



U.S. Environmental Protection Agency
Office of Compliance and Enforcement
1200 Pennsylvania Avenue, NW
Washington, DC 20460

U.S. Environmental Protection Agency, Region 2
Caribbean Environmental Protection Division
Multimedia Permits and Compliance Branch

Industrial Facility NPDES Compliance Evaluation Inspection

Puerto Rico Electric Power Authority (PREPA)

G.P.O. Box 364267, San Juan, Puerto Rico 00936-4267

PALO SECO POWER PLANT

PR165 Km. 3.8

Levittown, Puerto Rico 00949

Coordinates: 18.457778° N; -66.148889° W

Sections 301 and 402 of the Clean Water Act
NPDES Regulations: 40 C.F.R. Part 122

NPDES Permit Number: PR0001031

Inspection Date: May 20, 2022

Inspection Report Prepared by:

Kevin Stockton
CWA Contract Inspector
PG Environmental

(720) 789-8050 kevin.stockton@pgenv.com

7/1/2022
(date)

On Behalf of:

Jaime López
Senior Enforcement Officer/Physical Scientist
Clean Water Act Team, U.S. EPA Region 2, CEPD
(787) 977-5851 Lopez.Jaime@epa.gov

7-17-2022
(date)

Approving Officer:

JOSE RIVERA

Digitally signed by JOSE RIVERA
Date: 2022.07.18 12:14:35 -04'00'

José A. Rivera
Lead Environmental Engineer
Clean Water Act Team, U.S. EPA Region 2, CEPD

(date)

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Section 1.0 Introduction

On May 20, 2022, representatives from the U.S. Environmental Protection Agency (EPA) and an EPA contractor, PG Environmental, (hereinafter, collectively, the EPA Inspection Team) conducted a Compliance Evaluation Inspection (CEI) of the Puerto Rico Electrical Power Authority (PREPA) Palo Seco Power Plant facility located in Levittown, Puerto Rico (hereinafter, the Facility).

Discharges of industrial wastewater and stormwater from the Facility are regulated under National Pollutant Discharge Elimination System (NPDES) Permit No. PR0001031, effective April 1, 2016 (hereinafter, the Permit). The Permit expired on March 31, 2021 and was administratively extended at the time of the inspection. On April 1999, PREPA entered in a Consent Decree (CD), Civil Action No. 93-2527 CCC, with the United States Department of Justice (DOJ) and EPA for violations of the CWA.

The purpose of the CEI was to evaluate PREPA's operation and maintenance of the wastewater treatment facilities and storm water collection system, and its implementation of programs and procedures to fulfill requirements of the Permit. The CEI consisted of an entry meeting to discuss the purpose of the Inspection, a Facility walkthrough to evaluate operational and maintenance conditions, a records review to assess documentation protocols, and a closing meeting to discuss preliminary findings and areas of concern. The EPA Inspection Team conducted the records review off site using information provided electronically by Facility representatives following the onsite inspection.

The EPA Inspection Team arrived at the Facility at 8:30 AM (AST) for the inspection. Kevin Stockton of PG Environmental displayed his Clean Water Act inspector credential to the Facility representatives at the outset of the inspection and explained the purpose of the CEI was to observe compliance with the Permit. Table 1 describes the individuals that participated in the inspection.

Table 1. Primary Representatives Involved in the Inspection

Organization	Representatives
PREPA	Indira Mohip, Division Head Zulma Matos, Administrator Antonio J. Kalil, Plant Manager Marta I. Silva, PREPA Lidia M Colón, PREPA Yaritza Acevedo, AEE/DPACC Abraham Rivera, AEE Luis Carrillo, AEE
EPA Representatives	Jaime López, CEPD
EPA Contractor Representatives	Kevin Stockton, PG Environmental Page Cirillo, PG Environmental

During the field components of the inspection, the weather was sunny and temperatures were around 85 degrees Fahrenheit. National Oceanic and Atmospheric Administration (NOAA) data was not available for Levittown, so Table 2, below, shows precipitation totals from a nearby NOAA weather station in San Juan for the date of the inspection and seven days prior.

