

**GOBIERNO DE PUERTO RICO  
JUNTA REGLAMENTADORA DE SERVICIO PÚBLICO  
NEGOCIADO DE ENERGÍA DE PUERTO RICO**

**NEPR**

**Received:**

**Jan 29, 2021**

**7:00 PM**

IN RE: SOLICITUD DE PROPUESTAS  
PARA GENERACION TEMPORERA DE  
EMERGENCIA

CASO NÚM.:  
NEPR-AP-2020-0001

ASUNTO:  
Reporte de Estatus y Progreso

**MOCIÓN PARA PRESENTAR REPORTE DE ESTATUS Y  
PROGRESO FINAL Y SOLICITUD DE RELEVO DE ORDEN**

AL HONORABLE NEGOCIADO DE ENERGÍA:

COMPARECE la Autoridad de Energía Eléctrica de Puerto Rico a través de su representación legal y, en cumplimiento con la Orden del 22 de mayo del 2020,<sup>1</sup> presenta a el Negociado de Energía de la Junta Reglamentadora del Servicio Público (el “Negociado de Energía” o “Negociado”) el reporte titulado *Costa Sur Damage Assessment and Repairs Progress Status Report* fechado 29 de enero de 2021 (el “Reporte de Progreso”). Exhibit A. El Reporte de Progreso detalla las evaluaciones, reparaciones, compras y contrataciones relacionadas con la reparación de las unidades 5 y 6 de la Central Costa Sur.

Las labores de reparación en la Central Costa Sur han terminado y la Unidad 6 entró en servicio hoy 29 de enero de 2021.

POR TODO LO CUAL, la Autoridad solicita que el Negociado de Energía reciba el Reporte de Progreso anejado como último informe y releve a la Autoridad de cumplimiento con la Orden del 22 de mayo de 2020.

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<sup>1</sup> *Resolución y Orden* del Negociado de Energía del 22 de mayo del 2020 (la “Orden del 22 de mayo”).

RESPETUOSAMENTE SOMETIDO.

En San Juan, Puerto Rico, este 29 de enero de 2021.

/s Katuska Bolaños Lugo

Katuska Bolaños Lugo

[kbolanos@diazvaz.law](mailto:kbolanos@diazvaz.law)

TSPR 18,888

DÍAZ & VÁZQUEZ LAW FIRM, P.S.C.

290 Jesús T. Piñero Ave.

Oriental Tower, Suite 1105

San Juan, PR 00918

Tel. (787) 395-7133

Fax. (787) 497-9664

## CERTIFICADO DE NOTIFICACIÓN

Certifico que en el día de hoy he radicado esta moción utilizando el sistema electrónico de radicación del Negociado de Energía en la siguiente dirección: <http://radicacion.energia.pr.gov> y, además, que he enviado copia de cortesía vía correo electrónico a [rstgo2@gmail.com](mailto:rstgo2@gmail.com); [rolando@bufeteemmanuelli.com](mailto:rolando@bufeteemmanuelli.com); [jessica@bufete-emmanuelli.com](mailto:jessica@bufete-emmanuelli.com); [pedrosaade5@gmail.com](mailto:pedrosaade5@gmail.com); [larroyo@earthjustice.org](mailto:larroyo@earthjustice.org); [jluebkmann@earthjustice.org](mailto:jluebkmann@earthjustice.org); [rmurphy@earthjustice.org](mailto:rmurphy@earthjustice.org) y [hrivera@oipc.pr.gov](mailto:hrivera@oipc.pr.gov).

En San Juan, Puerto Rico, a 29 de enero de 2021.

s/ Katuska Bolaños Lugo  
Katuska Bolaños Lugo

Exhibit A

*Costa Sur Damage Assessment and Repairs Progress Status Report  
January 29, 2021*



**Puerto Rico  
Electric Power  
Authority**

# **Puerto Rico Electric Power Authority (PREPA)**

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**Costa Sur Damage Assessment and Repairs  
Progress Status Report  
January 29, 2020**

# Introduction and Outline

## Introduction

- This report outlines PREPA's progress in its assessment, repairs, and procurement activities related to the start-up of Costa Sur Unit 5 and Unit 6

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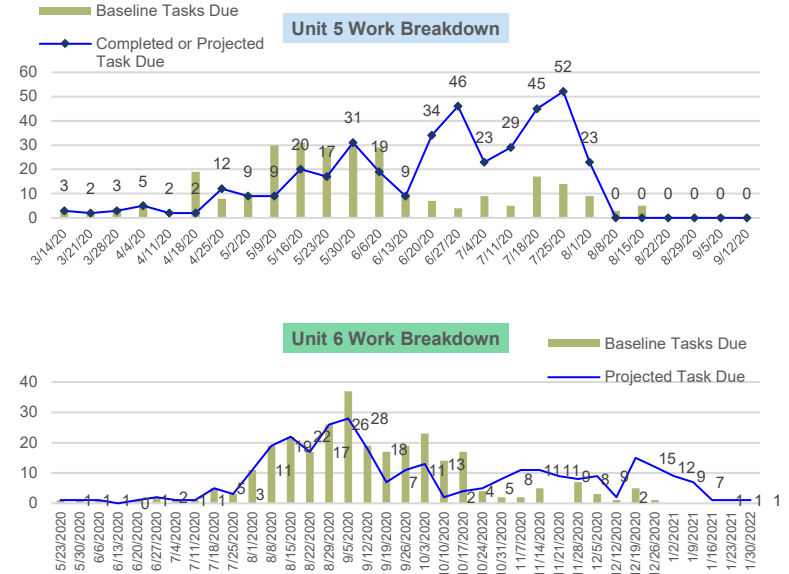


# Program Overview – Unit 5 & 6 Start-Up Activities

Budget	
Approved Budget for Program	\$40,200,000
Forecast Cost for Program (subject to change)	\$39,032,606
Unit 5 Start-Up	
A. Budget Baseline	\$25,200,000
B. Total Forecast Cost	\$18,343,058
C. Total Amount Invoiced (Contractors)	\$14,143,859
D. PREPA Expenses (Time & Materials)	\$4,128,360
E. Total Expenses (C+D)	\$18,272,220
F. Total Disbursements	\$17,467,069
Unit 6 Start-Up	
G. Budget Baseline	\$19,078,286
H. Total Forecast Cost	\$20,689,548
I. Total Amount Invoiced (Contractors)	\$12,602,891
J. PREPA Expenses (Time & Materials)	\$381,957
K. Total Expenses (I+J)	\$12,984,848
L. Total Disbursements	\$9,219,032

