

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

TIME SCHEDULE ORDER NO. R4-2017-YYYY

**REQUIRING THE CITY OF REDONDO BEACH
(SEASIDE LAGOON)
TO COMPLY WITH REQUIREMENTS PRESCRIBED IN
ORDER NO. R4-2017-XXXX
(NPDES PERMIT NO. CA0064297)**

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

1. The Seaside Lagoon Facility (Seaside Lagoon or Facility) is located at 200 Portofino Way, Redondo Beach, California, and is owned and operated by the City of Redondo Beach (hereinafter the Permittee or Discharger). The Facility is a city park that includes a 1.4 million gallon, man-made, saltwater swimming lagoon. Other features include artificial beaches, play areas, and a snack bar. Water for the Lagoon comes from the Redondo Beach Generating Station (RBGS or Power Plant) where the seawater collected from King Harbor is used to cool turbines.
2. The Facility discharges wastewater to King Harbor, a water of the United States, and is currently regulated by Order R4-2017-XXXX adopted by the Regional Board on June 1, 2017. Order No. R4-2017-XXXX serves as a National Pollutant Discharge Elimination System (NPDES) permit (NPDES No. CA0064297) and it expires on July 31, 2022. From the discharge manhole, up to 3.072-3 MGD (same as the inflow to the Lagoon) of dechlorinated effluent from the overflow structures or the Lagoon drain valve is discharged to King Harbor via Discharge Point 001. Discharge Point 001 consists of a pipe that extends underneath a rock revetment for approximately 60 feet, terminating in King Harbor, a water of the United States. Sampling must be conducted when there is a discharge and during low tide conditions (and/or when the water level in the vault is below the effluent discharge pipe) based on data provided by the National Oceanic and Atmospheric Administration's (NOAA), Station No. 9410840 (Santa Monica, CA). During high tide conditions, the sampling vault would be almost completely inundated with sea water and the effluent pipe would be completely submerged. Therefore, the grab samples collected during high tide will not be representative of the effluent from the Facility.

Seaside Lagoon is open to the public for swimming from Memorial Day through Labor Day. Discharges mainly occur during this period. However, the Discharger occasionally allows the use of the Facility for social functions outside of the normal operating period which would also result in discharges.

3. Water for the Lagoon comes from the RBGS where the seawater collected from King Harbor is used to cool turbines. The RBGS is located at 1100 Harbor Drive, Redondo Beach. The RBGS is owned and operated by AES Redondo Beach, LLC. RBGS currently operates four steam generating units (Units 5 – 8). Four other steam units (Units 1-4) have been retired but remain at the facility. The RBGS is a “peak-demand” generation facility and as such operates intermittently.

When operated at design capacity, the RBGS discharges up to 898 MGD of once-through non-contact cooling water through two discharge outfalls (Outfall 001 discharges to Pacific Ocean and the second Outfall 002 discharges to King Harbor). The discharges are regulated under separate WDRs contained in Order No. R4-2016-0222. Approximately 3,200 gallons per minute (GPM) over a ~~1642~~-hour operating day, which is equivalent to ~~3.072~~ MGD (approximately 0.~~326~~% of the total discharge from RBGS), of the once-through cooling water (that discharges to King Harbor) is directed to the Seaside Lagoon.

4. The water supply system at Seaside Lagoon is equipped with both chlorination and dechlorination facilities. The chlorination system consists of one 1,000-gallon storage tank which holds 17 percent sodium hypochlorite; dual chemical feed pumps with manual controls and related piping. The dechlorination system consists of one 1,000-gallon storage tank which holds 38 percent bisulfite; dual chemical feed pumps with manual controls; and related piping.

The Facility injects sodium hypochlorite into the influent pipeline at a station in the western area of the property. Sodium hypochlorite is added at an amount necessary to maintain 1 part per million (ppm) of chlorine residual within the swimming area during operating hours. Facility staff determine the dose volumetrically, with adjustments made based on the results of periodic Lagoon chlorine measurements during the day.

Following chlorination, influent water is conveyed to the platform that contains piping to the Lagoon and from the Lagoon to King Harbor. The chlorinated influent is distributed throughout the Lagoon by several jets within the platform wall. The level in the Lagoon is maintained at a maximum depth of seven feet through the use of three overflow structures within the Lagoon. During Facility operation, water flows into side openings in the overflow structure and drops down within a vault. A dechlorination nozzle is affixed to the cap of the overflow structure to deliver sodium bisulfite to the surface of water within the vault. Bisulfite is added at all three overflow structures. Additional piping exists for small recreational fountains on the top of the overflow structure. Water flows by gravity through an open pipe at the bottom of the vault to a collection pipe at the platform. The Facility maintains two

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dechlorination pumps. Only one operates at any given time and the other is retained for backup.

