

**GOVERNMENT OF PUERTO RICO
PUBLIC SERVICE REGULATORY BOARD
ENERGY BUERAU**

NEBR Received: Apr 15, 2021 9:51 PM

IN RE: PRELIMINARY STUDIES FOR
NEW COMBINED CYCLE POWER PLANT
IN PALO SECO

CASE NO.: NEPR-MI-2021-0003

SUBJECT: Motion to Submit April 2021
Monthly Status Report in Compliance with the
Order

**MOTION TO SUBMIT APRIL 2021 MONTHLY STATUS REPORT IN COMPLIANCE
WITH THE FEBRUARY 1ST, 2021 RESOLUTION AND ORDER.**

TO THE HONORABLE PUERTO RICO ENERGY BUREAU:

COMES NOW, the Puerto Rico Electric Power Authority, through its counsel of record and respectfully sets forth and prays:

1. On February 1st, 2021, the Puerto Rico Energy Bureau of the Public Service Regulatory Board (the “Energy Bureau”) entered a *Resolution and Order*¹ opening the captioned matter and directing the Puerto Rico Electric Power Authority (the “Authority”) to submit a monthly report regarding the status of the development of the studies for a new combined cycle gas turbine in the San Juan area.
2. The Authority submits the report titled *New Combined Cycle Planning and Studies Monthly Progress Status Report* dated April 15, 2021 (the “Monthly Progress Report”). Exhibit A. The report outlines the Authority’s progress in compliance with the Order.

WHEREFORE, the Authority respectfully requests the Energy Bureau to note the Authority’s compliance with the Order.

¹ *Resolution and Order* entered on February 1, 2021 (the “Order”)

RESPECTFULLY SUBMITTED.

In San Juan, Puerto Rico, April 15, 2021.

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/s Joannely Marrero Cruz
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CERTIFICATE OF SERVICE

It is hereby certified that, on this same date I have filed the above motion with the office of the Clerk of the Puerto Rico Energy Bureau and a courtesy copy of the filing was sent via e-mail to legal@lumamc.com; wayne.stensby@lumamc.com; mario.hurtado@lumamc.com

In San Juan, Puerto Rico, this 15th day of April 2021.

/s Joannely Marrero Cruz
Joannely Marrero Cruz

Exhibit A

New Combined Cycle Planning and Studies Monthly Progress Status Report dated April 15,2021



**Puerto Rico
Electric Power
Authority**

Puerto Rico Electric Power Authority (PREPA)

**New Combined Cycle Planning and Studies
Monthly Progress Status Report
April 15, 2021**

Introduction and Outline

Introduction:

- The Puerto Rico Energy Bureau’s Integrated Resources Plan (IRP) Final Resolution and Order, approved on August 24, 2020, establishes a limit of \$5 million in expenses for preliminary economic, siting, permitting and planning analysis of a combined cycle plant and fuel delivery infrastructure.
- PREPA is currently performing planning and studies for the construction of a new dual-fuel, combined cycle power plant in the San Juan area with a capacity between 300 and 400 MW and is not to exceed the Energy Bureau-approved \$5 million.
- This report outlines PREPA’s progress on this phase of the project and provides the following four elements requested by the Energy Bureau:
 - 1) A proper and adequate detailed description of the specific tasks and studies;
 - 2) The progress of such tasks;
 - 3) Gantt Chart of the timeline for the completion of the required preliminary work; and
 - 4) Copies of the contract originally executed for the preliminary work.

Report Outline	Page #
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Project Overview

Management Notes:

- The PREB's Resolution and Order on the 10-Year Plan on March 26, 2021, has determined that this feasibility study is aligned with the Approved IRP and the Modified Action Plan. The PREB has ordered PREPA to ensure that this study considers/includes the integration of new renewable energy near San Juan as contemplated in Task 1.
- S&L advisory contract amendment for funds related to this project been approved by the P3A.
- PREPA is working on the final modeling analysis and emissions inventory work related state implementation plan (SIP) to submit to the EPA (expected completion is end of May 2021). While this work is separate from the feasibility study project, it will lead to delays to Tasks 3, 4, 5, 24, 25, and 26.