Procurement			
105 Total Procurements	20 Total Emergency Procurements	\$29.4M Total Amount Contracts Awarded	100% % Total Procurements Completed
Unit 5 Start-Up		Unit 6 Start-Up	
62 U5 Total Procurements	14 U5 Emergency Procurements	43 U6 Total Procurements	6 U6 Emergency Procurements
\$14.2M U5 Amount Contracts Awarded	100.0% U5 % Procurements Completed	\$15.2M U6 Amount Contracts Awarded	100.0% U6 % Procurements Completed

Schedule			
Unit 5 Start-Up		Unit 6 Start-Up	
3/23/2020 Repairs Start Date	8/1/2020 U5 Start-Up Date	6/1/2020 Repairs Start Date	1/29/2021 U6 Start-Up Date
100.0% Time Elapsed	100.0% % Completion	100.0% Time Elapsed	100.0% % Completion
401 Total Completed Tasks	0 Pending Tasks On-Track	312 Total Completed Tasks	0 Pending Tasks On-Track
0 Pending Tasks Delayed	0 Pending Tasks Overdue	0 Pending Tasks Delayed	0 Pending Tasks Overdue



Scope			
Unit 5 Start-Up		Unit 6 Start-Up	
55** Workstreams Identified	55 Workstreams at 100% Completion	27 Workstreams Identified	27 Workstreams at 100% Completion
Weekly Headcount (Maximum)*			
107* PREPA's Max Weekly Headcount		130* Max Total Weekly Headcount	
23* Contractor's Max Weekly Headcount			
Resource Breakdown			Headcount*
PREPA PMO			4
PREPA Costa Sur			61
PREPA Loan Employees			42
PREPA Electric Conservation			0
PREPA Electric Underground			0
BRAND			10
JR INSULATION			0
Master Link			4
ESI			9
ALONSO Y CARUS			0
Total			130

\* Maximum weekly headcount based on week starting on 01/18/2021  
\*\* Workstreams not associated with Unit 5 start-up activities were moved to either Unit 6 start-up schedule or under long-term repairs



## Unit 5 Status Overview



# Unit 5 Status Overview

100.0%

% Completion

100.0%

Time Elapsed

Management Notes:

Unit successfully delivered for commercial operations on 8/1/2020 (14 days ahead of schedule baseline date of 8/14)

Total cost associated with Unit 5 repairs is approximately \$18.3M (\$6.9M below the budget baseline submitted)

The PMO team continues to review the forecast cost for project closeout and adjust as needed.

Key Project Metrics

1/7/2020  
Outage Date

3/23/2020  
Repairs Start Date

\$25.2M  
Budget Baseline

8/1/2020\*  
U5 Start-Up Date

8/1/2020\*  
Project End Date

\$18.3M\*  
Forecast Expenses

Schedule Metrics

Metric	#	%
Scheduled Tasks	401	-
Completed Tasks	401	100.0%
Pending Task (On-Track)	0	0.0%
Pending Task (Delayed)	0	0.0%
Pending Task (Overdue)	0	0.0%

0  
Pending Tasks  
Due in July

0  
Pending Tasks  
Due in August

0  
Pending Tasks  
Due in September

Scope Metrics

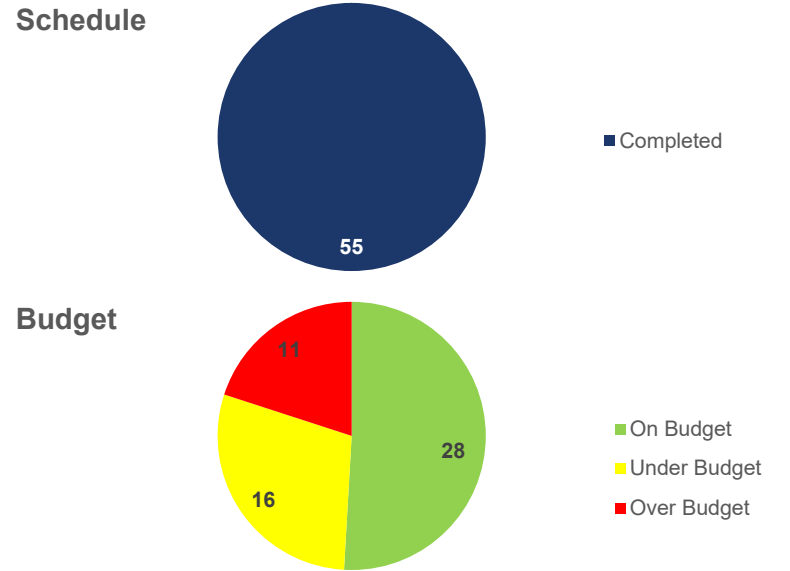
55  
Identified  
Workstreams\*\*\*

55  
Workstreams at  
100% Completion

100.0%  
% of Workstreams  
Completed

Financial Metrics

A. Budget Baseline	\$25,200,000
Expenses	
B. Total Forecast Cost*	\$18,343,058
C. Total Amount Invoiced	\$14,143,859
D. PREPA Related Expenses**	\$4,128,360
F. Total Expenses (C+D)	\$18,272,220
Balances	
G. Balance Available (A-F)	\$6,927,780
H. Forecast Balance (A-B)*	\$6,856,942
Disbursements	
I. Total Disbursements	\$17,467,069
J. % of YTD Expenses Paid (I/F)	95.6%



Max Weekly Headcount

PREPA's Max Weekly  
Headcount

0

Contractor's Max Weekly  
Headcount

0

Total Weekly Max  
Headcount

0

\* Excludes repairs not needed for start-up such as new Administrative and Laboratory buildings and concrete repairs discharge channel

\*\* Includes expenses related to PREPA's labor and warehouse materials

\*\*\* 7 Workstreams not associated with Unit 5 start-up activities were moved to either Unit 6 start-up schedule or under long-term repairs



