BEFORE THE HEARING BOARD OF

THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

In the Matter of	**)**	Case No. **1263-80**
LOS ANGELES DEPARTMENT OF WATER AND POWER	)	
[Proposed] Order Granting a Regular Variance	)	
Section 42350 and 40501.3(b) of the California Health and Safety Code	)	
Rules 203, 2004, 3002	)	
Facility ID 800074	)	

FINDINGS AND DECISION OF THE HEARING BOARD [PROPOSED]

The petition for a regular variance was heard on the Hearing Board's Consent Calendar on February 8, 2023, pursuant to notice and in accordance with the provisions of California Health and Safety Code Section 40825. The following members of the Hearing Board were present: Cynthia Verdugo-Peralta, Chair; Robert Pearman, Esq., Vice Chair; Mohan Balagopalan; Micah Ali; and Jerry P. Abraham, MD MPH CMQ. Petitioner, the City of Los Angeles by and through the Los Angeles Department of Water and Power ("Petitioner"), represented by Nick Karno, Deputy City Attorney, was not present. Respondent, Executive Officer ("Respondent"), represented by Brian Tomasovic, Assistant Chief Deputy Counsel, was not present. The joint Stipulation to Place Matter on Consent Calendar, the Declaration of Ian Guthrie, and the Proposed Findings and Decision were received as evidence, and the case submitted. The public was given an opportunity to testify. The Hearing Board finds and decides as follows:

Nature of Business and Location of Facilities

Petitioner LADWP is the largest municipal utility in the nation and supplies water and electric services to 3.8 million residents and businesses in the City of Los Angeles. As a vertically integrated power system, LADWP both owns and operates the majority of its generation, transmission, and distribution systems. A five-member Board of Water & Power Commissioners is appointed by the Mayor and establishes policy.

As part of its operations, LADWP owns and operates Haynes Generating Station (Haynes), a natural gas-fired steam electric generating facility located in Long Beach. Haynes has a generating capacity of 1,666 megawatts (MW), enough to power approximately one million homes.

Equipment and Permit to Operate

Haynes consists of two active steam boiler generating units (Units 1 and 2), two combined-cycle units (combustion turbines Units 9 and 10), and six simple cycle units (Units 11-16). Haynes, including all of the above-described units, is subject to a RECLAIM and Title V permit.

SUMMARY

Unit 2, which is the subject of this Petition, is a 230 MW natural gas-fired boiler equipped with a Selective Catalytic Reduction (SCR) system to control NOx. Unit 2 was commissioned in 1963 and its emissions are monitored by a Continuous Emissions Monitoring System (CEMS), which monitors and records flue gas pollutant and diluent gas on a dry basis. The CEMS for Unit 2 was last recertified by the South Coast Air Quality Management District (South Coast AQMD) on March 29, 2018.

Petitioner's permit to operate and South Coast AQMD rules require Petitioner to conduct an ammonia slip source test for Unit 2 CEMS on an annual basis. Petitioner is required to complete an ammonia slip source test for the Unit 2 CEMS by December 31, 2023.

Unit 2 had not been available to run since vibration issues and the unit trip occurred on September 26, 2022. Originally scheduled to return to service in June 2023, delays in the manufacturing process pushed the delivery of the repaired rotor and the installation of the stationary blades to July 2023. The modification of the stationary blades was finally completed in August 2023, and the Estimated Time of Return (ETR) was pushed to September 2023 based on the remaining scope of work.

After more delays caused by the manufacturer, the Unit 2 ammonia slip test was finally scheduled for December 19, 2023. When the unit reached 150 MW load, the unit experienced excessive vibration and had to be manually tripped to minimize equipment damage. Initial investigation indicated that a turbine blade was liberated and caused damage to the condenser tubes.

Given the turbine's current state and the timeline for the previous repair efforts, LADWP determined that Unit 2 could not be repaired and restarted in time to meet the December 31, 2023, deadline to conduct the NH3 slip source test. Petitioner filed a petition for a regular and an interim variance on December 27, 2023.

Petitioner was granted an interim variance for January 1, 2024, through February 8, 2024, and now files a regular variance for the period commencing February 9, 2024, and ending on December 31, 2024.

