California Regional Water Quality Control Board
San Diego Region

Response to Comments Report

Tentative Order No. R9-2023-0011
NPDES No. CA0109282

Waste Discharge Requirements
for Southern California Edison Company,
Discharge to the Pacific Ocean
Related to the Decommissioning of
San Onofre Nuclear Generating Station,
San Diego County

April 12, 2023

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This report was prepared by
Joann Lim, *Water Resource Control Engineer*

under the direction of
Laurie Walsh, P.E., *Supervising Water Resource Control Engineer*
Brandi Outwin-Beals, P.E., *Senior Water Resource Control Engineer*

INTRODUCTION

This report contains the California Regional Water Quality Control Board, San Diego Region's (San Diego Water Board's) responses to written comments received from the following interested parties and persons on Tentative Order No. R9-2023-0011, NPDES No. CA0109282, *Waste Discharge Requirements for Southern California Edison Company, Discharge to the Pacific Ocean Related to the Decommissioning of San Onofre Nuclear Generating Station, San Diego County* (Tentative Order).

The San Diego Water Board provided public notice of the release of the Tentative Order on February 2, 2023, and provided a period of at least 30 days for public review and comment on the Tentative Order. The public comment period ended on March 6, 2023.

Written comments were received from:

1. Louis Bosch, P.E., Oceanside, CA.
2. Sara Catalan, President and CEO, Orange County Taxpayers Association.
3. Shaobin Fan, Electromagnetic Systems Group (GA-EMS), General Atomics.
4. Jack Gazza, Accident Tolerant Fuel (DOE), Program Manager, Nuclear Technologies and Materials Division, General Atomics.
5. Ivan Ivanov, Sciences Manager, General Atomics.
6. Katherine Partain, Chair, San Diego Section of the American Nuclear Society.
7. Bryan Starr, President and CEO, Greater Irvine Chamber.
8. Mandy Sackett, California Policy Coordinator, Surfrider Foundation; Katie Day, Environmental Scientist, Surfrider Foundation; and Garry Brown, Founder/Executive Director, Orange County Coastkeeper.

Comments and Responses

The summarized written comments and San Diego Water Board responses are set forth below. If applicable, the section of the Tentative Order the comment pertains to is shown in parenthesis in each comment below. The responses include a description of any actions taken to revise the Tentative Order in response to the comment. Changes to the Tentative Order are show in red-underline for added text and ~~red strikeout~~ for deleted text.

COMMENTS AND RESPONSES

1. Comments from:

- Louis Bosch, P.E., Oceanside, CA, dated March 2, 2023.
- Sara Catalan, President and CEO, Orange County Taxpayers Association, dated March 3, 2023.
- Shaobin Fan, Electromagnetic Systems Group (GA-EMS), General Atomics, dated March 2, 2023.
- Jack Gazza, Accident Tolerant Fuel (DOE), Program Manager, Nuclear Technologies and Materials Division, General Atomics, dated March 6, 2023.
- Ivan Ivanov, Sciences Manager, General Atomics, dated March 2, 2023.
- Katherine Partain, Chair, San Diego Section of the American Nuclear Society, dated March 4, 2023.
- Bryan Starr, President and CEO, Greater Irvine Chamber, dated March 6, 2023.

Comment

The above commenters support the adoption of the Tentative Order and consider the discharge an important part of the decommissioning of the San Onofre Nuclear Generating Station (SONGS or Facility).

Response

Comment noted.

2. Comments from Mandy Sackett, California Policy Coordinator, Surfrider Foundation; Katie Day, Environmental Scientist, Surfrider Foundation; and Garry Brown, Founder/Executive Director, Orange County Coastkeeper.

2a. Comment – Effluent Monitoring (Attachment E, section 3.2, Table E-6)
Sampling two times per year fails to provide any characterization of discharges and their impacts to one of the state's most heavily used beaches and surfing locations, attracting millions of visitors each year. Indeed, San Onofre State Beach is directly adjacent to the SONGS ocean outfall. Personal safety must be the standard for issuing discharge permits and designing sampling requirements. Cost of sampling is not within the Water Board's mission or regulations and should not dictate requirements.

