

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

NEPR

Received:

Sep 16, 2021

2:16 AM

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

CASE NO.: NEPR-MI-2021-0003

SUBJECT: Motion to Submit September
2021 Status Report in Compliance with Order
Entered on February 1, 2021

**MOTION TO SUBMIT SEPTEMBER 2021 STATUS REPORT IN COMPLIANCE
WITH ORDER ENTERED ON FEBRUARY 1, 2021**

TO THE HONORABLE PUERTO RICO ENERGY BUREAU:

COMES NOW, the Puerto Rico Electric Power Authority (PREPA), through its counsel of record, and respectfully submits and prays:

On February 1, 2021, the Puerto Rico Energy Bureau of the Public Service Regulatory Board (the “Energy Bureau”) entered *Resolution and Order* opening the captioned matter and directing PREPA to, on the 15th day of each subsequent month, submit a report on the status of the development of studies for a new combined cycle gas turbine in the San Juan area. In compliance with the Order, PREPA herein submits the report titled *New Combined Cycle Planning and Studies Monthly Progress Status Report* dated September 15, 2021 (the “Status Report”). Exhibit A. The Status Report outlines and details the PREPA’s progress in the development of the studies.

WHEREFORE, PREPA respectfully requests the Energy Bureau to determine that PREPA has complied with the Order.

RESPECTFULLY SUBMITTED.

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

/s Katuska Bolaños-Lugo

Katuska Bolaños-Lugo

kbolanos@diazvaz.law

TSPR 18,888

Joannely Marrero-Cruz

jmarrero@diazvaz.law

TSPR 20,014

DÍAZ & VÁZQUEZ LAW FIRM, P.S.C.

290 Jesús T. Piñero Ave.

Oriental Tower, Suite 803

San Juan, PR 00918

Tel.: (787) 395-7133

Fax. (787) 497-9664

EXHIBIT A

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



**Puerto Rico
Electric Power
Authority**

Puerto Rico Electric Power Authority (PREPA)

**New Combined Cycle Planning and Studies
Monthly Progress Status Report
September 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.

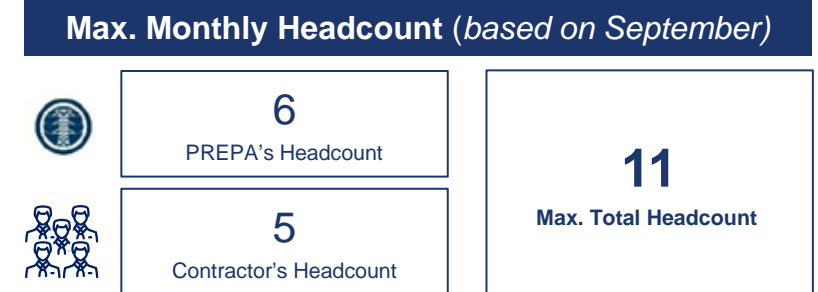
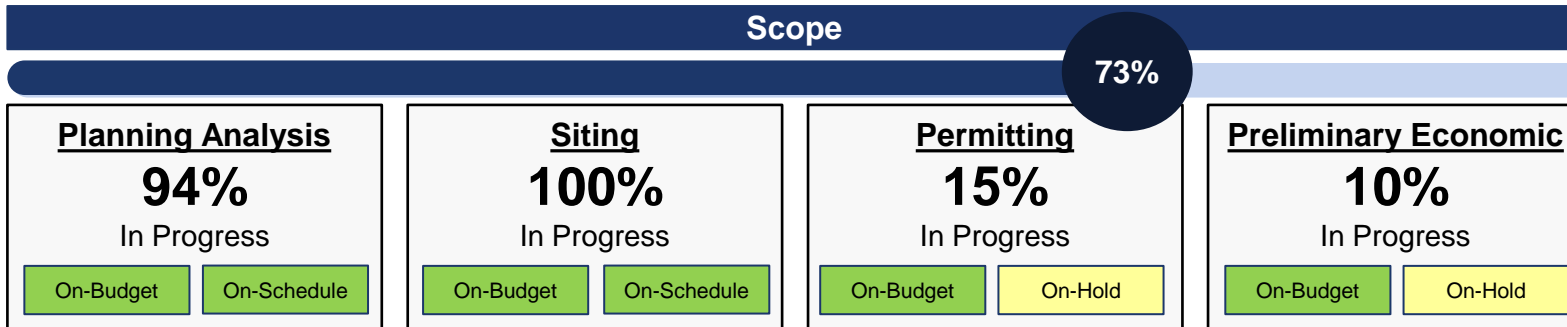
Report Outline	Page #
§ Introduction and Outline.....	2
§ Project Overview.....	3
§ Project Tasks By Workstream.....	4
§ Project Tasks By Workstream – Phase 2.....	7
§ Appendix.....	8

