

**State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION**

TIME SCHEDULE ORDER NO. R4-2016-YYYY

**REQUIRING AES REDONDO BEACH, LLC
(REDONDO BEACH GENERATING STATION)
TO COMPLY WITH REQUIREMENTS PRESCRIBED IN
ORDER NUMBER R4-2016-XXXX
(NPDES PERMIT NO. CA0001201)**

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

1. AES Redondo Beach, LLC (hereinafter, Discharger or Permittee) is the owner and operator of the Redondo Beach Generating Station (hereinafter Facility), a steam electric generating facility, located at 1100 Harbor Drive, Redondo Beach, California. The Facility has a generating capacity of 1,356 megawatts (MW) and operates during peak demand. The Discharger is a subsidiary of AES Southland.
2. There are four active, steam-powered electric generating units on site (Units 5-8). Units 1-4 are no longer in service. The generating units operate using once-through-cooling (OTC) water drawn from two submerged intakes in King Harbor and one submerged intake just outside the breakwater using circulation pumps. The Facility discharges OTC water, in-plant wastewaters and groundwater seepage to the Pacific Ocean through Discharge Point 001, located off the northwest corner of the King Harbor breakwater. The Facility also discharges OTC water, in-plant wastewaters and storm water to King Harbor through Discharge Point 002, located in the southeast corner of the harbor. OTC water accounts for greater than 99 percent of the total discharge from the Facility. In-plant wastewaters, groundwater seepage and storm water are combined with OTC water prior to discharge.
3. On May 4, 2010, the State Water Resources Control Board (State Water Board) adopted a Statewide Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling (OTC Policy). The OTC Policy was approved by the Office of Administrative Law (OAL) on September 27, 2010, and became effective on October 1, 2010, when the California Environmental Quality Act Notice of Decision was submitted to the Secretary of Resources. The State Water Board amended the OTC Policy in 2011 and 2013. The OTC Policy establishes technology-based standards to implement federal Clean Water Act section 316(b) and reduce the harmful effects associated with cooling water intake structures on marine and estuarine life. All owners or operators of existing power plants were required to submit an implementation plan identifying the OTC compliance alternative selected by April 1, 2011. The Discharger submitted an implementation plan on April 1, 2011, and a revised implementation plan on June 17, 2011. Additional implementation information was submitted on March 31, 2013 and November 8, 2013. Per the submitted information, the Discharger has indicated that the proposed mechanism to bring all of its units (5, 6, 7 and 8) into OTC Policy compliance will be via Track 1, which requires a reduction in the intake flow rate and velocity at each unit to a level commensurate with that which can be attained by either a closed-cycle wet cooling system or closed-cycle dry cooling system. The Track 1 compliance will include the construction of dry-cooled

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natural gas fired combined cycle gas turbine (CCGT) power blocks. The OTC Policy includes a final compliance date of December 31, 2020 for the Facility, at which point both phases must be completed.