FINDINGS OF FACT AND CONCLUSIONS

The following are the facts and conclusions supporting the findings set forth in Health and Safety Code Section 42352 necessary to grant the interim variance. The Executive Officer did not oppose the granting of the variance.

a. **The petitioner for a variance is or will be in violation of Section 41701 or of any rule, regulation, or order of the District.**

Petitioner will be in violation of District Rules 3002(c)(1); 203(b); 2004(f)(1); and Condition D28.3 of Petitioner's Permit to Operate.

1. Rule 3002(c)(1) requires "A person shall construct and operate a Title V facility and all equipment located at a Title V facility in compliance with all terms, requirements, and conditions specified in the Title V permit at all times." The annual ammonia source test is due on December 31, 2023. If the test is not performed by the due date, any subsequent operation of Unit 2 will violate the conditions of the Title V permit.
2. Rule 203(b) requires "The equipment shall not be operated contrary to the conditions specified in the permit to operate." The annual ammonia source test is due on December 31, 2023. If the test is not performed by the due date, any subsequent operation of Unit 2 will violate the conditions of the Title V permit.
3. Rule 2004(f)(1) states, "The Facility Permit holder shall, at all times, comply with all rules and permit conditions applicable to the facility, as specified in the Facility Permit." The annual ammonia source test is due on December 31, 2023. If the test is not performed by the due date, any subsequent operation of Unit 2 will violate the conditions of the Title V permit.
4. Haynes Facility Permit to Operate Condition D28.3 requires "The test shall be conducted quarterly during the first twelve months of operation of the catalytic control device and annually thereafter when four consecutive quarterly source tests demonstrate compliance with the ammonia emission limit. If an annual test is failed, four consecutive quarterly source tests must demonstrate compliance with the ammonia emissions limits prior to resuming annual source tests." The ammonia source test is due on December 31, 2023. If the test is not

performed by the due date, any subsequent operation of Unit 2 will violate the conditions of the Title V permit.

b(l). Non-compliance with District Rule(s) is due to conditions beyond the reasonable control of the petitioner.

It is beyond the LADWP's reasonable control to perform the ammonia slip test on Unit 2 by December 31, 2023, due to unexpected excessive vibration, liberation of turbine blades, and ensuing damage to other parts. After experiencing various delays in receiving and installing parts, the repairs were finally completed on December 18, 2023. The unit was subsequently started up on December 19, 2023, but at approximately 150 MW, excessive vibration reoccurred and the unit was manually tripped to minimize equipment damage. Initial investigation suggests that another turbine blade was liberated and caused damage to the condenser tubes.

Unit 2 has suffered a long history of delays beyond the reasonable control of LADWP. After the initial blade liberation event in September 2022, LADWP contacted General Electric (GE), the responsible party for the technical and material resources for Unit 2's steam turbine. LADWP and GE developed a repair plan and issued a task assignment on February 8, 2023. The material had an estimated lead time of 14 weeks and an initial Estimated Time of Return (ETR) for Unit 2 was created of June 16, 2023. Delays in the manufacturing process pushed the parts deliveries back to May 2023. GE finished their repair work on the rotor and delivered it to the site in June 2023. GE finished installing the stationary blades in the turbine case by July 2023, and the blades' modification were completed by the end of August 2023. The ETR was updated to September 22, 2023, based on the remaining scope of work.

Additional clearance issues were identified on the new blades in September 2023. The work necessary to resolve the radial clearance delayed the final reassembly of the turbine until

the end of the September 2023, and the ETR was updated to December 8, 2023. LADWP was able to start up Unit 2's steam turbine for vibration testing on December 8, 2023, however, a ground fault relay occurred during start up while trying to sync the generator, and the startup was aborted. The ground fault investigation determined the exciter was contaminated with moisture and debris. LADWP cleaned, dried, and tested the unit until it was deemed ready on December 18, 2023. Unit 2 was started up the very next day, and the lack of vibrations looked promising at first. When the unit was loading to 150 MW vibrations suddenly spiked and LADWP operators had to trip the turbine to minimize equipment damage. Initial investigation indicates that this failure was similar to the September 26, 2022, event except that this failure was upstream of the rotor that failed in 2022.

Given the turbine's current state and our timeline for its previous repair, Unit 2 will not be able to perform its Ammonia Slip Test by December 31, 2023. Without a full disassembly, a full inspection of the rotor is not possible.

b(2). Requiring compliance would result in either (1) an arbitrary or unreasonable taking of property, (2) the practical closing and elimination of a lawful business, or an unreasonable burden on an essential public service.