Financials	
Approved Budget Baseline	\$5,000,000
Total Expenses From Previous Periods	\$444,567
Expenses This Period	\$412,891
Total Expenses	\$857,458
Total Expenses / Approved Budget Baseline	17.1%

Scope

37%

Planning Analysis

78%

In Progress

On-Budget

On-Schedule

Siting

28%

In Progress

On-Budget

On-Schedule

Permitting

15%

In Progress

On-Budget

On-Schedule

Preliminary Economic

10%

In Progress

On-Budget

On-Schedule

Max. Monthly Headcount (based on March)



11

PREPA's Headcount



7

Contractor's Headcount

18

Max. Total Headcount

Schedule Metrics

11/16/2020

Project Start Date

26

Total Scheduled Tasks

13

Pending Tasks On-Track

6/28/2021

Project End Date

0

YTD Tasks Completed

11

Pending Tasks Delayed

60%

Time Elapsed

13

Tasks Due in April

2

Pending Tasks Overdue

Significant Upcoming Milestones

Description	Target Period
Determine the effect of the renewables' growth in the grid and its potential solutions	2021 Q2
Determine if units will be decommissioned and replaced by the new combined cycle	2021 Q2
Develop a long-term gas agreement plan	2021 Q2
Prepare proposed relocation of the new combined cycle and present to stakeholders	2021 Q2



Project Tasks By Workstream

ID	Task Description	Resources Assigned	% Complete	Scheduled Start	Scheduled Finish	Status
Planning Analysis Workstream						
1	Renewable Energy Integration and New Combined Cycle Feasibility Study	Sargent & Lundy	60%	11/16/2020	5/28/2021	Delayed
2	Thermal Generation Retirement, Addition, and Conversion Plan	Sargent & Lundy	80%	12/18/2020	6/1/2021	Delayed
3	Environmental (Permitting) Due Diligence Report	PREPA	95%	12/18/2020	6/1/2021	Overdue
4	New Combined Cycle Power Plant Location Selection Report	Sargent & Lundy	80%	12/18/2020	6/7/2021	Overdue
5	Feasibility Study, Retirement Plan, Environmental Due Diligence Report, and Location Selection Report Approval From PREPA (Milestone)	PREPA	0%	6/15/2021	6/15/2021	Delayed
Siting Workstream						
6	Geotechnical Investigation	Sargent & Lundy	30%	1/11/2021	5/7/2021	Delayed
7	Site Survey	Sargent & Lundy	30%	1/11/2021	5/7/2021	Delayed
8	Design Criteria Update	Sargent & Lundy	90%	1/11/2021	4/23/2021	On Track
8	3D Model	Sargent & Lundy	0%	1/11/2021	5/14/2021	On Track
9	General Arrangement	Sargent & Lundy	20%	1/11/2021	4/30/2021	On Track



Project Tasks By Workstream (Cont'd)

ID	Task Description	Resources Assigned	% Complete	Scheduled Start	Scheduled Finish	Status
Siting Workstream (Cont'd)						
10	Heat Balance Analysis	Sargent & Lundy	80%	1/11/2021	4/30/2021	On Track
11	Water Balance Analysis	Sargent & Lundy	75%	3/1/2021	4/30/2021	On Track
12	Flood Study	Sargent & Lundy	0%	3/1/2021	4/30/2021	On Track
13	Process Flow Diagrams (P&IDs)	Sargent & Lundy	15%	3/1/2021	4/30/2021	On Track
14	Single Line Diagram	Sargent & Lundy	0%	2/1/2021	4/30/2021	On Track
15	Architectural Conceptual Design	Sargent & Lundy	35%	3/1/2021	5/15/2021	Delayed
16	Site Development Conceptual Design	Sargent & Lundy	10%	3/1/2021	4/30/2021	On Track
17	Site Grading and Drainage	Sargent & Lundy	0%	3/15/2021	4/30/2021	On Track
18	Major Foundation Conceptual Design	Sargent & Lundy	0%	4/1/2021	4/30/2021	On Track
19	Electrical Arrangements	Sargent & Lundy	20%	3/1/2021	4/30/2021	On Track



Project Tasks By Workstream (Cont'd)

ID	Task Description	Resources Assigned	% Complete	Scheduled Start	Scheduled Finish	Status
Permitting Workstream						
20	COE Environmental Application – Consultation	Sargent & Lundy	15%	1/1/2021	4/30/2021	On Track
21	NEPA EA Report – Consultation	Sargent & Lundy	15%	1/1/2021	5/30/2021	Delayed
22	Air Permit Application – Consultation	Sargent & Lundy	15%	1/1/2021	4/30/2021	On Track
23	NPDES Permit Application – Consultation	Sargent & Lundy	15%	1/1/2021	5/30/2021	Delayed
Preliminary Economic Workstream						
24	Project Cost Estimate – Full Combined Cycle Project	Sargent & Lundy	10%	1/11/2021	5/30/2021	Delayed
25	Project Schedule – Full Combined Cycle Project	Sargent & Lundy	10%	1/11/2021	5/30/2021	Delayed



Project Tasks By Workstream (Cont'd)

ID	Task Description	Resources Assigned	% Complete	Scheduled Start	Scheduled Finish	Status
Close-Out Tasks						
26	Final Report of all Deliverables Upon Completion for PREB (Milestone)	PREPA, Sargent & Lundy	0%	6/28/2021	6/28/2021	Delayed
27	New Combined Cycle Planning and Studies Phase One Results Submitted to COR3 ²	PREPA	0%	8/12/2021	8/12/2021	On Track
28	New Combined Cycle Planning and Studies Phase One Results Submitted to FEMA ²	PREPA	0%	10/12/2021	10/12/2021	On Track

= Tasks to be completed during Phase II

[2] Note: These milestones are expected to be completed after the end date of the New Combined Cycle Planning and Studies project and during later phases of the New Combined Cycle Project. These milestones completion dates assume PREB approval is received to continue with the New Combined Cycle project.



