National ELGs have not been developed for discharges from drinking water supply and treatment facilities, including desalination facilities. This Order includes technology-based effluent limitations for pH and turbidity (7-day average) based on the effluent limitations contained in Table 2 of the Ocean Plan (Table 2). The effluent limitations for settleable solids, total suspended solids, oil and grease, and turbidity (monthly average and instantaneous maximum) are more stringent than the technology-based effluent limitations in Table 2 of the Ocean Plan. These limitations, as well as the BOD limitations, were developed in an order issued to the Facility in 1989, Order 89-117, and based on BPJ (see 40 CFR section 125.3(c)). The limitations were retained in Order R4-2011-0165-A01 and the Discharger has been able to consistently meet these limitations. Section 402(o) of

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the CWA and part 122.44(l) require that effluent limitations or conditions in reissued Orders be at least as stringent as those in the existing Orders. Therefore, the effluent limitations established in Order No. R4-2011-0165 and R4-2011-0165-A01 are retained in this Order.

a. Table F-7 summarizes the technology-based effluent limitations contained in this Order.

Table F-7. Summary of Technology-based Effluent Limitations at Discharge Point 001

Parameter	Units	Average Monthly	7-Day Average	Maximum Daily
Biochemical Oxygen Demand	mg/L	20	--	60
Biochemical Oxygen Demand	lbs/day	120.1	--	360.3
Oil and Grease	mg/L	10	--	15
Oil and Grease	lbs/day	60.1	--	90.1
Settleable Solids	ml/L	0.1	--	0.3
Turbidity	NTU	50	100	150
TSS	mg/L	50	--	150
TSS	lbs/day[1]	300.2	--	900.7

b. Additional technology-based effluent limitations contained in this Order are:

pH Limitations:

The pH of the wastes discharged shall at all times be within the range of 6.0 to 9.0 pH units

c. The mass-based effluent limitations are based on the flow rate of 0.720 MGD, and are calculated as follows: Flow (MGD) X Concentration (mg/L) X 8.34 (conversion factor) = lbs/day.

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

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

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

Pursuant to section 122.44(k), this Order requires the Discharger to develop, implement, and submit a Storm Water Management Plan (SMP) to outline site-specific management processes for minimizing storm water runoff contamination and for preventing contaminated storm water runoff from being discharged to the receiving water. At a minimum, the management practices should ensure that trash

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is not entrained in storm water discharges, and unauthorized non-storm water discharges do not occur from the Facility. The SMP will serve as the equivalent of technology based effluent limitations, in the absence of established ELGs, in order to carry out the purposes and intent of the CWA.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

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

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

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the 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. Applicable beneficial uses for the receiving water included the Basin Plan and Ocean Plan are summarized in section III.C.1 and section III.C.3 of this Fact Sheet. The Basin Plan and Ocean Plan include both narrative and numeric water quality objectives applicable to the receiving water.

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

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

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

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

d. Daily maximum objectives for acute and chronic toxicity.

3. Determining the Need for WQBELs

The need for effluent limitations based on water quality objectives in Table 1 of the Ocean Plan was evaluated in accordance with section 122.44(d) and guidance for statistically determining the "reasonable potential" for a discharged pollutant to exceed an objective, as outlined in the California Ocean Plan Reasonable Potential Analysis (RPA) Amendment that was adopted by the State Water Board on September 15, 2009. The statistical approach combines knowledge of effluent variability (as estimated by a coefficient of variation) with the uncertainty due to a limited amount of effluent data to estimate a maximum effluent value at a high level of confidence. This estimated maximum effluent value is based on a lognormal distribution of daily effluent values. Projected receiving water values (based on the estimated maximum effluent value or the reported maximum effluent value and minimum probable initial dilution), can then be compared to the appropriate objective to determine the potential for an exceedance of that objective and the need for an effluent limitation.

The water quality objectives contained in the Ocean Plan for pollutants that were detected at concentrations above the ML or were previously limited in Order R4-2011-0165-A01 are summarized in the table below.

Table F-8. Ocean Plan Water Quality Objectives in µg/L

Parameter	6-Month Median	Daily Maximum	Instantaneous Maximum	30-Day Average
Antimony	--	--	--	1,200
Arsenic	8	32	80	--
Cadmium	1	4	10	--
Chromium (III)	--	--	--	190,000
Chromium (VI)	2	8	20	--
Chronic Toxicity	--	1 TUc	--	--
Copper	3	12	30	--
Lead	2	8	20	--
Mercury	0.04	0.16	0.4	--
Nickel	5	20	50	--
Silver	0.7	2.8	7	--
Zinc	20	80	200	--
Bis(2-ethylhexyl) Phthalate	--	--	--	3.5
Tributyltin	--	--	--	0.0014

According to the 2015 Ocean Plan, the 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

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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.

a. Minimum Initial Dilution for Ocean Plan Table 1 Pollutants

The implementation provisions for Table 1 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.

The comingled wastewaters are discharged from the Facility into a concrete trough and cascades from the trough 15 vertical feet through the rip-rap where it meets the seawater surface. The effluent mixes with the seawater over a horizontal distance of 24 to 42 feet before emerging from the rip-rap at the shoreline. An analysis of dilution for discharges from Pebbly Beach Desalination Plant was conducted by the State Water Board using U.S. EPA's Model *Prych, Davis, Shirazi model for Windows* (PDSWIN) (May 18, 2001, Memorandum from State Water Board). PDSWIN was developed to estimate dilution of tributary channels entering into larger water bodies. While the geometry of the Pebbly Beach Desalination Plant discharge is not consistent with the discharge type typically modeled using PDSWIN, the model was selected as the best representation available to staff at the time. The model was configured to estimate dilution commencing at the ocean surface and does not provide any credit for momentum induced mixing as the effluent impinges on the seawater surface. The model also does not take into consideration any wave or tidal action that could increase mixing through turbulent flow within the seawall. For these reasons, the model predictions are expected to be conservative in nature.

The variables and assumptions used while modeling the discharge are specified in a letter from the State Water Board to Regional Board Staff dated May 18, 2001. The State Water Board found that rapid initial dilution is occurring at the point of discharge. The State Water Board and Regional Water Board, based on the data provided, concluded that a dilution factor of **five** (5:1) is applicable for this discharge. The mixing zone is defined as the water column immediately adjacent to and within the rip-rap seawall where initial mixing occurs. The area immediately adjacent to the seawall is defined as the portion of ocean waters extending approximately 3 feet from the edge of the rip-rap. This permit utilized the dilution factor (Dm) of 5:1 as the minimum probable initial dilution expressed as parts seawater per part wastewater to calculate the effluent limitations for Ocean Plan Table 1 pollutants applicable to discharges at Discharge Point 001 (see Section IV.C.4).

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b. RPA for Ocean Plan Table 1 Pollutants

Order R4-2011-0165 was effective on October 6, 2011. The Facility did not have discharges until May 2013. Effluent data submitted to the Regional Water Board for the period from May 2013, through September 2018, for Discharge Point 001 were considered for the RPA. The dilution credit applicable to the ocean outfall of 5:1 was used 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 1 water quality objective for copper, chromium VI, mercury, zinc, and chronic toxicity.

Based on the evaluation using the RPcalc 2.2 software tool the discharge does not demonstrate reasonable potential for eight Table 1 parameters which resulted in Endpoint 2. Order R4-2011-0165-A01 included WQBELs for bis(2-ethylhexyl)phthalate. Because the RPA result for this parameter was Endpoint 2, the effluent limitations are discontinued in this Order. This Order includes monitoring requirements for bis(2-ethylhexyl)phthalate.

