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BEFORE THE HEARING BOARD OF THE

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

In the Matter of CITY OF PASADENA WATER AND POWER DEPARTMENT (Facility ID# 800168) Petitioner. vs. SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT Respondent.	CASE NO. 2244-36 **DECLARATION OF ARTURO SILVA IN SUPPORT OF PETITIONER CITY OF PASADENA WATER AND POWER DEPARTMENT'S PETITION FOR REGULAR VARIANCE** Hearing Date: February 29, 2024 Time: 9:30 a.m. Place: Hearing Board Room South Coast Air Quality Management District 21865 Copley Drive Diamond Bar, CA 91765

I, ARTURO SILVA, declare as follows:

1. I am employed by the City of Pasadena as the Power Plant Manager overseeing the operations and maintenance at the Glenarm Power Plant ("Facility"). I have personal knowledge of the facts and circumstances surrounding the present matter and if called upon to testify, I could and would competently do so under oath as to the truth of the matters stated herein.

2. The Facility is owned and operated by the City of Pasadena, Water and Power Department and houses the City's local electric generation units. There are four simple cycle gas

turbine units, GT-1, GT-1, GT-2, and GT-4 and one combined cycle gas turbine unit, GT-5. GT-5 consists of one combustion gas turbine generator and a steam turbine generator. The California Independent System Operator ("CAISO") controls the Facility's generating units but the primary purpose of the local generation is to supply electricity to Pasadena residents and businesses.

3. Petitioner conducts annual inspection and maintenance on the unit each year. The inspection and maintenance includes but is not limited to an external engine inspection, replacing lube oil and hydraulic oil in various unit systems, replacing engine and generator oil filters, replacing water filters, lubricating fans and motors, greasing all fittings, alignment checks, checking foundation bolts for tightness, generator visual inspection, inspecting piping and checking for leaks, and water washing the engine. The annual maintenance was last conducted on December 5, 2022. In addition, a borescope inspection was performed by a GE field core technician on the unit on May 18, 2023. The inspection did not note any indication of an impending bearing failure. Lube oil samples were collected and analyzed by Condition Monitoring Services Inc. on May 23, 2023. The report indicates the lubricant for the GT-5 gas turbine was in a normal condition. The bearing failure was an unexpected event and beyond the Petitioners reasonable control and has created a situation that prevents the Petitioner from complying with District Rules and Permit conditions. Immediate compliance is not possible. The unit is inoperable and requires repairs to be completed so it can be returned to service. Once the unit returns to service the Petitioner will promptly schedule and perform the required testing to attain compliance.

4. GT-5 started experiencing issues in late October and early November. Over that span of time, for four consecutive starts the unit experienced high oil consumption, a visible external oil leak and high oil temperatures on scavenge oil turbine sump "D" and "E" during start-up. Each period of operation resulted in a trip related to the variable bleed valve system after the unit being online for a couple of hours. After the trip on November 16, 2023, a forced outage was taken on the unit to perform troubleshooting and inspections on various systems to determine the

cause of the trips and the oil consumption. Inspection findings on the gas turbine lube oil systems included carbon seal material in the inlet screens and apparent metallic material on the chip detector. Facility staff reached out to the OEM, General Electric (GE), to request assistance with troubleshooting the issues on the unit. A GE field core technician was on site on November 20, 2023. Further inspection of the turbine lube oil system revealed visible particles in the gas turbine lubrication oil and filters. GE recommended that the oil filter and a sample of the lube oil get sent to Failure Analysis Service Technology, Inc. (FAST) in Prescott, AZ for further analysis to help determine the source of the particles in order to determine next steps. Based on the initial findings, GE advised the City that continuing to operate the unit under the current state was not advisable. GE's preliminary recommendation was to pull the engine for transport to a certified repair facility for disassembly, assessment, and repair of the engine prior to placing the unit back in service. As a result, the required compliance testing originally scheduled to be performed on November 28, 2023 could not be performed. The equipment malfunction was unexpected and unforeseeable event that is beyond the City's reasonable control. Until repairs are completed the unit cannot be placed online to perform the required compliance testing.

5. Staff requested a proposal for the repair of the unit from GE. Staff also reached out to the two other LM6000 certified repair facilities that service the west coast, IHI and TransCanada. Both entities declined the work as their certification does not extend to the LM6000 PG units. In addition, Staff contacted a reputable but not certified repair facility, ProEnergy. They also declined to provide a proposal due to the unit being a PG model. GE provided quote 1668098 dated January 18, 2024. The City issued a Purchase Order to GE for the repair in accordance with quote 1668098. The engine was removed and shipped to the GE repair facility in Houston, TX on February 19, 2024. The preliminary schedule is for induction at the repair facility on March 14, 2024 with an expected 190 days of repair time. The preliminary return to service date is September 25, 2024.

6. South Coast Air Quality Management Rule 1134(e)(2)(C)(iii) states the ammonia slip testing of natural gas fired turbines, such as the ones at the Facility, must be conducted by the end of the calendar year. Condition D29.7 of the Facility's Title V Permit to Operate issued on November 3, 2022, contains a similar condition. District testing standards require that the unit operate at normal load. The required ammonia slip test and RATA were scheduled on November 28, 2023. However, Unit D56 was taken out of service on November 16, 2023 and deemed inoperable until repairs are completed.

7. There are no excess emissions associated with the condition of Unit D56. D56 is currently inoperable. Curtailing operation or limiting excess emissions is not applicable in this case as the unit will be offline for the majority of the variance period with only a brief period of operation between the unit's return to service and the required emissions test date which is limited to a maximum of 15 days by the variance conditions.

8. The unit is currently in an inoperable condition. Closing or taking the generation unit would not result in a corresponding benefit in reducing air contaminants during the variance period as the unit will not operate and generate any contaminants or emissions. Conversely, the closing or taking would impact PWP's ability to serve its municipal customers.

9. The Continuous Emissions Monitoring System ("CEMS") will monitor the exhaust from the Gas Turbine GT-5 (Device Nos. D56 & C67) 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 above-mentioned requirement, the Facility may choose to comply with the requirements in Rule 2012(c)(2)(D) and 2012 (c)(2)(E), as amended on November 3, 2023

10. I have reviewed Health and Safety ("H&S") Code Section 41700. The suspension of operation of D56 pending repair and related delay of the ammonia slip test beyond the 2023 calendar year are not expected to result in a violation of H&S Code Section 41700.

11. Without a regular variance, the Facility will be in violation of South Coast Air Quality Management District rules due to the inability to adequately perform the annual ammonia slip test for Unit D56 which was due during calendar year 2023.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct. Executed on February ___, 2024, at Pasadena, California.

DATED: February 27, 2024

By: _____
ARTURO SILVA