

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

TIME SCHEDULE ORDER NO. R4-2015-YYYY

**REQUIRING NRG CALIFORNIA SOUTH LP
(MANDALAY GENERATING STATION)
TO COMPLY WITH REQUIREMENTS PRESCRIBED IN
ORDER NO. R4-2015-0201
(NPDES PERMIT NO. CA0001180)**

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

1. The NRG California South LP, (hereinafter Discharger) is the owner and operator of the Mandalay Generating Station (hereinafter Facility), a steam-electric generating facility. The Facility is located at 393 North Harbor Boulevard in Oxnard California.
2. The Facility consists of three electric generating units (Units 1, 2, and 3) with a total combined generating capacity of approximately 560 megawatts (MW). Units 1 and 2 are steam-electric generating units which use once-through cooling water and each have a rated power generation capacity of 215 MW. Unit 3 is a 130 MW simple-cycle combustion turbine unit which does not utilize once-through cooling water.
3. On October 8, 2015, the Regional Water Board adopted Order No. R4-2015-0201, which renewed the waste discharge requirements and NPDES permit for the Mandalay Generating Station. Order No. R4-2015-0201 serves as a permit under the National Pollutant Discharge Elimination System (NPDES No. CA0001180) Program and regulates the discharge of the effluents at the Facility. The permit authorizes the discharge of up to 255.3 million gallons per day (MGD) of combined wastewater consisting of once-through cooling water, internal process wastewaters, and storm water into the Pacific Ocean, a water of the United States through Discharge Point 001. Order No. R4-2015-0201 becomes effective on January 1, 2016.
4. The Facility generates internal process waste streams consisting of low volume wastes and chemical metal cleaning wastes. The chemical metal cleaning wastes are transported to an approved disposal site and no discharges of these wastes have occurred since 2001. However, the permit includes requirements regulating the discharge of the chemical metal cleaning wastes if the Discharger chooses to discharge that process waste stream.

Low volume wastes consist of boiler blowdown, boiler condensate overboard, reverse osmosis reject water, softener regeneration wastes, and equipment wash water collected in floor drains. The low volume wastes (except for boiler blowdown) are conveyed to the north and south retention basins (retention basins) for settling and stabilization. Storm water collected in the yard drains is conveyed to the retention basins and combined with other process wastewater. The internal process waste streams as well as the storm water from the retention basins are routed to combine with the once-through cooling water prior to discharge to the Pacific Ocean through Discharge Point 001. The boiler blowdown is also

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combined with other process wastewater and cooling water prior to discharge to the receiving water through Discharge Point 001. The maximum flow for the boiler blowdown is 0.227 MGD. Based on the hydraulic capacity of the retention basins outlet, a maximum flow of 0.086 MGD will be discharged from the retention basins.

5. Section 423, title 40 of the Code of Federal Regulations (40 C.F.R) provides effluent limitations, guidelines and standards (ELGs) for steam electric power generating point sources. These ELGs are applicable to this Facility. With respect to the pH, it states:

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

6. Pursuant to the ELGs at 40 C.F.R section 423, Order No. R4-2015-0201 prescribes new pH limitations of 6.0 to 9.0 for the low volume waste stream (i.e., retention basins discharge, and boiler blowdown discharge), and the chemical metal cleaning waste stream. The previous Order No. 01-057 included the same pH limitations but the limitations were applied to the final combined effluent in accordance with the 1997 California Ocean Plan. These pH limitations for the final combined effluent are retained in Order No. R4-2015-0201.
7. Order No. 01-057 required MGS to monitor pH for the low volume wastes at the in-plant monitoring locations. Monitoring data for pH for the retention basins at INT-001A ranges from 7.8 to 9.9 (the maximum pH limit of 9 units was exceeded 8 times) during the period of January 2010 to June 2015. For the boiler blowdown at INT-001B, the reported pH levels (ranges from 9.21 to 9.9) during the period of January 2010 to June 2015 were always above the instantaneous maximum of 9.0 pH units. Based on the monitoring data, the Discharger will not be able to immediately comply with the pH limits of 6 to 9 pH units for instantaneous minimum and maximum. Accordingly, pursuant to Water Code section 13300, a discharge of waste is taking place and/or threatens to take place that violates or will violate the new effluent limitations for pH prescribed by the Regional Water Board.
8. Section 13300 of the California 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."
9. On October 1, 2015, the Discharger submitted a request for a time schedule order (TSO) and preliminary work plan to implement the TSO. In the September 17, 2015, comment letter to the tentative waste discharge requirements and NPDES permit, the Discharger also requested additional time – up to July 1, 2016, to identify, design and install appropriate pH monitoring, controls and associated treatment to ensure the pH of the retention basins and the boiler blowdown discharges meet the new pH limitations. The Discharger indicated that

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the pH in the retention basins and boiler blowdown discharges will exceed the pH instantaneous maximum limit of 9.0 pH Units based on the historical monitoring data. Currently, the retention basins and boiler blowdown discharges have no pH limitations and have no pH monitoring devices or controls systems.

