



NEPR-MI-2021-0002

Received:

Oct 15, 2023

6:08 PM

In Re: Review of the Puerto Rico Electric Power Authority's 10 Year Infrastructure Plan

Docket Number: NEPR-MI-2021-0002

Re: Request for Approval of Projects to Replace Critical Components and Improve Fuel Efficiency

To the Honorable Energy Bureau:

On March 26, 2021, the Energy Bureau of the Puerto Rico Public Regulatory Board ("Energy Bureau") issued a Resolution and Order through which it ordered the Puerto Rico Electric Power Authority ("PREPA") to submit each specific capital investment project for approval. According to this Order, PREPA was required to submit these individual projects for approval to the Energy Bureau at least thirty (30) calendar days prior to submitting them to the Puerto Rico Central Office for Recovery, Reconstruction, and Resiliency ("COR3") and the Federal Emergency Management Agency ("FEMA").

On November 15, 2021, PREPA filed a document titled *Motion to Submit Fourth Group of Generation Projects* ("November 15 Motion"), which encompassed the submission of a total of one hundred and four (104) work descriptions. These descriptions were detailed in Attachment A of the November 15 Motion, providing an overview of the tasks involving preserving and repairing PREPA's power generation facilities. These scopes of work included the main power generation units and their associated auxiliary equipment, such as boilers, turbines, rotors, generators, motors, pumps, breakers, and the control systems used within the power plants. Pursuant to the submittal, the works were to be performed in the following sites: San Juan Power Plant, Aguirre Power Plant (steam and combined cycle), Costa Sur Power Plant, Palo Seco Steam Plant, Gas Turbine Peakers, Cambalache, and Mayaguez Gas Turbines. The Energy Bureau approved most of these projects through several orders, including one entered

on January 4, 2022, with the subject: *Resolution and Order on Motion to Submit Fourth Group of Generation Projects*.

On January 23, 2024, Genera PR LLC (“Genera”), PREPA and Puerto Rico Public-Private Partnerships Authority executed the *Puerto Rico Thermal Generation Facilities Operation and Maintenance Agreement* (“LGA OMA”). According to the LGA OMA, Genera is the sole operator and administrator of the Legacy Generation Assets (as defined in the LGA OMA and hereinafter referred to as the “LGA”) and the exclusive entity authorized to represent PREPA before the Energy Bureau concerning any matter related to the performance of any of the O&M Services provided by Genera under the LGA OMA. Further, Genera is the sole entity responsible for procuring and administrating federal funds for projects to repair or replace the LGA.

As informed on several occasions to the Energy Bureau, Genera is focused on operating and maintaining the LGA, providing reliable and efficient power to the People of Puerto Rico until their generation contribution to the system is replaced by more efficient, clean, and reliable units. In evaluating new and feasible alternatives to properly maintain the fleet, reduce forced outages, increase reliability, and reduce costs, Genera identified a group of critical components that, if replaced, would achieve these purposes. Also, Genera identified a group of components that, if replaced, would meet all the earlier goals and increase fuel efficiency, thus reducing fuel costs.

In accordance with the above-stated, Genera has refined the group of generation projects by integrating critical components and efficiency projects. Further, Genera has identified federal projects previously approved by the Energy Bureau that can be amended to include these components.


Attached as Annex A is a table titled *Critical Components Replacement – First Group*, which details projects that the Energy Bureau approved on January 4, 2022, and additional projects that have not been previously submitted to the Energy Bureau. The list includes the PW by which PREPA identified the project

when it was submitted to the Energy Bureau (column “PW”), the concept of the project (column “Work description”) and the amendment (column “Description / Specifications”) that shows the critical component to be added to the project. The table also includes the total cost to be added to the project (column “Total Cost”). The projects that do not have a PW number are new. Genera is still assessing units to identify the need for additional critical components that may be needed.

Annex B is a chart titled *Fuel Efficiency Improvement – First Group*, which details several projects approved by the Energy Bureau on January 4, 2023, and the efficiency improvement projects that will be added. The list includes the PW by which PREPA identified the project when it was submitted to the Energy Bureau (column “PW”), the concept of the project (column “Work Description and Improvement Result”), and the initiative to be implemented through the project (column “Initiative”) and the associated repair or replacement. The table also includes the total cost to be added to the project (column “Total Cost”). The projects that do not have a PW number are new. Genera is still assessing units to identify the need for additional critical components that may be needed.

