



**Puerto Rico
Electric Power
Authority**

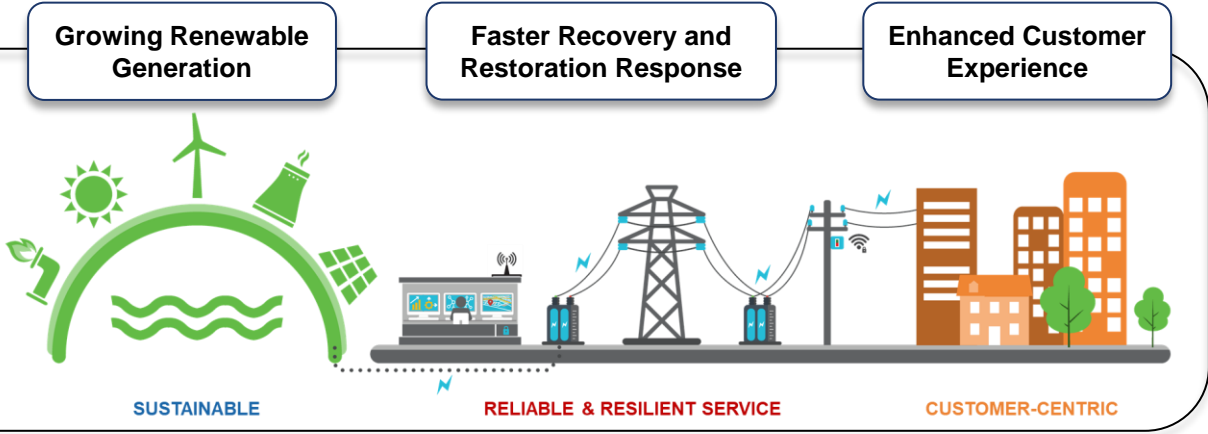
Puerto Rico Electric Power Authority (PREPA)

**Works Status
Governor's Brief
December 2, 2022**

Puerto Rico Grid of the Future

PREPA's strategic mission is to implement the Energy Public Policy of Puerto Rico, providing and facilitating the electric power service in a reliable, clean, efficient, resilient, and affordable manner, contributing to the general wellbeing and sustainable development of the People of Puerto Rico.

PREPA's strategic vision is to be a competitive corporation who use the best worldwide electric industry practices and technologies and, by means of the integrated planning of our resources, facilitate the development of the energy sector and the economy of Puerto Rico.



Renewable Generation

Federal Funds

Environmental Protection

Units Repairs Schedule

PREPA's Restructuring

Integration of Renewable Resources

Renewable Generation



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Renewable Resources - PREPA's Procurement Strategy

Through the renewables tranches procurement processes mandated in the Integrated Resources Plan (IRP) and Modified Action Plan approved by the Puerto Rico Energy Bureau (PREB), PREPA must seek proposals to develop, operate, and maintain renewable energy projects in Puerto Rico.

PREPA's Procurement Plan

- May include but are not limited to solar, wind, energy storage, hydro, virtual power plants, or any combination of these technologies
- Must comply with PREPA's Minimum Technical Requirements
- During the 1st Tranche, the Puerto Rico Energy Bureau (PREB) requested to include 150 MW of capacity for Virtual Power Plants (VPPs)
 - This capacity is part of the 500 MW energy storage capacity (i.e., 350 MW of energy storage and 150 MW VPPs)

Request for Proposal (RFP) Tranche Schedule

Procurement Tranche	RFP Release Target Date	Solar PV or equivalent other energy (MW)		4-hour Battery Storage equivalent (MW)	
		Minimum	Cumulative	Minimum	Cumulative
1	Feb-21	1000	1000	500	500
2	Sept-22	500	1500	250	750
3	TBD	500	2000	250	1000
4	TBD	500	2500	250	1250
5	TBD	500	3000	125	1375
6	TBD	750	3750	125	1500

Current Tranches



*The PREB's Independent Coordinator published the Tranche 2 RFP on September 28, 2022.



Renewable Resources - PREPA's Procurement Strategy

Through the renewables tranches procurement processes mandated in the Integrated Resources Plan (IRP) and Modified Action Plan approved by the Puerto Rico Energy Bureau (PREB), PREPA must seek proposals to develop, operate, and maintain renewable energy projects in Puerto Rico.

"Shovel-Ready" Projects

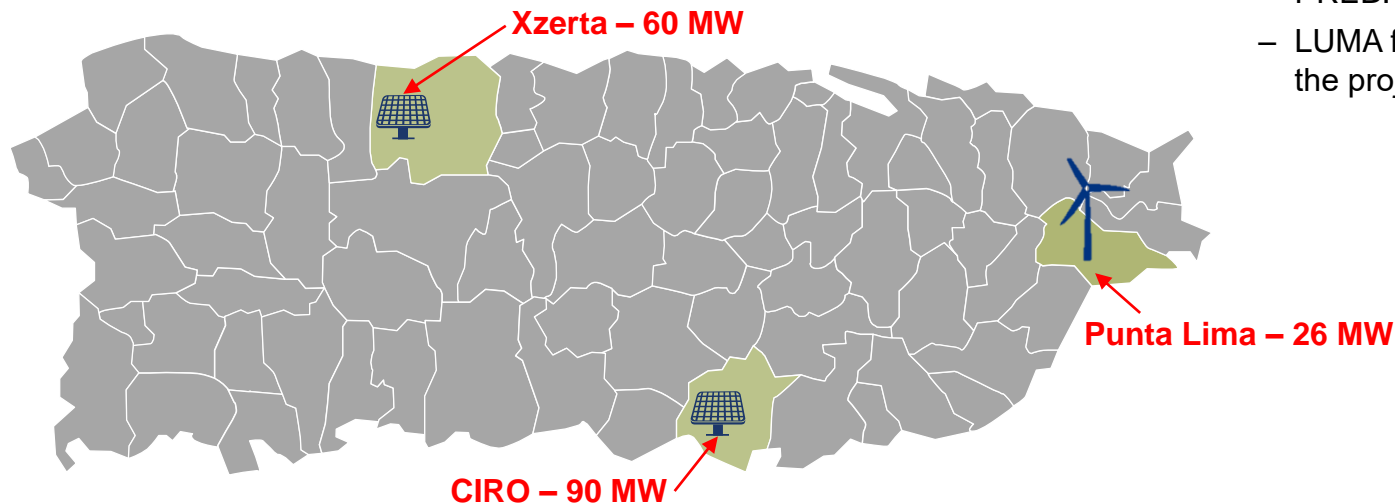
Xzerta Tec Solar LLC (≈ 60 MW) and CIRO One Salinas LLC (≈ 90 MW)

- Upon execution of both contracts an Assumption Motion was filed and approved by the Tittle III court on December 8, 2021.
- Projects to start construction no later than 8 months after the Assumption Order Date and achieve Commercial Operation no later than 24 months.
- CIRO One Salinas LLC, on March 2022, presented payment and agreed with LUMA to commence interconnection studies.
- Xzerta Tec and LUMA are working towards completion of IC studies.

