UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C., 20460

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

October 7, 2022

Adam Kushner, Esq.
Hogan Lovells US LLP
Columbia Square
555 Thirteenth Street, NW
Washington, D.C. 20004

RE: Partial Grant and Partial Denial of Request for No Action Assurance by the Puerto Rico Electric Power Authority for Potential Clean Air Act Violations Resulting from Hurricane Fiona and Related Recovery Efforts

Dear Mr. Kushner:

This letter is in response to your September 19, 2022 request, your follow-up e-mail, dated September 21, 2022, and the comments provided to EPA's draft, dated October 6, 2022 (together, the "Request"), on behalf of the Puerto Rico Electric Power Authority (PREPA), requesting a no action assurance (NAA) regarding the operation of certain electric generating units operated by PREPA in Puerto Rico. As detailed below, EPA is granting the Request in part and denying the Request in part.

On September 18, 2022, Hurricane Fiona, a Category One storm, made landfall on Puerto Rico. Since that time, Puerto Rico has experienced blackouts, catastrophic flooding, and landslides throughout the Commonwealth. The aftermath of the storm initially left the entire Commonwealth without power. EPA was informed that, as of September 29, 2022, around 20% of residents lacked power and about 10% lacked access to potable water. As of October 7, 2022, EPA understands that at least 3% of residents remain without power and at least 1% are without access to potable water. EPA also understands that Puerto Rico is currently using 285 emergency generators to operate drinking water utilities. The following is EPA's understanding, based on the information you have provided: due to the damage caused by Hurricane Fiona, from September 18-22, 2022, PREPA operated its transmission and distribution of electricity as isolated islands of power, such that the system was not interconnected. Continuing through today, some transmission and distribution segments remain down, and power is not yet fully restored to all residents. As a result, certain PREPA units have been operating at low loads, and have been going offline when LUMA Energy (the transmission and distribution contractor) has attempted to synchronize the microgrids because the units cannot accommodate the sudden load change. Low-load conditions in parts of Puerto Rico may persist for some time while transmission repairs are ongoing. In addition to low loads, units may also need to operate at high-load output levels to compensate for the status of the system, for example, to maintain frequency. In addition, PREPA's access to water for use in operating pollution controls on its units has experienced disruption as both PREPA and LUMA seek to return power to the Commonwealth. PREPA is expecting similar disruptions and problems to continue for weeks as LUMA repairs the system.

The Governor of Puerto Rico signed an Executive Order decreeing a state of emergency throughout Puerto Rico on September 17, 2022; on September 18, 2022, the President declared that an emergency exists in Puerto Rico and ordered the Federal Emergency Management Agency to support local response efforts. PREPA has asked that it be allowed to keep all potential units available at variable loads in order to restore power in as expeditiously a manner as possible.

Specifically, the Request asks that EPA exercise its enforcement discretion to issue an NAA for the following anticipated violations at PREPA facilities: (1) excess emissions that may result from low- or high-load output conditions; (2) excess emissions that may result from operation of units without control devices as a result of a disruption of the supply of demineralized water for steam and water injection, or ammonia for oxidation catalyst systems; (3) failing to meet conditions contained in EPA's Administrative Consent Order (ACO) executed on November 10, 2021, pertaining to operation of the three MobilePac units at the Palo Seco Power Plant; (4) "unit and/or control equipment malfunctions, shutdowns, or restarts"; (5) failing to comply with the Mercury and Air Toxics Standards (MATS) rule, codified at 40 C.F.R. Part 63 Subpart UUUUU; (6) temporary operation of mobile diesel generators in violation of PREPA's Title V permits; (7) operating gas combustion turbine and peaker units in excess of fuel consumption limit restrictions; and (8) failing to meet fuel quality requirements at electric generating units caused by disruptions in fuel supplies. Each portion of the Request is addressed in turn below.

1. Excess Emissions Resulting from Low- or High-Load Output Conditions

PREPA seeks an NAA for potential violations resulting from the use of the following units at lower or higher loads than permitted by statute, rule, or PREPA's permits in response to the conditions of the transmission and distribution system in Puerto Rico:

- San Juan: Units 5, 6, and 9;
- Palo Seco: Unit 3; MobilePac Units 1, 2, and 3; and PSGT Units 1-1 and 2-1;
- Costa Sur: Units 5 and 6;
- Aguirre: Unit 2; Combined Cycle Stack 1 (CCGT 1-2 and 1-4 and CC ST U-1) and Stack 2 (CCGT 2-3 and 2-4 (operating in simple cycle)); and GT Unit 2-2;
- Cambalache: Units 2 and 3;
- Mayaguez: GT Units 1, 2, 3, and 4;
- Daguao: GT Units 1-1 and 1-2; and
- Jobos: GT Units 1-1 and 1-2.