Project Overview

Management Notes:

- § The draft Renewable Integration Study (Task 1) has been completed pending official submittal to PREB
- § Other reports completed pending official submittal to PREB are: Environmental (Permitting) Due Diligence Report (Task 3) and New Combined Cycle Power Plant Location Selection Report (Task 4)
- § The Feasibility Report for the Combined Cycle (Task 5) is expected to be completed by the end of September 2021
- § Sitting workstreams are currently with PREPA and will require updates after site selection is completed
- § Remaining tasks noted for the Combined Cycle Project are on hold pending the approval to continue engineering for the Combined Cycle Phase I deliverables under FEMA 404
- § Expenses this period represent invoiced amount for the completed Planning Analysis Workstream Studies
- § The Combined Cycle Feasibility report is expected to be completed by Sep 30, 2021. Once completed, a request to proceed with FEMA 404 Phase I — Engineering (only) for the combined cycle project will be filed with the PREB. A scope of Phase I and timeline will be included with the request.

Financials	
Approved Budget Baseline	\$5,000,000
Total Expenses From Previous Periods	\$808,146
Expenses This Period	\$419,305
Total Expenses	\$1,227,448
Total Expenses / Approved Budget Baseline	24.50%



Schedule Metrics

11/16/2020 Project Start Date	23 Total Scheduled Tasks	4 Pending Tasks On-Track
11/15/2021 Project End Date	15 YTD Tasks Completed	4 Pending Tasks On-Hold
79% Time Elapsed	3 Tasks Due in September	0 Pending Tasks Overdue

Significant Upcoming Milestones

Description	Target Period
Prepare proposed relocation of the new combined cycle and present to stakeholders	2021 Q3
Determine the effect of the renewables' growth in the grid and its potential solutions	2021 Q3
Finalize the Renewable Integration Study and Submit to PREB	2021 Q3
Determine Project Schedule and Cost Estimate for the Full Combined Cycle Project	2021 Q4



Project Tasks By Workstream

ID	Task Description	% Complete	Scheduled Start	Scheduled / Actual Finish	Status
Planning Analysis Workstream					
1	Renewable Integration Study	99%	11/16/2020	9/15/2021	On-Track
2	Retirement of Existing Thermal Resources Report – Updated every 6 months after initial release <i>(Reference in Final IRP O&R – Pg. 270, ¶¶ 869-878)</i>	100%	2/17/2021	5/17/2021	Completed
3	Environmental (Permitting) Due Diligence Report	99%	12/18/2020	9/15/2021	On-Track
4	New Combined Cycle Power Plant Location Selection Report	99%	12/18/2020	9/15/2021	On-Track
5	Feasibility Study, Environmental Due Diligence Report, and Location Selection Report Approval From PREPA (Milestone)	50%	6/15/2021	9/30/2021	On-Track
Siting Workstream					
6	Geotechnical Investigation	100%	1/11/2021	4/30/2021	Completed
7	Site Survey	100%	1/11/2021	4/30/2021	Completed
8	Design Criteria Update	100%	1/11/2021	5/21/2021	Completed
9	General Arrangement	100%	1/11/2021	6/28/2021	Completed



Project Tasks By Workstream (Cont'd)

ID	Task Description	% Complete	Scheduled Start	Scheduled / Actual Finish	Status
Siting Workstream (Cont'd)					
10	Heat Balance Analysis	100%	1/11/2021	4/30/2021	Completed
11	Water Balance Analysis	100%	3/1/2021	3/5/2021	Completed
12	Flood Study	100%	3/1/2021	6/14/2021	Completed
13	Process Flow Diagrams (P&IDs)	100%	3/1/2021	5/14/2021	Completed
14	Single Line Diagram	100%	2/1/2021	5/14/2021	Completed
15	Architectural Conceptual Design	100%	3/1/2021	6/28/2021	Completed
16	Site Development Conceptual Design	100%	3/1/2021	6/28/2021	Completed
17	Site Grading and Drainage	100%	3/15/2021	6/28/2021	Completed
18	Major Foundation Conceptual Design	100%	4/1/2021	6/28/2021	Completed
19	Electrical Arrangements	100%	3/1/2021	6/28/2021	Completed