Genera submits that the replacement of critical components and the fuel efficiency improvement projects aim to make the LGA and the service they provide secure and unlikely to change, fail or decline. As stated in the Resolution and Order entered by the Energy Bureau on June 25, 2023, in case no. NEPR-MI-2021-0004, *In Re: Review of LUMA’s Initial Budgets*, “the desired-end-state is to stabilize the generation fleet by ensuring the power system’s ability to maintain enough power and reserve to meet the needs of its customers.” The Energy Bureau’s approval of the projects included in annexes A and B is critical to achieving this goal.

Genera respectfully requests the Energy Bureau to approve the amendments to the scope of works previously approved in the January 4 Order and to approve the new projects presented herein.



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Critical Components Replacement - First Group

Legacy Generation Asset	FEMA Project No.	PW No.	PREB Approval	PREB Line Item	Description / Specifications	Work Description	Code	Vendor	Lead Time	Unit Cost	Required Quantities	Total Cost
1	Costa Sur 566/Agüire 1&2	672950 669233	10702 10568	1/4/2022 1/4/2022	46-60, 62-63, 65, 66-67 29, 31, 41-43	Air heater baskets (cold and hot)	101-8970 / 10189728	SERPAGA	26 weeks	\$ 600,000	3	\$1,800,000
2	Costa Sur 566/Agüire 1&2	672950 669233	10702 10568	1/4/2022 1/4/2022	46-60, 62-63, 65, 66-67 29, 31, 41-43	Condensing Circulating Water Pump Vertical motor 1000HP, 4000/146	N/A	HYOSUNG	28 weeks	\$ 1,077,720	9	\$9,359,480
3	Costa Sur 566/Agüire 1&2	672950 669233	10702 10568	1/4/2022 1/4/2022	46-60, 62-63, 65, 66-67 29, 31, 41-43	Main Condensing Pump Vertical motor 500HP, 4000 / 66	N/A	Allis - Chalmers	28 weeks	\$ 602,626	8	\$4,822,608
4	Costa Sur 566/Agüire 1&2	672950 669233	10702 10568	1/4/2022 1/4/2022	46-60, 62-63, 65, 66-67 29, 31, 41-43	Boiler Circulating Water Pump Vertical Motor 700 HP, 4000/190	N/A	General Electric	28 weeks	\$ 237,600	12	\$2,851,200
5	Costa Sur 566/Agüire 1&2	672950 669233	10702 10568	1/4/2022 1/4/2022	46-60, 62-63, 65, 66-67 29, 31, 41-43	Boiler Feed Pump Horizontal Motor 4500HP	N/A	TECO Westinhouse / General Electric	28 weeks	\$ 477,265	8	\$3,818,224
6	Costa Sur 566/Agüire 1&2	672950 669233	10702 10568	1/4/2022 1/4/2022	46-60, 62-63, 65, 66-67 29, 31, 41-43	DF Horizontal Motor 1750HP, 4000/580	N/A	TECO Westinhouse / General Electric	28 weeks	\$ 534,000	8	\$4,272,000
7	Palo Seco 3&4	662957	10606	1/4/2022	69-70, 73-75, 79-81	Air Heaters(no es prioritada)		SERPAGA	28 weeks	\$ 900,000	1	\$900,000
8	Palo Seco 3&4	662957	10606	1/4/2022	69-70, 73-75, 79-81	Hydrogen cooler		Siemens Energy	20 weeks	\$ 1,044,000	2	\$2,088,000
9	Palo Seco 3&4	662957	10606	1/4/2022	69-70, 73-75, 79-81	Turning Gear Assembly		Siemens Energy	30 weeks	\$ 360,000	1	\$360,000
10	Palo Seco 3&4	662957	10606	1/4/2022	69-70, 73-75, 79-81	Set of open and close hardware - honeycomb seals, etc.		Siemens Energy	30 weeks	\$ 4,200,000	1	\$4,200,000
11	Palo Seco 3&4	662957	10606	1/4/2022	69-70, 73-75, 79-81	Reduction station temperatures		EPS	26-30 weeks	\$ 72,000	2	\$144,000
12	Palo Seco 3&4	662957	10606	1/4/2022	69-70, 73-75, 79-81	Fixed screens		Alonso & Canus	28-32 weeks	\$ 102,000	7	\$714,000
13	Palo Seco 3&4	662957	10606	1/4/2022	69-70, 73-75, 79-81	Fuel pump		Power Equipment	16-20 weeks	\$ 96,000	2	\$192,000