Appendix

Project Scope, Objectives and Benefits

The New Combined Cycle Planning and Studies Project Scope

- This phase of the project is designed to perform a preliminary economic, siting, permitting, and planning analysis of a new combined cycle plant and its fuel delivery infrastructure and/or energy storage, as mandated by the PREB.
- The Budget is not to exceed \$5 million for this phase and is scheduled from November 16, 2020 to May 15, 2021.

Project Objectives

- Assess and determine an optimal generation solution to mitigate severe storm hazards such as those experienced during and after Hurricane Maria.
- Assess the capability of PREPA's power grid to accommodate increased levels of renewable generation and its impact in the overall system stability and the need of thermal generation for grid stability.
- Illustrate the cost effectiveness of performing preliminary permitting and engineering activities for a new combined cycle plant while not interfering with or delaying the procurement of solar PV (or other renewable energy) and battery energy storage resources.

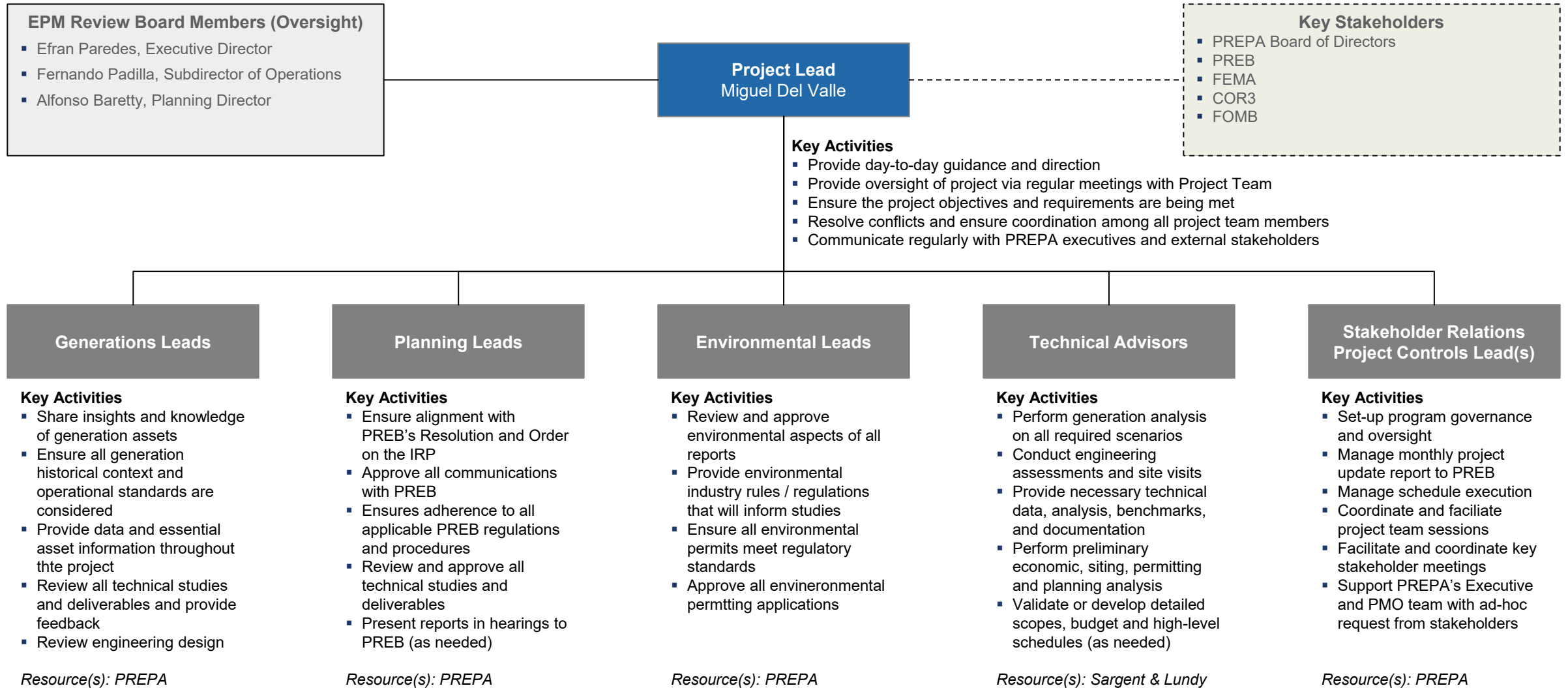
Project Benefits

- Protect against the uncertainty of near-future solar PV and battery energy storage price outcomes, or other potential reliability concerns by continuing with these planning and studies in parallel with the renewable procurements.
- Determine the most cost-effective generation solution¹ for the northern part of the island.
- Determine the most optimal generation solution¹ that mitigates the hazards from major catastrophic events (e.g., hurricanes).