# Summary by Initiative

Initiative Description	# Workstreams	% Completion	Pending Tasks	Finish Date	Budget Baseline	Total Forecast Amount	Total Committed	Total Invoices	Total Disbursements
01. Emergency Declaration	1	100%	0	3/23/2020	\$0	\$0	\$0	\$0	\$0
02. Engineering, Technical Studies & Inspection*	11	100%	0	7/29/2020	\$2,238,171	\$2,556,133	\$2,207,437	\$2,120,384	\$2,483,069
03. Asbestos Removal and Disposal Unit 5	1	100%	0	7/20/2020	\$199,000	\$0	\$199,000	\$0	\$0
04. Lead Removal Works Unit 5	1	100%	0	7/4/2020	\$1,111,843	\$201,175	\$209,969	\$201,175	\$101,564
05. Structural Repair Works Unit 5	3	100%	0	7/20/2020	\$3,431,193	\$2,099,731	\$2,083,193	\$2,099,731	\$2,099,731
06. Condensate Water Tank 5 Repairs	2	100%	0	7/23/2020	\$970,800	\$709,510	\$712,922	\$709,510	\$709,510
07. Boiler Unit 5 Repair Works	9	100%	0	7/24/2020	\$4,555,230	\$2,259,367	\$3,092,567	\$2,259,367	\$2,209,457
08. Auxiliary Equipment Inspection and Repair	9	100%	0	8/1/2020	\$4,659,436	\$3,325,457	\$3,631,442	\$3,278,207	\$3,278,208
09. Turbine Inspection and Repairs	1	100%	0	7/23/2020	\$0	\$193,110	\$193,110	\$193,110	\$193,110
10. Generator Inspection and Repairs	1	100%	0	7/28/2020	\$0	\$75,078	\$379,500	\$75,078	\$54,000
11. Operational Test and Control Tasks	5	100%	0	7/28/2020	\$144,000	\$0	\$0	\$0	\$0
12. Unit 5 Startup and Commissioning	1	100%	0	8/1/2020	\$72,000	\$0	\$0	\$0	\$0
13. Civil Repair and Other Areas Reconstruction	7	100%	0	7/27/2020	\$495,865	\$539,805	\$694,555	\$539,805	\$488,180
14. Inspections and Tests MPT	3	100%	0	8/1/2020	\$0	\$0	\$0	\$0	\$0
15. Supplementary Tasks, Future Works & Misc.***	7	95%	4	7/1/2021	\$7,306,755	\$2,689,048	\$2,959,211	\$2,667,493	\$2,155,596
16. Operation Expenses (Payroll, Materials, etc.)**	-	-	0	8/1/2020	\$0	\$3,694,645	\$3,694,645	\$0	\$3,694,645
					<b>\$25,184,292</b>	<b>\$18,343,058</b>	<b>\$20,057,551</b>	<b>\$14,143,859</b>	<b>\$17,467,069</b>

\* Includes PREPA expenses related to Program Management Office (PMO)

\*\* Includes expenses related to PREPA's craft labor and warehouse materials

\*\*\* Includes repairs and rebuild of administrative and laboratory buildings



Puerto Rico Electric  
Power Authority

# Unit 5 Procurement Plan - Awarded

The following table outlines the procurements awarded with new or existing contracts to support Costa Sur Assessment & Repairs:

#	Procurement Description	Procurement Type*	Cost	Associated Workstream #	Contract #	Contractor Name
1	MPT 4 Secondary Containment Repair Works	Emergency Procurement	\$46,198	48	86581	5 SENSES SOLUTIONS LLC.
2	MPT 5 Secondary Containment Repair Works	Emergency Procurement	\$16,120	57	86581	5 SENSES SOLUTIONS LLC.
3	Removal and Mitigation of Contaminated Soil Switchyard 115 kV	Emergency Procurement	\$19,928	59	86716	5 SENSES SOLUTIONS LLC.
4	Cleaning Main Turbine Oil Cooler (MOT)		\$9,994	62	87392	5 SENSES SOLUTIONS LLC.
5	Project Management and Data Analytics Support	Other	\$130,568	11	87670	ACUMENIAN LLC
6	A/C units duct fabrication		\$5,380	MISC	87147	AIT TECHNOLOGIES INC
7	A/C equipment and duct cleaning		\$86,595	19	86734	AIT TECHNOLOGIES INC
8	Natural Gas Line Pipe Structural Repair Works	Emergency Procurement	\$943,083	47	86823	ALL CONTRACTORS SERVICES CORP
9	Trailer for Costa Sur Repairs		\$39,225	54	86814	ALL CONTRACTORS SERVICES CORP
10	Temporary Laboratory Offices (Rental - 12 Months)	Emergency Procurement	\$68,050	53	87245	ALL CONTRACTORS SERVICES CORP
11	Temporary Administrative Offices (Rental - 12 Months)	Emergency Procurement	\$66,825	54	86552	ALL CONTRACTORS SERVICES CORP

\* Note: Service Upon Request Agreements refers to agreements that PREPA has in place to be used in the event that a need arises from one of the plants within the specified scope. Cost associated with these contracts are only a fraction of the total contract amount.



# Unit 5 Procurement Plan – Awarded (Cont'd)

The following table outlines the procurements awarded with new or existing contracts to support Costa Sur Assessment & Repairs:

#	Procurement Description	Procurement Type*	Cost	Associated Workstream #	Contract #	Contractor Name
12	Civil Works Control Room 5-6, Compressor Room, Shift Engineer Room	Emergency Procurement	\$413,827	26-29	86653	ALL CONTRACTORS SERVICES CORP
13	Crane Rental of 150 tons and 230 feet		\$263,000	MISC	82754	ALL CONTRACTORS SERVICES CORP
14	Turbine Oil Flush		\$183,116	62	80175	ALLIED POWER TECHNOLOGIES
15	NDT Services Unit 5	Emergency Procurement	\$45,360	32	86678	ALONSO CARUS IRON WORKS INC
16	Opacity Meter Purchase		\$87,891	43	84994	AP EQUIPMENT INC / LT AUTOMATION
17	Scaffolding Services	Service Upon Request Agreement	\$284,626	65	84611	BRAND ENERGY INFRASTRUCTURE
18	Superheater-Desuperheat Link Piping Installation U. 5		\$1,630,821	30	86214	CARIBE GE INTERNATIONAL ENERGY
19	Structural Repairs Unit 1-6	Request for Quotes (RFQs)	\$2,668,538	13-17	86331	CARIBE GE INTERNATIONAL ENERGY
20	Exterior mechanical inspection of the condition of the boilers	Service Upon Request Agreement	\$543,110	1	83998	CARIBE GE INTERNATIONAL ENERGY
21	Preliminary Inspection and Steel Structural Elements for Boilers and Auxiliary Equipment (units 3-6) and Preliminary Visual Inspection of Steam Piping and Equipment and Structural Supports.	Service Upon Request Agreement	\$360,275	2	84002	CARIBE GE INTERNATIONAL ENERGY
22	Interior mechanical inspection of the condition of the boilers Units 5 and 6	Service Upon Request Agreement	\$100,630	7	83998	CARIBE GE INTERNATIONAL ENERGY
23	Asbestos Removal & Disposal Works Unit 5	Emergency Procurement	\$0	12A	86559	Caribe Hydroblasting

\* Note: Service Upon Request Agreements refers to agreements that PREPA has in place to be used in the event that a need arises from one of the plants within the specified scope. Cost associated with these contracts are only a fraction of the total contract amount.