14	Palo Seco 3&4	662957	10606	1/4/2022	69-70, 73-75, 79-81	Breakers 480 & 4160		Allied Power Technologies	38-42 weeks	\$ 600,000	1	\$600,000
15	Palo Seco 4	662957	10606	1/4/2022	69-70, 73-75, 79-81	Recirculating valves		Control Associates	36 Weeks	\$ 96,000	2	\$192,000
16	Palo Seco 3&4	662957	10606	1/4/2022	69-70, 73-75, 79-81	Acid pumps P3 and P4		EPS	36 weeks	\$ 60,000	2	\$120,000
17	Palo Seco 3&4	662957	10606	1/4/2022	69-70, 73-75, 79-81	Boiler and burners recirculation valves		Control Associates	8 Weeks	\$ 20,400	2	\$40,800
18	Palo Seco 3&4	662957	10606	1/4/2022	69-70, 73-75, 79-81	Spill over, cold reheat & superheater turbine seal steam valves		Control Associates	40 weeks	\$ 204,000	2	\$408,000
19	Palo Seco Lab.	671481	10609	1/4/2022	69-70, 73-75, 79-81	Demil 4 tank inlet regulation valve		EPS	25 weeks	\$ 177,600	1	\$177,600
20	San Juan 9	No project #				Recirculating fan duct and GRF			38-42 weeks	\$ 2,400,000	1	\$2,400,000
21	Agüire CC 2-3	669815	10622	1/4/2022	31-45	Turbine section Stage 1, 2 & 3		General Electric	28-32 weeks	\$ 1,200,000	1	\$1,200,000
22	Agüire CC 2-3	669815	10622	1/4/2022	31-45	Torque converter		General Electric	20-24 weeks	\$ 420,000	1	\$420,000
23	Agüire CC 2-3	669815	10622	1/4/2022	31-45	switch gears 4kv		Eaton	38-42 weeks	\$ 750,000	2	\$1,500,000
24	Agüire CC	669815	10622	1/4/2022	31-45	cooling tower motors			12-16 weeks	\$ 33,600	10	\$336,000
25	Agüire CC 2-3	669815	10622	1/4/2022	31-45	generator breaker 13kv			38-42weeks	\$ 600,000	1	\$600,000
26	Cambalache 3	663383		1/4/2022	88-91	Fill shutoff valves		General Electric	16-20 weeks	\$ 122,400	1	\$122,400
27	Cambalache 3	663383		1/4/2022	88-91	Trip shutoff valve		General Electric	16-20 weeks	\$ 122,400	1	\$122,400
28	Cambalache 3	663383		1/4/2022	88-91	Nozzle valve		General Electric	16-20 weeks	\$ 108,000	1	\$108,000
29	Cambalache 3	663383		1/4/2022	88-91	leakage valve		General Electric	16-20 weeks	\$ 108,000	1	\$108,000
30	Cambalache 3	663383		1/4/2022	88-91	fuel control valve		General Electric	16-20 weeks	\$ 42,000	1	\$42,000
31	Cambalache	663383		1/4/2022	88-91	leak detection system - fuel transfer line			38-42 weeks	\$ 600,000	1	\$600,000
32	Cambalache	663383		1/4/2022	88-91	demin water resin			8-12 weeks	\$ 480,000	1	\$480,000
33	Cambalache 2,3	663383		1/4/2022	88-91	steam bypass valve			32-36 weeks	\$ 336,000	2	\$672,000
34	Cambalache 2,3	663383		1/4/2022	88-91	steam release valve			32-36 weeks	\$ 132,000	2	\$264,000
35	Cambalache	663383		1/4/2022	88-91	fire protection system			10-14 weeks	\$ 360,000	1	\$360,000
36	Cambalache	663383		1/4/2022	88-91	generator breaker 13kv			20-24 weeks	\$ 600,000	1	\$600,000
37	Cambalache	663383		1/4/2022	88-91	high speed control			20-24 weeks	\$ 1,200,000	1	\$1,200,000
38	Cambalache 2,3	663383		1/4/2022	88-91	safety valve			32-36 weeks	\$ 35,000	4	\$140,000
39	Moyaguez	663385		1/4/2022	92	Fuel skid pumps		Goulds Mod. 3996 size 2x3- EPS	9 weeks	\$ 18,000	1	\$18,000
40	Moyaguez	663385		1/4/2022	92	Fuel skid solenoid valves		R.O.Laurence Valve, 150#, ARO	12 weeks	\$ 18,000	2	\$36,000
41	Moyaguez	663385		1/4/2022	92	Fuel Transfer valve			8-12 weeks	\$ 12,000	1	\$12,000
42	Moyaguez	663385		1/4/2022	92	Clutch removal kit		VQC1824-172-KIT ARO	4 weeks	\$ 36,000	5	\$180,000
43	Moyaguez	663385		1/4/2022	92	DCS		MICRONET PLUS END OF LFI ARG	34 weeks	\$ 3,876,000	1	\$3,876,000
44	Moyaguez	663385		1/4/2022	92	Demin RO system pump		Grundfos, Type: BM695-8	16-20 weeks	\$ 180,000	2	\$360,000