5. Data submitted to the Regional Board by the City from 2011 to 2016 was used to determine if the discharge may cause or have a reasonable potential to cause or contribute to an excursion above any applicable priority pollutant criteria or water quality objective (reasonable potential). Data submitted for copper, selenium, silver, thallium, and zinc (collectively referred to as metals) demonstrated reasonable potential. Order No. R4-2017-XXXX includes new effluent limitations for these metals based on the reasonable potential analysis. Tentative Order R4-2017-XXXX was released for a 30 day public comment period on December 7, 2016, which was subsequently extended to 45 days
6. Order No. R4-2017-XXXX prescribed effluent limitations for metals through Discharge Points 001. The final effluent limitations are:

Table 1. Final Effluent Limitations for Metals from Discharge Point 001 (Order R4-2017-XXXX)

Constituents	Units	Effluent Limitations		
		Average Monthly	Maximum Daily	Rationale ¹
Copper, Total Recoverable	µg/L	1.9	5.8	CTR/SIP
	lbs/day ²	0.050-036	0.150-11	
Selenium, Total Recoverable	µg/L	56	122	CTR/SIP
	lbs/day ²	1.41-1	3.12-3	
Silver, Total Recoverable	µg/L	0.92	2.2	CTR/SIP
	lbs/day ²	0.0240-018	0.060-042	
Thallium, Total Recoverable	µg/L	6.3	13	CTR/SIP
	lbs/day ²	0.160-12	0.330-25	
Zinc, Total Recoverable	µg/L	34	95	CTR/SIP
	lbs/day ²	0.90-65	2.41-8	

¹—CTR = California Toxic Rule; SIP = State Implementation Policy.

²⁻¹—Mass loading limitations are based on a maximum flow of ~~3.072-3~~ MGD and are calculated as follows: Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day. The mass loading limitations are applicable to Discharge Point 001.

7. On February 24, 2017, the Discharger submitted via email a request for a time schedule order (TSO) with a proposed work plan and interim effluent limitations for copper, selenium, silver, thallium, and zinc prescribed in Order No. R4-2017-XXXX. Revisions were made to the TSO request, to provide additional detail regarding the work plan, by the City and submitted to the Regional Water Board on March 8, 2017. The TSO would allow the City the time it needs to study the sources and causes of exceedances of metal limits and install, if necessary, the appropriate treatment system.

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8. The maximum effluent concentration (MEC) from the monitoring data collected was compared to the proposed effluent limits below:

Table 2 : Maximum Effluent ~~Concentration~~Limitation and Proposed Effluent Limitations

Constituents	Units	Maximum Effluent Concentration	Effluent Limitations	
			Monthly Average	Maximum Daily
Copper	µg/L	80	1.9	5.8
Selenium	µg/L	300	56	122
Silver	µg/L	38	0.92	2.2
Thallium	µg/L	22	6.3	13
Zinc	µg/L	1129	34	95

9. Based on monitoring data submitted by the Discharger for the period of 2011 to 2016, the Regional Water Board finds that the discharge to the King Harbor through Discharge Point 001 would not comply with the new effluent limitations contained in Order No. R4-2017-XXXX for copper, selenium, silver, thallium, and zinc, Accordingly, pursuant to CWC section 13300, a discharge of waste is taking place and/or threatens to take place that will violate requirements prescribed by the Regional Water Board.
10. Section 13300 of the Water Code states, in part, that:
- “Whenever a regional board finds that a discharge of waste is taking place or threatening to take place that violates or will violate requirements prescribed by the regional board, or the state board, or that the waste collection, treatment, or disposal facilities of a discharger are approaching capacity, the board may require the discharger to submit for approval of the board, with such modifications as it may deem necessary, a detailed time schedule of specific actions the discharger shall take in order to correct or prevent a violation of requirements.”
11. The Regional Water Board evaluated the request for interim limitations and determined that the discharge from the Facility cannot consistently meet new effluent limitations contained in Order No. R4-2017-XXXX for copper, selenium, silver, thallium, and zinc for the discharge of Lagoon water to King Harbor through Discharge Point 001. The Regional Water Board finds that interim limitations for these constituents are appropriate.
12. Water Code section 13385, subdivisions (h) and (i), require the Regional Water Board to impose mandatory minimum penalties upon dischargers that violate

certain effluent limitations. Section 13385(j)(3) exempts violations of an effluent limitation from mandatory minimum penalties "where the waste discharge is in compliance with either a cease and desist order issued pursuant to Section 13301 or a time schedule order issued pursuant to Section 13300, *if all of the [specified] requirements are met.*" (emphasis added).