Other Projects

Punta Lima (≈ 26 MW), Naguabo

- Project was destroyed by Hurricane María; Banco Santander is the new owner.
- Banco Santander proposed to sell Punta Lima transmission line to PREPA for using the proceeds to comply with current MTR's.
- FOMB approved purchase of Punta Lima transmission line by PREPA; PREB ordered PREPA to obtain appraisal of Punta Lima transmission line to validate the purchase price.
- PREPA General Counsel contacted Appraiser (Global Consultas Asociados) to carry out title study, legal investigation, and render report as requested by PREB. On July 18, a site assessment was done by the Appraiser.
- LUMA filed a confidential motion with the PREB stating an opposition to build the project in two phases. PREB have not replied LUMA's motion.



Renewable Resources - Tranche 1 RFP Procurement Process

Scope Summary

Renewable Energy Resources Capacity 1,000 MW	Battery Energy Storage Systems Capacity 350 MW	Virtual Power Plant* Capacity 150 MW	Commercial Operation Date 24 months after contract signing (no longer than 30 months)
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Key Contract Terms

Renewable Energy Resources	Battery Energy Storage Systems (BESS)	Virtual Power Plant (VPP)
<ul style="list-style-type: none"> Any resource constituting renewable energy under Puerto Rico law Power Purchase & Operating Agreement (PPOA) Payments based on energy / deemed energy 	<ul style="list-style-type: none"> Standalone systems or installations complementary to renewable energy resources Preference for 4-hour durations but will consider 2-hour and 6-hour Energy Storage Services Agreement (ESSA) Payments based on capacity 	<ul style="list-style-type: none"> Aggregation of ≥ 5 MW of resources, each below 38 kV Energy generation, storage and/or demand response Resources that, on 13.2 kV, each do not exceed 1 MW Payment for capacity

Remaining Milestones

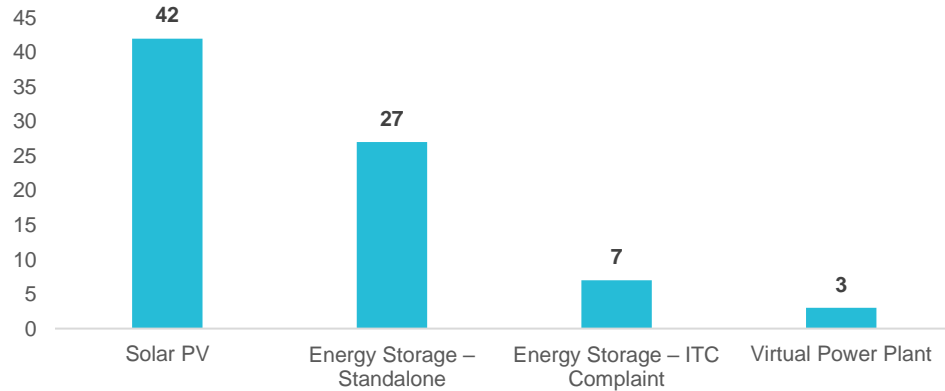
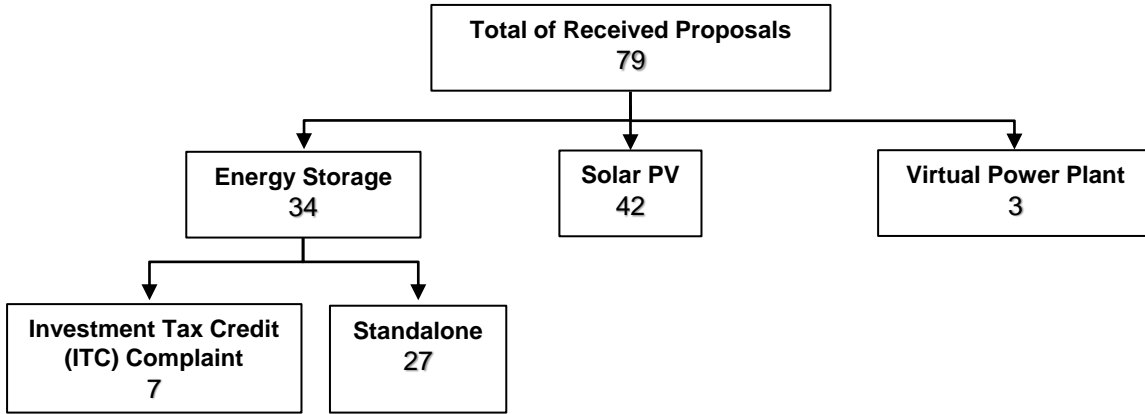
Milestone	Date
Selection of proposals for Phase III Evaluation	12/16/2021 & 12/23/2021
Approval of preliminary PPOAs by PREB	02/02/2022
Approval of preliminary ESSAs by PREB	09/01/2022 – 2 projects
Approval of preliminary PPOAs by FOMB	03/25/2022
Approval of preliminary ESSAs by FOMB	In-process
Completion of interconnection and system impact studies by LUMA Energy (LUMA)	05/31/2022
PPOA's Approval by PREPA's Governing Board	06/23/2022
Execution of PPOA's contracts by PREPA (9 PPOAs)	06/30/2022
Approval of final contracts by PREB (9 PPOAs) PREPA submitted 4 additional PPOA's for PREB's approval PREPA submitted 1 PPOA for PREB approval Approval by PREB of 5 additional PPOA's PREPA submitted 4 additional PPOA's and 2 ESSAs Approval by PREB of 4 additional PPOA's and 2 ESSAs	07/08/2022 08/04/2022 08/13/2022 08/15/2022 08/26/2022 09/01/2022
Approval of final contracts by FOMB	No need to file with FOMB for approval
Issuance of best interest determinations by PREPA	TBD

* Refers to a cloud-based distributed power plant that aggregates the capacities of distributed energy resources that are then dispatched through a central room.

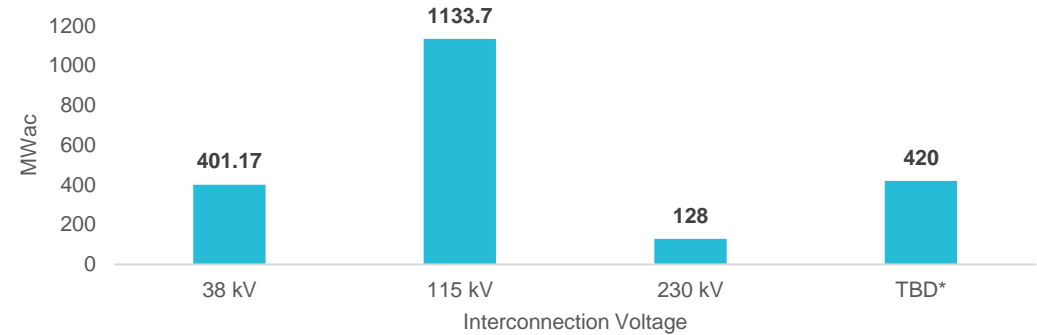


Renewable Resources - Tranche 1 Proposals Summary

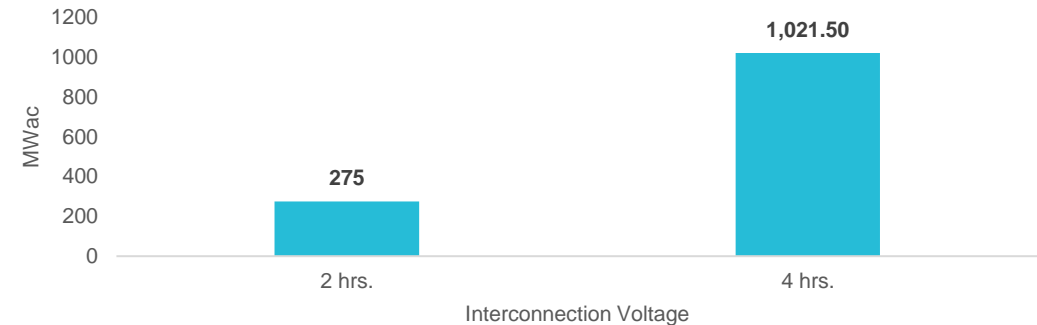
Summary of Received Proposals



Received Solar Photovoltaic (PV) Proposals (Total Capacity: 2082.87 MW)