For many of the Table 1 parameters, the sampling events yielded non-detects which resulted in Endpoint 3 using the RPcalc 2.2 software tool. Endpoint 3 means the RPA was inconclusive. The Ocean Plan indicates monitoring for the pollutant is required and also indicates any existing effluent limitation for a pollutant shall be retained in the renewed permit. Order R4-2011-0165-A01 did not include effluent limits for parameters which yielded an Endpoint 3 in the RPA; therefore, for all parameters displaying Endpoint 3, this Order includes monitoring requirements instead of effluent limitations.

For tributyltin, the MLs associated with the analytical procedures used were greater than the Ocean Plan Table 1 objective. The Ocean Plan does not contain MLs associated with approved methods for tributyltin. Effluent monitoring data available during the term of Order R4-2011-0165 and Order R4-2011-0165-A01 include five detected concentrations out of 46 results. All five detections had laboratory qualifiers of “detected but not quantifiable (DNQ)” to indicate that these were estimated values, whereby the actual concentrations were somewhere below the minimum level and above the method detection level. Some of the tributyltin values reported were higher than the Ocean Plan Table 2 objective. A common source of tributyltin is anti-fouling paint applied to boat hulls. Although its use has been banned, legacy contributions may still exist in the ocean waters. Because of the uncertainty of the detected concentrations of tributyltin and the fact that some concentrations were above the objectives, the Regional Water Board relied on Step 13 of the Ocean Plan RPA protocol to determine reasonable potential for tributyltin. Step 13 allows the Regional Water Board to consider other information to conduct an RPA in order to be protective of beneficial uses. Order R4-2011-0165-A01 included effluent limitations for tributyltin based on RPA Trigger 1. Because of the

uncertainty associated with the detected concentrations, there is insufficient information to determine if tributyltin is no longer a concern in the discharge, therefore, this Order retains the effluent limitation for tributyltin.

A summary of the RPA results is provided in the table below:

Table F-9. RPA Results Summary

Pollutant	Units	n[1]	MEC[2,3]	Most Stringent Criterion	Background[4]	RPA Endpoint[5]
Objectives for Protection of Marine Aquatic Life						
Arsenic, Total Recoverable	µg/L	71	1.7	8	3	Endpoint 2
Cadmium, Total Recoverable	µg/L	68	0.28	1	0	Endpoint 2
Chromium (Hexavalent), Total Recoverable	µg/L	70	16	2	0	Endpoint 1
Copper, Total Recoverable	µg/L	85	75	3	2	Endpoint 1
Lead, Total Recoverable	µg/L	69	3.5	2	0	Endpoint 2
Mercury	µg/L	70	2.3	0.04	0.0005	Endpoint 1
Nickel, Total Recoverable	µg/L	70	14	5	0	Endpoint 2
Selenium, Total Recoverable	µg/L	71	0.4	15	0	Endpoint 2
Silver, Total Recoverable	µg/L	71	1.2	0.7	0.16	Endpoint 2
Zinc, Total Recoverable	µg/L	77	220	20	8	Endpoint 1
Cyanide	µg/L	0	[6]	1	0	Endpoint 3
Total Chlorine Residual	µg/L	0	[6]	2	0	Endpoint 3
Ammonia	µg/L	0	[6]	600	0	Endpoint 3
Acute Toxicity	µg/L	0	[6]	0.3	0	Endpoint 3
Chronic Toxicity	µg/L	5	>20	1	0	Endpoint 1
Phenolic Compounds (non-chlorinated)[7]	µg/L	5	<0.16	30	0	Endpoint 3
Chlorinated Phenolics[8]	µg/L	11	<0.01	1	0	Endpoint 3
Endosulfan	µg/L	5	<0.008	0.009	0	Endpoint 3
Endrin	µg/L	5	<0.0028	0.002	0	Endpoint 3
HCH[9]	µg/L	0	[6]	0.004	0	Endpoint 3
Objectives for Protection of Human Health - Non-Carcinogens						
Acrolein	µg/L	7	<2.2	220	0	Endpoint 3
Antimony	µg/L	7	0.36	1200	0	Endpoint 3
Bis(2-chloroethoxy) methane	µg/L	12	<0025	4.4	0	Endpoint 3
Bis(2-chloroisopropyl) ether	µg/L	12	<0.38	1200	0	Endpoint 3
Chlorobenzene	µg/L	12	<0.21	570	0	Endpoint 3
Chromium (III)	µg/L	64	13	190,000	0	Endpoint 2
Di-n-butyl-phthalate	µg/L	12	0.52	3,500	0	Endpoint 3
Dichlorobenzenes	µg/L	11	<0.5	5,100	0	Endpoint 3
Diethyl phthalate	µg/L	6	<0.15	33,000	0	Endpoint 3

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Pollutant	Units	n[1]	MEC[2,3]	Most Stringent Criterion	Background[4]	RPA Endpoint[5]
Dimethyl phthalate	µg/L	6	<0.18	820,000	0	Endpoint 3
4,6-dinitro-2-methylphenol	µg/L	12	<1.7	220	0	Endpoint 3
2,4-dinitrophenol	µg/L	12	<0.18	4.0	0	Endpoint 3
Ethylbenzene	µg/L	7	<0.17	4,100	0	Endpoint 3
Fluoranthene	µg/L	6	<0.22	15	0	Endpoint 3
Hexachlorocyclopentadiene	µg/L	12	<1.5	58	0	Endpoint 3
Nitrobenzene	µg/L	6	<0.36	4.9	0	Endpoint 3
Thallium	µg/L	7	0.11	2	0	Endpoint 3
Toluene	µg/L	7	<0.22	85,000	0	Endpoint 3
Tributyltin	µg/L	79	0.0025	0.0014	0	Endpoint 1
1,1,1-trichloroethane	µg/L	12	<0.38	540,000	0	Endpoint 3
Objectives for Protection of Human Health – Carcinogens						
Acrylonitrile	µg/L	7	<1.8	0.10	0	Endpoint 3
Aldrin	µg/L	5	<0.0015	0.000022	0	Endpoint 3
Benzene	µg/L	7	<0.23	5.9	0	Endpoint 3
Benzidine	µg/L	6	<3.7	0.000069	0	Endpoint 3
Beryllium	µg/L	6	<0.039	0.033	0	Endpoint 3
Bis(2-chloroethyl) ether	µg/L	12	<0.27	0.045	0	Endpoint 3
Bis(2-ethylhexyl) phthalate	µg/L	77	5.9	3.5	0	Endpoint 2
Carbon tetrachloride	µg/L	6	<0.33	0.90	0	Endpoint 3
Chlordane	µg/L	6	<0.08	0.000023	0	Endpoint 3
Chlorodibromomethane	µg/L	0	[6]	8.6	0	Endpoint 3
Chloroform	µg/L	19	<0.25	130	0	Endpoint 3
DDT[10]	µg/L	4	<0.01	0.00017	0	Endpoint 3
1,4-dichlorobenzene	µg/L	12	<0.55	18	0	Endpoint 3
3,3'-dichlorobenzidine	µg/L	12	<1.2	0.0081	0	Endpoint 3
1,2-dichloroethane	µg/L	12	<0.24	28	0	Endpoint 3
1,1-dichloroethylene	µg/L	14	<0.39	0.9	0	Endpoint 3
Dichlorobromomethane	µg/L	12	2.2	6.2	0	Endpoint 3
Dichlorornethane	µg/L	0	ND	450	0	Endpoint 3
1,3-dichloropropene	µg/L	11	<1	8.9	0	Endpoint 3
Dieldrin	µg/L	5	<0.0021	0.00004	0	Endpoint 3
2,4-dinitrotoluene	µg/L	12	<0.18	2.6	0	Endpoint 3
1,2-diphenylhydrazine	µg/L	12	<0.25	0.16	0	Endpoint 3
Halomethanes[11]	µg/L	6	<0.26	130	0	Endpoint 3
Heptachlor	µg/L	6	0.0022	0.00005	0	Endpoint 3
Heptachlor epoxide	µg/L	6	<0.0019	0.00002	0	Endpoint 3
Hexachlorobenzene	µg/L	12	<0.49	0.00021	0	Endpoint 3
Hexachlorobutadiene	µg/L	12	<0.47	14	0	Endpoint 3
Hexachloroethane	µg/L	12	<0.52	2.5	0	Endpoint 3
Isophorone	µg/L	6	<0.21	730	0	Endpoint 3
N-nitrosodimethylamine	µg/L	6	<0.14	7.3	0	Endpoint 3