13. As described in Finding 11 new or modified control measures may be necessary in order for the Discharger to comply with the new effluent limitations for metals (copper, selenium, silver, thallium, and zinc) prescribed in Order No. R4-2017-XXXX. New control measures cannot be designed, installed, and put into operation within 30 calendar days.
14. This TSO establishes interim effluent limitations for copper, selenium, silver, thallium, and zinc, and requires the Discharger to undertake specific actions in order to prevent or correct the discharge of waste that exceeds or threatens to exceed the final effluent limitations for these pollutants prescribed in Order No. R4-2017-XXXX. The TSO establishes a time schedule for bringing the waste discharge into compliance with the final effluent limitations that is as short as possible, taking into account the technological, operation, and economic factors that affect the design, development, and implementation of the control measures that are necessary for compliance.
15. The time schedule for completion of the action necessary to bring the waste discharge into compliance exceeds one year from the effective date of this TSO. Accordingly, this TSO includes interim requirements and the dates for their achievement. The interim requirements include interim effluent limitations and actions and milestones leading to compliance with the final effluent limitations set by Order No. R4-2017-XXXX by September 30, May 31, 2022.
16. Full compliance with the requirements of this TSO exempts the Discharger from mandatory minimum penalties only for violations of the final effluent limitations for copper, selenium, silver, thallium, and zinc in Order No. R4-2017-XXXX, pursuant to Water Code section 13385(j)(3).
17. Water Code section 13385(j)(3) requires the Discharger to prepare and implement a pollution prevention plan pursuant to Water Code section 13263.3.
18. This TSO allows the Discharger necessary time to evaluate and, if needed undertake actions to reduce the amount of copper, selenium, silver, thallium, and zinc in its waste discharge and comply with applicable effluent limitations. This Order does not modify the final effluent limitations for these pollutants set by Order No. R4-2017-XXXX. The interim effluent limitations with the compliance schedule

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included in this TSO will advance completion of necessary upgrades to control measures to reduce the pollutant concentrations in the waste discharge in a timely manner, and are therefore in the public interest.

19. The Regional Water Board has notified the Discharger, interested agencies, and persons of its intent to issue this TSO concerning compliance with waste discharge requirements. The Regional Water Board accepted written comments, and heard and considered all comments pertinent to this matter in a public hearing.
20. Issuance of this TSO is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000 et seq.) in accordance with section 15321(a), Title 14 of the California Code of Regulations (exemption from CEQA for enforcement actions) and section 15301, Title 14 of the California Code of Regulations (exemption from CEQA for existing facilities).
21. Any person aggrieved by this action of the Regional 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. Copies of the law and regulations applicable to filing petitions may be found on the Internet at http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

IT IS HEREBY ORDERED that, pursuant to Water Code section 13300, the City of Redondo Beach, as the owner and operator of the Seaside Lagoon, shall comply with the requirements listed below to ensure compliance with the final effluent limitations for copper, selenium, silver, thallium, and zinc to King Harbor contained in Order No. R4-2017-XXXX:

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1. Comply October 1, 2017, immediately with the following interim effluent limitations:

Table 3. Interim Effluent Limitations for Lagoon Discharge at Discharge Point 001

Constituents	Units	Interim Effluent Limitations ¹	
		Average Monthly	Maximum Daily
Copper, Total Recoverable	µg/L	--15	8058
	lbs/day ²	--0.29	21.11
Selenium, Total Recoverable	µg/L	--224	300286
	lbs/day ²	--4.3	7.75.5
Silver, Total Recoverable	µg/L	--.35	38
	lbs/day ²	--0.67	10.73
Thallium, Total Recoverable	µg/L	--11	2220
	lbs/day ²	--0.21	0.560.38
Zinc, Total Recoverable	µg/L	--616	1,129933
	lbs/day ²	--11.8	28.917.9

¹ The interim effluent limitations were derived from the Facility's monitoring data collected from Discharge Point 001 from 2011 to 2016. The interim daily maximum limitations are based on the maximum effluent concentrations. No interim monthly average limitation is specified. ~~99th percentile and monthly average limitations are based on 95th percentile of the monitoring data.~~

² The mass limitations in lbs/day were calculated using the concentration limits and the maximum flow rate of 3.072.3 million gallons per day (MGD);
Mass (lbs/day) = Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor)

The foregoing interim effluent limitations for, copper, selenium, silver, thallium, and zinc are in effect from October June-1, 2017, through September 30May-31, 2022. During this time, the Discharger shall investigate and implement any required upgrades to control measures to ensure compliance with the final effluent limitations for the pollutants included in Table 1 above that are contained in Order No. R4-2017-XXXX.

2. The Discharger shall comply with the tasks and schedule in Table 4 below to achieve the final effluent limits for pollutants listed in Table 1 above. The compliance schedule is based on the City's estimated time schedule for completion as proposed in the request dated February 27, 2017, and March 8, 2017, with modifications from the Regional Board.