Puerto Rico Electric  
Power Authority

# Unit 5 Procurement Plan – Awarded (Cont'd)

The following table outlines the procurements awarded with new or existing contracts to support Costa Sur Assessment & Repairs:

#	Procurement Description	Procurement Type*	Cost	Associated Workstream #	Contract #	Contractor Name
24	Vacuum Pump Motor Repairs		\$7,577	31	87167	CORTES INDUSTRIAL ORGANIZATION
25	Project Management Services	Other	\$53,500	11	84270	CPM PR LLC
26	Geotechnical studies for Costa Sur		\$129,720	10	86920	EARTH ENGINEERS INC
27	Provide post-earthquake geotechnical evaluation of the foundation support of the different structures in the facility	Request for Quotes (RFQs)	\$349,066	10	86125	EARTH ENGINEERS INC
28	Structural Elements Immediate Repair Work to Allow Additional Interior Inspection of the Boilers and Other Equipment of the CSPP	Service Upon Request Agreement	\$68,441	5	82470	ENERSYS ENGINEERING CORP
29	Lead Removal Services	Service Upon Request Agreement	\$18,500	4	82470	ENERSYS ENGINEERING CORP
30	Structural Repair Works Old Condensate Water Tanks A-1-4, B-1-4 (Temporary Connection)	Service Upon Request Agreement	\$220,800	20	82470	ENERSYS ENGINEERING CORP
31	Old Water Condensate Tanks Interconnection Works to Unit 5 Demin Water Cycle System	Service Upon Request Agreement	\$87,225	24	82470	ENERSYS ENGINEERING CORP
32	Structural Repairs Cross Bracings Structure - Overhead Crane 1-6	Service Upon Request Agreement	\$78,492	25	82470	ENERSYS ENGINEERING CORP
33	Cable tray installation for switchgear equipment		\$32,258	MISC	86961	ENGINEERING SERVICES
34	Wall Panel Installation		\$33,694	MISC	87181	ENGINEERING SERVICES
35	Deaerator Pump Repairs and Replacement		\$94,500	31	83250	ENGINEERING SERVICES

\* Note: Service Upon Request Agreements refers to agreements that PREPA has in place to be used in the event that a need arises from one of the plants within the specified scope. Cost associated with these contracts are only a fraction of the total contract amount.



Puerto Rico Electric  
Power Authority

# Unit 5 Procurement Plan – Awarded (Cont'd)

The following table outlines the procurements awarded with new or existing contracts to support Costa Sur Assessment & Repairs:

#	Procurement Description	Procurement Type*	Cost	Associated Workstream #	Contract #	Contractor Name
36	Repair Works on Valves (de Línea) Unit 5	Service Upon Request Agreement	\$153,208	33	83581	ENGINEERING SYSTEMS SALES
37	High Energy and Auxiliary steam and water pipes assessment for units 5 & 6		\$68,720	42	83534	ENVIRONICS ENGINEERING
38	Condenser Tube Cleaning		\$193,325	38	84907	ENVIRONICS ENGINEERING
39	Lead Paint and Asbestos Sampling Analysis		\$856	12, 12A	79564	Environmental Health & Safety Services
40	Project Financial Controls Support		\$61,965	11	2020-P00087	FUSIONWORKS
41	Visual Inspection and Ultrasonic Inspect API 653	Request for Quotes (RFQs)	\$134,448	6	85840	Heisen Global Engineering (HGE)
42	Condition Survey and Testing for Concrete Pedestals for Power Turbine and Generator Units , 5 and 6		\$55,160	8	85980	Heisen Global Engineering (HGE)
43	Design Work - Structural Repairs Condensate Tank 5 & Old Water Condensate tanks	Request for Quotes (RFQs)	\$143,250	22	86344	Heisen Global Engineering (HGE)
44	Structural engineering consulting		\$232,400	MISC	86919	Heisen Global Engineering (HGE)
45	Water Treatment Tank 2 Cleaning		\$0	19	85153	INDUCHEM SERVICES
46	Boiler Hydroblasting	Service Upon Request Agreement	\$58,020	19	80903	INDUCHEM SERVICES
47	Condenser Discharge Tube and Tunnel Cleaning		\$19,336	38	81017	INDUCHEM SERVICES

\* Note: Service Upon Request Agreements refers to agreements that PREPA has in place to be used in the event that a need arises from one of the plants within the specified scope. Cost associated with these contracts are only a fraction of the total contract amount.



# Unit 5 Procurement Plan – Awarded (Cont'd)

The following table outlines the procurements awarded with new or existing contracts to support Costa Sur Assessment & Repairs:

#	Procurement Description	Procurement Type*	Cost	Associated Workstream #	Contract #	Contractor Name
48	Lead Removal and Disposal Works - Structural Repairs Units 1-6	Emergency Procurement	\$200,319	12	86566	J R INDUSTRIAL CONTRACTORS INC
49	Insulation Repair Works in Boiler 5	Service Upon Request Agreement	\$216,643	37	86283	J R INDUSTRIAL CONTRACTORS INC
50	Integration of Raw Water Pumps Controls into DCS Foxboro	Service Upon Request Agreement	\$239,343	43	85590	LT AUTOMATION
51	Controls from interconnection work, all water condensate tank	Service Upon Request Agreement	\$46,232	24	65206	LT AUTOMATION
52	Relocation of Foxboro monitors and power circuits for opacity meters		\$19,950	43	87275	LT AUTOMATION
53	Integration of Demineralizer Controls into DCS	Service Upon Request Agreement	\$53,100	43	84651	LT AUTOMATION / Scheinder
54	Condensate Recirculating Discharge Pipe (12 ft diameter)	Emergency Procurement	\$975,000	39	86664	MALNAT ASOCIADOS
55	Underwater Visual Inspection of the Tunnels Condenser 5 and 6	Emergency Procurement	\$58,400	9	86495	MARINE DIVING CONTRACTORS
56	Overhead Crane Installation and Commissioning		\$1,553,502	36	82717	MASTER LINK CORPORATION
57	Turbine-Generator Inspection Work	Emergency Procurement	\$75,078	61	87153	MECHANICAL DYNAMICS ANALYSIS.3
58	Structural Repairs Condensate Tank 5	Emergency Procurement	\$345,468	22	86704	R G ENGINEERING INC
59	Repairs on fire protection systems	Service Upon Request Agreement	\$18,136	MISC	84101	R G ENGINEERING INC

\* Note: Service Upon Request Agreements refers to agreements that PREPA has in place to be used in the event that a need arises from one of the plants within the specified scope. Cost associated with these contracts are only a fraction of the total contract amount.