Received Energy Storage Proposals (Total Capacity: 1021.5 MW**)



Received Virtual Power Plant (VPP) Proposals (Total Capacity: 182 MW)

- Two proponents offered VPPs ranging from 15 – 25 MW
- One proponent offered a VPP up to 150 MW

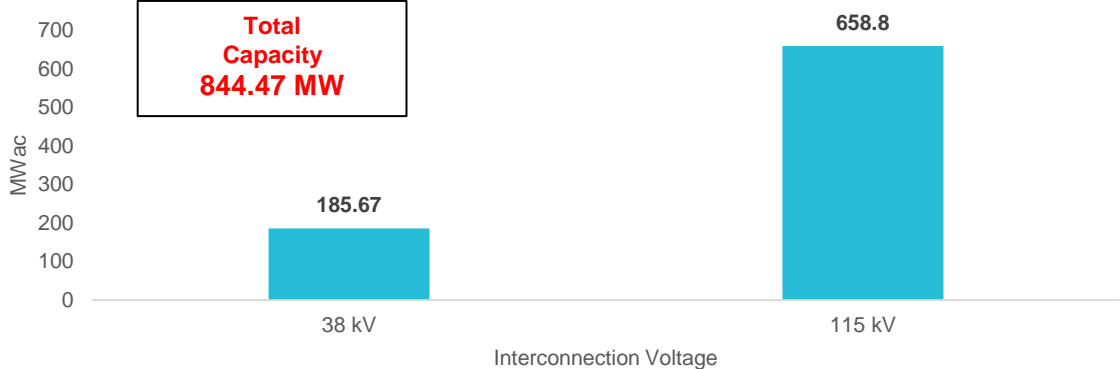
* Further clarification with proponents required.

** For project sites with multiple alternatives, only the largest configuration/duration is included

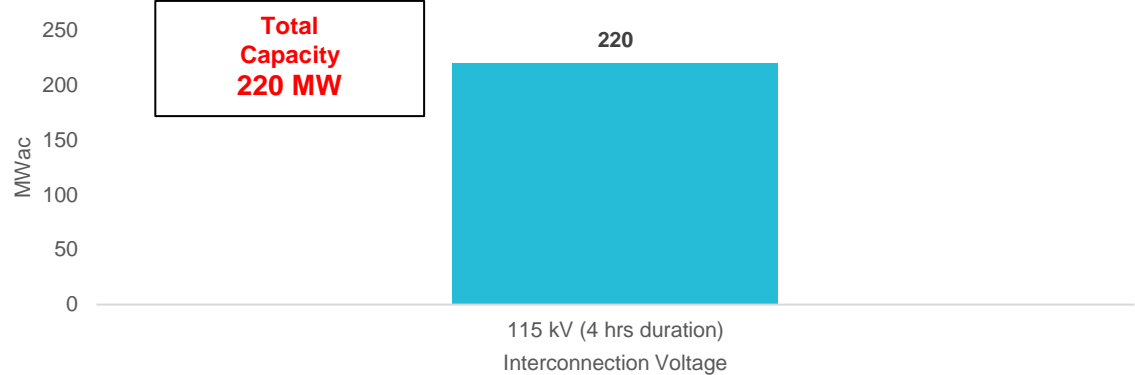


Tranche 1 RFP – Phase III Recommended Proposals

Solar Photovoltaic (PV)



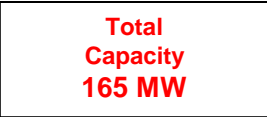
Battery Energy Storage System (BESS)



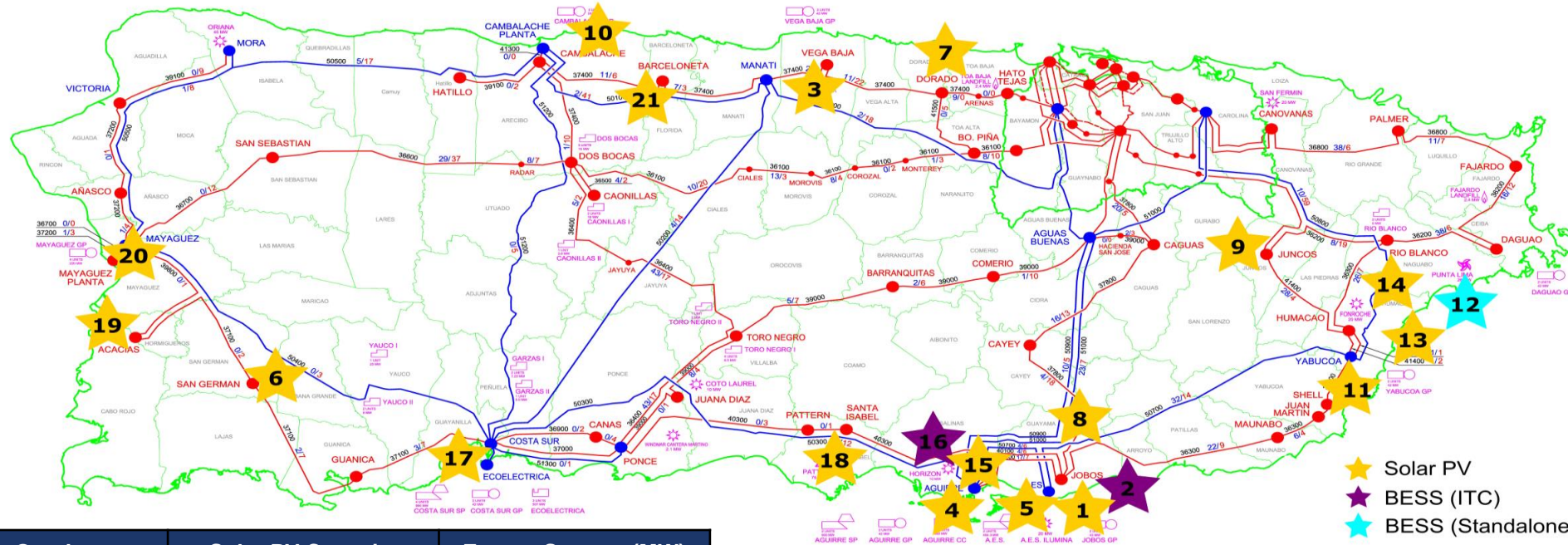
Virtual Power Plants (VPP)