45	Mayaguez	663385		1/4/2022	92		EDI system	Removal of existing and installation of new EDI system	Ionpure VNX55EP-2	Allied Power Technologies	10 weeks	\$	30,000	2	\$60,000
46	Mayaguez	663385		1/4/2022	92		PI-DAS System	Removal of existing and installation of new PI-DAS System	Continuous Emissions Mon LT Automation		20-24 weeks	\$	168,000	1	\$168,000
47	Costa Sur 566/Agüire 1&2	673006 669233	10694 10568	1/4/2022 1/4/2022	46-60, 28, 31, 41-43	62-63, 65, 66-67	Boiler feed water pumps	Removal of existing feed water heaters: installation, start up and commissioning feed water heaters:	219-28950	Siemens Energy	75 weeks	\$	2,040,000	6	\$12,240,000
48	Costa Sur 566	672950	10702	1/4/2022	46-60, 62-63, 65, 66-67		Feedwater Heaters 6	Removal of existing feed water heaters: installation, start up and commissioning feed water heaters	N/A	YUBA Heat Exchange	52 weeks	\$	1,800,000	2	\$3,600,000
49	Costa Sur 566	672950	10702	1/4/2022	46-60, 62-63, 65, 66-67		Feedwater Heaters 7	Removal of existing feed water heaters: installation, start up and commissioning feed water heaters	N/A	YUBA Heat Exchange	52 weeks	\$	2,880,000	2	\$5,760,000
50	Costa Sur 566/Agüire 1&2	672950 669233	10568 10568	1/4/2022 1/4/2022	46-60, 28, 31, 41-43	62-63, 65, 66-67	Continuous Condenser Wash	Removal of existing and installation of new Continuous Condenser Wash	N/A	General Electric	52 weeks	\$	600,000	1	\$600,000
51	Agüire 1	669233	10568	1/4/2022	28, 31, 41-43		Feedwater Heaters 7	Removal of existing and installation of new Feedwater Heaters 7		YUBA Heat Exchange	52 weeks	\$	3,600,000	1	\$3,600,000
52	Agüire 2	669233	10568	1/4/2022	28, 31, 41-43		Feedwater Heaters 3	Removal of existing and installation of new Feedwater Heaters 3		YUBA Heat Exchange	52 weeks	\$	3,600,000	2	\$7,200,000
53	San Juan 5 & 6	662947	10615	1/4/2022	1-6, 11, 17-20, 23-26		GT fully bladed rotor	Removal of existing and installation of new GT fully bladed rotor		Mitsubishi Power	72 weeks	\$	10,800,000	1	\$10,800,000
54	Palo Seco 3	662957	10606	1/4/2022	69-70, 73-75, 79-81		Water heater 5	Removal of existing and installation of new Water heater 5		Struthers	52-60 weeks	\$	2,400,000	1	\$2,400,000
55	Palo Seco 3&4	662957	10606	1/4/2022	69-70, 73-75, 79-81		Deaerator pump recirculation valves	Removal of existing and installation of new Deaerator pump recirculation valves		AGI Specialty Valves	42 Weeks	\$	108,000	2	\$216,000
56	Palo Seco 3&4	662957	10606	1/4/2022	69-70, 73-75, 79-81		Feedwater heaters & Boiler feed valves actuators	Removal of existing and installation of new Feedwater heaters & Boiler feed valves actuators		Enysa	45 Weeks	\$	24,000	10	\$240,000