Project Tasks By Workstream (Cont'd)

ID	Task Description	% Complete	Scheduled Start	Scheduled / Actual Finish	Status
Permitting Workstream					
20	COE Environmental Application – Consultation*	15%	1/11/2021	10/15/2021	On-Hold
Preliminary Economic Workstream					
21	Project Cost Estimate – Full Combined Cycle Project*	10%	1/11/2021	10/15/2021	On-Hold
22	Project Schedule – Full Combined Cycle Project*	10%	1/11/2021	10/15/2021	On-Hold
Close-Out Tasks					
23	Final Report of all Deliverables Upon Completion for PREB (Milestone)*	0%	6/28/2021	11/15/2021	On-Hold

* Tasks on hold pending approval to continue engineering for the Combined Cycle Phase I deliverables under FEMA 404



Project Tasks By Workstream – Phase 2

ID	Task Description	% Complete	Scheduled Start	Scheduled / Actual Finish	Status
Planning Analysis Workstream					
1	10-Year Thermal Generation Retirement, Addition, and Conversion Plan* <i>(Draft released to PREPA December 30, 2020)</i>	80%	12/18/2020	10/29/2021	On-Hold
Siting Workstream					
2	3D Model*	0%	5/3/2021	10/15/2021	On-Hold
Permitting Workstream					
3	NEPA EA Report – Consultation*	15%	1/11/2021	10/15/2021	On-Hold
4	Air Permit Application – Consultation*	15%	1/11/2021	10/15/2021	On-Hold
5	NPDES Permit Application – Consultation*	15%	1/11/2021	10/15/2021	On-Hold
Close-Out Tasks					
6	New Combined Cycle Planning and Studies Phase One Results Submitted to COR3*	0%	8/12/2021	10/15/2021	On-Hold
7	New Combined Cycle Planning and Studies Phase One Results Submitted to FEMA*	0%	10/12/2021	10/12/2021	On-Hold

* Tasks on hold pending approval to continue engineering for the Combined Cycle Phase I deliverables under FEMA 404

Note: These tasks and milestones are expected to be completed after the end date of the New Combined Cycle Planning and Studies project phase 1 and during later phases of 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 was originally scheduled from November 16, 2020 to July 9, 2021. However, due to loss of employees and transfer of responsibilities among PREPA staff during the PREPA to LUMA transition much of this work was disrupted and is now re-starting. The revised expected completion day is November 15, 2021.

Project Objectives

- § Assess the feasibility of a reliable and cost-effective optimal power generation solution to mitigate severe category 5 storms such as those experienced during and after hurricane Maria, as well as other natural disasters including earthquakes.
- § Assess the capability of PREPA's power grid to accommodate increased levels of renewable generation and its impact in the overall electrical system stability and the need of synchronous thermal generation to maintain 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.