Three proponents submitted VPP proposals:

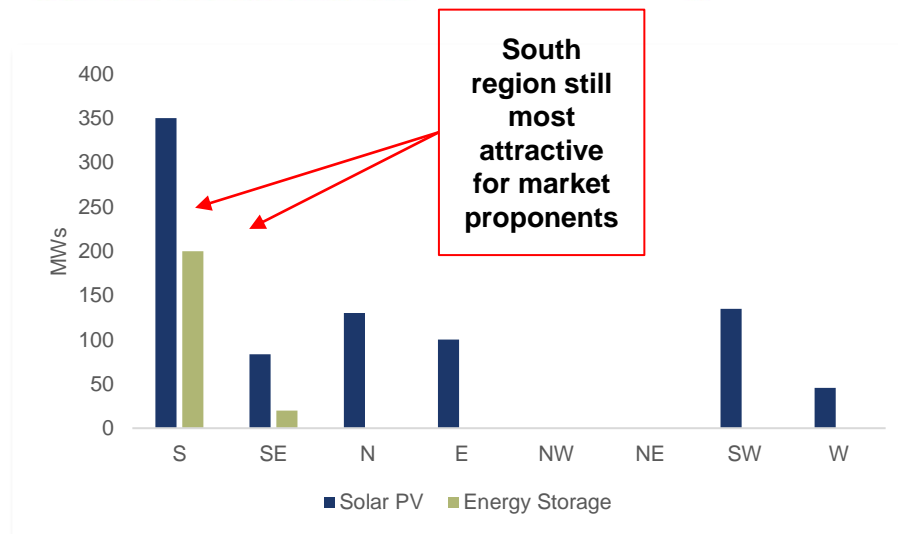
- One proponent offered a VPP up to **150 MW**
- Proposals continue under negotiation



Tranche 1 RFP – Phase III Recommended Utility-Scale Proposals Location



Quadrant	Solar PV Capacity (MWac)	Energy Storage (MW)
South (S)	350.1	200
Southeast (SE)	83.7	20
North (N)	130	0
East (E)	100	0
Northwest (NW)	0	0
Northeast (NE)	0	0
Southwest (SW)	135	0
West (W)	45.67	0
Total	844.47	220



PV plus Energy Storage	
Installation	Capacity (MWac)
1	80
2	100
3	25
4	33
5	25
6	35
7	25
8	32.1
9	100
10	20
11	38.7
12	20
13	25
14	20
15	120
16	100
17	100
18	60
19	20.7
20	24.97
21	60
Total	1,064.47

Renewable Resources - Tranche 1 RFP Process Status

- Solar Photovoltaic (PV) and Energy Storage Proposals (BESS)
 - **December 16 and 23, 2021** – PREPA submitted preliminary contracts of 18 solar PV projects amounting 844.47 MW and 3 energy storage amounting 220 MW for the PREB’s approval.
 - **December 28, 2021 to January 31, 2022** – In response to PREB’s requests for information (RFI) and other requirements in two Resolutions and Orders, PREPA submitted answers and reiterated its request for a meeting to discuss the responses.
 - **February 2, 2022** – PREB issued a Resolution and Order approving the 18 solar PV projects submitted by PREPA totaling 844.47 MW, as they determined that these projects are in alignment with the Modified Action Plan, as set forth in the IRP Order.
 - **February 3, 2022** – PREB met with PREPA’s Evaluation Committee to discuss PREB’s RFI, which helped move forward the ongoing process with the energy storage proposals.
 - **March 25, 2022** – After performing a preliminary review of the 18 PPOAs projects approved by the PREB and submitted by PREPA for their approval on March 4, 2022, the FOMB conditionally approved them, subject to PREPA resubmitting the PPOAs to PREB and them, after a Best Interest Determination have been performed.

Renewable Resources - Tranche 1 RFP Process Status

- Solar Photovoltaic (PV) and Energy Storage Proposals (BESS)
 - **April 5 to 28, 2022** – LUMA and PREPA exchanged communications regarding the technical studies for the interconnection of 21 projects, 18 PPOAs and 3 ESSAs. PREPA held meetings with the proponents and LUMA to resolve issues found in this process and submitted responses to PREB’s Resolution and Order of April 11, 2022, including LCOS threshold, VPP GSA, MTRs, and actions related to the BESS proponents.
 - **April 27, 2022** – PREB approved a Resolution and Order establishing, among others, that PREPA must submit signed copies of the approved PPOAs by June 30, 2022.
 - **May 9 and 10, 2022** – PREPA submitted the Lessons Learned in Tranche 1 to the Independent Coordinator’s platform, as a reference for Tranche 2 process and met with its advisors, the PREB’s Legal Counsel, PREB’s current advisor, the Independent Coordinator, and others, to discuss these lessons and the importance of applying them in Tranche 2 process.
 - **May 31, 2022** – LUMA submitted interconnection studies and system impact study results, considering the proposals approved by the PREB, and as requested in its April 27 Resolution and Order.



Renewable Resources - Tranche 1 RFP Process Status

- Solar Photovoltaic (PV) and Energy Storage Proposals (BESS)
 - **June 1, 2022** – PREPA submitted the studies' results to proponents for their evaluation and informed the FOMB that the PPOAs would be submitted for FOMB's final approval by mid June. The latter, as part of the timeline that PREPA should follow to submit the signed PPOAs to the PREB by June 30.
 - **June 3, 2022** – FOMB responded to PREPA's June 1st communication, indicating that they will approve the PPOAs after PREB makes their determination.
 - **June 13, 2022** – PREB approved a Resolution and Order establishing, among others, that PREPA, upon receiving the information of the final technical studies, shall revise and finalize the negotiations with the 18 PPOA proponents and file for the Final Approval of the PREB copies of PPOAs by June 30, 2022.
 - **June 23, 2022** – PREPA's Governing Board approved Resolution 4990, authorizing the finalization and execution of the Subject Agreements by the Executive Director, that have a levelized cost of energy (LCOEs) below the preferred value in Price Recommendation Memorandum submitted by the Tranche 1 RFP Evaluation Committee.
 - **June 30, 2022** – PREPA executed 9 final PPOAs amounting 430.1 MW and submitted them to the PREB for final evaluation and approval. In its submittal, PREPA requested a time extension for the submission of additional PPOAs, which were still being negotiated with the proponents.