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Pollutant	Units	n[1]	MEC[2,3]	Most Stringent Criterion	Background[4]	RPA Endpoint[5]
N-nitrosodi-N-propylamine	µg/L	6	<0.26	0.38	0	Endpoint 3
N-nitrosodiphenylamine	µg/L	6	<0.19	2.5	0	Endpoint 3
PAHs[12]	µg/L	3	<0.4	0.0088	0	Endpoint 3
PCBs[13]	µg/L	4	<0.15	0.000019	0	Endpoint 3
TCDD eguivalents[14]	µg/L	4	1.42E-10	3.9x10^{-}B	0	Endpoint 3
1,1,2,2-tetrachloroethane	µg/L	12	<0.18	2.3	0	Endpoint 3
Tetrachloroethylene	µg/L	12	<0.27	2.0	0	Endpoint 3
Toxaphene	µg/L	6	<0.12	0.00021	0	Endpoint 3
Trichloroethylene	µg/L	12	<0.37	27	0	Endpoint 3
1,1,2-trichloroethane	µg/L	12	<0.25	9.4	0	Endpoint 3
2,4,6-trichlorophenol	µg/L	12	<0.22	0.29	0	Endpoint 3
Vinyl chloride	µg/L	7	<0.33	36	0	Endpoint 3

1. Number of data points available for the RPA.
2. If there is a detected value (including DNQ value), the highest reported value is summarized in the table. If there are no detected values, the lowest MDL is summarized in the table.
3. 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 (demonstrate reasonable potential).
4. As site-specific receiving water quality data are not available and in accordance with implementation procedures for Table 1 of the Ocean Plan, background seawater concentration (Cs) is set equal to zero for all Table 1 parameters except those listed in Table 3 of the Ocean Plan.
5. Endpoint 1 - RP determined, limit required, monitoring required.
   Endpoint 2 - no RP, monitoring may be established.
   Endpoint 3 - RPA was inconclusive, carry over previous limitations if applicable, and establish monitoring.
6. No Data.
7. Non-chlorinated phenolic compounds represent the sum of 2-nitrophenol; phenol; 2,4-dinnethylphenol; dinitrophenol; 2-methyl-4,6-dinitrophenol; and 4-nitrophenol.
8. Chlorinated phenolic compounds represent the sum of 2-chlorophenol; 2,4-dichlorophenol; 2,4,6- trichlorophenol; 4-chloro-3-methylphenol; and pentachlorophenol.
9. HCH shall mean the sum of alpha, beta, gamma (lindane), and delta isomers of hexachlorocyclohexane.
10. 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.
11. Halomethanes shall mean the sum of bromoform, bromomethane (methyl bromide), and chloromethane (methyl chloride).
12. 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; fluorene; indeno(1,2,3-cd)pyrene; phenanthrene; and pyrene.
13. 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.
14. 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. U.S. EPA method 1613 may be used to analyze dioxin and furan congeners.

Dioxin-TEQ (TCDD Equivalents) = Σ (C_x x TEF_x),
where: C_x = concentration of dioxin or furan congener x
TEF_x = TEF for congener x

Toxicity Equivalency Factors

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

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

4. WQBEL Calculations

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

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

Where:

Ce = the effluent limitation (µg/L)
Co = the water quality objective to be met at the completion of initial dilution (µg/L)
Cs = background seawater concentration (µg/L)
Dm = minimum probable initial dilution expressed as parts seawater per part wastewater. As discussed in section IV.C.3 above, the Dm for Ocean Plan Table 1 pollutants has been determined to be 5 by the State Water Board.

Table 3 of the Ocean Plan establishes background concentrations for some pollutants to be used when determining reasonable potential (represented as “Cs”). In accordance with Table 1 implementing procedures, Cs equals zero for all pollutants not established in Table 3. The background concentrations provided in Table 3 are summarized below:

Table F-10. Background Seawater Concentrations (Cs)

Pollutant	Background Concentration (µg/L)
Arsenic	3
Copper	2
Mercury	0.0005
Silver	0.16
Zinc	8

Order R4-2011-0165-A01 contained maximum daily and 30-day average effluent limitations for copper and zinc that were calculated using the 5:1 dilution ratio. These limitations are retained in this Order. In addition, this Order includes new effluent limitations for chromium VI and mercury calculated using the 5:1 dilution ratio. Consistent with WQOs contained in the 2015 Ocean Plan, this Order

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establishes 6-month median-, daily maximum-, and instantaneous maximum WQBELs.

Section III.C.4.j of the Ocean Plan states that the permit "*shall also specify effluent limitations in terms of mass emission rate limits*" applicable to the discharge in addition to concentration based WQBELs. This Order establishes mass emission rate effluent limitations applicable to the discharge at Discharge Point 001.

The following demonstrates how the concentration based WQBELs for copper, chromium VI, mercury, and zinc are established at Discharge Point 001:

Copper

C_e = 3 µg/L + 5 (3 µg/L – 2 µg/L) = 8 µg/L (6-Month Median)

C_e = 12 µg/L + 5 (12 µg/L – 2 µg/L) = 62 µg/L (Daily Maximum)

C_e = 30 µg/L + 5 (30 µg/L – 2 µg/L) = 170 µg/L (Instantaneous Maximum)

Chromium VI

C_e = 2 µg/L + 5 (2 µg/L – 0 µg/L) = 12 µg/L (6-Month Median)

C_e = 8 µg/L + 5 (8 µg/L – 0 µg/L) = 48 µg/L (Daily Maximum)

C_e = 20 µg/L + 5 (20 µg/L – 0 µg/L) = 120 µg/L (Instantaneous Maximum)

Mercury

C_e = 0.04 µg/L + 5 (0.04 µg/L – 0.0005 µg/L) = 0.24 µg/L (6-Month Median)

C_e = 0.16 µg/L + 5 (0.16 µg/L – 0.0005 µg/L) = 0.96 µg/L (Daily Maximum)

C_e = 0.4 µg/L + 5 (0.4 µg/L – 0.0005 µg/L) = 2.4 µg/L (Instantaneous Maximum)

Zinc

C_e = 20 µg/L + 5 (20 µg/L – 8 µg/L) = 80 µg/L (6-Month Median)

C_e = 80 µg/L + 5 (80 µg/L – 8 µg/L) = 440 µg/L (Daily Maximum)

C_e = 200 µg/L + 5 (200 µg/L – 8 µg/L) = 1,160 µg/L (Instantaneous Maximum)

Tributyltin

C_e = 0.0014 µg/L + 5 (0.0014 µg/L – 0 µg/L) = 0.0084 µg/L (30-Day Average)

5. Bacteria Limitations

The State Water Board has established standards to protect water contact recreation in coastal waters from bacterial contamination. Bacterial objectives contained in the latest amended version of the Ocean Plan, effective March 22, 2019,[3] and are a required part of this Order. Unless specifically excepted

[3] The amendment is titled, the *Amendment to the Water Quality Control Plan for Ocean Waters of California – Bacterial Provisions and Water Quality Standards Variance Policy*. It was adopted by the State Water Board on August 1, 2018 and approved by the Office of Administrative Law (OAL) on February 4, 2019, and the United

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by this Order, the discharge, by itself or jointly with any other discharge(s), shall not cause violations of the following water quality objectives. Compliance with these objectives shall be determined by samples collected at stations representative of the area within the waste field where initial dilution is completed (i.e., outside the zone of initial dilution (ZID)).