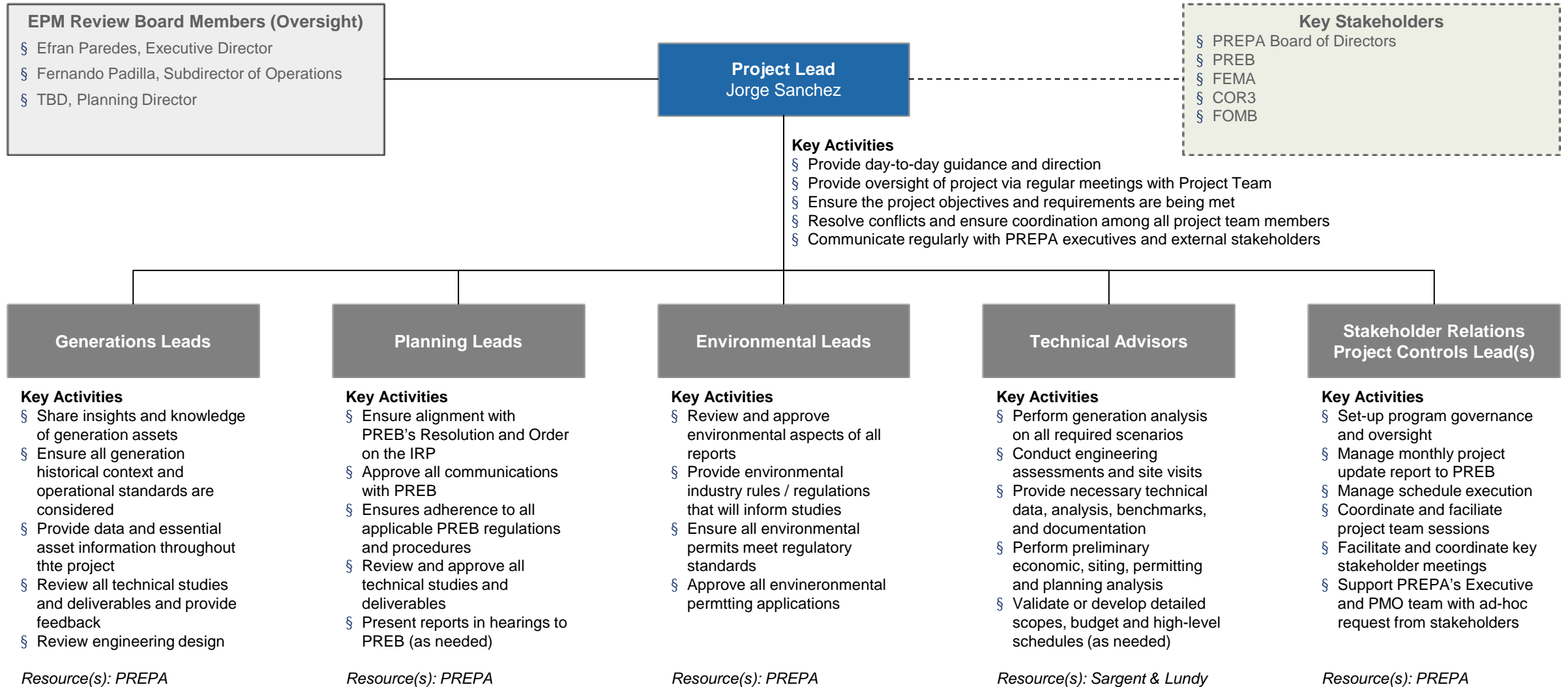
Project Benefits

- § 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 reliable and cost-effective generation solution for the northern part of the island¹.
- § Determine the most optimal generation solution that mitigates the hazards from major catastrophic events (e.g., hurricanes and earthquakes)¹.

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



Project Organization Structure



The New Combined Cycle Planning and Studies Project has been re-baselined to reflect PREB's most recent requirement and other external dependencies. This re-baseline will have an impact on the completion date of several deliverables.