Specifically, PREPA seeks an NAA for exceedances of emission and opacity limitations or conditions in the following permits and regulations that result from PREPA operating the units at lower or higher loads than otherwise permitted: (1) emission limits in PREPA's Title V permits; (2) the San Juan and Cambalache Prevention of Significant Deterioration (PSD) permits; (3) "other construction permits and Clean Air Act permits"; (4) emission limits contained in applicable New Source Performance Standards (NSPS) (*e.g.*, Subpart KKKK and Subpart TTTT for SO2, NOx, and greenhouse gases); and (5) the National Emission Standards for Hazardous Air Pollutants (NESHAP) (*e.g.*, Subpart YYYY and UUUUU for formaldehyde and other air toxics), including the particulate matter (PM) emission limit included in the MATS.

The NAA is granted only for violations of emission and opacity limitations contained in PREPA's Title V permits, the San Juan and Cambalache PSD permits, and violations of 40 C.F.R. Part 60 Subparts

KKKK, TTTT, and 40 C.F.R. Parts 63 Subpart YYYY and UUUUU caused as a result of the impacts of Hurricane Fiona. The portion of the Request that pertains to "other construction permits and Clean Air Act permits" contained in item (3) above is denied because such description is too vague. EPA recognizes the importance of operating all available units at any load possible, in order to maximize the generation of power to protect human health.

2. **Excess Emissions from Operation of Generating Units Without Control Equipment Based on Disruption of Water Sources and Ammonia**

PREPA seeks an NAA for potential emission limit violations based on anticipated disruptions in the supply of (i) demineralized water used for steam-injection equipment to control emissions from San Juan Unit 5 and Cambalache Units 2 and 3, water-injection equipment to control emissions from Palo Seco MobilePac Units 1 through 3 and Mayaguez GT Units 1 through 4 and (ii) ammonia used for the operation of the San Juan Unit 5 short-circuit ratio (SCR)/oxidation catalyst (Oxcat) equipment. PREPA has explained that the Puerto Rico Aqueduct and Sewerage Authority (PRASA) water pumps that supply water for various PREPA units initially lacked power, and therefore could not supply water to PREPA. Although power to the PRASA super aqueduct was re-established the night of September 19, 2022, it again lost power on September 20, 2022. PREPA expects future disruptions and problems to continue for weeks as LUMA repairs the transmission and distribution system. However, according to PREPA, there have been no further water interruptions as of October 6, 2022. PREPA has some water stored in tanks for emergencies; EPA understands this supply is limited and would only last between 7 and 84 hours.

PREPA seeks an NAA for the following units:

- Water injection: Palo Seco MobilePac Units 1 through 3 and Mayaguez GT Units 1 through 4;
- Steam injection: San Juan Units 5 and 6 and Cambalache Units 2 and 3; and
- SCR/Oxcat: San Juan Unit 5.

This portion of the Request is denied. While PREPA has communicated concern about the potential future disruptions in water and ammonia supplies, at this time there is no concrete need for an NAA. To the extent that PREPA encounters supply disruptions that PREPA believes justify an NAA in the future, it should re-submit its request with specific reasons as to why it believes an NAA is justified (*e.g.*, the disruption could not be planned for and exceeds PREPA's storage abilities). To the extent that PREPA has already operated any units without the required control equipment as a direct result of water or ammonia supply disruptions following Hurricane Fiona, it shall provide the information requested in the "Conditions and Reporting Requirements" section of this NAA.

3. **Failure to Meet Requirements in the ACO for the Palo Seco MobilePacs**

PREPA seeks an NAA for potential violations of specific requirements contained in the ACO, dated November 10, 2021, concerning the three Palo Seco MobilePac units. Specifically, PREPA is concerned about a programming issue in its programmable logic controller (PLC), that affects the operation of the MobilePacs, including its continuous monitoring system (CMS). The PLC has failed intermittently, specifically on September 20, 21, 22, and 23. In addition, the CMS was offline for a short period of time on September 19, 2022, and there is a chance that the system will go offline again. In addition, PREPA has observed that the water-to-fuel ratio is "occasionally slightly below the average ratio, although emissions currently remain within limits." PREPA believes that operating the MobilePacs at low-load levels, as required by LUMA in order to ensure that enough reserve capacity was available so the units

could ramp up quickly if needed, may have caused the pump for the water-injection system to be inoperable, particularly at MobilePac Unit 2.