- Semiannual testing of ocean discharges is inadequate at location EFF-002. We suggest a minimum of monthly testing.
- Noncompliance of any testing parameter should trigger more frequent daily testing until the exceedance is resolved, including Table E-6.

Response

The San Diego Water Board agrees that additional monitoring is warranted for parameters that have been assigned effluent limitations and has modified the Tentative Order accordingly.

The Water Quality Control Plan for Ocean Waters of California (Ocean Plan), Appendix III, *Standard Monitoring Procedures*, section 5.1, *Chemical Constituents*, *Point Sources* states, "Consistent with Appendix VI, the core monitoring for the substances in Table 3 and Table 4 shall be required periodically. … Discharges greater than 10 MGD shall be required to monitor at least semiannually."

The discharges from SONGS have decreased significantly since SONGS ceased power operations on June 7, 2013, and continue to decrease as Southern California Edison Company (Discharger) decommissions, decontaminates, and dismantles SONGS. The Discharger has ceased all discharges from SONGS Unit 3, all discharges of metal cleaning waste, and all discharges from the intake structure sump, reducing the total volume of internal discharges by 47 percent. The Tentative Order prohibits the total combined discharge of wastewater through Discharge Point No. 002 (Unit 2 outfall) in excess of 42.252 million gallons per day (MGD). However, the actual daily flows have been significantly lower than the prohibition. In 2022, the daily flows ranged from 0 MGD to 25.8 MGD, with an average daily flow of 9.8 MGD.

Given the standard monitoring procedures from the Ocean Plan, the permitted flow, and the decreasing flow rates from SONGS, increasing the monitoring frequency from semiannual to quarterly is appropriate to ensure the effluent is meeting the effluent limitations.

Also, in response to this comment and to ensure that compliance is being adequately assessed, the San Diego Water Board has also added a footnote to Table E-6 for all the parameters with effluent limitations, except for chronic toxicity, that will increase the monitoring frequency to monthly if an effluent limitation is exceeded.

Modifications to the Tentative Order:

Attachment E, section 3.2, Table E-6 has been modified as follows:

Table E-6. Final Effluent Monitoring (EFF-002)[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow (Average and Maximum Daily)	MGD	Recorder/Totalizer	Continuous	--
Total Residual Chlorine	µg/L	Grab	Weekly[2,3]	As required under 40 CFR part 136.
Turbidity	NTU	Grab	Monthly	As required under 40 CFR part 136.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	standard units	Grab	Monthly	As required under 40 CFR part 136.
Chronic Toxicity	Toxic Units Chronic (TUc)	Composite	Quarterly	As required under 40 CFR part 136.
Arsenic	µg/L, lbs/day	Grab	Quarterly[3] ~~Semiannually~~	As required under 40 CFR part 136.
Cadmium, Total Recoverable	µg/L, lbs/day	Grab	Quarterly[3] ~~Semiannually~~	As required under 40 CFR part 136.
Chromium (hexavalent), Total Recoverable [34]	µg/L, lbs/day	Grab	Quarterly[3] ~~Semiannually~~	As required under 40 CFR part 136.
Copper, Total Recoverable	µg/L, lbs/day	Grab	Quarterly[3] ~~Semiannually~~	As required under 40 CFR part 136.
Lead, Total Recoverable	µg/L, lbs/day	Grab	Quarterly[3] ~~Semiannually~~	As required under 40 CFR part 136.
Mercury, Total Recoverable	µg/L, lbs/day	Grab	Quarterly[3] ~~Semiannually~~	As required under 40 CFR part 136.
Nickel, Total Recoverable	µg/L, lbs/day	Grab	Semiannually	As required under 40 CFR part 136.
Selenium, Total Recoverable	µg/L, lbs/day	Grab	Quarterly[3] ~~Semiannually~~	As required under 40 CFR part 136.
Silver, Total Recoverable	µg/L, lbs/day	Grab	Quarterly[3] ~~Semiannually~~	As required under 40 CFR part 136.
Zinc, Total Recoverable	µg/L, lbs/day	Grab	Semiannually	As required under 40 CFR part 136.
Cyanide, Total (as CN) [45]	µg/L, lbs/day	Grab	Quarterly[3] ~~Semiannually~~	As required under 40 CFR part 136.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Ammonia, Un-ionized (as Nitrogen)	mg/L, lbs/day	Grab	Quarterly[3] ~~Semiannually~~	As required under 40 CFR part 136.
Phenolic compounds[1] (non-chlorinated)	µg/L, lbs/day	Grab	Quarterly[3] ~~Semiannually~~	As required under 40 CFR part 136.
Chlorinated phenolics[1]	µg/L, lbs/day	Grab	Quarterly[3] ~~Semiannually~~	As required under 40 CFR part 136.
Endosulfan[1]	µg/L, lbs/day	Grab	Quarterly[3] ~~Semiannually~~	As required under 40 CFR part 136.
Endrin	µg/L, lbs/day	Grab	Quarterly[3] ~~Semiannually~~	As required under 40 CFR part 136.
HCH[1]	µg/L, lbs/day	Grab	Quarterly[3] ~~Semiannually~~	As required under 40 CFR part 136.