4. On June 9, 2016, the Regional Water Board adopted Order No. R4-2016-XXXX, which renewed the waste discharge requirements for the Redondo Beach Generating Station. Order No. R4-2016-XXXX serves as a permit under the National Pollutant Discharge Elimination System (NPDES No. CA0001201) Program and regulates the discharge of the pollutants at the Facility. The permit authorizes the discharge of up to 215 million gallons per day (MGD) of combined wastewater consisting of once-through cooling water, in-plant wastewaters and groundwater seepage into the Pacific Ocean, a water of the United States, through Discharge Point 001. The permit authorizes the discharge of up to 674 MGD of combined wastewater consisting of once-through cooling water, in-plant wastewaters and storm water to King Harbor through Discharge Point 002. Order No. R4-2016-XXXX becomes effective on August 1, 2016.
5. The Facility's prior permit (Order No. 00-085) considered the receiving waters for Discharge Point 002 (King Harbor) as ocean waters and therefore established permit limitations and conditions to protect the beneficial uses and water quality objectives (WQOs) for ocean waters as described by the California Ocean Plan (1997). The Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan), however, classifies King Harbor as an enclosed bay. The State Water Board, in a memo dated July 18, 2001, identifies the receiving waters for the Redondo Beach Generating Station Discharge Point 002 as subject to requirements of the State Implementation Policy (SIP), which is applicable only to the inland surface waters, enclosed bays and estuaries of the state. In a letter dated January 21, 2003, the Regional Water Board notified the Discharger of the reclassification of the outfall from an ocean discharge to an enclosed bay discharge. Order No. R4-2016-XXXX reflects the reclassification of the discharges from Discharge Point 002 and therefore implements the SIP for discharges from that outfall.
6. The Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan) contains temperature objectives for surface waters. The discharge from the Facility through Discharge Point 002, as presently operating, is considered an existing discharge to the enclosed bays of California per the Thermal Plan. For existing discharges to enclosed bays, Specific Water Quality Objective (WQO) 4.A.1 of the Thermal Plan states that the elevated temperature waste discharges shall comply with limitations necessary to assure protection of beneficial uses. Based on the requirements of the Thermal Plan and a white paper developed by Regional Water Board staff entitled *Temperature and Dissolved Oxygen Impacts on Biota in Tidal Estuaries and Enclosed Bays in the Los Angeles Region*, a maximum temperature effluent limitation of 86°F has been established for discharges to surface water bodies within the Los Angeles Region.
7. In compliance with the WQOs for existing discharges to enclosed bays in the Thermal Plan, and in accordance with Regional Water Board specifications, Order No. R4-2016-XXXX establishes an instantaneous maximum effluent limitation for temperature of 86°F for discharges from the Facility through Discharge Point 002. The prior permit for the Facility included a site-specific effluent limitation of 106°F that was allowed under the Thermal Plan's WQOs for existing discharges of elevated temperature wastes to coastal waters. Therefore,

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the effluent limitation for temperature for Discharge Point 002 in Order No. R4-2016-XXXX is more stringent than the effluent limitation in the Facility's prior permit for Discharge Point 002.

8. In accordance with section 1.3 of the SIP, the Regional Water Board conducted a Reasonable Potential Analysis (RPA) for each priority pollutant with an applicable criterion or objective to determine if a water quality-based effluent limitation (WQBEL) is required at Discharge Point 002. The Regional Water Board analyzed effluent and receiving water data and identified the maximum observed effluent concentration (MEC) and maximum background concentration (B) in the receiving water for each constituent. The result of the RPA was that reasonable potential exists for discharges from Discharge Point 002 to exceed applicable water quality criteria for copper and nickel (based on California Toxics Rule (CTR) criteria).
9. Pursuant to the procedures outlined in the SIP, Order No. R4-2016-XXXX prescribes more stringent concentration-based effluent limitations for copper and nickel for discharges from Discharge Point 002 as compared to the Facility's previous permit.
10. For the pollutants addressed by this Time Schedule Order (TSO), the following table provides a comparison of the effluent limitations included in Order No. 00-085 and those included in Order No. R4-2016-XXXX, for discharges from Discharge Point 002, and for those pollutants and effluent limitations addressed by this TSO:

Parameter	Units	Order No. 00-085 Limitations			Basis ¹	Order No. R4-2016-XXXX Limitations			Basis ¹
		AMEL	MDEL	Inst. Max		AMEL	MDEL	Inst. Max	
Temperature	°F	--	--	106 ²	OP, TP	--	--	86	BP, TP
Copper, Total Recoverable	µg/L	10	50	--	OP	2.1	5.8	--	CTR, SIP
Nickel, Total Recoverable	µg/L	40	160	--	OP	5.6	15	--	CTR, SIP
¹ . BP = Basin Plan; CTR = California Toxics Rule; OP = Ocean Plan; SIP = State Implementation Policy; TP = Thermal Plan ² . The temperature of wastes discharged shall not exceed 106°F during normal operation of the facility. During heat treatment, the temperature of wastes discharged shall not exceed 125°F except during adjustment of the recirculation gate at which time the temperature of wastes discharged shall not exceed: 135°F. Temperature fluctuations during gate adjustment above 125°F shall not last for more than thirty (30) minutes.									