1. Bacterial Characteristics

a. State Water Board Water Contact Standard.

i. 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 (i.e., waters designated as REC -1), but including all kelp beds, the following water quality objectives shall be maintained throughout the water column.

Fecal Coliform

A 30-day geometric mean (GM) of fecal coliform density not to exceed 200 per 100 milliliters (mL), calculated based on the five most recent samples from each site, and a single sample maximum (SSM) not to exceed 400 per 100 mL

Enterococci

A six-week rolling geometric mean of *enterococci* shall not exceed 30 colony forming units (cfu) per 100 mL, calculated weekly, and a statistical threshold value (STV) of 110 cfu/100 mL shall not be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner. U.S. EPA recommends using U.S. EPA Method 1600 or other equivalent method to measure culturable enterococci.

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

b. Shellfish Harvesting Standards

At all areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the discharge shall not cause the exceedance of the following bacterial objectives throughout the water column.

The median total coliform density shall not exceed 70 per 100 ml, and not more than 10 percent of the samples shall exceed 230 per 100 ml.

States Environmental Protection Agency (U.S. EPA) on March 22, 2019 (Bacteria Provisions or Ocean Plan Amendment).

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Compliance shall be determined based on the sample results over any six-month period.

6. Salinity

The Ocean Plan section III.M.3 requires salinity receiving water limitations for all desalination facilities discharging brine into the ocean waters as follows:

(1) Discharges shall not exceed a daily maximum of 2.0 parts per thousand (ppt) above natural background salinity measured no further than 100 meters (328 ft.) horizontally from each discharge point. There is no vertical limit to this zone.

The Ocean Plan provides the following equation to be used in developing effluent limitations for salinity necessary to meet the receiving water limitation:

Ce = Co + Dm(2.0 ppt)

Ce = (2.0 ppt + Cs) + Dm(2.0 ppt)

Where:

Ce = the effluent concentration limitation, ppt
Co = the salinity concentration to be met at the completion of initial dilution
Co = 2.0 ppt + Cs
Cs = the natural background salinity, ppt
Dm = minimum probable initial dilution expressed as parts seawater per part brine discharge, (30.8:1).

a. Minimum Probable Initial Dilution for Salinity Effluent Limitation:

The Ocean Plan further specifies that in determining the minimum probable initial dilution for brine discharges, the fixed distance referenced in the initial dilution definition shall be no more than 100 meters (328 ft.). Section IV.C.3.a. of this Fact Sheet indicates that a memorandum dated May 18, 2001, from the State Water Board provided an analysis of dilution for the Facility. The analysis resulted in a dilution factor of 5 and the mixing zone was determined to extend 3 feet from the end of the rip rap at the shoreline. To determine the initial dilution at 100 meters, the field data utilized in 2001 analysis were analyzed to calculate the dilution factor (Dm) at 100 meters. Prior to the 2001 analysis, the State Water Board conducted a field study in 1991 to test the receiving water salinity. Samples were collected in the receiving water in a grid pattern centered around the point at the toe of the riprap. Samples were collected along the shore every ten meters, and away from the shore every 20 meters. The field study was conducted during an ebb tide and a flood tide on two separate days. Using the data from the 1991 field studies, and the formula shown below, Dm was calculated as 30.8 during the flood tide, and 60.9 during the ebb tide at 100 meters from the discharge point.

To calculate the effluent limitation, Equation 1 of the Ocean Plan is as follows:

Ce = Co + Dm (Co – Cs)

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Where:

Ce = the effluent concentration limit

Co = the concentration (water quality objective) to be met at the completion of initial dilution

Cs = background seawater concentration

Dm = minimum probably initial dilution expressed as parts seawater per part wastewater

The above equation can be rearranged to solve for average dilution (Dm) as follows:

Dm = (Ce – Co)/(Co – Cs)

Using this equation and data from the 1991 survey at 100 meters during flood tide (Ce = 44.01 ppt; Co = 33.76 ppt; Cs = 33.43 ppt), the average dilution is estimated as:

Dm = (44.01 – 33.76)/(33.76 – 33.43)

Dm = 30.8 at 100 meters

The Dm = 30.8 was used only for the calculation of the salinity effluent limitation.

A future modeling effort will be undertaken by the Discharger to update the assumptions and modeling approach consistent with the 2015 Amendment to the California Ocean Plan Addressing Desalination Facility Intakes and Brine Discharges (State Water Board Resolution 2015-0033). This permit may be modified to incorporate future modifications to the Dm and salinity effluent limitation upon completion of the modeling study.

b. Calculation of the Salinity Effluent Limitation

Using the Ocean Plan equation to calculate the salinity effluent limitation (Ce):

Ce = Co + Dm(2.0 ppt)

Where: Co = 2 ppt + Cs

Using a Dm of 30.8 and Cs = 33.34 ppt (see Section IV.C.6.c. below), the effluent limitation for salinity is as follow:

Ce = 2 ppt + Cs + 30.8(2.0 ppt)

Ce = 2 ppt + 33.34 ppt + 30.8(2.0 ppt)

Ce = 96.94 ppt

Determination of Natural Background Salinity

Natural background salinity is the salinity at a location that results from naturally occurring processes and is without apparent human influence. The Ocean Plan provides two approaches for the determination of natural background salinity. One approach allows the use of the mean monthly natural background to make

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the determination. This approach states in part that the "*[m]ean monthly natural background salinity shall be determined by averaging 20 years of historical salinity data in the proximity of the proposed discharge location and at the depth of the proposed discharge, when feasible."* Alternatively, as set forth in the Ocean Plan, "the regional water board may approve the use of the actual salinity at a reference location, or reference locations, that is representative of natural background salinity at the discharge location. The reference locations shall be without apparent human influence, including wastewater outfalls and brine discharges."

On January 29, 2018, the Discharger submitted the Work Plan entitled "Pebbly Beach Desalination Plant Brine Dilution Study Work Plan, June 2016, Revised April 2017, August 2017, October 2017, and January 2018" (Work Plan) to the Regional Water Board. The Work Plan utilized the second approach set forth in the Ocean Plan which uses actual salinity data from a reference location that is representative of natural background salinity at the discharge location. In a letter dated March 30, 2018, the Regional Water Board determined the use of this method for determining the natural background salinity complied with the requirements in the Ocean Plan for purposes of establishing a salinity effluent limitation for the discharge from the Pebbly Beach Desalination Facility.

The Discharger evaluated data from a number of sites within the Southern California Bight. The Discharger determined that the Scripps Pier Shore Station appears to be the most feasible proximal reference location to establish natural background salinity representative of the Facility's discharge location. The Discharger performed analysis of the daily mean surface and bottom salinity at the Scripps Pier Shore Station for the most recent 20-year period. The statistical analysis indicated a 20-year average salinity of 33.52 parts per thousand (ppt) with a standard deviation of 0.18 ppt. The Work Plan concluded that based on the statistical analysis, the ocean area generally described as the Southern California Bight, including Pebbly Beach Desalination Plant, can be represented by a single natural background salinity value of 33.52 ppt. Regional Water Board and State Water Board (collectively Water Boards) staff reviewed the Work Plan and determined that it appears to comply with the requirements in the Ocean Plan. Water Board staff determined a natural background salinity of 33.34 ppt (i.e., 33.52 - 0.18 = 33.34 ppt, where 0.18 is the standard deviation of the average salinity at the Scripps Pier Shore Station, discussed above) must be used to conduct a dilution study model to assess both current and future (i.e., expanded) operations for the facility's discharge. Using a natural background salinity of 33.34 ppt instead of 33.52 ppt is a conservative approach that may account for regional differences in salinity between the Scripps Pier and the discharge location for Pebbly Beach Desalination Plant. Therefore, the natural background salinity of 33.34 ppt is utilized to calculate the salinity effluent limitation.