## Unit 5 Procurement Plan – Awarded (Cont'd)

The following table outlines the procurements awarded with new or existing contracts to support Costa Sur Assessment & Repairs:

#	Procurement Description	Procurement Type*	Cost	Associated Workstream #	Contract #	Contractor Name
60	Project Management Support	Other	\$58,635	11	85215	SCOTTMADDEN, INC
61	Cargo Elevators Repairs	Service Upon Request Agreement	\$43,839	41	82412	VERTECH INC
62	Existing Overhead Crane Units 3 and 6, Certification		\$3,441	25	84013	VITAL ENERGY CORPORATION
Estimated Total			\$14,214,706			

\* Note: Service Upon Request Agreements refers to agreements that PREPA has in place to be used in the event that a need arises from one of the plants within the specified scope. Cost associated with these contracts are only a fraction of the total contract amount.







## Unit 6 Status Overview

# Unit 6 Executive Summary

100.0%

% Completion

100.0%

Time Elapsed

- Management Notes:**
- Delays in unit start-up are mainly due to turbine and boiler repairs found during the testing and start-up stage that need to be completed in order to sync the unit to the electric system
  - Additional issues during start-up were found with turbine vibration the weeks of 1/18 and 1/25
  - Unit placed back in service on 1/29/2021

Scope and Metrics by Workstream

27

Identified Workstreams

27

Workstreams at 100% Completion

0

Workstreams Added (Since Last Report)

Financials	
Budget Baseline	\$19,078,286
Forecast Cost	\$20,689,548
Total Invoiced Amount	\$12,602,891
PREPA Expenses	\$381,957
Total Expenses	\$12,984,848
Total Disbursements	\$9,219,032
Total Committed in Contracts	\$15,196,120

Procurement Status

43

Total Procurements

6

Emergency Procurements

\$15.2M

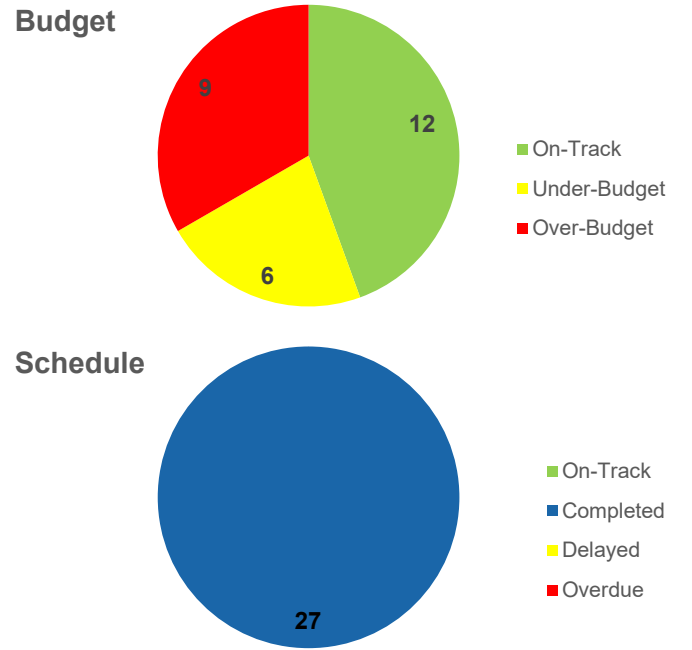
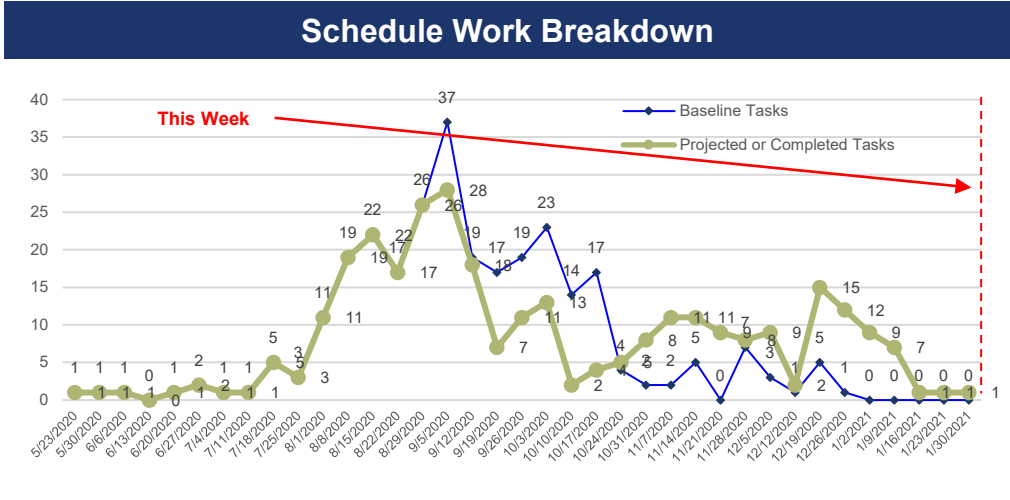
Amount Contracts Awarded

100.0%

% Procurements Completed

In-Progress

Awarded



Schedule Metrics

312

Total Scheduled Tasks

0

Pending Tasks On-Track

19

Tasks Due in January

312

YTD Tasks Completed

0

Pending Tasks Delayed

0

Pending Tasks Overdue

Max. Weekly Headcount (based on week of 1/18/21)