Notes for Table E-6

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
2. Monitoring for total residual chlorine is only required if the Discharger is chlorinating the discharge.
3. The minimum frequency of monitoring for this constituent shall increase from quarterly to monthly, if any analysis for this constituent yields a result higher than the applicable effluent limitation specified in this Order. The increased minimum frequency of monitoring shall remain in effect until the results of at least four consecutive analyses for this constituent are below all applicable effluent limitations specified in this Order.
4. The Discharger may, at their option, meet this effluent limitation as a total chromium effluent limitation and monitor for total recoverable chromium in lieu of total recoverable chromium (III) or total recoverable chromium (hexavalent).
45. If a Discharger can demonstrate to the satisfaction of USEPA and the State Water Board that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations may be evaluated with the combined measurement of free cyanide, simple alkali metals cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 CFR part 136.

Attachment F, section 7.1.2. has been modified as follows:

7.1.2.4. For Monitoring Location EFF-002, this Order increases the monitoring frequency for parameters that have been assigned effluent limitations from semiannually to quarterly to ensure the effluent is meeting the effluent limitations.

7.1.2.5. For Monitoring Location EFF-002, this Order adds a trigger to increase the monitoring frequency from quarterly to monthly for any parameter that exceeds effluent limitations to ensure that compliance is being adequately assessed.

7.1.2.6. As stated in section 3.3.6. of this Fact Sheet, the San Diego Water Board has determined that the Thermal Plan no longer applies to this Order. Therefore, this Order removes the requirements to monitor the temperature at the discharge (Discharge Point No. 002/Monitoring Location EFF-002) and influent (Monitoring Locations INF-002 and INF-003).

2b. Comment – Bacterial Indictor Monitoring (Attachment E, section 5) Currently, ocean testing only monitors pH, temperature, and dissolved oxygen but neglects to test for other pollutants.

- Ocean sampling for fecal indicator bacteria should be added to monitor for accumulation of toxicants in the marine environment. Those should especially focus on near shore areas with high recreational use at San Onofre State Beach.

Response

The San Diego Water Board agrees that indicator bacteria monitoring in the receiving water is warranted and has modified the Tentative Order accordingly.

Ocean Plan, Appendix III, section 4.1 states, “core monitoring shall be conducted in receiving water on the shoreline for the indicator bacteria at a minimum weekly for any point sources discharging treated sewage effluent:
a. within one nautical mile of shore, or
b. within one nautical mile of a commercial shellfish bed, or
c. if the discharge is in excess of 10 million gallons per day (MGD).”

The SONGS Unit 2 diffuser (Discharge Point No. 002) starts at 5,888 feet offshore (approximately 0.98 nautical mile offshore). Because the discharge is within 1 nautical mile from the shore, the San Diego Water Board has modified the Tentative Order to add indicator bacteria monitoring for the receiving water in response to this comment.