Table 2. Precipitation Totals for San Juan, Puerto Rico¹

Date	Precipitation (in)
5/13/2022	0.06
5/14/2022	0.04
5/15/2022	0.01
5/16/2022	0.04
5/17/2022	0.01
5/18/2022	0.00
5/19/2022	0.01
5/20/2022	0.00

This report presents observations made by the EPA Inspection Team about conditions at the Facility and protocols implemented by PREPA in order to comply with the provisions of the Permit. However, the observations presented in this report do not constitute formal findings of compliance. Appendix A contains a copy of the Permit. Appendix B, Photograph Log, contains photographs taken by the EPA Inspection Team at the Facility. Appendix C, Exhibit Log, contains relevant documentation reviewed by the EPA Inspection Team.

Section 2.0 Facility Description

PREPA owns and operates the Palo Seco Power Plant, which is engaged in the generation and transmission of electricity. The Facility consists of four oil-fired boilers that combine for a total maximum generating capacity of 602 megawatts (MW). The Facility also has six gas-fired turbines (22 MW each). Number 6-fuel oil (Bunker C) is used in the oil-fired boilers and No. 2-fuel oil is used in the gas-fired turbines. Figure 1, below, depicts the Facility's location in Levittown, PR, west of San Juan, Puerto Rico.

¹ Source: National Oceanic and Atmospheric Administration weather station RQW00011641 near San Juan, Puerto Rico.



Figure 1. Facility Location Map. Source: Google Earth, imagery date: 5/3/2021

The Facility's onsite wastewater treatment plant provides treatment for the industrial wastewater generated during the power generation process. The wastewater treatment plant consists of three influent equalization tanks, two Nautilus flocculation and clarification units, effluent polishing filters, and two sludge settling basins. The plant's effluent is discharged into Jobes Bay, a navigable water of the United States. Settled sludge from the industrial wastewater treatment process is hauled to a landfill for disposal.

Stormwater drainage is collected by storm drains throughout the Facility that discharge via subsurface conveyances to in-ground oil water separators (OWSs) and subsequently to the Facility's NPDES-permitted outfalls. [Appendix C, Exhibit 1](#) contains a Facility map that identifies the stormwater collection, conveyance, and treatment system.

NPDES Permit

The Permit became effective on April 1, 2016. The Permit expired on March 31, 2021 and was administratively extended at the time of the inspection. The Permit contains effluent limitations for Outfalls 001A, 001C, and 002, monitoring and reporting requirements, and other conditions for compliance. The Permit authorizes PREPA to discharge the following waste streams to receiving waters through each outfall:

- Outfall 001A to San Juan Bay via Old Bayamon River Bed: condenser cooling water, cooling tower blowdown (Units 3 and 4), reverse osmosis plant reject water, equipment drains, screen wash water, stormwater runoff, hydrostatic test performed in tanks, groundwater from phreatic level, fire protection system test water.

- Outfall 001C to San Juan Bay via Old Bayamon River Bed: wastewater treatment plant effluent, cooling tower blowdown and boiler blowdown from the rerouted 001B, equipment drains, stormwater runoff, hydrostatic test performed in tanks, groundwater from phreatic level.
- Outfall 002 to Boca Vieja Bay: stormwater runoff.

Consent Decree

On April 1999, PREPA entered in a Consent Decree (CD), Civil Action No. 93-2527 CCC, with the United States Department of Justice (DOJ) and EPA for violations of the CWA. The CD included injunctive relief and imposed civil penalties for violations of the effluent limitations and NPDES requirements pursuant to Sections 301 and 402 of the CWA. Also, the CD included, among others conditions, stipulated penalties and submittal of quarterly reports.