11. On January 20, 2016, the Discharger submitted a written request to the Regional Water Board for additional time – up to December 31, 2020 – to achieve compliance with several effluent limitations contained in Order No. R4-2016-XXXX. Among other pollutants, the Discharger requested interim effluent limitations and/or a time schedule order for temperature, copper and nickel for the discharge to King Harbor through Discharge Point 002. This TSO only addresses the final effluent limitation for temperature and the final concentration-based effluent limitations for copper and nickel in Order No. R4-2016-XXXX for Discharge Point 002.

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12. California Water Code (CWC) section 13300 states:
“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.”
13. Based on recent effluent monitoring data for Discharge Point 002 the Permittee cannot consistently comply with the more stringent effluent limitation for temperature and concentration-based effluent limitations for copper and nickel contained in Order No. R4-2016-XXXX. Accordingly, pursuant to CWC section 13300, a discharge of waste is taking place and/or threatens to take place that violates requirements prescribed by the Regional Water Board.
14. CWC 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).
15. In order to comply with the temperature, copper and nickel effluent limitations for Discharge Point 002 the Discharger will cease the discharge of OTC water and in-plant wastewaters. This will be accomplished through compliance with the OTC Policy. The Regional Water Board issues this Time Schedule Order (TSO) in recognition that the Discharger needs time to complete necessary studies, and implement appropriate control measures, including the construction of dry-cooled natural gas-fired CCGT power blocks. Through this TSO, the Discharger will be required to comply with the final effluent limitation for temperature and final concentration-based effluent limitations for copper and nickel to King Harbor no later than December 31, 2020, which is the deadline for the Facility in the OTC Policy.
16. In accordance with California Water Code section 13385(j)(3), the Regional Water Board finds that: (a) the final effluent limitation for temperature and final concentration-based effluent limitations for copper and nickel for Discharge Point 002 are more stringent effluent limitations in Order No. R4-2016-XXXX, (b) the Discharger needs to implement new or modified control measures in order to comply with the more stringent temperature, copper and nickel effluent limitations, and (c) the new or modified control measures cannot be designed, installed, and put into operation within 30 calendar days.
17. A TSO is appropriate in these circumstances to allow time for the Permittee to complete facility modifications for a closed-cycle dry cooling system, which will bring the Facility into compliance with the final effluent limitation for temperature and final concentration-based effluent limitations for copper and nickel for discharge from Discharge Point 002. These facility modifications cannot be designed, installed, and put into operation within 30 calendar days. The temporary exceedances allowed by this TSO are in the public interest given the facility is a generating station utilized to supply power to the power grid and the significant environmental benefits associated with a closed-cycle dry cooling system.

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18. Since the time schedule for completion of actions necessary to bring the waste discharge into compliance exceeds one year from the effective date of this TSO, this TSO includes interim requirements and the dates for their achievement. The interim requirements include both interim effluent limitations for temperature, copper, and nickel for Discharge Point 002 and actions and milestones leading to compliance with the final effluent limitations for these pollutants at Discharge Point 002. This TSO does not exceed five years.
19. This TSO establishes interim effluent limitations for temperature, copper, and nickel and requires the Permittee to undertake specific actions to put the Permittee on the path towards compliance with the final effluent limitation for temperature and the final concentration-based effluent limitations for copper and nickel for discharges from Discharge Point 002. The established time schedule 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 to comply with the final effluent limitation for temperature and final concentration-based effluent limitations for copper and nickel.
20. The interim effluent limitation for temperature has been determined based on the current performance of the Facility. The interim effluent limitations for copper and nickel have been calculated based on a statistical analysis of data submitted by the Discharger, with the average monthly effluent limitation (AMEL) established at the 95th percentile and the maximum daily effluent limitation (MDEL) established at the 99th percentile.
21. CWC section 13385(j)(3)(D) requires the Permittees to prepare and implement a Pollution Prevention Plan (PPP) pursuant to CWC section 13263.3. Therefore a PPP will be necessary for temperature, copper, and nickel for discharges from Discharge Point 002.
22. Pursuant to CWC section 13385(j)(3), full compliance with the requirements of this TSO exempts the Permittee from mandatory minimum penalties only for violations of the final effluent limitation for temperature and final concentration-based effluent limitations for copper and nickel in the discharges from Discharge Point 002 to King Harbor contained in Order No. R4-2016-XXXX that occur while this TSO is effective.
23. This TSO concerns an existing facility and does not significantly alter the status with respect to the facility. This TSO is also being taken for the protection of the environment. Therefore, issuance of this TSO is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21100, et seq.) in accordance with sections 15301 and 15321(a)(2) of Title 14 of the California Code of Regulations (CCR).
24. The Regional Water Board has notified the Permittee and interested agencies and persons of its intent to issue this TSO concerning compliance with waste discharge requirements. The Regional Water Board, in a public hearing, heard and considered all testimony pertinent to this matter.