§ **PREB Requirement**

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

ID	Task Name	Duration	Start	Finish	% Complete	Baseline Finish	Gantt Chart														
							Qtr 4, 2020	Qtr 1, 2021	Qtr 2, 2021	Qtr 3, 2021	Qtr 4, 2021										
							Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	New Combined Cycle Planning and Studies Phase 1	261 days	Mon 11/16/20	Mon 11/15/21	73%	Mon 11/15/21															
2	Planning Analysis Workstream	229 days	Mon 11/16/20	Thu 9/30/21	94%	Wed 9/15/21															
3	Renewable Integration Study	218 days	Mon 11/16/20	Wed 9/15/21	99%	Mon 8/30/21															
4	Retirement of Existing Thermal Resources Report	64 days	Wed 2/17/21	Mon 5/17/21	100%	Mon 5/17/21															
5	Environmental (Permitting) Due Diligence Report	194 days	Fri 12/18/20	Wed 9/15/21	99%	Tue 6/1/21															
6	New Combined Cycle Power Plant Location Selection Report	194 days	Fri 12/18/20	Wed 9/15/21	99%	Wed 9/15/21															
7	Feasibility Study, Environmental Due Diligence Report, and Location Selection Report Approval From PREPA	78 days	Tue 6/15/21	Thu 9/30/21	50%	Wed 9/15/21															
8	Siting Workstream	121 days	Mon 1/11/21	Mon 6/28/21	100%	Mon 6/28/21															
9	Geotechnical Investigation	85 days	Mon 1/11/21	Fri 5/7/21	100%	Fri 5/7/21															
10	Site Survey	85 days	Mon 1/11/21	Fri 5/7/21	100%	Fri 5/7/21															
11	Design Criteria Update	95 days	Mon 1/11/21	Fri 5/21/21	100%	Fri 5/21/21															
12	General Arrangement	121 days	Mon 1/11/21	Mon 6/28/21	100%	Mon 6/28/21															
13	Heat Balance Analysis	45 days	Mon 3/1/21	Fri 4/30/21	100%	Fri 4/30/21															
14	Water Balance Analysis	5 days	Mon 3/1/21	Fri 3/5/21	100%	Fri 3/5/21															
15	Flood Study	76 days	Mon 3/1/21	Mon 6/14/21	100%	Mon 6/14/21															
16	Process Flow Diagrams (P&IDs)	55 days	Mon 3/1/21	Fri 5/14/21	100%	Fri 5/14/21															
17	Single Line Diagram	75 days	Mon 2/1/21	Fri 5/14/21	100%	Fri 5/14/21															
18	Architectural Conceptual Design	86 days	Mon 3/1/21	Mon 6/28/21	100%	Mon 6/28/21															
19	Site Development Conceptual Design	86 days	Mon 3/1/21	Mon 6/28/21	100%	Mon 6/28/21															
20	Site Grading and Drainage	76 days	Mon 3/15/21	Mon 6/28/21	100%	Mon 6/28/21															
21	Major Foundation Conceptual Design	63 days	Thu 4/1/21	Mon 6/28/21	100%	Mon 6/28/21															
22	Electrical Arrangements	86 days	Mon 3/1/21	Mon 6/28/21	100%	Mon 6/28/21															
23	Permitting Workstream	200 days	Mon 1/11/21	Fri 10/15/21	15%	Fri 10/15/21															
24	COE Environmental Application – Consultation	200 days	Mon 1/11/21	Fri 10/15/21	15%	Fri 10/15/21															
25	Preliminary Economic	200 days	Mon 1/11/21	Fri 10/15/21	10%	Fri 10/15/21															
26	Project Cost Estimate	200 days	Mon 1/11/21	Fri 10/15/21	10%	Fri 10/15/21															
27	Project Schedule	200 days	Mon 1/11/21	Fri 10/15/21	10%	Fri 10/15/21															
28	Close-out Workstream	101 days	Mon 6/28/21	Mon 11/15/21	0%	Mon 11/15/21															
29	Final Report of all Deliverables Upon Completion for PREB	101 days	Mon 6/28/21	Mon 11/15/21	0%	Mon 11/15/21															
30	New Combined Cycle Planning and Studies Phase 2	226 days	Fri 12/18/20	Fri 10/29/21	27%	Fri 10/29/21															
31	Planning Analysis Workstream Phase 2	226 days	Fri 12/18/20	Fri 10/29/21	80%	Fri 10/29/21															
32	Thermal Generation Retirement, Addition, and Conversion Plan	226 days	Fri 12/18/20	Fri 10/29/21	80%	Fri 10/29/21															
33	Siting Workstream Phase 2	120 days	Mon 5/3/21	Fri 10/15/21	0%	Fri 10/15/21															
34	3D Model	120 days	Mon 5/3/21	Fri 10/15/21	0%	Fri 10/15/21															
35	Permitting Workstream Phase 2	200 days	Mon 1/11/21	Fri 10/15/21	15%	Fri 10/15/21															
36	NEPA EA Report – Consultation	200 days	Mon 1/11/21	Fri 10/15/21	15%	Fri 10/15/21															
37	Air Permit Application – Consultation	200 days	Mon 1/11/21	Fri 10/15/21	15%	Fri 10/15/21															
38	NPDES Permit Application – Consultation	200 days	Mon 1/11/21	Fri 10/15/21	15%	Fri 10/15/21															
39	Close-out Workstream Phase 2	47 days	Thu 8/12/21	Fri 10/15/21	0%	Fri 10/15/21															
40	New Combined Cycle Planning and Studies Phase One Results Submitted to COR3	47 days	Thu 8/12/21	Fri 10/15/21	0%	Fri 10/15/21															
41	New Combined Cycle Planning and Studies Phase One Results Submitted to FEMA	0 days	Tue 10/12/21	Tue 10/12/21	0%	Tue 10/12/21															