Section 3.0 Review of Facility Records

During the inspection, the EPA Inspection Team requested specific records from Facility Representatives related to implementation of programs and activities to comply with the requirements of the Permit. The records were provided to the EPA Inspection Team electronically following the inspection.

Pollution Prevention Plan (PPP) Plan

The EPA Inspection Team reviewed the Facility's PPP, which describes the Facility's potential pollution sources and procedures for preventing, containing, and minimizing impacts of materials stored and handled on site. Facility representatives explained that the PPP was developed in order to address both the Preventative Maintenance Plan (PMP) and Pollution Prevention and the Stormwater Pollution Prevention (SWPP) Plan/Best Management Practice (BMP) Plan requirements in the Permit (Parts IV.B.3 and IV.B.4, respectively).

Part V.B.1.v.2 of the Permit states, "the BMP Plan shall be reviewed every five years and modified as necessary."

Observation 1. The Facility's BMP Plan had not been updated for more than five years. At the time of the CEI, the Facility's most recent PPP, which includes the BMP Plan, was dated June 2016 (refer to Appendix C, Exhibit 2). Therefore, more than five years had passed since the PPP was reviewed and modified as necessary. Facility representatives explained that they were awaiting issuance of the next version of the Permit before updating the PPP.

Part V.B.1.v.5 of the Permit states, "The permittee shall comply at all times with the provisions, measures or practices included in the most recent version of the BMP Plan."

Part IV.B.4.f of the Permit states, "At least once each calendar year, the Permittee must conduct a Comprehensive Site Compliance Inspection when a stormwater discharge is occurring. Include the following areas in all inspections: access roads and rail lines; grit, screening, and

other solids handling; storage, or disposal areas; sludge drying beds; dried sludge piles; compost piles; and septage or hauled waste receiving station. Routine facility inspections of all areas of the facility where materials or activities exposed to stormwater, and of all stormwater control measures used must be conducted at least quarterly (i.e., once each calendar quarter), or more frequently (i.e., monthly), as appropriate.”

Observation 2. The Permittee had not implemented Facility inspections to comply with the Permit’s inspection requirements as described in the PPP. Section 10 of the Facility’s PPP describes procedures for inspecting twenty distinct areas of the Facility and Appendix A of the PPP includes an inspection form (refer to Appendix C, Exhibit 2). The EPA Inspection Team requested documentation of Facility inspections but none were provided and Facility representatives stated that documented Facility inspections were not implemented.

Part IV.B.4.n of the Permit states “The Permittee must train all employees who work in areas where industrial materials or activities are exposed to stormwater, or who are responsible for implementing activities necessary to meet the conditions of this permit (e.g., inspectors, maintenance personnel), including all members of the Pollution Prevention Team. Training must cover both the specific control measures used to achieve the effluent limits in this Part, and monitoring, inspection, planning, reporting, and documentation requirements in other parts of this permit. EPA recommends training be conducted at least annually (or more often if employee turnover is high).

Observation 3. The Permittee had not implemented an employee training program to comply with the Permit’s employee training requirements as described in the Facility’s BMP Plan. Section 11 of the Facility’s PPP (Employee Training) states that all employees are trained in specific topics including stormwater pollution prevention (refer to Appendix C, Exhibit 2). However, based on conversations with Facility representatives, a training program for all Facility employees on stormwater pollution prevention and good housekeeping did not exist.

Review of the Facility’s Discharge Monitoring Reports (DMRs)

During the onsite inspection, the EPA Inspection Team observed that the Facility’s DMRs were maintained in hard copies at the Facility. The files were maintained with corresponding laboratory data, including original test results, chains of custody, rain gauges data, and QA/QC data analysis results. The EPA Inspection Team’s period of review covered January 2019 through April 2022. Appendix C, Exhibit 3 contains a summary of the Facility’s reported effluent violations during the period of review.