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7. Whole Effluent Toxicity (WET)

Whole Effluent Toxicity (WET) testing detects the aggregate toxic effect on the receiving waters from a mixture of pollutants in the effluent or pollutants that are not typically monitored. 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 a sublethal endpoint such as reproduction or growth in addition to mortality. A constituent present at low concentrations may exhibit a chronic effect; however, a higher concentration of the same constituent may be required to produce an acute effect.

The Ocean Plan addresses the application of chronic and acute toxicity requirements based on the minimum initial dilution factor for ocean discharges. In accordance with the Ocean Plan, dischargers are required to conduct chronic toxicity monitoring with minimum initial dilution factors below 100:1 at the edge of the mixing zone. The minimum initial dilution (Dm) for Discharge Point 001 is 5:1, which is below 100:1. Consistent with the Ocean Plan, this Order requires only chronic toxicity monitoring for the effluent, as chronic toxicity is a more stringent requirement than acute toxicity, and it evaluates the mortality endpoint as does the acute toxicity testing.

The RPA result for chronic toxicity was Endpoint 1. The Ocean Plan RPA procedures indicate that for Endpoint 1, an effluent limitation is required and monitoring is required. Therefore, an effluent limitation and monitoring for chronic toxicity are included in this Order.

The Ocean Plan establishes a daily maximum chronic toxicity objective of 1.0 TUc = 100/(No Observed Effect Concentration (NOEC)) using a 5-concentration hypothesis test, and a daily maximum acute toxicity objective of 0.3 TUa = 100/LC50 using a point estimate model. This Order evaluates chronic toxicity using the Test of Significant Toxicity (TST) hypothesis testing statistical approach. This statistical approach is consistent with the Ocean Plan in that it provides the maximum protection to the environment, since it more reliably identifies acute and chronic toxicity than the current NOEC hypothesis-testing approach (See California Ocean Plan, Section III.F and Appendix I).

In June 2010, U.S. EPA published a guidance document titled *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (U.S. EPA 833-R-10-003, June 2010), in which they recommend the following: “Permitting authorities should consider adding the TST approach to their implementation procedures for analyzing valid WET data for their current NPDES WET Program.” The TST statistical approach is another statistical option for analyzing valid WET test data. Use of the TST statistical approach does not result in any changes to U.S. EPA’s WET test methods. Section 9.4.1.2 of U.S. EPA’s *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (U.S. EPA/600/R-95- 136), recognizes that, “the statistical methods recommended in this manual are not the only possible methods of statistical analysis.” The TST statistical approach can be applied to acute (survival) and chronic (sublethal) endpoints and is appropriate to use for both freshwater and marine WET test methods.

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The TST's null hypothesis for chronic toxicity is:

H_0: Mean response (In-stream Waste Concentration (IWC) in % effluent) ≤ (0.75 x mean response (Control)).

Results obtained from a chronic toxicity test are analyzed using TST statistical approach and an acceptable level of chronic toxicity is demonstrated by rejecting the null hypothesis and reporting "Pass" or "P". Chronic toxicity results are expressed as "Pass or 'Fail" and "% Effect". The MDEL for chronic toxicity is exceeded and a violation will be flagged when a chronic toxicity test, analyzed at the IWC using the TST statistical approach, results in "Fail". During a calendar month, exactly three independent toxicity tests are required when one toxicity test results in "Fail".

The chronic toxicity IWC for Discharge Point 001 is 100/(5.0+1) = 17 percent effluent. A chronic toxicity violation was reported on February 22, 2018. Consistent with the Ocean Plan the Regional Water Board included chronic toxicity effluent limitations and monitoring requirements.

This Order includes chronic toxicity effluent limitations and monitoring requirements with analysis using the TST statistical method.

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8. Final WQBELs

a. Table F-11 summarized the WQBELs:

Table F-11. Summary of Final WQBELs at Discharge Point 001

Pollutant	Units	6-Month Median	Average Monthly (30-day Average)	Maximum Daily	Instantaneous Maximum
Salinity[1]	ppt	--	--	96.94	--
Chronic Toxicity[2]	Pass or Fail, % Effect	--	Pass[3]	Pass or % Effect <50	--
Copper, TR[5]	µg/L	8	--	62	170
Copper, TR	lbs/day	0.048	--	0.37	1.0
Chromium (VI)[5]	µg/L	12	--	48	120
Chromium (VI)	lbs/day	0.072	--	0.29	0.7
Mercury, TR[5]	µg/L	0.24	--	0.96	2.4
Mercury, TR	lbs/day	0.0014	--	0.0058	0.014
Zinc, TR[5]	µg/L	80	--	440	1,160
Zinc, TR	lbs/day	0.48	--	2.6	7.0
Tributyltin[5]	µg/L	--	0.0084	--	--
Tributyltin	lbs/day[4]	--	5.0×10^{-5}	--	--

[1] The maximum daily effluent salinity in part per thousand (ppt) shall not exceed an effluent concentration (Ce) limit equal to:

Ce = Co + Dm(2.0 ppt)

Ce = (2.0 ppt + Cs) + Dm(2.0 ppt)

Where: Ce = the effluent concentration limit, ppt

Co = the salinity concentration to be met at the completion of initial dilution = 2.0 ppt + Cs
Cs = the natural background salinity, 33.34 ppt (See Fact Sheet – Section IV.C.6.c).
Dm = minimum probable initial dilution expressed as parts seawater per part brine discharge.
For this Permit, the salinity Dm = 30.8:1 (See Section IV.C.6.a. of this Fact Sheet).

2. "Pass" or "Fail" for Median Monthly Effluent Limitation (MMEL). "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL). The MMEL for chronic toxicity shall only apply when there is a discharge more than one day in a calendar month period. During such calendar months, up to three independent toxicity tests are required when one toxicity test results in "Fail".
3. This is a Median Monthly Effluent Limitation.
4. TR = Total Recoverable. Effluent limitations for this constituent are based on the Ocean Plan using initial dilution ratios of 5 parts of seawater to 1 part effluent (5:1) See Section IV.C.3.a. of this Fact Sheet.

b. Additional WQBELs at Discharge Point 001 are the following:

1. Bacteria Limitations:

i. Total Coliform - The median of total coliform density shall not exceed 70 per 100 ml, and not more than 10 percent of the samples shall exceed 230 per 100 ml. Compliance shall be determined based on sample results over any six-month period.

ii. Fecal Coliform - The fecal coliform density shall not exceed: (a) a 30-day geometric mean of 200 per 100 ml, calculated based on the five most recent samples, and (b) a single sample maximum of 400 per 100 ml.

iii. Enterococci - The enterococci density shall not exceed; (a) a six-week rolling geometric mean not to exceed 30 colony forming units per 100 milliliters, calculated weekly, and (b) a statistical threshold value of 110 colony forming units per 100 milliliters by more than 10 percent of the samples collected in a calendar month, calculated in a static manner

2. Temperature Limitations:

The temperature effluent limitations for the discharge are as follows:

i. The maximum temperature of thermal waste discharges shall not exceed the natural temperature of the receiving waters by more than 20 degrees Fahrenheit.

ii. The discharge of elevated temperature wastes shall not result in increases in the natural water temperature exceeding 4°F at the shoreline, the surface of any ocean substrate, or 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.