107

PREPA's Avg. Headcount

23

Contractor's Avg. Headcount

130

Max. Total Headcount

# Unit 6 Project Summary by Workstream

ID	Workstream Description	Forecast Cost	Resources Assigned	% Complete	Scheduled Start	Scheduled Finish	Status	Tasks Completed	Tasks Pending
1	Project Initiation, Procurement, and Other Work Activities	\$412,300	PREPA, Acumenian, Fusionworks, ScottMadden	100%	5/22/2020	1/29/2021	Completed	16	0
2	Emergency Declaration	\$0	PREPA	100%	5/22/2020	6/18/2020	Completed	3	0
3	Lead Removal Works	\$110,000	JR Industrial Contractors	100%	7/21/2020	9/4/2020	Completed	1	0
4	Asbestos Removal Works	\$100,000	Caribe Hydroblasting (CHED)	100%	7/20/2020	9/5/2020	Completed	1	0
5	Structural Steel Repair Works Unit 6	\$1,348,000	General Electric Fieldcore (GEF)	100%	7/27/2020	10/3/2020	Completed	67	0
6	Scaffolding Services	\$453,811	BRAND ENERGY INFRASTRUCTURE	100%	6/15/2020	6/29/2020	Completed	1	0
7	Boiler Wash	\$100,000	Induchem	100%	6/5/2020	7/13/2020	Completed	1	0
8	Cargo Elevator Repairs	\$10,000	Vertech	100%	8/15/2020	9/14/2020	Completed	0	0
10	Air-Preheater Repairs	\$1,541,195	JC Mechanical Industrial Services LLC	100%	8/17/2020	9/9/2020	Completed	1	0
11	Balance of Plant Works	\$0	PREPA	100%	9/12/2020	11/25/2020	Completed	0	0
12	Boiler Repair Works	\$2,536,612	PREPA	100%	6/1/2020	11/23/2020	Completed	13	0



# Unit 6 Project Summary by Workstream (Cont'd)

ID	Workstream Description	Forecast Cost	Resources Assigned	% Complete	Scheduled Start	Scheduled Finish	Status	Tasks Completed	Tasks Pending
13	Burner Repairs	\$180,402	PREPA	100%	8/25/2020	9/25/2020	Completed	1	0
14	Condensate Circulating Water System Repairs	\$1,111,325	Environics Engineers, Malnat	100%	6/29/2020	10/3/2020	Completed	3	0
15	Condensate Storage Tank Demolition, Design, and New construction*	\$1,070,013	Alonso & Carus	100%	7/1/2020	1/15/2021	Completed	4	0
17	Desuperheater Replacement Crossover Links	\$1,694,370	CARIBE GE INTERNATIONAL ENERGY	100%	7/24/2020	9/9/2020	Completed	58	0
18	Electrical and Instrumentation Works	\$1,534,226	PREPA, AIT Technologies, Engineering Services, ESI, LT Automation	100%	6/24/2020	1/5/2021	Completed	50	0
19	Line and Safety Valves Repairs	\$215,123	Ensysa	100%	8/6/2020	11/20/2020	Completed	2	0
20	Mechanical Inspection, Repair & Alignment (Heaters, Fans, Pumps, and Valves)	\$681,032	PREPA	100%	8/17/2020	1/5/2021	Completed	26	0
21	Pipe Type Cable Repairs	\$289,399	Environics	100%	1/18/2021	1/29/2021	Completed	2	0
22	Stack, Insulation, and Refractory Works	\$795,926	JR Industrial Contractors	100%	8/4/2020	12/4/2020	Completed	6	0
23	Turbine-Generator Repairs	\$6,295,414	PREPA, MD&A	100%	8/12/2020	12/30/2020	Completed	39	0
24	Cooler Main Oil Tank Cleaning and Repairs and Hydrogen Cooler Cleaning	\$166,822	JR Industrial Contractors	100%	9/1/2020	10/27/2020	Completed	1	0

\* Note: Condensate Storage Tank works is not needed for start-up, but the equipment is essential for plant reliability.



# Unit 6 Project Summary by Workstream (Cont'd)

ID	Workstream Description	Est. Cost	Resources Assigned	% Complete	Scheduled Start	Scheduled Finish	Status	Tasks Completed	Tasks Pending
25	Unit 6 Start Up and Commissioning	\$0	PREPA	0%	1/14/2021	1/19/2021	Completed	1	0
26	MPT 6 Secondary Containment Repair Works	\$34,175	5 Senses Solutions	100%	4/16/2020	10/14/2020	Completed	1	0
27	Operational Test and Control Tasks Unit 6	\$0	PREPA	100%	11/27/2020	1/14/2021	Completed	13	0
MISC	Miscellaneous Expenses and Other Contracts	\$9,402	Heinsen Global Engineering (HGE), LT Automation	-	6/1/2020	12/30/2020	Completed	0	0
Total		\$20,689,548							



# Unit 6 Procurement Plan – Awarded

The following table outlines the procurements currently in the pipeline to support the Costa Sur U6 Assessment and Repairs project:

#	Procurement Description	Procurement Type*	Cost	Associated Workstream #	Contract #	Contractor Name
1	MPT 6 Secondary Containment Repair Works	Emergency Procurement	\$34,175	26	86581	5 SENSES SOLUTIONS LLC.
2	Project Management and Data Analytics Support	Other	\$75,000	1	87670	ACUMENIAN LLC
3	Civil, electrical and mechanical repairs to the Excitation Control Room Unit 6	Emergency Procurement	\$158,020	18	87646	AIT TECHNOLOGIES INC
4	New Underground Cable Works for 4k Transformer		\$110,420		88725	AIT TECHNOLOGIES INC
5	Turbine Oil Flush		\$59,895	23	80175	ALLIED POWER TECHNOLOGIES
6	EATON Breaker LVAR 3000 Design, Frabrication, and Installation		\$191,985	18	86883	ALLIED POWER TECHNOLOGIES
7	Design & Construction of a New Water Condensate 6	Request for Proposal Process	\$845,013	15	87958	ALONSO CARUS IRON WORKS INC
8	Scaffolding Services	Service Upon Request Agreement	\$453,811	6	84611	BRAND ENERGY INFRASTRUCTURE
9	Structural Repairs Unit 1-6	Request for Quotes (RFQs)	\$1,348,000	5	86331	CARIBE GE INTERNATIONAL ENERGY
10	Desuperheater Link Repairs		\$1,694,370	17	87333	CARIBE GE INTERNATIONAL ENERGY
11	Boiler Tube Purchase (Bifurcate)		\$137,564	12	87998	CARIBE GE INTERNATIONAL ENERGY

\* Note: Service Upon Request Agreements refers to agreements that PREPA has in place to be used in the event that a need arises from one of the plants within the specified scope. Cost associated with these contracts are only a fraction of the total contract amount.