Renewable Resources - Tranche 1 RFP Process Status

- Solar Photovoltaic (PV) and Energy Storage Proposals (BESS)
 - **July 8, 2022** – PREB issued a Resolution and Order approving the 9 executed PPOAs submitted by PREPA, finding PREPA in compliance with the April 27 and June 13 Resolutions. In addition, PREB granted PREPA a time extension to file additional PPOAs by July 22, 2022.
 - **July 18, 2022** – PREPA filed a Motion to the PREB requesting a time extension of at least 10 business days from FOMB’s approval of PREPA’s technical consultant and legal advisory firms’ contracts, which expired on June 30, 2022. Since the expiration of these consultant and advisory contracts, PREPA’s negotiations with the proponents had to be stopped, as PREPA does not have enough internal resources for continuing such tasks. As of July 18, 2022, the FOMB have not issued the approval of these consultant and advisory contracts. The FOMB finally approved these contracts on July 19, 2022.
 - **August 4, 2022** – PREPA filed a Motion to the PREB to submit 4 additional PPOA’s amounting approximately 109 MW for their evaluation and approval. PREPA informed that is still in negotiations with 2 other proponents. This in compliance with the April 27, June 13, and July 8 PREB’s Orders.
 - **August 13, 2022** - PREPA filed a Motion to the PREB to submit 1 additional PPOA amounting approximately 60 MW for their evaluation and approval.



Renewable Resources - Tranche 1 RFP Process Status

- **Solar Photovoltaic (PV) and Energy Storage Proposals (BESS)**
 - **August 15, 2022** – PREB approved the execution of 5 PPOA's for solar PV resources amounting 169 MW and provided PREPA until August 26, 2022, to file executed contracts for the remaining projects under negotiations or provide the justifications as to why the contracts cannot be executed.
 - **August 26, 2022** – PREPA filed a Motion to the PREB to submit, for their evaluation and approval, the remaining 4 executed PPOA's for 245 MW (120 MW, 80 MW, 25 MW, and 20 MW). Also, submitted 2 executed contracts for energy service storage agreements (ESSA's), totaling 200 MW; each for a four-hour duration utility-scale battery energy storage projects co-located and operational integrated, for Incentive Tax Credit (ITC) compliance, with two of the solar PV PPOA's. PREPA informed that is still in negotiations with 6 remaining ESSA's for Tranche 1 projects which are currently under review by LUMA.
 - **September 1, 2022** – PREB approved the execution of the 4 PPOA's and 2 ESSA's submitted on August 26 Motion.
 - **September 6, 2022** – PREPA requested the FOMB to grant Critical Project designation to the projects approved for Tranche 1. Designating such projects as Critical Projects under PROMESA will allow for an expedited and successful execution of these renewable energy projects.
 - **October 19, 2022** – FOMB submitted a letter which includes a Submission Form developed by them to review and evaluate the proposed projects for which it seeks designation as a critical project. PREPA forwarded this form to all proponents by the end of October. The process will commence once the information required in the Submission Form has been provided by the Project Sponsors and is deemed complete by the FOMB.



Renewable Resources - Tranche 1 RFP Process Status

- Solar Photovoltaic (PV) and Energy Storage Proposals (BESS)
 - Next Tasks
 - PREPA will continue negotiations with 6 BESS.
 - Pursuant to PREB's June 13 Resolution and Order, PREPA shall present final Energy Storage Service agreements (ESSA's) to the PREB for their final approval, once LUMA complete the corresponding interconnection studies which have been delayed after Hurricane Fiona landfall.
 - Although interconnection studies undertaken by LUMA should be ready by November, PREPA aims to have the ESSA's ready other than final pricing by December so they can be submitted to Governing Board, PREB and FOMB by December for conditional approval.
 - After studies completion, final pricing must be renegotiated for further contracts execution and PREB submittal for approval.
 - Full Tranche 1 completion is expected by December.



Renewable Resources - Tranche 1 RFP Process Status

- Virtual Power Plant (VPP) Proposals
 - **January 12 and March 1 and 17, 2022** – PREPA submitted confidential motions to the PREB:
 - Submitting drafts of preliminary contracts for VPP resources (Draft Grid Service Agreements or “Draft GSAs”) of 2 proponents who offered VPP resources with a total capacity of 167 MW (one of 150 MW and other of 17 MW).
 - Informing PREB the status of VPP proponents and concerns from PREPA and LUMA regarding the operating procedures and testing protocols, as well as the costs versus benefits of this type of technology compared to energy storage proposals.
 - **April 9, 2022** – One of the VPPs submitted a revised version of their GSA and met with PREPA for draft finalization on April 12, 2022.
 - **April 28, 2022** – PREPA submitted an Informative Motion with the draft GSA for the remaining VPP proponents and recommending the VPP with 17 MW of capacity, as this proponent submitted the proposal with the most favorable operational and economical terms.
 - **June 13, 2022** – PREB approved a Resolution and Order establishing among others, that PREPA shall finalize negotiations with the 17 MW VPP project.
 - PREPA shall present final Grid Services Agreement (GSA) to the PREB for their final approval.



Renewable Resources - Tranche 1 RFP Process Status

- Virtual Power Plant (VPP) Proposals
 - On October 26, 2022, PREPA's Governing Board approved the final, suitable-for-execution version(s) of the Draft GSA to be filed with the PREB.
 - On November 2, 2022, PREPA filed a Motion to the PREB for their approval of the Draft GSA.
- Next Tasks
 - Once the GSA is executed by the parties, PREPA will be filing with the PREB for the approval of a 17MW VPP project and further FOMB for approval.
 - LUMA will continue conducting technical interconnection and system integration studies considering the proposals that would be approved by the PREB.
 - Following the completion by LUMA of the technical interconnection and system integration studies, if PREPA determines said proposals will serve the best interests of ratepayers as per the findings of such studies, it will inform a positive or negative Best Interest Determination that will lead to the acceptance or rejection of said projects.
 - The PREB and FOMB will approve or reject the final GSAs of PREPA's approved projects.



Renewable Resources - Tranche 1 RFP Process Status

- ❖ LUMA will continue conducting technical interconnection and system integration studies.
- ❖ 18 Solar PV and 2 Energy Storage with Batteries Signed Projects and Cost Estimates:

Project Name	Cost Estimate for Energy Purchase (PPOA) and Capacity (ESSA) During Contract Term (\$)
PV's	
YFN Yabucoa Solar, LLC	85,501,121.23
Pattern Barceloneta Solar, LLC	402,894,464.98
Pattern Vega Baja Solar, LLC	172,396,668.24
Convergent Coamo Energy Storage 1, LLC	584,927,180.47
CS-UR Juncos PV, LLC	613,638,346.71
Esmeralda Solar Farm, LLC	449,043,895.44
Clean Flexible Energy, LLC (Salinas PPOA)	703,431,305.54
Clean Flexible Energy, LLC (Jobos PPOA)	477,019,505.62
Clean Flexible Energy, LLC (Naguabo A)	157,064,813.06
Clean Flexible Energy, LLC (Naguabo B)	138,418,329.17
CIRO Two Salinas, LLC	166,730,157.95
Tetris Power	113,074,866.41
Diversys Solar, LLC	165,258,572.38
Energía Solar, LLC	145,191,650.28
Go Green USA América Corp.	181,509,628.78
Guayama Solar Energy, LLC	166,510,787.14
Solaner Puerto Rico One, LLC	201,393,092.48
SolarBlue Bemoga, LLC	142,486,395.07
Battery Storage	
Clean Flexible Energy, LLC (Jobos Energy Storage Services)	860,826,335.38
Clean Flexible Energy, LLC (Salinas Energy Storage Services)	868,712,444.97
Shovel Ready Projects	
Ciro One Salinas, LLC	606,500,000
Xzerta Tec Solar I, LLC	360,300,000
Punta Lima	94,400,000