3. pH Limitations:

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The pH of wastes discharged shall at all times be within the range of 6.0 to 9.0 pH units.

c. The mass-based effluent limitations emission rates (lbs/day) are based on the flow rate of 0.720 MGD and are calculated as follows: Flow (MGD) X Concentration (mg/L) X 8.34 (conversion factor) = lbs/day.

D. Final Effluent Limitation Considerations

1. Anti-Backsliding Requirements

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

Section 402(o)(2)(B) states that effluent limitations may be less stringent in instances when information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance. Bis(2-ethyllhexyl) phthalate displayed Endpoint 2 (i.e., did not show reasonable potential to cause or contribute to an excursion above water quality objectives) and has therefore been relaxed pursuant to this exception. Effluent monitoring data collected from May 2013 through September 2018 was evaluated for reasonable potential in accordance with Ocean Plan procedures. The results based on this recent data indicated there was no reasonable potential for detected concentrations of bis(2-ethylhexyl) phthalate to cause or contribute to an exceedance of a water quality objective. Therefore, removal of the effluent limitation is appropriate and consistent with CWA section 402(o)(2)(B)(i) and the revision complies with the protocol established to determine if an effluent limitation is required.

In the alternative, removal of this effluent limitation is allowed pursuant to CWA Section 303(d)(4). First, the effluent limitation for bis(2-ethylhexyl) phthalate is a WQBEL that was adopted by the State of California and submitted to, and approved by, USEPA. Second, the receiving water into which the effluent discharges is an attainment water for bis(2-ethylhexyl) phthalate. Stated another way, the quality of the water equals or exceeds levels necessary to protect the designated uses, and it meets water quality standards for bis(2-ethylhexyl) phthalate. Finally, the revision is consistent with antidegradation policies, as set forth below. Relaxation of the effluent limitation will not result in a violation of any applicable criteria or water quality objective. Thus, the revision is justified under both CWA section 402(o) and section 303(d)(4)(B). Nonetheless, this Order retains effluent monitoring for this pollutant, in accordance with the Ocean Plan.

Existing and newly established effluent limitations were established based on Ocean Plan procedures and objectives. As such, the protection afforded under this

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Order results in an equal level of protection of beneficial uses as was provided in Order R4-2011-0165-A01.

2. Antidegradation Policies

40 CFR section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16. Resolution 68-16 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 Regional Water Board's Basin Plan and the Ocean Plan implements, and incorporates by reference, both the state and federal antidegradation policies. Specifically, the Ocean Plan Purpose and Authority indicates "The Board finds further that this plan shall be revised at least every three years to guarantee that the current standards are adequate and are not allowing degradation to marine species or posing a threat to public health." As such, compliance with the standards set forth in the Ocean Plan will ensure the discharge does not create degradation of marine species, including demersal fish, benthic invertebrate, or attached algae. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge.

The Ocean Plan allows temporary exceedances of water quality objectives within the zone of initial dilution. As discussed in sections IV.B and IV.C of this Fact Sheet, this Order contains technology-based effluent limitations for TSS, turbidity, oil and grease, settleable solids, and pH based on the Ocean Plan; it also includes WQBELs for pH, temperature, chromium VI, chronic toxicity, copper, mercury, zinc, and tributyltin at Discharge Point 001 consistent with the Ocean Plan. The cumulative effect of all effluent limitations and other requirements included in this Order is to ensure that applicable water quality objectives of the receiving water will be attained outside of the zone of initial dilution, thereby protecting the beneficial uses of the receiving water. The final limitations in this Order, which include concentration based and mass-based limitations, hold the discharger to performance levels that will not cause or contribute to water quality impairment or degradation. The removal of the effluent limitation for bis(2-ethyhexyl) phthalate will not allow degradation of the receiving water because this pollutant did not show reasonable potential to cause or contribute to an excursion above water quality objectives. Therefore, the permitted discharge is consistent with the antidegradation provision of section 131.12 and State Water Board Resolution 68-16.

3. Mass-based Effluent Limitations

Generally, mass-based effluent limitations ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limitations. 40 CFR section 122.45(f)(1) requires that all permit limitations, standards or prohibitions be expressed in terms of mass units except under the following conditions: (1) for pH, temperature, radiation or other pollutants that cannot appropriately be expressed by mass limitations; (2) when applicable standards or

limitations are expressed in terms of other units of measure; or (3) if in establishing technology-based permit limitations on a case-by-case basis under 40 CFR section 125.3, limitation based on mass are infeasible because the mass or pollutant cannot be related to a measure of production, and permit conditions ensure that dilution will not be used as a substitution for treatment.

Mass based effluent limitations are established using the following formula:

Mass (lbs/day) = flow rate (MGD) x 8.34 x effluent limitation (mg/L)
where: Mass = mass limitation for a pollutant (lbs/day)
Effluent limitation = concentration limit for a pollutant (mg/L)
Flow rate = discharge flow rate (MGD)

Mass-based effluent limitations applicable to Discharge Point 001 are calculated based on a total combined permitted discharge flow of 0.720 MGD. Compliance of these mass-based effluent limitation shall be met at the effluent through Discharge Point 001, as measured at the Effluent Monitoring Location EFF-001.

4. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD, TSS, oil and grease, settleable solids, and turbidity. Restrictions on BOD, TSS, oil and grease, settleable solids, and turbidity are discussed in section IV.B of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

Water quality-based effluent limitations have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. The procedures for calculating the individual water quality-based effluent limitations are based on the Ocean Plan, which became effective on January 26, 2016. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and federal law. Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

5. Summary of Final Effluent Limitations for Discharge Point 001:

a. Table F-12 summarized the final effluent limitations:

Table F-12. Summary of Final Effluent Limitations for Discharge Point 001

Pollutant	Units	6-month median	Average Monthly	7-Day Average	Maximum Daily	Instantaneous Maximum	Rationale
Biochemical Oxygen Demand	mg/L	--	20	--	60	--	Existing, Best Professional Judgement
Biochemical Oxygen Demand	lbs/day	--	120	--	360	--	

Pollutant	Units	6-month median	Average Monthly	7-Day Average	Maximum Daily	Instantaneous Maximum	Rationale
Oil and Grease	mg/L	--	10	--	15	--	Existing, Best Professional Judgement
Oil and Grease	lbs/day	--	60	--	90	--	
Total Suspended Solids (TSS)	mg/L	--	50	--	150	--	Existing, Best Professional Judgement
Total Suspended Solids (TSS)	lbs/day	--	300	--	901	--	
Salinity[1]	parts per thousand	--	NA	--	96.94	--	Ocean Plan
Chronic Toxicity[2]	Pass or Fail, % Effect	--	Pass[3]	--	Pass or % Effect < 50	--	Best Professional Judgement, Test of Significant Toxicity Approach
Settleable Solids	milliliter per Liter	--	0.1	--	0.3	--	Existing, Best Professional Judgement
Turbidity	NTU	--	50	100	150	--	Existing, Best Professional Judgement, Ocean Plan
Copper, TR[4]	µg/L	8	--	--	62	170	Existing, Ocean Plan
Copper, TR	lbs/day	0.048	--	--	0.37	1.0	
Chromium (VI)[5]	µg/L	12	--	--	48	120	Ocean Plan
Chromium (VI)	lbs/day	0.072	--	--	0.29	0.7	
Mercury, TR[5]	µg/L	0.24	--	--	0.96	2.4	Ocean Plan
Mercury, TR	lbs/day	0.0014	--	--	0.0058	0.014	
Zinc, TR[5]	µg/L	80	--	--	440	1,160	Existing, Ocean Plan
Zinc, TR	lbs/day	0.48	--	--	2.6	7.0	
Tributyltin[9]	µg/L	--	0.0084	--	--	--	Existing, Ocean Plan
Tributyltin	lbs/day	--	5.0×10^{-5}	--	--	--	

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1. The maximum daily effluent salinity (ppt) shall not exceed an effluent concentration (Ce) limit equal to:

   Ce = Co + Dm(2.0 ppt)

   Ce = (2.0 ppt + Cs) + Dm(2.0 ppt)

   Where: Ce = the effluent concentration limit, ppt

   Co = the salinity concentration to be met at the completion of initial dilution = 2.0 ppt + Cs

   Cs = the natural background salinity, 33.34 ppt (See Fact Sheet – Section IV.C.6.c).