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The compliance schedule is as follows:

Table 4. Compliance Schedule

No.	Task	Deadline
1	Evaluation of Sampling and Analysis Protocols <ol style="list-style-type: none"> Conduct assessment of Sampling & Monitoring Protocols with respect to influent & effluent sampling location, timing analysis, and laboratory procedure review to determine if current sampling locations and/or protocols lead to the observed exceedances. Effluent sampling point/tidal impact assessment will evaluate whether tidal influence leads to samples which are not representative of effluent water quality. Based on Sampling and Monitoring Protocol assessment and tidal impact assessment, modify sampling locations and/or sample handling and analysis as needed. 	October 31 September 30 , 2017 October 31 September 30 , 2017 October 31 September 30 , 2017.
2	Metals Source Identification <ol style="list-style-type: none"> Develop work plan for metals source identification including evaluation of AES discharge (including permits, operations and schematics), boaters loadings, sediments, and Open Water Source Tracking Survey for other dischargers (Chevron, Hyperion) for sources to Lagoon Conduct metals source identification study according to work plan. In conjunction with source identification study, evaluate Seaside Lagoon and Harbor circulation/ connection and associated influent and effluent impacts to provide source context for movement of metals. 	November 30 October 31 , 2017 November 30 October 31 , 2018 November 30 October 31 , 2018

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No.	Task	Deadline
	d. Submit report that quantifies sources, determines if control strategies are available, and identifies control strategies and estimated reductions that may be achieved and presents an implementation plan and schedule to achieve reductions	January 31, 2019
3.	Evaluation of Implemented Strategies a. Implement operational changes and identified feasible control strategies b. Evaluate effectiveness of control strategies modification of sampling protocols in achieving compliance.	October 31, 2019 May 31, 2020
4	Identification of Structural Modifications and Treatment Controls a. Based on effectiveness of reduction strategies in implementation plan, determine if additional strategies (e.g., treatment) are needed. b. Evaluate true impact of Lagoon discharges on receiving water to determine if effluent limit exceedances cause or contribute to receiving water exceedances. c. Evaluate impact of future development (Center Cal Development) and AES shut down on Lagoon operations and discharge quality. d. If implemented strategies do not result in compliance, identify additional operations and/or structural modifications needed to comply with effluent limits and economic feasibility of modifications e. Conduct economic feasibility assessment of the identified compliance options including	May 31, 2020 May 31, 2021 May 31, 2021 May 31, 2020 May 31, 2021

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No.	Task	Deadline
	installation of treatment system and deconstruction of seawall barrier.	
	g. Implement additional operational or structural changes in response to findings associated with economic feasibility assessment, assessment of impact of the AES shut down, and other structural or treatment changes that may be needed including the possible closure of the Lagoon	September 30 <u>May 31</u> , 2022
	h. Comply with final effluent limits	September 30 <u>May 31</u> , 2022

- Achieve full compliance with the final effluent limitations for copper, selenium, silver, thallium, and zinc, in Order No. R4-2017-XXXX, no later than ~~September 30~~May 31, 2022.
- Submit annual progress reports of efforts towards compliance with the final effluent limitations for the pollutants listed in Table 3 above. The reports shall summarize the progress to date, activities conducted during the reporting period, and the activities planned for the upcoming reporting period. Each report shall be submitted to this Regional Water Board by November 1st and include milestones completed and any new pertinent updates. The first annual progress report is due on November 1, 2018.
- Submit a final report on the results of the evaluation of the selected actions/measures by ~~November 30~~August 31, 2022. The report shall include: a) results of the study proposed by Discharger; b) a description of the actions/measures selected; c) the monitoring data collected; and d) an evaluation of the effectiveness of the selected actions/ measures.
- All technical reports required under this TSO are required pursuant to Water Code sections 13267 and 13383. The Regional Water Board needs the required information in order to determine compliance with this TSO. The burdens, including costs, of these reports bear a reasonable relationship to the needs for the reports and the benefits to be obtained from the reports.
- The Regional Board, under the authority given by Water Code section 13267(b)(1), requires a Discharger to include a perjury statement in all reports submitted under this TSO. The perjury statement shall be signed by a senior authorized

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representative (not by a consultant). The perjury statement shall be in the following format:

"I, [NAME], certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision, in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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."

8. If the Discharger fails to comply with any provision of this TSO, the Regional Water Board may take any further action authorized by law. The Executive Officer, or his/her delegate, is authorized to take appropriate administrative enforcement action pursuant, but not limited to, Water Code sections 13301, 13350 and/or 13385. The Regional Board may also refer violations to the Attorney General for judicial enforcement, including injunction and civil monetary remedies
9. All other provisions of Order No. R4-2017-XXXX, that do not conflict with this TSO, are in full force and effect.
10. This Time Schedule Order expires on September 30~~May 31~~, 2022.

I, Samuel Unger, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on June 1, 2017.

Samuel Unger, P.E.
Executive Officer

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