The permanent inability to operate Unit 2 would result in incalculable costs to the residents of the City of Los Angeles. The cost of the unit itself and the ensuing stress on LADWP's ability to generate power would result in hardships to all of LADWP's customers because they would shoulder the burden of paying for these costs.

Additionally, Petitioner could be subject to a Notice of Violation for the entire duration that the ammonia slip source test is not successfully performed. Petitioner's ratepayers would then bear the expense of any resulting fines and penalties if this variance is not granted.

c. The closing or taking would be without a corresponding benefit in reducing air contaminants.

The unit has not been available to run since the initial vibration issues and unit trip on September 26, 2022. Until Unit 2's turbine blades and vibrations repairs are complete, there will be zero emissions from Unit 2. Requiring compliance and denying the variance would then be without a corresponding benefit in reducing air contaminants.

d. The petitioner for the variance has given consideration to curtailing operations of the source in lieu of obtaining a variance.

Petitioner has given consideration to curtailing operations of Unit 2, however, the permanent inability to operate Unit 2 would result in incalculable costs and potential hardship to the residents of the City of Los Angeles. It is an essential asset within the Haynes Generating Station, which is vital to the power supply for the Los Angeles area. It is critical to have Unit 2 available for dispatch as needed to maintain grid reliability.

Unit 2's operations have been terminated since September 26, 2022. Because of the extensive ongoing repairs, the unit will remain inoperable throughout the duration of the variance. Even with operations temporarily terminated, Petitioner still recognizes that it requires a variance to obtain relief from the ammonia slip source test, which was due on December 31, 2023.

e. During the period the variance is in effect, the petitioner will reduce excess emissions to the maximum extent possible.

Petitioner will reduce excess emissions to the maximum extent feasible as Unit 2 is currently not operating and will remain out of service until repairs and reassembly are completed.

f. During the period the variance is in effect, the petitioner will monitor or otherwise quantify emission levels from the source, if requested to do so by the District, and report these emission levels to the District pursuant to a schedule established by the District.

During the variance period, LADWP will continue to monitor and record emissions through CEMS, which will be operational during the repair of Unit 2.

ORDER

THEREFORE, good cause appearing, the Hearing Board orders as follows:

A. The Petitioner shall complete the repair of Unit No. 2 (Device No. D4 & C75) expeditiously and provide a notification when the repair is complete to the South Coast AQMD via email to AQ Engineer Philip Nguyen (pnguyen2@aqmd.gov), AQ Inspector II Avelino Revilla (arevilla@aqmd.gov), and Supervising AQ Inspector Thomas Lee (tlee2@aqmd.gov).

B. The Petitioner shall conduct the ammonia slip test, in order to satisfy the 2023 source test requirement only, in accordance with permit condition D28.3 within 14 days after reaching normal operating conditions (after the cold start-up period) but no later than December 31st, 2024.

C. The Petitioner shall notify the South Coast AQMD by calling 1-800-CUT-SMOG and by sending an email to AQ Inspector II Avelino Revilla (arevilla@aqmd.gov), Supervising AQ Inspector Thomas Lee (tlee2@aqmd.gov), and AQ Engineer Philip Nguyen (pnguyen2@aqmd.gov) at least 24 hours prior to starting the ammonia slip test.

D. The Petitioner shall submit a complete source test report showing preliminary compliance with ammonia slip conditions to the South Coast AQMD Source Testing (sourcetesting@aqmd.gov) and to AQ Inspector II Avelino Revilla (arevilla@aqmd.gov) and Supervising AQ Inspector Thomas Lee (tlee2@aqmd.gov) within 45 calendar days after the test date.

E. The Petitioner shall operate the Continuous Emissions Monitoring System (CEMS) to continuously monitor the exhaust from the Unit No. 2 (Device No. D4 & C75) and record all required parameters (i.e. NOx concentration, oxygen content, and fuel flow) pursuant to Rule 2012, Appendix A, Chapter 2 for the duration of the variance period, including showing valid zeros for all parameters when the turbine is not operating. In lieu of the of the abovementioned requirement, the Petitioner may choose to comply with the requirements in Rule 2012(c)(2)(D) and 2012 (c)(2)(E), as amended on November 3, 2023.

F. The Petitioner shall notify the Clerk of the Board in writing when final compliance is achieved.

FOR THE BOARD: _____

DATE SIGNED: _____