With regards to the PLC, PREPA reprogrammed the PLC and resolved the issue on September 23. With regards to the water-injection system, PREPA states that it is unable to troubleshoot the issues until after the emergency is over and the electric system has been re-established. This is because fixing the units may cause them to short out, rendering them unavailable. In turn, this would exacerbate the electricity shortage. Under this portion of the Request, PREPA also mentions potential emissions deviations and fuel-consumption and fuel-type issues, which are addressed elsewhere in this NAA (*see, e.g.,* Requests 1 and 7).

This portion of the Request is granted for violations of the ACO that occur as a result of operating the MobilePacs at low-load levels due to the impacts of Hurricane Fiona, in particular with respect to issues related to the CMS, PLC, and the water-to-fuel ratio that PREPA has identified in the Request. PREPA must otherwise comply with the ACO.

4. <u>Unit and/or Control Equipment Malfunctions, Shut-downs, or Start-ups</u>

PREPA seeks an NAA for potential violations of opacity or emissions limitations caused by unit and/or control malfunctions, shut-downs, or start-ups, for the following units:

- Water injection: Palo Seco MobilePac Units 1 through 3 and Mayaguez GT Units 1 through 4;
- Steam injection: San Juan Units 5 and 6 and Cambalache Units 2 and 3; and
- SCR/Oxcat: San Juan Unit 5; and
- Unit malfunctions at Aguirre, Mayaguez, Cambalache, San Juan, Palo Seco, Costa Sur, and its gas turbiner units.

On October 6, PREPA explained that it is experiencing "unit trips as new loads are being added and as LUMA works to restore the system." According to PREPA, these unit "trips" and malfunctions, shut-downs, and/or start-ups at its units are "due to a combination of factors, including the fragility of the transmission and distribution system, efforts to reconnect that system, the operation of units at high and low loads to respond to the hurricane, as well as various damage to equipment due to the hurricane." In addition, PREPA's operation of its gas peaker units in response to the emergency has caused PREPA to have to turn them on or off, cycle them up or down, and operate them at low- or high-loads based on the needs of the system. This variability has led to "unit trips." In addition, other units have experienced malfunctions and mechanical problems due to debris in the water as a result of the hurricane, which affects the intake channel of the units. Other units have experienced pump malfunctions related to the hurricane.

This portion of the Request is granted for violations of the specific conditions contained in PREPA's Title V permits concerning malfunctions, start-ups, or shut-downs, that occurred as a direct result of Hurricane Fiona and PREPA's need to operate the units at variable loads, cycle them up or down, or turn them on or off, as PREPA and LUMA work to reconnect Puerto Rico's electrical grid and provide power to the residents.

5. <u>Failing to Comply with MATS</u>

PREPA seeks an NAA for potential violations of the following MATS rule requirements:

- the PM emission limits for San Juan Unit 9, Palo Seco Unit 3, Aguirre Unit 2, and Costa Sur Units 5 and 6;
- the start-up/shut-down work practice procedures at the above-listed units; and
- potential disruptions or malfunctions in the monitoring equipment (*e.g.*, PM Continuous Emission Monitoring System (CEMS)) at San Juan Unit 9, Palo Seco Unit 3, and Costa Sur Units 5 and 6.

EPA notes that PREPA's non-compliance with the MATS rule predates Hurricane Fiona. However, this portion of the Request is granted only with respect to the first bullet point above (*i.e.*, violations of PM emission limits for San Juan Unit 9, Palo Seco Unit 3, Aguirre Unit 2, and Costa Sur Units 5 and 6). The remainder of this portion of the Request is denied because PREPA has not identified any specific issues related to the start-up/shut-down work practice procedures at the units, nor has it identified how issues related to the disruption or malfunction of its CEMS (which are routine occurrences for PREPA, regardless of whether there is a storm) have been directly caused by Hurricane Fiona. To the extent that PREPA can identify specific violations of the MATS rule that are directly attributable to Hurricane Fiona, it may re-submit an NAA request for EPA's consideration.