57	San Juan 5	662947	10615	1/4/2022	1-6, 11, 17-20, 23-26		Continuous Condenser Wash	Removal of existing and installation of new Continuous Condenser Wash		RG Engineering	52 weeks	\$	2,880,000	1	\$2,880,000
58	San Juan 7	687480	1085	1/4/2022	7, 10, 21-22, 27-28		Continuous Condenser Wash	Removal of existing and installation of new Continuous Condenser Wash		RG Engineering	52-60 weeks	\$	2,880,000	1	\$2,880,000
59	San Juan 7	687480	1085	1/4/2022	7, 10, 21-22, 27-28		Circulating pumps	Removal of existing and installation of new Circulating pumps			52-60 weeks	\$	36,000	2	\$72,000
60	San Juan 5,6,7	662947	10615	1/4/2022	1-6, 11, 17-20, 23-26		Travelling screens	Removal of existing and installation of new Travelling screens		Beaudrey	52-60 weeks	\$	1,200,000	1	\$1,200,000
61	San Juan 9	prior project approved					Travelling screens	Removal of existing and installation of new Travelling screens		Beaudrey	52-60 weeks	\$	1,200,000	1	\$1,200,000
62	San Juan 7	687480	1085	1/4/2022	7, 10, 21-22, 27-28		cooling tower	Removal of existing and installation of new cooling tower			52-60 weeks	\$	2,040,000	1	\$2,040,000
63	Agüire CC 2-3	669815	10622	1/4/2022	28, 31, 41-43		GT compressor rotor	Removal of existing and installation of new GT compressor rotor		General Electric	52-60 weeks	\$	6,360,000	1	\$6,360,000
64	Agüire CC	669815	10622	1/4/2022	28, 31, 41-43		Condensing Circulating Water Pump	Removal of existing and installation of new Condensing Circulating Water Pump			52-60 weeks	\$	1,320,000	2	\$2,640,000
65	Agüire CC	669815	10622	1/4/2022	28, 31, 41-43		boiler feed pumps	Removal of existing and installation of new boiler feed pumps			52-60 weeks	\$	1,080,000	2	\$2,160,000
66	Agüire CC 2-3	669815	10622	1/4/2022	28, 31, 41-43		Exhaust duct	Removal of existing and installation of new Exhaust duct			52-60 weeks	\$	480,000	1	\$480,000
67	Cambalache	663383		1/4/2022	88-91		overhead crane	Removal of existing and installation of new overhead crane			52-60 weeks	\$	900,000	1	\$900,000
68	Cambalache	663383		1/4/2022	88-91		feedwater pump and motor	Removal of existing and installation of new feedwater pump and motor			52-60 weeks	\$	180,000	1	\$180,000
69	Cambalache 1, 2 y3	663383		1/4/2022	88-91		Starting Frequency Converter Transformer	Removal of existing and installation of new Starting Frequency Converter Transformer		Ferranti Packard	52-62 weeks	\$	84,000	1	\$84,000
70	Cambalache	663383		1/4/2022	88-91		DCS	Removal of existing and installation of new DCS			52-60 weeks	\$	3,600,000	1	\$3,600,000
71	San Juan 5 & 6	662947	10615	1/4/2022	1-6, 11, 17-20, 23-26		GT compressor wash	Removal of existing and installation of new GT compressor wash		Rochem	40-44 weeks	\$	600,000	2	\$1,200,000