Part III of the Permit includes effluent limits and monitoring requirements for each outfall.

Observation 4. The EPA Audit Team observed 31 effluent violations at Facility outfalls during the January 2019 through April 2022 period of review, 27 of which occurred at Outfall 001C and 4 of which occurred at Outfall 001A (refer to Appendix C, Exhibit 3). Twenty-two of the 27 Outfall 001C violations occurred when the effluent limitation for Copper (3.73 µg/L) was exceeded. The most common

reported cause for high copper concentrations in the Outfall 001C discharge was one of the two Nautilus units at the wastewater treatment plant being in need of maintenance. At the time of the inspection, the EPA Inspection Team noted that no effluent violations had occurred since January 2022, meaning that the Facility had not had any effluent violations for a period of more than three months, which is the threshold for significant noncompliance.

Observation 5. The EPA Audit Team observed 8 instances when the Permittee failed to perform Permit-required monitoring (four Outfall 001A and four at Outfall 001C). The Permittee reported that they “unintentionally” failed to take samples in March 2021 (refer to [Appendix C, Exhibit 3](#)).

Section 4.0 Facility Walkthrough

In order to assess current conditions of infrastructure and equipment at the Facility, the EPA Audit Team, accompanied by Facility representatives, toured the following locations during the CEI: NPDES permitted outfalls, internal sampling points, OWSs, materials storage areas, the onsite analytical laboratory, and the onsite wastewater treatment plant.

NPDES Outfalls

The EPA Inspection Team observed the following at the Facility’s NPDES Outfalls:

- Flow at Outfall 001A appeared clear and without foam (refer to [Appendix B, Photographs 1 and 2](#)).

The EPA Inspection Team observed a PVC pipe near Outfall 001A. The PVC pipe discharges flow from storm drains and a Stormceptor in the parking lot in the southeast area of the Facility into Old Bayamón River Bed (refer to [Appendix B, Photograph 3](#)). The pipe is not identified as an outfall in the Permit. The EPA Inspection Team did not observe any industrial activities in the parking lot that drains to Old Bayamón River Bed via the PVC pipe, but it should be noted that if the Facility were to commence any industrial activities in the drainage area, the pipe would meet the criteria of a unauthorized discharge point.

- The EPA Inspection Team was unable to directly observe Outfall 001C due to the outfall location being inaccessible. The nearest upstream point where Outfall 001C is observable is in OWS 001C. OWS 001C effluent appeared clear and without floatables at the time of the inspection (refer to [Appendix B, Photograph 4](#)).
- The EPA Inspection Team was unable to directly observe Outfall 002 due to the outfall location being inaccessible.

Analytical Laboratory and Monitoring Locations

The EPA Audit Team observed that written sampling procedures were maintained at the Facility’s analytical laboratory along with sampling instruments and equipment. Calibration logs

for Facility sampling instruments were also maintained in the laboratory and on some of the sampling probes at the Facility's internal sampling points. The EPA Audit Team recommended that Facility representatives put stickers on all field sampling instruments (thermometers, pH probes, flow meters, etc.) to identify when the instrument was last calibrated and when the next calibration is due. All monitoring locations and Outfalls observed by the EPA Inspection Team were identified with appropriate signage, except for internal sampling point IWS 001A-2 (refer to [Appendix B, Photograph 5](#)).

Condition 5 of Attachment B (Standard Conditions) of the Permit states, "The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back up or auxiliary facilities or similar systems which are installed by a Permittee only when the operation is necessary to achieve compliance with the conditions of the permit."

Observation 6. The Permittee had not fully implemented adequate quality assurance protocols to ensure accuracy of compliance sampling. Specifically, the EPA Inspection Team observed an automatic composite sampler located at Outfall 001C that did not have a thermometer inside to ensure that samples are properly preserved (refer to [Appendix B, Photograph 6](#)).