   Dm = minimum probable initial dilution expressed as parts seawater per part brine discharge. For this Permit Dm = 30.8:1 (See Fact Sheet – Section IV.C.6.a.).

2. "Pass" or "Fail" for Median Monthly Effluent Limitation (MMEL). "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL). The MMEL for chronic toxicity shall only apply when there is a discharge more than one day in a calendar month period. During such calendar months, up to three independent toxicity tests are required when one toxicity test results in "Fail".

3. This is a Median Monthly Effluent Limitation.
4. TR = Total Recoverable. Effluent limitations for this constituent are based on the Ocean Plan using initial dilution ratios of 5 parts of seawater to 1 part effluent (5:1) See Section IV.C.3.a. of this Fact Sheet.

b. Additional final effluent limitations at Discharge Point 001 are the following:

1. Bacteria Limitations

i. Total Coliform - The median of total coliform density shall not exceed 70 per 100 milliliters, and not more than 10 percent of the samples shall exceed 230 per 100 milliliters. Compliance shall be determined based on sample results over any six-month period.

ii. Fecal Coliform - The fecal coliform density shall not exceed: (a) a 30-day geometric mean of 200 per 100 milliliters, calculated based on the five most recent samples, and (b) a single sample maximum of 400 per 100 milliliters.

iii. Enterococci - The enterococci density shall not exceed; (a) a six-week rolling geometric mean not to exceed 30 colony forming units per 100 milliliters, calculated weekly, and (b) a statistical threshold value of 110 colony forming units per 100 milliliters by more than 10 percent of the samples collected in a calendar month, calculated in a static manner.

2. Temperature Limitations:

The temperature effluent limitations for the discharge are as follows:

i. The maximum temperature of thermal waste discharges shall not exceed the natural temperature of the receiving waters by more than 20 degrees Fafrenheit.

ii. The discharge of elevated temperature wastes shall not result in increases in the natural water temperature exceeding 4°F at the shoreline, the surface of any ocean substrate, or 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

3. pH Limitations:

The pH of wastes discharged shall at all times be within the range of 6.0 to 9.0 pH units.

c. The mass-based effluent limitations emission rates (lbs/day) are based on the flow rate of 0.720 MGD and are calculated as follows: Flow (MGD) X Concentration (mg/L) X 8.34 (conversion factor) = lbs/day.

E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Specifications – Not Applicable

G. Recycling Specifications – Not Applicable

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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 (40 CFR section 131.12) and State Water Board Resolution No. 68-16. Receiving water limitations in this Order are included to ensure protection of beneficial uses of the receiving water and are based on the water quality objectives contained in the Ocean Plan. If there is reasonable potential as demonstrated by a reasonable potential analysis during permit development, then WQBELs are included in this Order to ensure protection of those water quality standards.

B. Groundwater – Not Applicable

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR section 122.42, are provided in Attachment D to this order. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR section 122.42.

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

B. Special Provisions

1. Reopener Provisions

These provisions are based on 40 CFR part 123 and the previous Order. The Regional Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new federal regulations, modification in toxicity requirements, or adoption of new regulations by the State Water Board or Regional Water Board, including revisions to the Basin Plan and/or Ocean Plan. This Order also includes a reopener to address the planned expansion of the Facility and results of the brine modeling study.

2. Special Studies and Additional Monitoring Requirements

a. Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan. This provision is based on section III.C.10 of the Ocean Plan. This Order requires the Discharger to develop a Toxicity Reduction Evaluation (TRE)

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Workplan. In addition, if effluent toxicity testing consistently result in "Fail" as specified in this Order, the Discharger shall conduct a TRE as detailed in section V of the MRP (Attachment E). The TRE will help the Discharger identify the possible source(s) of toxicity. The Discharger shall take all reasonable steps to reduce toxicity.

b. Compliance Demonstration for Plant 1 and Plant 2 Operating in Series. In 2016, the Discharger completed installation of additional RO units that are able to more efficiently produce potable water. The additional units do not affect the effluent flow rate. The improved efficiency may result in a more concentrated brine discharge when Plant 1 and Plant 2 are operated in series. In order to determine the impact of this new mode of operation on the effluent quality, the Regional Water Board requires the Discharger to conduct a study to determine compliance for this mode of operation. The Discharger shall submit to this Regional Water Board a Workplan within 90 days of the effective date of this permit. The Workplan shall describe the actions/timelines to be taken to conduct a study to assess efficiency for this new mode of operation. The workplan shall include information including but not limited to this RO mode of operation evaluation, procedures on information and data acquisition, facility performance evaluation, and effluent monitoring representative of the discharge during this mode of operation.

3. Best Management Practices and Pollution Prevention

a. Storm Water Management Plan.

i. Storm Water Management Pan (SMP). This Order requires the Discharger to develop and update, as necessary, and continue to implement an SMP. The SMP will outline site-specific management processes for minimizing storm water runoff contamination and for preventing trash and contaminated storm water runoff from being discharged directly into the receiving water. At a minimum, the management practices should ensure that raw materials and chemicals do not come into contact with storm water runoff and should prevent the entrainment of trash in storm water that is discharged to the receiving water.

4. Construction, Operation, and Maintenance Specifications

a. This provision is based on the requirements of 40 CFR section 122.41(e).

5. Other Special Provisions – Not Applicable

6. Compliance Schedules – Not Applicable

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

CWA section 308 and 40 CFR sections 122.41(h), (j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections

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13267 and 13383 also authorize the Regional 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 – Not Applicable

B. Effluent Monitoring

1. The 2015 Ocean Plan Appendix III includes a model monitoring framework for point sources, and non-point sources. Based on Appendix III, core monitoring, described as "basic, site-specific monitoring necessary to measure compliance with individual effluent limits and/or impacts to receiving water quality, is required for Ocean Plan Table 1 constituents". Section 5.1 of Appendix III specifies a minimum of annual monitoring frequency for Table 1 pollutants in discharges less than 10 MGD. The monitoring frequency for Table 1 pollutants at Discharge Point 001 in Order R4-2011-0165-A01 is once per year or more frequent. Data collected from monitoring of Table 1 parameters without effluent limitations is necessary to evaluate reasonable potential for the discharge to cause or contribute to an exceedance of applicable water quality objectives contained in the Ocean Plan.
2. The monitoring frequency for several Table 1 pollutants and MTBE in Order R4-2011-0165-A01 was once per semi-annual period that was carried over from the previous Order R4-2006-0068. During the period of May 2013 through September 2018, these constituents were not detected in the effluent using sufficiently sensitive analytical methods. As such, this Order reduces the monitoring frequency of Table 1 parameters that were not detected from once per semi-annual period to once per year.
3. For the discharge of wastewater from flushing the seawater supply pipelines, the frequency of monitoring is once per discharge for bacteria, pH, oil and grease, BOD, TSS, turbidity, settleable solids, temperature, copper, mercury, zinc, and tributyltin to determine compliance with the effluent limitations. The monitoring frequency for chronic toxicity and the remaining Table 1 parameters of once per year is consistent with the core monitoring protocol outlined in the Ocean Plan and it has been included to determine reasonable potential.
4. Since this Order no longer includes effluent limitations for bis(2-ethylhexyl) phthalate, the monitoring frequency for this parameter is reduced from once per month to once per year as part of the Table 1 parameter scans.
5. This Order includes new monitoring requirements for total chlorine residual at Monitoring Location EFF-001. Discharges from the Facility may include chlorinated/dechlorinated water from in-line water quality analyzers. This Order requires monitoring of residual chlorine at a frequency of once per week to determine reasonable potential.