Renewable Resources - Tranche 2

- RFP Process Status
 - **October 15, 2021** – PREPA submitted the RFP for PREB’s approval.
 - **October 29, 2021** – PREB notified a Resolution and Order stating that:
 - The PREB will execute Tranche 2 RFP through an independent coordinator, having a direct role in overseeing the procurement process.
 - In a separate resolution, PREB will provide detailed powers and duties of PREPA and the independent coordinator, along with specific instructions for this new process.
 - **December 13, 2021, January 14, 2022, January 25, 2022** – PREPA submitted motions to the PREB requesting the designation of the Independent Coordinator and the resolution stating each part’s roles and responsibilities.
 - **January 27, 2022** - PREB issued a Resolution and Order: (1) stating the roles and responsibilities of the PREB-Independent Coordinator (*Accion Group*) for the procurement process, which did not include the roles and responsibilities of PREPA or LUMA, and (2) scheduled a webinar for January 28, 2022.
 - **January 28, 2022** – The Independent Coordinator held a webinar to explain the procurement process for Tranche 2. However, the IC mentioned that PREPA’s involvement in the process is yet to be determined by the PREB.



Renewable Resources - Tranche 2

- RFP Process Status
 - **February 21, 2022** – PREPA submitted the fourth motion to the PREB requesting the resolution stating PREPA’s roles and responsibilities.
 - **March 28, 2022** – PREPA submitted the fifth motion to the PREB requesting the resolution stating PREPA’s roles and responsibilities and for PREB to schedule a meeting to discuss said role as well as the plans for future tranches.
 - **April 11, 2022** – The Evaluation Committee contacted the PREB-Independent Coordinator from Accion Group to offer assistance in the process and when we could expect since there has been a lack of response from the PREB. However, Mr. Harold T. Judd indicated that they cannot communicate PREPA unless PREB authorizes them to do so.
 - **April 19, 2022** – PREB-Independent Coordinator announced the publishing of a draft RFP for Tranche 2.
 - **April 22, 2022** – PREB-Independent Coordinator presented a webinar to introduce the draft RFP to potential proponents.
 - **April 26, 2022** – The PREB-Independent Coordinator published drafts of Tranche 2’s RFP, PPOA, ESSA, and GSA for stakeholders’ review and inputs.



Renewable Resources - Tranche 2

- RFP Process Status
 - **April 28, 2022** – PREPA submitted the sixth motion to the PREB requesting the resolution stating PREPA’s roles and responsibilities and for PREB to schedule a meeting with PREPA’s Governing Board and management to discuss said role as well as the plans for future tranches.
 - **May 9, 2022** – PREPA submitted the Lessons Learned in Tranche 1 to the Independent Coordinator’s platform as reference for Tranche 2.
 - **May 10, 2022** – PREPA and its advisors met with the PREB’s Legal Counsel, PREB’s current advisor, PREB-Independent Coordinator, and others, to discuss the lessons learned in Tranche 1 and the importance of applying them in Tranche 2.
 - **May 12, 2022** – PREPA provided to the PREB’s Legal Counsel comments to the Tranche 2 RFP.
 - **May 23, 2022** – PREPA’s Governing Board members and Secretary, Evaluation Committee members met with PREB’s commissioners as per the Board’s request. PREPA will provide PREB advantages of including PREPA in the Tranche 2 for their consideration.
 - **May 27, 2022** – The Chairman of PREPA’s Governing Board provided PREB advantages and importance of including PREPA in the Tranche 2 for their consideration.



Renewable Resources - Tranche 2

- RFP Process Status

- **June 9, 2022** – The PREB approved a Resolution and Order establishing, among others, PREPA’s roles and responsibilities:
 1. Select a Governing Board member and an official to form part of the Selection Committee, which shall be responsible for the evaluation and selection of proposals for the remainder of the RFP process (i.e. Tranches 2 through 6).
 2. Provide any data and information required by the PREB-Independent Coordinator.
 3. Provide guidance and input to the Energy Bureau and the PREB-Independent Coordinator.
 4. Provide legal advice and resources regarding the RFP documents, including PPOAs.
 5. Assist the PREB-Independent Coordinator in finalizing the RFP documents and provide comments (upon request) for the evaluation of bids.
 6. Assist the PREB-Independent Coordinator and provide comments for the preparation of the non-negotiable PPOAs as part of the RFP process.



Renewable Resources - Tranche 2

- RFP Process Status
 7. Collaborate effectively and efficiently with the PREB-Independent Coordinator. PREPA's Point of Contacts (POC) are expected to work with the PREB-Independent Coordinator, LUMA and the Energy Bureau for a timely and successful execution of the RFP process.
 8. PREPA's POC to participate in meetings and/or provide information requested by the PREB-Independent Coordinator or PREB staff.
 9. Execute the corresponding PPOAs.
- PREPA appointed Francisco Santos and Astrid Rodríguez as PREPA's POCs to collaborate with the PREB-Independent Coordinator.
- **June 29, 2022** - PREPA submitted a motion to inform the PREB that the following members have been designated to participate as PREPA's delegates in the RFP Selection Committee: Chairman of PREPA's Governing Board, Attorney Fernando Gil Enseñat and Eng. Jaime A. Umpierre, Hydrogas Division Head.
- **July 7 and 14, 2022** - The appointed members have participated in two meetings held by the PREB-Independent Coordinator, who scheduled meetings for every Thursday.
- **July 28, 2022** – PREPA participated in a meeting to discuss comments to the Tranche 2 RFP draft.

Renewable Resources - Tranche 2

- RFP Process Status
 - **August 12, 2022** – Fourth Stakeholders Webinar, sponsored by PREB-Independent Coordinator
 - **August 19, 2022** – PREPA provided inputs to PREB-Independent Coordinator regarding questions of stakeholders and the PREC-IC informed the RFP document still pending PREB's approval.
 - **August 26, 2022** – PREB-IC sponsored the Fifth Stakeholder Webinar - PREB and LUMA Technical Session in which LUMA presented the Minimum Technical Requirements (MTRs)
 - **September 13, 2022** – PREB-Independent Coordinator informed that the Tranche 2 bidding period (RFP) will open on September 16, 2022 and will close on October 17, 2022. Bidding process was delayed.
 - **September 28, 2022** – The Tranche 2 bidding period (RFP) was published by the PREB-Independent Coordinator and the last day for proposals submittal is November 14, 2022.
 - **November 10, 2022** - PREB-Independent Coordinator informed that the Tranche 2 bid due date was extended to December 5, 2022.



Federal Funds (FEMA) Projects

Federal Funds



Puerto Rico
Electric Power
Authority

Permanent Works Projects

404, 428, and CDBG-DR Funds

Federal Funds



Puerto Rico
Electric Power
Authority

Reconstruction of Puerto Rico's Electrical System

Generation Directorate

PREPA is working on the execution of one hundred and two (102) Proposed Generation Projects necessary to improve the reliability and availability of the PREPA's Generation Fleet and Puerto Rico's Electrical System.