# Unit 6 Procurement Plan – Awarded (Cont'd)

The following table outlines the procurements currently in the pipeline to support the Costa Sur U6 Assessment and Repairs project:

#	Procurement Description	Procurement Type*	Cost	Associated Workstream #	Contract #	Contractor Name
12	Asbestos Removal & Disposal Works Unit 5	Emergency Procurement	\$100,000	4	86559	Caribe Hydroblasting
13	Project Management Services	Other	\$55,760	1	84270	CPM PR LLC
14	Labor for Boiler Tube (Bifurcate) Replacement	Service Upon Request Agreement	\$287,404	12	82470	ENERSYS ENGINEERING CORP
15	Dearator Pump Repairs and Replacement		\$94,500	12	83250	ENGINEERING SERVICES
16	Transformer Testing		\$40,721	MISC	87169	ENGINEERING SERVICES
17	Turbine Instrumentation Wiring Replacement	Emergency Procurement	\$50,000	23	88931	Engineering Services International (ESI)
18	Safety Line Valves Repairs		\$215,123	19	85203	ENGINEERING SYSTEMS SALES
19	Condenser Tube Cleaning and Outlet Boxes		\$193,325	14	84917	ENVIRONICS ENGINEERING
20	Pipe Type Cable Repairs	Direct Negotiations	\$104,000	21	88249	ENVIRONICS ENGINEERING
21	Lead Paint and Asbestos Sampling Analysis		\$10,000	12	86732	Environmental Health & Safety Services
22	Project Financial Controls Support		\$22,905	1	2020-P00087	FUSIONWORKS

\* Note: Service Upon Request Agreements refers to agreements that PREPA has in place to be used in the event that a need arises from one of the plants within the specified scope. Cost associated with these contracts are only a fraction of the total contract amount.



# Unit 6 Procurement Plan – Awarded (Cont'd)

The following table outlines the procurements currently in the pipeline to support the Costa Sur U6 Assessment and Repairs project:

#	Procurement Description	Procurement Type*	Cost	Associated Workstream #	Contract #	Contractor Name
23	Boiler Assessment	Service Upon Request Agreement	\$430,000	12	84002	GE FIELDCORE
24	Structural engineering consulting		\$200,000	15	86919	Heisen Global Engineering (HGE)
25	Internal Cleaning Services for Steam Generator		\$102,256	18	78061	INDUCHEM SERVICES
26	Boiler Hydroblasting	Service Upon Request Agreement	\$100,000	7	80903	INDUCHEM SERVICES
27	Oil coolers cleaning		\$34,984	24	88156	INDUCHEM SERVICES
28	Stack cleaning , painting, refractory, and insulation work	Service Upon Request Agreement	\$450,000	22	86283	J R INDUSTRIAL CONTRACTORS INC
29	Lead Removal and Disposal Works - Structural Repairs Units 1-6	Emergency Procurement	\$100,000	3	86566	J R INDUSTRIAL CONTRACTORS INC
30	Replacement of Baskets Air Pre-heaters Baskets Unit 6 and associated repairs	Emergency Procurement	\$581,055	10	87663	JC MECHANICAL INDUSTRIAL SERVICES LLC
31	Refractory inspection and repairs		\$196,250	22	88519	JR INDUSTRIAL CONTRACTORS INC
32	Controls from interconnection work, all water condensate tank	Service Upon Request Agreement	\$67,000	18	65206	LT AUTOMATION
33	SS TANKS FOR PLANT REVERSE OSMOSIS	Service Upon Request Agreement	\$0	MISC	81974	LT AUTOMATION

\* Note: Service Upon Request Agreements refers to agreements that PREPA has in place to be used in the event that a need arises from one of the plants within the specified scope. Cost associated with these contracts are only a fraction of the total contract amount.





# Unit 6 Procurement Plan – Awarded (Cont'd)

The following table outlines the procurements currently in the pipeline to support the Costa Sur U6 Assessment and Repairs project:

#	Procurement Description	Procurement Type*	Cost	Associated Workstream #	Contract #	Contractor Name
34	Unit 6 Turbine thermocouples and RTD wiring labor	Service Upon Request Agreement	\$9,402	MISC	R243112	LT AUTOMATION
35	High Pressure Heater Repairs		\$131,032	20	81838	MALNAT ASOCIADOS
36	Condenser Discharge Tube Unit 6	Emergency Procurement	\$918,000	14	87630	MALNAT ASOCIADOS
37	Hydrogen coolers cleaning		\$90,978	24	88465	MARINE DIVING CONTRACTORS
38	Stator Cooler Cleaning		\$0	23	TBD #2	MARINE DIVING CONTRACTORS
39	Replacement of Rails, Overhead Crane 5 and 6	Contract Amendment	\$0	9	82717	MASTER LINK CORPORATION
40	Turbine and Generator Repairs		\$5,393,676	23	87501	MECHANICAL DYNAMICS ANALYSIS.3
41	Project management and stakeholder management support		\$58,635	1	87756	SCOTTMADDEN, INC
42	Cargo Elevators Repairs	Service Upon Request Agreement	\$10,000	8	82412	VERTECH INC
43	Heater Actuators		\$40,860	24	88925	Engineering Systems Sales
Estimated Total			\$15,196,120			

\* Note: Service Upon Request Agreements refers to agreements that PREPA has in place to be used in the event that a need arises from one of the plants within the specified scope. Cost associated with these contracts are only a fraction of the total contract amount.





# Appendix

# Emergency Management KPI Dashboard

DEMAND (MW)