6. Temporary Operation of Mobile Diesel Generators

PREPA seeks an NAA for the temporary operation of mobile diesel generators to restore power and start units and auxiliary equipment, including three 1.8 MW emergency generators for the island of Vieques. PREPA does not identify which regulation(s) or permit(s) it would potentially be in violation of as a result of temporarily operating these emergency generators. PREPA also requests that the NAA cover the operation of emergency generators on the island of Culebra, but does not provide any information concerning what kind of emergency generator(s) it intends to use on this island.

In addition, PREPA requests that the NAA cover any use of emergency generators at San Juan, Palo Seco, Aguirre, Costa Sur, Mayaguez, Cambalache, Daguao, and Jobos that is necessary to restore power and start units and auxiliary equipment. PREPA's request specifically seeks that the NAA extend to potential violations of limitations on hours of operation for these generators, that would result if it included the days that it operates the generators following Hurricane Fiona in calculating the total annual operating hours for each emergency generator in a year that includes the NAA.

As to PREPA's request for an NAA regarding the use of three 1.8 MW emergency generators on the island of Vieques, and its request to use emergency generator(s) on the island of Culebra, EPA denies this portion of the Request because these units are not part of any federally enforceable permit. EPA refers PREPA to the Emergency Order issued by the Puerto Rico Department of Natural and Environmental Resources (DNER), dated September 18, 2022.

Regarding PREPA's request for an NAA for potential violations of limits on hours of operation for emergency generators at San Juan, Palo Seco, Aguirre, Costa Sur, Mayaguez, Cambalache, Daguao, and Jobos, EPA grants the Request to the extent that PREPA is required to operate these emergency generators to restore power and start units and auxiliary equipment as a direct result of Hurricane Fiona for longer than 500 hours in any period of 12 consecutive months that includes the NAA, in violation of the limitations contained in PREPA's Title V permits for the period of the NAA. However, EPA strongly encourages PREPA to apply to DNER for modifications to its Title V permits so as to impose certain limits that will ensure that PREPA will be in compliance when these units operate for the number of hours that are routinely needed on an annual basis (whether due to natural disasters or equipment

failures). The need to operate these units in excess of the permitted limits has become foreseeable, and PREPA should permit and plan accordingly.

7. Operating in Excess of Fuel Consumption Limit Restrictions

PREPA anticipates that, in its efforts to restore power to Puerto Rico, it will operate in excess of fuel consumption limits contained in a permit or the ACO at the units listed below. Accordingly, PREPA requests that, in calculating the annual fuel consumption for the following units under the ACO and its Title V permits, EPA exercise enforcement discretion to not enforce violations resulting from excess fuel consumption and emissions during the emergency.

- Palo Seco MobilePac Units 1 through 3;
- Palo Seco PSGT Units 1-1 and 2-1;
- Aguirre Combined Cycle Stack 1 (CCGT 1-2 and 1-4) and Stack 2 (CCGT 2-3 and 2-4);
- Aguirre GT Unit 2-2;
- Cambalache Units 2 and 3;
- Mayaguez GT Units 1 through 4;
- Daguao GT Units 1-1 and 1-2; and
- Jobos GT Units 1-1 and 1-2.

Subject to the conditions of this NAA, this portion of the Request is granted for the above-listed units.

8. Failing to Meet Fuel Quality Requirements Caused by Disruptions in Fuel Supplies

PREPA seeks an NAA for potential violations of its fuel quality requirements that would result from the lack of the requisite fuel supplies, depending on port closures and other disruptions caused by the hurricane.

This portion of the Request is denied. As PREPA has acknowledged, this request is based on the potential that PREPA will fail to meet fuel quality standards. However, this circumstance has not materialized. EPA requests that PREPA keep it apprised of any fuel shortage issues that will impact its compliance with the Clean Air Act and any applicable federally enforceable permits.

Summary of the NAA

For the reasons stated above, EPA will exercise its discretion to not pursue enforcement for the following violations, only to the extent the violations are caused by Hurricane Fiona:

1. Violations of emission and opacity limitations contained in PREPA's Title V permits, the San Juan and Cambalache PSD permits, and violations of 40 C.F.R. Part 60 Subparts KKKK, TTTT, and 40 C.F.R. Parts 63 Subpart YYYY and UUUUU caused as a result of low-or high-load output conditions at the following units:

    - San Juan: Units 5, 6, and 9;
    - Palo Seco: Unit 3; MobilePac Units 1 through 3; and PSGT Units 1-1 and 2-1;
    - Costa Sur: Units 5 and 6;
    - Aguirre: Unit 2; Combined Cycle Stack 1 (CCGT 1-2 and 1-4 and CC ST U-1) and Stack 2 (CCGT 2-3 and 2-4 (operating in simple cycle)); and GT Unit 2-2;
    - Cambalache: Units 2 and 3;

- Mayaguez: GT Units 1 through 4;
- Daguao: GT Units 1-1 and 1-2; and
- Jobos: GT Units 1-1 and 1-2.