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25. Any person aggrieved by this action of the Regional Water Board may petition the State Water Board to review the action in accordance with CWC section 13320 and CCR, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the Regional Water Board action, except that if the thirtieth day following the action 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](http://www.waterboards.ca.gov/public_notices/petitions/water_quality) or will be provided upon request.

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IT IS HEREBY ORDERED that, pursuant to California Water Code section 13300, AES Redondo Beach, LLC, as owner and operator of the Redondo Beach Generating Station, shall comply with the requirements listed below to ensure its discharges at Discharge Point 002 comply with the final effluent limitation for temperature and final concentration-based effluent limitations for copper and nickel contained in Order No. R4-2016-XXXX:

1. Comply immediately with the following interim effluent limits for Discharge Point 002, which apply all year round, and which shall be deemed effective from July 1, 2016, to December 31, 2020:

Parameter	Units	AMEL	MDEL	Instantaneous Maximum
Temperature	°F	--	--	106 ¹
Copper	µg/L	10	34	--
Nickel	µg/L	27	27	--
¹ . The temperature of wastes discharged shall not exceed 106°F during normal operation of the facility. During heat treatment, the temperature of wastes discharged shall not exceed 125°F except during adjustment of the recirculation gate at which time the temperature of wastes discharged shall not exceed: 135°F. Temperature fluctuations during gate adjustment above 125°F shall not last for more than thirty (30) minutes.				

2. Comply with the actions and milestones as stipulated below:

No.	Task	Deadline
1.	Complete determination of the economic practicality of continued operation of Units 5-8.	May 31, 2018 ¹
2.	Eliminate the discharge of OTC water from Units 6 and 8 by permanently shutting down the units.	December 31, 2018
3.	Eliminate the discharge of OTC water from Units 5 and 7 by permanently shutting down the units.	December 31, 2020
¹ . Units 5-8 are contracted through May 31, 2018; operation beyond that date is contingent upon new contracts for capacity.		

3. Achieve full compliance with the final effluent limitation for temperature and the final concentration-based effluent limitations for copper and nickel at Discharge Point 002 as soon as possible, but no later than December 31, 2020.
4. Submit a Pollution Prevention Plan (PPP) work plan, with the time schedule for implementation, for approval of the Executive Officer no later than November 1, 2016, pursuant to CWC section 13263.3.
5. Submit semiannual progress reports of efforts taken towards compliance with the final effluent limitations for temperature, copper and nickel. The reports shall summarize the progress to date, activities conducted during the reporting period and the activities planned for the upcoming period. Each report shall be submitted to this Regional Water Board by August 15th and February 15th for the reporting period of January 1st through June 30th and July 1st through December 31st, respectively, and include milestones completed and any new pertinent updates. The first semiannual progress report is due on February 15, 2017 for the July 1, 2016 through December 31, 2016, reporting period.

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6. Any person signing a document submitted under this TSO 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.”

7. If the Permittee 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 delegee, is authorized to take appropriate enforcement action pursuant, but not limited to, CWC sections 13350 and 13385. The Regional Water Board may also refer any violations to the Attorney General for judicial enforcement, including injunction and civil monetary remedies.
8. All other provisions of Order No. R4-2016-XXXX not in conflict with this TSO are in full force and effect.
9. The Regional Water Board may reopen this TSO at its discretion or at the request of the Permittee, if warranted. Lack of progress towards compliance with this TSO may be cause for the Regional Water Board to modify the conditions of this TSO.
10. This TSO becomes effective immediately upon adoption by the Regional Water Board. This TSO expires on December 31, 2020.

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 9, 2016.

Samuel Unger, P.E., Executive Officer

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