10. 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).
11. In order to comply with the pH limitations in the retention basins and boiler blowdown discharges, the Discharger has considered two options. One option is to redirect the boiler blowdown to the North and/or South retention basins, thereby eliminating the discrete discharge of the boiler blowdown represented as INT-001B. The Discharger will design, permit, fabricate and install tankage, and above and below grade piping to accomplish this transfer. Wastewater in the retention basins, including the boiler blowdown, would be treated to lower the pH to within 6 to 9 pH Units via acid injection or a carbon dioxide gas (CO₂) injection system prior to discharge to INT-001A. The second option is to control the pH level of the boiler blowdown prior to discharge to INT-001B, instead of directing it to the retention basins. If this option is selected, the pH control system will be designed, procured, installed and tested. Therefore, the Discharger is requesting a TSO that will allow until July 1, 2016, to implement the selected modification to meet the pH limits.
12. The Regional Water Board issues this Time Schedule Order (TSO) in recognition that the Discharger needs time to make infrastructure changes and implement appropriate control measures. Through this TSO, the Discharger will be required to comply with the final pH limitations in the retention basins discharge and/or the boiler blowdown no later than July 1, 2016.
13. In accordance with California Water Code section 13385(j)(3)(B)(i), the Regional Water Board finds that: (a) the final pH effluent limitations for the retention basins and boiler blowdown discharges is a new limitations in Order No. R4-2015-0201, (b) the Discharger needs to implement new or modified control measures in order to comply with the new pH effluent limitations, and (c) the new or modified control measures cannot be designed, installed, and put into operation within 30 calendar days.
14. This TSO includes interim limitations for pH based on the performance data. This TSO will provide the required time to make infrastructure changes and implement appropriate control measures or make necessary modifications to its operations to bring the Facility into full compliance with the final limitations for pH.
15. CWC section 13385(j)(3)(D) requires the Discharger to prepare and implement a Pollution Prevention Plan (PPP) pursuant to CWC section 13263.3.

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16. A TSO is appropriate in these circumstances to allow time the Discharger to implement necessary control measures that will bring the Facility into compliance with the final pH limitations. The installation of necessary control measures cannot be completed within 30 calendar days. The temporary pH exceedances allowed by this TSO are in the public interest given the significant environmental benefits associated with promptly achieving compliance with the final pH effluent limitations for the retention basins and boiler blowdown discharges. The TSO allows the Facility to continue to generate the power required for the residents while implementing new controls and technologies to ensure compliance with the ELGs.
17. Pursuant to CWC section 13385(j)(3), full compliance with the requirements of this TSO exempts the Discharger from mandatory minimum penalties only for violations of the final pH limitations in the retention basins discharges or in the boiler blowdown discharge (INT-001B) contained in Order No. R4-2015-0201 that occur after the effective date of this TSO.
18. 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).
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. 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 California Water Code section 13300, NRG California South LP, as the owner and operator of the Mandalay Generating Station Facility, shall comply with the requirements listed below to ensure compliance with the final effluent limitations for pH contained in Order No. R4-2015-0201:

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1. Comply immediately with the following interim effluent limitations:

Table 1. Interim Effluent Limitations

Constituents	Units	Interim Effluent Limitations	
		Instantaneous Minimum	Instantaneous Maximum
Retention Basin:			
pH	s.u.	6 ¹	9.5 ²
Boiler Blowdown:			
pH	s.u.	6 ¹	9.9 ³

¹ The effluent limitations were based on the ELGs.

² The interim effluent limitation was derived from the Facility's monitoring data collected from the retention basins obtained in January 2010 through June 2015 using the 99th percentile (instantaneous maximum).

³ The interim effluent limitation was derived from the Facility's monitoring data collected from the boiler blowdown obtained in January 2010 through June 2015 using the 99th percentile (instantaneous maximum)..

The foregoing interim effluent limitations for pH are in effect from January 1, 2016, through July 1, 2016. During this time, the Discharger shall investigate and implement any required upgrades to ensure compliance with the final effluent limitations for pH contained in Order No. R4-2015-0201.

2. Achieve full compliance with the final effluent limitations for pH in Order No. R4-2015-0201, no later than July 2, 2016.
3. Submit for approval to the Executive Officer as soon as possible, but no later than January 30, 2016, a workplan to evaluate and select actions/measures, including a feasibility study of the selected actions/measures, and implement the selected actions/measures to reduce the concentration of pH in the discharge. The workplan shall contain the following components:
 - a. A time schedule that achieves compliance with the final effluent limitations for pH as soon as possible, but no later than July 1, 2016;
 - b. A description of the actions/measures to be utilized, and
 - c. A schedule for the evaluation, design, installation or construction, and implementation of the selected actions/measures to bring Mandalay Generating Station's discharge into full compliance with the final effluent limitations for pH.
4. Submit as soon as possible, but no later than January 30, 2016, a Pollution Prevention Plan (PPP) pursuant to California Water Code section 13263.3.

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5. Submit monthly progress reports of efforts towards compliance with the final effluent limitations for pH. 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 10th of the following month, and include milestones completed and any new pertinent updates. The first monthly report covering the activities in January 2016 shall be received by the Regional Water Board by February 10, 2016.
6. Submit a final report on the results of the implementation and evaluation of the selected actions/measures by August 10, 2016. The report shall include: a) a description of the actions/measures selected, b) the monitoring data collected after the implementation of the selected actions/measures including treatment process, if any, and c) an evaluation of the effectiveness of the selected actions/measures.
7. All technical reports required under this TSO are required pursuant to California Water Code sections 13267 and 13383. The Regional Water Board needs the required information in order to determine compliance with this TSO. The Regional Water Board believes that 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.
8. 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."
9. 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 delegee, 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 any violations to the Attorney General for judicial enforcement, including injunction and civil monetary remedies.
10. All other provisions of Order No. R4-2015-0201, that do not conflict with this TSO, are in full force and effect.
11. This Time Schedule Order expires on July 2, 2016.

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NRG California South LP
Mandalay Generating Station
Time Schedule Order No. R4-2015-YYYY

CA0001180

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 December 10, 2015.

Samuel Unger, P.E.
Executive Officer

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