- Total Estimated Investment - **\$358,180,000**
- The plan is to execute all the projects during the period of the 2021-22 and 2022-23 fiscal years.
- To date the PREB has approved a total of 98 scopes of work (SOWs) totaling \$306,180,000 and is still pending PREBs determination on 4 SOWs amounting to \$52,000,000.

Power Plant	Number of Projects	Cost Amount
Aguirre Power Complex	16	\$34,782,002
Costa Sur Power Plant	22	\$40,763,473
San Juan Power Plant	28	\$132,975,243
Palo Seco Power Plant	13	\$31,499,166
Cambalache Power Plant	4	\$33,543,000
Mayaguez Power Plant	1	\$17,995,020
CTs Remote Peaking Stations	6	\$50,180,000
Engineering & Technical Services Division Support Contracts	12	\$16,440,000

Generation System Projects

Generating Units Repairs Projects with 428 Federal Funds

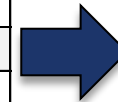
Power Plant	SOW	Estimated Cost (\$M)*
San Juan	28	\$ 132.98
Aguirre	12	29.51
Aguirre Combined Cycle	5	5.28
Costa Sur	23	40.76
Palo Seco	13	31.50
Hydro Gas Peakers	6	50.18
Cambalache	4	33.54
Mayaguez	1	18.00
All Power Plant	12	16.44
	104	\$ 358.18



SOW	Amount
25	\$ 98.98
11	29.51
5	5.28
22	40.76
13	31.50
6	50.18
3	15.54
1	18.00
12	16.44
98	\$ 306.18



SOW	FEMA Project	Amount
19	3	\$ 81.01
9	2	23.95
5	1	5.28
21	2	40.06
11	2	29.76
-	-	0.00
1	1	1.04
1	1	18.00
-	-	4.70
67	12	\$ 203.80



Approved	Amount
2	\$ 61.96
2	23.94
1	5.41
2	43.55
2	29.75
-	-
1	1.04
1	18.00
-	4.19
11	\$ 187.83

Notes:

- As part of PREB's approval process, PREPA submitted 104 Scope of Works (SOWs) on November 15, 2021, which were subsequently consolidated in 102 SOWs submitted to the PREB from January 13 to February 14, 2022.
- SOWs are consolidated into logical groupings or projects (i.e., by plant, unit or system) to meet FEMA requirements. Once all SOWs within a consolidated group have PREBs approval, PREPA can subsequently submit it to FEMA.
- A total of 15 logical groupings have been preliminary identified, of which 12 Project Worksheets (PWs) submissions grouping 67 SOWs amounting to \$203.80 million have been submitted to FEMA. All Power Plant projects were allocated among approved PWs.
- 4 SOWs amounting about \$52 million are pending PREB's approval to submit the formulations for the needed repairs on San Juan Units 8 & 10 and Cambalache Unit 1 (these SOWs would be added to 31 PREB approved SOWs amounting about \$102 million to complete the submission of 3 logical groupings).
- It should be noted that some of the SOWs approved by PREB include maintenance and operational works which are not eligible under FEMA Public Assistance.

Pending PREB's Approval

<p style="font-weight: bold; font-size: 0.8em;">Total SOWs</p> <p style="font-size: 1.5em; font-weight: bold;">4</p>	<p style="font-weight: bold; font-size: 0.8em;">Investment</p> <p style="font-size: 1.5em; font-weight: bold;">\$52 M</p>
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Reconstruction of Puerto Rico's Electrical System

Generation Directorate

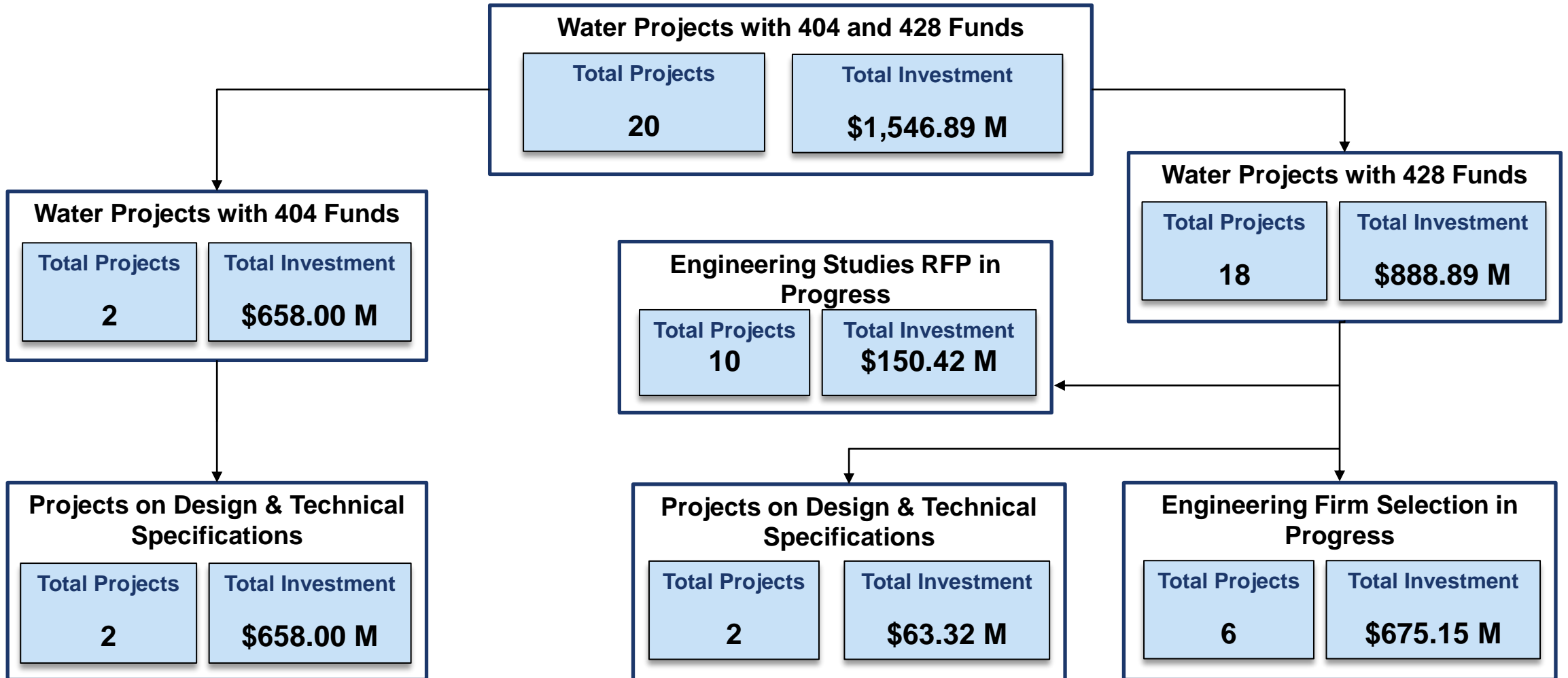
Power Plants' obligated PW for Repairs by FEMA - \$187.82 million dollars :