2. Violations of the November 10, 2021 ACO that occur as a result of operating the MobilePacs at low-load levels, in particular with respect to issues related to the CMS, PLC, and the water-to-fuel ratio.

3. Violations of the specific conditions contained in PREPA's Title V permits concerning unit or control equipment malfunctions, start-ups, or shut-downs.

4. Exceedance of the PM emission limits of the MATS rule for San Juan Unit 9, Palo Seco Unit 3, Aguirre Unit 2, and Costa Sur Units 5 and 6.

5. Use of emergency generators at San Juan, Palo Seco, Aguirre, Costa Sur, Mayaguez, Cambalache, Daguao, and Jobos to restore power and start units and auxiliary equipment in excess of the 500 hours permitted under PREPA's Title V permits, to the extent the hours above 500 are a result solely of Hurricane Fiona.

6. Exceedances of emission or permit limits based on PREPA's consumption of fuel at the following units:

   - Palo Seco MobilePac Units 1 through 3;
   - Palo Seco PSGT Units 1-1 and 2-1;
   - Aguirre Combined Cycle Stack 1 (CCGT 1-2 and 1-4) and Stack 2 (CCGT 2-3 and 2-4);
   - Aguirre GT Unit 2-2;
   - Cambalache Units 2 and 3;
   - Mayaguez GT Units 1 through 4;
   - Daguao GT Units 1-1 and 1-2; and
   - Jobos GT Units 1-1 and 1-2.

Conditions and Reporting Requirements

This NAA is subject to the following conditions:

1. To the extent that PREPA can avoid emission, permit, or ACO violations that are covered under this NAA while still providing the requisite power to the Commonwealth of Puerto Rico, it shall make best efforts to do so.
2. Electric generating units covered under this NAA must return to normal conditions as soon as practicable.

In addition to the above-listed conditions, this NAA is conditioned on PREPA submitting a report to EPA (sent to Harish Patel via email, at patel.harish@epa.gov) within two weeks of the termination of the NAA containing the following information:

A. For the time period covered by the NAA:

1. The name, address, and contact information for the person submitting the report.
2. For each of the electric generating units covered by this NAA, provide a table containing the number of hours and dates operated, records of the type of fuel burned, along with the sulfur content of the fuel, and calculations of the excess emissions or opacity exceedances generated, and identify which particular regulation, permit, or ACO provision was violated for each unit.
3. A record of the number of hours and dates, type of fuel, quantity of fuel used, and sulfur content of fuel that PREPA used for each emergency generator at San Juan, Palo Seco, Aguirre, Costa Sur, Mayaguez, Cambalache, Daguao, and Jobos.
4. A description of how the energy was used, including any benefits provided to the public.

B. To the extent that PREPA has already operated any units listed in Item 2 of the Request without the water or ammonia required to operate pollution control equipment as a direct result of water or ammonia supply disruptions following Hurricane Fiona, it shall provide the number of hours of operation without the necessary controls, along with the date(s) each unit operated without the necessary controls.

Through today's NAA, EPA is continuing its commitment to address the very difficult circumstances caused by Hurricane Fiona. Nothing in this NAA is intended to override state or local authorities, including those of the Commonwealth of Puerto Rico.

The NAA terminates at 11:59 PM Atlantic Standard Time on October 17, 2022. The issuance of an NAA for this period of time is in the public interest. EPA reserves the right to extend, revoke, or modify the NAA at any time. This NAA does not apply to any other federal requirements that may apply to regulated activities at these facilities other than those listed above.

Nothing in this exercise of enforcement discretion relieves any person of the obligation under law, if any, to report emissions from the operation of equipment covered by this action.

If you have any questions, please contact Sparsh Khandeshi at 202-564-9913 or Khandeshi.Sparsh@epa.gov.

Sincerely,

LAWRENCE STARFIELD Digitally signed by LAWRENCE STARFIELD Date: 2022.10.07 17:54:07 -04'00'

Lawrence E. Starfield
Acting Assistant Administrator

cc: Lisa F. Garcia, Regional Administrator, EPA Region 2