Wastewater Treatment Plant

At the time of the inspection, one of the three influent equalization tanks (Tank 3) at the Facility's wastewater treatment plant was out of service to repair a leak (refer to [Appendix B, Photographs 7, 9, and 9](#)). Additionally, one of the two Nautilus units at the Facility's wastewater treatment plant was out of service for maintenance and repairs (refer to [Appendix B, Photographs 10 through 13](#)). The EPA Inspection Team observed the Facility's two sludge basins, where sludge from the wastewater treatment process is dried out so it can be hauled away for disposal at a landfill. At the time of the inspection, both of the Facility's sludge basin contained liquid sludge, but only the south pond was actively receiving flow (refer to [Appendix B, Photographs 14 and 15](#)).

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Observation 7. Some equipment at the Facility's wastewater treatment plant was in need of maintenance. In addition to the out-of-service Nautilus unit mentioned above, Facility representatives explained that one contributing factor in the Facility's history of effluent violations for metals was that the polishing filters had exceeded their useful life (refer to [Appendix B, Photograph 16](#)). Facility

representatives stated that they were planning to submit a request for funding to have the filters replaced, but were unsure whether the request would be approved or when the work would be scheduled.

Additionally, the EPA Inspection Team observed vegetative growth in the Facility's south sludge basin (refer to [Appendix B, Photograph 14](#)).

Oil/Water Separators (OWSs) and Stormwater Conveyances

The EPA Inspection Team observed the Facility's OWSs, storm drains, and areas with industrial activity that drain to the Facility's NPDES Outfalls.

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Observation 8. The Permittee had not properly operated and maintained OWSs at the facility. Specifically, OWS #4 in the southwest area of the Facility appeared to have overflowed and staining and sediment accumulation was present on the surrounding impervious surface (refer to [Appendix B, Photograph 17](#)). Staining and sediment accumulation was also present on the impervious surface around upgradient unprotected storm drain inlets which drain to OWS #4 (refer to [Appendix B, Photographs 18 and 19](#)). The EPA Inspection Team observed an active leak of oil into a secondary containment basin from one of the gas turbines immediately upgradient OWS #4 (refer to [Appendix B, Photographs 20 and 21](#)).

Part IV.B.5.i of the Permit (Good Housekeeping) states, "The permittee must keep clean all exposed areas that are potential sources of pollutants, using such measures as sweeping at regular intervals, keeping materials orderly and labeled, and storing materials in appropriate containers."

Observation 9. The Permittee had not implemented good housekeeping practices to keep clean all exposed areas that are potential sources of pollutants. Specifically, the EPA Inspection Team observed the following on impervious surfaces upgradient from unprotected storm drain inlets that drain to the Facility's OWSs and NPDES permitted outfalls:

- Unlabeled 55-gallon drums containing fluid stored without cover or containment west of the Facility's oil-fired generating units (refer to [Appendix B, Photograph 22](#)).
- Metal equipment and materials stored without cover or containment (refer to [Appendix B, Photographs 23 through 26](#)).
- Petroleum product staining (refer to [Appendix B, Photographs 23, 24, and 25](#)).

- d. Uncovered dumpsters overfull with trash (refer to Appendix B, Photographs 27, 28, and 29).
- e. An unlabeled chemical tote containing oily residue stored without cover or containment near the mechanical building in the east area of the Facility (refer to Appendix B, Photographs 28, 29, and 30).

Section 5.0 Exit Meeting

On May 20, 2022, following the Facility walkthrough, the EPA Inspection Team held an exit meeting with Facility representatives to conclude the CEI and discuss preliminary observations. The EPA Inspection Team reiterated that all preliminary observations discussed were not compliance determinations. Any and all preliminary observations shared were subject to further investigation by the EPA Inspection Team upon the additional review of records and documentation. Additional observations may be contained in this inspection report that were not identified at the time of the closing conference after the additional review of materials following the inspection. The CEI concluded at approximately 2:00 pm.