Total \$127,316,610



Fuel Efficiency Improvement - First Group

Legacy Generation Asset	FEMA Project No.	PW No.	PREB Approval	Type of Equipment	Initiative	Work Description	Estimated Cost	Quantity	Total Cost
1	Costa Sur 5 & 6	672950	10702	1/4/2022	Conventional	Replace the tubes of the low pressure feedwater heaters 1A, 1B, 2 y 3	Remove and instal new tubes of the low pressure feedwater heaters 1A, 1B, 2 y 3 to Increase the efficiency of the boiler	\$ 1,000,000	8 \$ 8,000,000
2	Costa Sur 5 & 6	672950	10702	1/4/2022	Conventional	Replace air preheater sootblowers system	Remove and instal new air preheater sootblowers system to increase the efficiency of the boiler	\$ 500,000	4 \$ 2,000,000
3	Costa Sur 5 & 6	672950	10702	1/4/2022	Conventional	Replace steam coils	Remove and instal new steam coils to increase the efficiency of the boiler	\$ 1,250,000	4 \$ 5,000,000
4	Costa Sur 5 & 6	672950	10702	1/4/2022	Conventional	Condenser Continuous Cleaning System	Remove and instal new Condenser Continuous Cleaning System to increase the efficiency of the boiler	\$ 2,460,000	2 \$ 4,920,000
5	Costa Sur 5 & 6	672950	10702	1/4/2022	Conventional	Replace Cold Reheat reducing Station	Remove and instal new Cold Reheat reducing Station to increase the efficiency of the Boiler and turbine	\$ 2,100,000	2 \$ 4,200,000
6	Costa Sur 5 & 6	672950	10702	1/4/2022	Conventional	Variable frequency Drives for IDF Motors	Remove and instal new Variable frequency Drives for IDF Motors to Increase overall efficiency of the boiler	\$ 1,250,000	4 \$ 5,000,000
7	Costa Sur 5 & 6	672950	10702	1/4/2022	Conventional	Variable frequency Drives for FDF Motors	Remove and instal new Variable frequency Drives for FDF Motors to Increase overall efficiency of the boiler	\$ 1,250,000	4 \$ 5,000,000
8	Costa Sur 5 & 6	672950	10702	1/4/2022	Conventional	Variable frequency Drives for BFWP Motors	Remove and instal new Variable frequency Drives for BFWP Motors to increase overall efficiency of the boiler	\$ 10,000,000	2 \$ 20,000,000
9	Aguirre 1	669233	10568	1/4/2022	Conventional	Replace steam coils	Remove and instal new steam coils to increase the efficiency of the boiler	\$ 1,250,000	2 \$ 2,500,000
10	Aguirre 2	669233	10568	1/4/2022	Conventional	Replace steam coils	Remove and instal new steam coils to increase the efficiency of the boiler	\$ 1,250,000	2 \$ 2,500,000
11	Aguirre 1 & 2	669233	10568	1/4/2022	Conventional	Continuous Condenser Wash	Remove and instal new Continuous Condenser Wash to increase the efficiency of the boiler	\$ 2,460,000	1 \$ 2,460,000
12	Palo Seco 3	662957	10606	1/4/2022	Conventional	Water Heater 5	Remove and instal new Water Heater 5 to Increase the efficiency of the boiler	\$ 2,000,000	1 \$ 2,000,000
13	San Juan 5 & 6	662947	10615	1/4/2022	Combined Cycle	Combustion Turbine (CT) Compressor Online/Offline Water Wash System	Remove and instal new Combustion Turbine (CT) Compressor Online/Offline Water Wash System to Improve CT Performance	\$ 500,000	2 \$ 1,000,000
14	San Juan 7	687480	11085	1/4/2022	Conventional	Condenser: Overhauling Debris Filters; Replacement Continuous Cleaning System	Remove and instal new Condenser: Overhauling Debris Filters; Replacement Continuous Cleaning System To help maintain vacuum pressure in the steam condenser improving MW production	\$ 2,300,000	1 \$ 2,300,000
15	San Juan 5, 6 & 7	662947 & 687480	10615	1/4/2022	Conventional	Replacement Travelling Screens	Remove and instal new Travelling Screens To help maintain vacuum pressure in the steam condenser improving MW production	\$ 2,000,000	1 \$ 2,000,000
16	San Juan 9	no approved project		1/4/2022	Conventional	Replacement Gas Recirculating Fan, Duct and Dampers	Replacement Gas Recirculating Fan, Duct and Dampers To help increase steam reheat temperature in the boiler reducing fuel consumption	\$ 2,000,000	1 \$ 2,000,000
17	Cambalache	663383		1/4/2022	Simple Cycle	Convert to GT 11NM. The upgrade configuration from GT11N to 11NM includes new blades and turbine blades, heat shield segments, blade carrier and exhaust shroud.	Remove and instal new Convert to GT 11NM. The upgrade configuration from GT11N to 11NM includes new blades and turbine blades, heat shield segments, blade carrier and exhaust shroud. The update improves power output without increasing emissions. This leads to a power output increase of 16 MW per unit.	\$ 13,439,164	2 \$ 26,878,328
18	Cambalache	663383		1/4/2022	Simple Cycle	Inlet chillers-Cooling by inlet air or demineralized water mist at the inlet of the filter house	Remove and instal new inlet chillers-Cooling by inlet air or demineralized water mist at the inlet of the filter house Improves the energy efficiency of the unit	\$ 1,500,000	2 \$ 3,000,000
19	Mayaguez	663385		1/4/2022	Simple Cycle	Demi Water Injection in the compressor	Remove and instal new Demi Water Injection in the compressor	\$ 2,000,000	3 \$ 6,000,000
								Total	\$ 106,758,328