Modifications to the Tentative Order:

The following has been added to Attachment E, section 4 and subsequent sections have been renumbered, as needed:

4.7 Indicator Bacteria Monitoring

Indicator bacteria monitoring is necessary to answer the following questions:

(1) Does the effluent comply with the water quality standards in the receiving water?

(2) Does the sewage effluent reach water contact zones or commercial shellfish beds?

The Discharger shall conduct weekly monitoring for fecal coliform and enterococci. The Discharger shall submit to the San Diego Water Board within 180 days after the effective date of this Order, an Indicator Bacteria Monitoring Work Plan to implement the indicator bacteria monitoring program.

The following has been added to Attachment E, Table E-9:

Report	Location of requirement	Due Date
Indicator Bacteria Monitoring Work Plan	Section 4.7 of this MRP	Within 180 days after the effective date of this Order

The following has been added to Attachment F, section 7.2:

Based on the requirements in the Ocean Plan, Appendix III, section 4.0, this Order adds indictor bacteria monitoring to this Order.

2c. Comment – Sediment/Benthic/Bioaccumulation Monitoring (Attachment E, section 5)

Currently, ocean testing only monitors pH, temperature, and dissolved oxygen but neglects to test for other pollutants.

- Ocean sampling for toxicity and heavy metals should be added to monitor for accumulation of toxicants in the marine environment. Those should especially focus on near shore areas with high recreational use at San Onofre State Beach.
- Nearshore or onshore sediment sampling should be added for accumulated buildup of metals and toxicants of concern to ensure safety of nearby recreational uses.

Response

The San Diego Water Board agrees that sediment, benthic community health, and bioaccumulation monitoring are warranted and has modified the Tentative Order accordingly. Although the discharges from SONGS have decreased

significantly since SONGS ceased power operations on June 7, 2013, the Ocean Plan, Appendix III, sections 6, 8, and 9 requires:

- Annual sediment monitoring for acid volatile sulfides, organophosphorus insecticides, Ocean Plan Table 3 metals, ammonia-nitrogen, polynuclear aromatic hydrocarbons, and chlorinated hydrocarbons for discharges greater than 10 MGD (Ocean Plan, Appendix III, section 6.1);
- Benthic community monitoring once per permit cycle for all discharges greater than 10 MGD (Ocean Plan, Appendix III, section 8.1); and
- Bioaccumulation monitoring once per permit cycle for all discharges greater than 10 MGD for pesticides, Table 3 metals, and polynuclear aromatic hydrocarbons (Ocean Plan, Appendix III, section 9.1).

Modifications to the Tentative Order:

The following has been added to Attachment E, section 4 and subsequent sections have been renumbered, as needed:

4.8 Sediment Monitoring

Sediment monitoring is necessary to answer the following questions:

(1) Is the dissolved sulfide concentration of waters in sediments significantly increased above that present under natural conditions?

(2) Is the concentration of substances set forth in Table 3 of the Ocean Plan, for protection of marine aquatic life, in marine sediments at levels which would degrade the benthic community?

(3) Is the concentration of organic pollutants in marine sediments at levels that would degrade the benthic community?

Acid volatile sulfides, organophosphorus insecticides, Ocean Plan Table 3 metals, ammonia-nitrogen, polynuclear aromatic hydrocarbons, and chlorinated hydrocarbons shall be measured in sediments annually. The Discharger shall submit to the San Diego Water Board within 180 days after the effective date of this Order, a Sediment Monitoring Work Plan to implement the sediment monitoring program. The Sediment Monitoring Work Plan is not required if the Discharger is fulfilling the sediment monitoring required in this section by participating in a regional monitoring program, as described in this MRP, section 5.2, *Southern California Bight Monitoring Program Participation Requirements*.

4.9 Benthic Community Health Monitoring

Benthic community health monitoring is necessary to answer the following question:

(1) Are benthic communities degraded as a result of the discharge?