6. The Facility occasionally discharges filter backwash and potable product water. The Facility chlorinates at a point prior to these processes and chlorine residual may be present in these discharges. This Order includes new monitoring requirements for total chlorine residual during discharge events of filter backwash and product water to determine reasonable potential.

7. The monitoring frequency for several Table 1 pollutants (i.e., Pesticides, PCBs, PAHs, TCDD Equivalents) in Order R4-2011-0165-A01 was once per two years and once per five years, respectively. This Order includes a monitoring frequency for these Table 1 parameters of once per year and is consistent with the core monitoring protocol outlined in the Ocean Plan. It has been included to determine reasonable potential.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth. A chemical at a low concentration can have chronic effects but no acute effects. For this permit, chronic toxicity in the discharge is evaluated using U.S. EPA's 2010 TST hypothesis statistical approach. The chronic toxicity effluent monitoring requirements are as stringent as necessary to protect the Ocean Plan Water Quality Objective for chronic toxicity.

Section III.C.3.c.(4) of the Ocean Plan requires dischargers to conduct chronic toxicity testing if the minimum initial dilution of the effluent is below 100:1. The Facility has an initial dilution ratio of 5 to 1 for chronic toxicity. Therefore, this Order includes monitoring requirements for chronic toxicity in the MRP (Attachment E).

D. Receiving Water Monitoring

1. Surface Water

The monitoring requirements implement the Ocean Plan and follow the monitoring guidance in Appendix III (Standard Monitoring Procedures) of the Ocean Plan. Receiving water monitoring requirements are included in the MRP (Attachment E) to determine compliance with the receiving water limitations established in this Order.

2. Groundwater – Not Applicable

E. Other Monitoring Requirements – Not Applicable

VIII. PUBLIC PARTICIPATION

The Regional Water Board has considered the issuance of WDRs that will serve as an NPDES permit for Southern California Edison Company, Pebbly Beach Desalination Plant. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs and has encouraged public participation in the WDR adoption process.

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A. Notification of Interested Persons

The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through the following: email and local newspaper; relevant documents to the tentative permit was also available on the Regional Water Board website.

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

B. Written Comments

Interested persons were invited to submit written comments concerning tentative WDRs as provided through the notification process. Comments were required to be submitted either in person or by mail to the Executive Officer at the Regional Water Board at 320 West 4th Street, Suite 200, Los Angeles, CA 90013, or by email to losangeles@waterboards.ca.gov with a copy to Rosario.Aston@waterboards.ca.gov.

To be fully responded to by staff and considered by the Regional Water Board, the written comments were due at the Regional Water Board office by **5:00 p.m.** on **November 18, 2019**.

C. Public Hearing

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

Date: **December 12, 2019**
Time: **9:00 AM**
Location: **To be determined** (see the following link for the location: https://www.waterboards.ca.gov/losangeles/board_info/meetings/)

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

You can access the current agenda for changes in dates and locations at http://www.waterboards.ca.gov/losangeles. Please be aware that dates and venues may change.

D. Reconsideration of Waste Discharge Requirements

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

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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 (ROWD), tentative WDRs, comments received, and other supporting documents are on file and the electronic copies may be assessed in the CIWQS database or on the Los Angeles Regional Water Quality Control Board website at www.waterboards.ca.gov/losangeles. Hard copies may be inspected at the Regional Water Board's office at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Viewing and copying of documents may be arranged through the Regional Water Board by calling (213) 576-6600.

F. Register of Interested Persons

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

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Rosario Aston at Rosario.Aston@waterboards.ca.gov or at (213) 576-6653.

ATTACHMENT G – STATE WATER BOARD MINIMUM LEVELS

The Minimum Levels identified in this attachment 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 & PCBs. “No Data” is indicated by “

TABLE II-1
MINIMUM LEVELS – VOLATILE CHEMICALS

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

Table II-1 Notes

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

* To determine the lowest standard concentration in an instrument calibration curve for these techniques, use the given ML (see Ocean Plan, Chapter III, “Use of Minimum Levels”).**TABLE II-2**

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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]
Acenaphthylene	208968	--	10	0.2	--
Anthracene	120127	--	10	2	--
Benzidine	92875	--	5	--	--
Benzo(a)anthracene	56553	--	10	2	--
Benzo(a)pyrene	50328	--	10	2	--
Benzo(b)fluoranthene	205992	--	10	10	--
Benzo(g,h,i)perylene	191242	--	5	0.1	--
Benzo(k)fluoranthene	207089	--	10	2	--
Bis2-(1-Chloroethoxy) methane	111911	--	5	--	--
Bis(2-Chloroethyl)ether	111444	10	1	--	--
Bis(2-Chloroisopropyl)ether	39638329	10	2	--	--
Bis(2-Ethylhexyl) phthalate	117817	10	5	--	--
2-Chlorophenol	95578	2	5	--	--
Chrysene	218019	--	10	5	--
Di-n-butyl phthalate	84742	--	10	--	--
Dibenzo(a,h)-anthracene	53703	--	10	0.1	--
1,2-Dichlorobenzene (semivolatile)	95504	2	2	--	--
1,3-Dichlorobenzene (semivolatile)	541731	2	1	--	--
1,4-Dichlorobenzene (semivolatile)	106467	2	1	--	--
3,3-Dichlorobenzidine	91941	--	5	--	--
2,4-Dichlorophenol	120832	1	5	--	--
1,3-Dichloropropene	542756	--	5	--	--
Diethyl phthalate	84662	10	2	--	--
Dimethyl phthalate	131113	10	2	--	--
2,4-Dimethylphenol	105679	1	2	--	--
2,4-Dinitrophenol	51285	5	5	--	--
2,4-Dinitrotoluene	121142	10	5	--	--
1,2-Diphenylhydrazine	122667	--	1	--	--
Fluoranthene	206440	10	1	0.05	--
Fluorene	86737	--	10	0.1	--
Hexachlorobenzene	118741	5	1	--	--
Hexachlorobutadiene	87683	5	1	--	--
Hexachlorocyclopentadiene	77474	5	5	--	--
Hexachloroethane	67721	5	1	--	--
Indeno(1,2,3-cd)pyrene	193395	--	10	0.05	--
Isophorone	78591	10	1	--	--
2-methyl-4,6-dinitrophenol	534521	10	5	--	--
3-methyl-4-chlorophenol	59507	5	1	--	--
N-nitrosodi-n-propylamine	621647	10	5	--	--
N-nitrosodimethylamine	62759	10	5	--	--
N-nitrosodiphenylamine	86306	10	1	--	--
Nitrobenzene	98953	10	1	--	--
2-Nitrophenol	88755	--	10	--	--
4-Nitrophenol	100027	5	10	--	--
Pentachlorophenol	87865	1	5	--	--
Phenanthrene	85018	--	5	0.05	--
Phenol	108952	1	1	--	50

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Semi-Volatile Chemicals	CAS Number	Minimum* Level (µg/L)			
		GC Method[a]	GCMS Method[b]	HPLC Method[c]	COLOR Method[d]
Pyrene	129000	--	10	0.05	--
2,4,6-Trichlorophenol	88062	10	10	--	--

Table II-2 Notes

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

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

TABLE II-3
MINIMUM* LEVELS – INORGANICS

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

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Table II-3 Notes

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

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

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

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

Table II-4 Notes

a) GC Method = Gas Chromatography

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

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