[1] Note: In collaboration with and seeking the approval of the Energy Bureau.



Project Organization Structure



New Combined Cycle Planning and Studies Monthly Progress Status Report April 15, 2021

ID	Task Name	Duration	Start	Finish	% Complete
1	New Combined Cycle Planning and Studies	160 days	Mon 11/16/20	Mon 6/28/21	37%
2	Planning Analysis Workstream	151 days	Mon 11/16/20	Tue 6/15/21	78%
3	Renewable Energy Integration and New Combined Cycle Feasibility Study	140 days	Mon 11/16/20	Fri 5/28/21	60%
4	Thermal Generation Retirement, Addition, and Conversion Plan	118 days	Fri 12/18/20	Tue 6/1/21	80%
5	Environmental (Permitting) Due Diligence Report	118 days	Fri 12/18/20	Tue 6/1/21	95%
6	New Combined Cycle Power Plant Location Selection Report	122 days	Fri 12/18/20	Mon 6/7/21	80%
7	Feasibility Study, Retirement Plan, Environmental Due Diligence Report, and Location Selection Report Approval From PREPA	0 days	Tue 6/15/21	Tue 6/15/21	0%
8	Siting Workstream	90 days	Mon 1/11/21	Sat 5/15/21	28%
9	Geotechnical Investigation	85 days	Mon 1/11/21	Fri 5/7/21	30%
10	Site Survey	85 days	Mon 1/11/21	Fri 5/7/21	30%
11	Design Criteria Update	75 days	Mon 1/11/21	Fri 4/23/21	90%
12	3D Model	90 days	Mon 1/11/21	Fri 5/14/21	0%
13	General Arrangement	80 days	Mon 1/11/21	Fri 4/30/21	20%
14	Heat Balance Analysis	45 days	Mon 3/1/21	Fri 4/30/21	80%
15	Water Balance Analysis	45 days	Mon 3/1/21	Fri 4/30/21	75%
16	Flood Study	45 days	Mon 3/1/21	Fri 4/30/21	0%
17	Process Flow Diagrams (P&IDs)	45 days	Mon 3/1/21	Fri 4/30/21	15%
18	Single Line Diagram	65 days	Mon 2/1/21	Fri 4/30/21	0%
19	Architectural Conceptual Design	56 days	Mon 3/1/21	Sat 5/15/21	35%
20	Site Development Conceptual Design	45 days	Mon 3/1/21	Fri 4/30/21	10%
21	Site Grading and Drainage	35 days	Mon 3/15/21	Fri 4/30/21	0%
22	Major Foundation Conceptual Design	22 days	Thu 4/1/21	Fri 4/30/21	0%
23	Electrical Arrangements	45 days	Mon 3/1/21	Fri 4/30/21	20%
24	Permitting Workstream	100 days	Mon 1/11/21	Sun 5/30/21	15%
25	COE Environmental Application – Consultation	80 days	Mon 1/11/21	Fri 4/30/21	15%
26	NEPA EA Report – Consultation	101 days	Mon 1/11/21	Sun 5/30/21	15%
27	Air Permit Application – Consultation	80 days	Mon 1/11/21	Fri 4/30/21	15%

New Combined Cycle Planning and Studies Monthly Progress Status Report April 15, 2021

ID	Task Name	Duration	Start	Finish	% Complete
28	NPDES Permit Application – Consultation	101 days	Mon 1/11/21	Sun 5/30/21	15%
29	Preliminary Economic	100 days	Mon 1/11/21	Sun 5/30/21	10%
30	Project Cost Estimate	101 days	Mon 1/11/21	Sun 5/30/21	10%
31	Project Schedule	101 days	Mon 1/11/21	Sun 5/30/21	10%
32	Close-out Workstream	0 days	Mon 6/28/21	Mon 6/28/21	0%
33	Final Report of all Deliverables Upon Completion for PREB	0 days	Mon 6/28/21	Mon 6/28/21	0%

New Combined Cycle Planning and Studies Monthly Progress Status Report April 15, 2021

Baseline Finish	Qtr 4, 2020			Qtr 1, 2021			Qtr 2, 2021			Qtr 3, 2021	
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	
Fri 4/30/21											
Fri 4/30/21											
Fri 4/30/21											
Fri 4/30/21											
Sat 5/15/21										◆ 6/28	
Sat 5/15/21										◆ 6/28	