The Discharger shall conduct benthic community health monitoring at least once during the permit term. The Discharger shall submit to the San Diego Water Board within 180 days after the effective date of this Order, a Benthic Community Health

Monitoring Work Plan to implement the benthic community health monitoring program. The Benthic Community Health Monitoring Work Plan is not required if the Discharger is fulfilling the benthic community health monitoring required in this section by participating in a regional monitoring program, as described in this MRP, section 5.2, *Southern California Bight Monitoring Program Participation Requirements*.

4.10 Bioaccumulation Monitoring

Bioaccumulation monitoring is necessary to answer the following questions:

(1) Does the concentration of pollutants in fish, shellfish, or other marine resources used for human consumption bioaccumulate to levels that are harmful to human health?

(2) Does the concentration of pollutants in marine life bioaccumulate to levels that degrade marine communities?

The Discharger shall conduct bioaccumulation monitoring at least once during the permit term. Constituents to be monitored must include pesticides (at the discretion of the San Diego Water Board), Ocean Plan Table 3 metals, and polynuclear aromatic hydrocarbons. Bioaccumulation may be monitored by a mussel watch program or a fish tissue program. Resident mussels are preferred over transplanted mussels. Sand crabs and/or fish may be added or substituted for mussels at the discretion of the San Diego Water Board. The Discharger shall submit to the San Diego Water Board within 180 days after the effective date of this Order, a Bioaccumulation Monitoring Work Plan to implement the bioaccumulation monitoring program. The Bioaccumulation Monitoring Work Plan is not required if the Discharger is fulfilling the bioaccumulation monitoring required in this section by participating in a regional monitoring program, as described in this MRP, section 5.2, *Southern California Bight Monitoring Program Participation Requirements*.

4.~~7~~11. Reporting

A report containing detailed analyses of the previous year's receiving water monitoring data required in section 4 of this MRP and impingement/entrainment monitoring required in section 6.1 of this MRP shall be submitted to the San Diego Water Board by August 1 of each year. Each section of the report shall contain a graphical and written summary of historical data with the goal of displaying long term trends.

4.~~8~~12. California Environmental Data Exchange Network

In addition to submitting SMRs, the Discharger shall also ensure that all the receiving water monitoring results are submitted to the California Environmental Data Exchange Network (CEDEN) or an equivalent database that is linked to CEDEN annually by August 1. Any data not accepted by CEDEN is not required to be submitted. A statement certifying that all applicable monitoring results have been timely uploaded into CEDEN or an equivalent database shall be submitted annually by August 1 of each year to coincide with submission of the Annual Receiving Waters Monitoring Report.

The following has been added to Attachment E, Table E-9:

Report	Location of requirement	Due Date
Sediment Monitoring Work Plan	Section 4.8 of this MRP	Within 180 days after the effective date of this Order
Benthic Community Health Monitoring Work Plan	Section 4.9 of this MRP	Within 180 days after the effective date of this Order
Bioaccumulation Monitoring Work Plan	Section 4.10 of this MRP	Within 180 days after the effective date of this Order
Annual Receiving Water Monitoring Report	Section 4.~~7~~11 of this MRP	Annually no later than August 1
California Environmental Data Exchange Network Data Submittal Certification	Section 4.~~8~~12 of this MRP	Annually no later than August 1

The following has been added to Attachment F, section 7.2:

Based on the requirements in the Ocean Plan, Appendix III, sections 6, 8, and 9, this Order adds:

- Annual sediment monitoring for acid volatile sulfides, organophosphorus insecticides, Ocean Plan Table 3 metals, ammonia-nitrogen, polynuclear aromatic hydrocarbons, and chlorinated hydrocarbons (Ocean Plan, Appendix III, section 6.1);
- Benthic community monitoring once per permit cycle (Ocean Plan, Appendix III, section 8.1); and
- Bioaccumulation monitoring once per permit cycle for pesticides, Table 3 metals, and polynuclear aromatic hydrocarbons (Ocean Plan, Appendix III, section 9.1).