1960

AS OF JAN 29, 2021

CUSTOMERS ENERGIZED



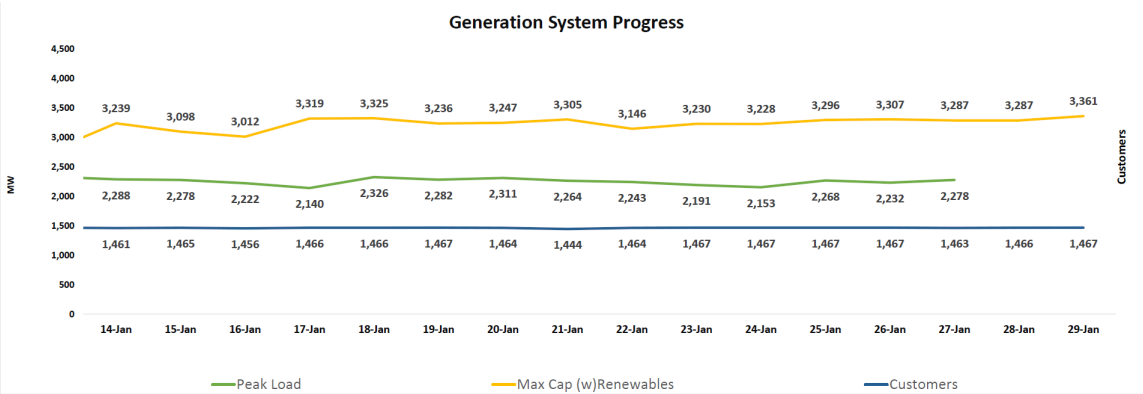
99.98%

1,467,917

Progress of Critical Generation System					
Power Plant	Unit	Power Plant Type	Installed Generation (MW)	Maximum Capacity (MW)	Actual Generation (MW)
Costa Sur	5	Base Load	410	300	281
Costa Sur	6	Base Load	410	50	47
Aguirre	1	Base Load	450	400	299
Aguirre	2	Base Load	450	450	191
Aguirre CC	Stag 1	Base Load	296	142	0
Aguirre CC	Steam 1	Base Load	96	17	0
Aguirre CC	Stag 2	Base Load	296	100	0
San Juan CC	CT 5	Base Load	160	150	119
San Juan CC	STG 5	Base Load	60	50	38
San Juan CC	CT 6	Base Load	158	150	123
San Juan CC	STG 6	Base Load	60	50	42
Cambalache	2	Peaker	82.5	77	0
Cambalache	3	Peaker	82.5	77	0
Daguao	1-2	Peaker	21	16	0
Palo Seco Hidrogas	1-1	Peaker	21	19	0
Palo Seco Hidrogas	2-1	Peaker	21	21	0
Jobos	1-2	Peaker	21	20	0
Mayaguez	2	Peaker	55	55	0
Mayaguez	3	Peaker	55	25	0
Mayaguez	4	Peaker	55	50	0
Yabucoa	1-1	Peaker	21	18	0
Vega Baja	1-1	Peaker	21	20	0
Hidroeléctricas		Peaker	26	24	0
EcoEléctrica	1	Base Load	183	183	119
EcoEléctrica	2	Base Load	183	183	119
ECO	Steam	Base Load	184	184	118
AES	1	Base Load	262	257	224
AES	2	Base Load	262	257	224
Sub - Total			4402	3345	1944
Renewables			194	16	16
Total			4596	3361	1960

Generation Units Out of Service					
Power Plant	Unit	Power Plant Type	Installed Generation (MW)	Maximum Capacity (MW)	Expected date to be online*
San Juan	7	Base Load	100	70	Available for Emergencies
San Juan	8	Base Load	100	40	Available for Emergencies
San Juan	9	Base Load	100	40	March 31, 2021
Palo Seco	3	Base Load	216	90	March 14, 2021
Palo Seco	4	Base Load	216	138	January 29, 2021
Aguirre CC	Stag 1 (1-1)	Base Load	50	49	TBD
Aguirre CC	Stag 2 (2-1)	Base Load	50	50	April 8, 2021
Aguirre CC	Stag 2 (2-2)	Base Load	50	50	February 12, 2021
Aguirre CC	Steam 2	Base Load	96	50	TBD
Daguao	1-1	Peaker	18	18	TBD
Aguirre Hidrogas	2-1	Peaker	21	21	TBD
Aguirre Hidrogas	2-2	Peaker	21	21	TBD
Palo Seco Hidrogas	1-2	Peaker	21	19	February 26, 2021
Palo Seco Megagens	1, 2, 3	Peaker	66	66	February 15, 2021
Costa Sur Hidrogas	1-1	Peaker	21	21	TBD
Costa Sur Hidrogas	1-2	Peaker	21	21	TBD
Jobos	1-1	Peaker	21	21	January 29, 2021
Mayaguez	1	Peaker	55	25	TBD
Yabucoa	1-2	Peaker	21	20	TBD
Vega Baja	1-1	Peaker	21	21	TBD
Vega Baja	1-2	Peaker	21	19	TBD
Sub-Total			1306	870	
Cambalache	1	Peaker	83		Long Term Outage
Palo Seco Hidrogas	2-2	Peaker	21		Long Term Outage
Palo Seco Hidrogas	3-1	Peaker	21		Long Term Outage
Palo Seco Hidrogas	3-2	Peaker	21		Long Term Outage
Palo Seco	1	Base Load	85	65	Long Term Outage
Palo Seco	2	Base Load	85		Long Term Outage
San Juan Steam	10	Base Load	100		Long Term Outage
Sub-Total			416	65	
Total			1722	935	

\*The dates are as of current information and system conditions, which may vary or change with unexpected events in the electrical system operation.



Puerto Rico Electric Power Authority

# Project Team and Roles and Responsibilities Matrix

Project Team Members include a diverse representation from different areas of the organization such as Generation, PMO, DFMO, and key advisors .

Team Grouping	Key Roles and Responsibilities
<b>Executive Team</b>	<ul style="list-style-type: none"> <li>Establish governance, provide direction and oversight to broader project team</li> <li>Assign resources, resolve conflicts and risks, and approve execution plan</li> <li>Manage stakeholder communications and engagement</li> </ul>
<b>Management Team</b>	<ul style="list-style-type: none"> <li>Review project needs, issues, risks, and plans; resolve or escalate as needed</li> <li>Provide input, feedback, and direction to the Execution and Procurement Team</li> <li>Provide oversight of the contractors/vendors supporting the project</li> </ul>
<b>Procurement Team</b>	<ul style="list-style-type: none"> <li>Manage the procurement of goods and services needed to support the Execution Team</li> <li>Provide regular status updates on all procurements</li> <li>Escalate issues, risks, and/or concerns as needed</li> </ul>
<b>Execution Team</b>	<ul style="list-style-type: none"> <li>Manage the project scope, budget, and schedule</li> <li>Engage regularly with controls team to provide timely and accurate update on execution</li> <li>Manage contractors/vendors supporting the project</li> </ul>
<b>Controls Team</b>	<ul style="list-style-type: none"> <li>Collect data and information related to the project scope, budget, and schedule</li> <li>Develop and maintain master project schedule</li> <li>Provide project information and progress to the Reporting Team</li> </ul>
<b>Reporting Team</b>	<ul style="list-style-type: none"> <li>Develop standard project status progress reports</li> <li>Manage stakeholder needs and request for communications</li> </ul>
<b>PREB/FOMB Interface Team</b>	<ul style="list-style-type: none"> <li>Identify stakeholder engagement and communication needs</li> <li>Communicate with Management and Executive Team on stakeholder requests</li> <li>Review all communications issued to the stakeholder group</li> <li>Provide interface support with stakeholder groups</li> </ul>
<b>FEMA Interface Team</b>	<ul style="list-style-type: none"> <li>Identify stakeholder engagement and communication needs</li> <li>Communicate with Management and Executive Team on stakeholder requests</li> <li>Review all communications issued to the stakeholder group</li> <li>Provide support to secure funding and any associated documentation</li> <li>Provide interface support with FEMA</li> </ul>