PW	Project Title	Fund	Asset	Project Formulation Status	FEMA Approval	Reimbursement	Reimbursement In Progress
10571	FAASt Aguirre Power Plant Infrastructure Projects 001	428	Generation	Approved	3,031,265	682,035	
10568	FAASt Aguirre Power Plant 002 Units 1 & 2 Projects	428	Generation	Approved	20,905,908		10,045,029
10622	FAASt Aguirre Power Plant 003 Combined Cycle	428	Generation	Approved	5,405,870	-	-
10615	FAASt San Juan 001 – Units 5 & 6	428	Generation	Approved	60,080,016	-	12,571,726
10608	FAASt San Juan Power Plant - Auxiliary Infrastructure	428	Generation	Approved	2,368,247	-	-
10702	FAASt Costa Sur Permanent Repairs 5 & 6	428	Generation	Approved	42,299,739	-	-
10694	FAASt Costa Sur Permanent Repairs	428	Generation	Approved	1,250,000	281,250	
10606	FAASt Palo Seco Steam Plant Unit 3-4	428	Generation	Approved	28,774,423	-	-
10609	FAASt Palo Seco Steam Plant Permanent Repairs	428	Generation	Approved	3,482,578	783,580	
10607	FAASt Cambalache Power Plant Permanent Repairs	428	Generation	Approved	2,038,588	-	-
10455	FAASt Mayaguez Hydro-Gas Power Plant Permanent Repairs	428	Generation	Approved	18,192,583	15,945,296	
Total Generation Units Rehabilitation Repairs					187,829,216	17,692,161	22,616,755

Note: PREPA identified various repairs on direct damages caused by Hurricane María and formulated such for obligation. Due to FEMA formulation constraints, specifically those for EHP, subprojects were consolidated. In addition, “All Power Plant” projects were allocated among approved PWs.

Generation System Projects – Water Projects

Water Projects with 404 and 428 Federal Funds



Generation System Projects – Water Projects

Water Projects with 404 Federal Funds

#	Project Name	Funding	Status	% Last Month Completion Status	% Completion	Estimated Cost (\$M)*
Water						
1	Patillas Dam - Seismic Retrofit (Dams, Hydro, & Irrigation)	404	Design	30%	30%	\$558.00
3	Early Warning System (Dams, Hydro, & Irrigation)	404	Technical Specifications	30%	30%	\$100.00
Total						\$658.00

- **Patillas Dam – Seismic Retrofit**

- Geotechnical laboratory analysis for tests pits were finished and delivered to Reclamation. 30% Design Package was submitted for FEMA approval on August 1, 2022. Once FEMA approve the design concept Reclamation will move forward to develop 60% for April 2023 and final plans and specifications targeted for November 2023. At the moment, Reclamation is working with the design of the dewatering system for the excavation works. FEMA began their environmental NEPA process.

- **Early Warning System**

- PREPA continue waiting for the FEMA equipment specifications approval. A Design Build approval was requested to FEMA Region 2, we are waiting for official confirmation to move forward the Design-Build process for all 20 PREPAs Dam. All dams walkdowns were finished in July and August. Packages for the Design-Build RFP are being developed for PREPA approval. Estimates are also being developed at this moment along with answers for the actual Conditions of Approval to be delivered by October 31. Additional walk downs begun on the week prior to Hurricane Fiona but where postponed, dates are being discussed for reschedule purposes.

Note: The % Completion refers to the progress of the status stage and does not necessarily represent the progress percent of the project's development.



Generation System Projects - Water Projects

Water Projects with 428 Federal Funds						
#	Project Name	Funding	Status	% Last Month Completion Status	% Completion	Estimated Cost (\$M)*
Water						
2	FAASt - Rio Blanco Hydroelectric System (Dams, Hydro, & Irrigation)	428	Design	35%	35%	\$48.10
4	FAASt – Toro Negro Covenyance Canal and Penstock repairs	428	Technical Specifications	20%	20%	\$15.22
Total						\$63.32

- **Río Blanco Hydroelectric System**

- Design team developed 3 design alternatives for the reconstruction of conveyance water canal and full replacement of penstock. A meeting was held with the Forest Service and FERC to present three alternatives for the repair of the water pipe.
- Meeting to present and discuss best available alternative to US Forest Service and FERC was held on September 14, 2022.
- PREPA will work with the selection of the best alternative and work with the design specifications for RFP including the start of the environmental compliance permitting. S&L is working on final specifications and RFP Bid package.
- Next revision of FEMA Report (re-issue by end of November or two weeks after completion of walkdown S&L/FERC/USFS)
- Preparation of design-build repair specification (target by end of November) which will include the topography and geotech exploration requirements.

- **Toro Negro Hydroelectric System**

- Task order issued for Toro Negro Structure repairs. On July 28, 2022, the Toro Negro water conveyance system conceptual study was received for review. S&L 's high level cost repair estimates are pending. Meeting with S&L was held on September 14, 2022, in which PREPA requested the final specifications and RFP Bid package.
- Conceptual Cost Estimate (due at mid-November)
- Next revision of FEMA Report (re-issue by end of November or two weeks after completion of remaining walkdown of canals/conveyance system/tunnel entrances).
- Preparation of design-build repair specification (target by end of November) which will include the topography and geotech exploration requirements.

Note: The % Completion refers to the progress of the status stage and does not necessarily represent the progress percent of the project's development.



Generation System Projects - Water Projects

Water Projects with 428 Federal Funds

#	Project Name	Funding	Status	% Last Month Completion Status	% Completion	Estimated Cost (\$M)*
Generation						
1	Guajataca Dam – Permanent Repairs (Dams, Hydro, & Irrigation)	428	Contract Signature for Engineering Firm in Progress	5%	10%	\$566.00
2	FAASt - Damns Minor Repairs	428	Contract Signature for Engineering Firm in Progress	5%	10%	\$3.37
3	FAASt - South Coast Irrigation District – Canals (Dams, Hydro, & Irrigation)	428	Contract Signature for Engineering Firm in Progress	5%	10%	\$32.20
4	FAASt - Isabela Irrigation District - Canals (Water Assets - Conveyance and Canals)	428	Contract Signature for Engineering Firm in Progress	5%	10%	\$15.00
5	FAASt - Lajas Valley Irrigation District - Canals (Conveyance and Canals)	428	Contract Signature for Engineering Firm in Progress	5%	10%	\$15.00
6	FAASt - Caonillas 1 Hydro System (Dams, Hydro, & Reservoir)	428	Contract Signature for Engineering Firm in Progress	5%	10%	\$43.58
Total						\$675.15

- **Guajataca Dam Permanent Repairs**

- PREPA officially requested the assistance of the United States Corps of Engineers for the execution of the Guajataca permanent repairs project. USACE provided written communication with the acceptance of the project and a meeting to refine details for the Memorandum of Understanding between both agencies to be held on August 30. USACE should provide Memorandum draft to PREPA for comments by last week of September, but this effort was delayed due to hurricanes Fiona and Ian.

- **Damns minor repairs, Irrigation Canals and Caonillas Hydro System**

- PREPA held pre bid meeting on August 23 to engage A&E contractor to perform design and submit detailed SOW for FEMA review & approval by December 2023. Pre bid was held in September and bid opening on September 30. Contract is being awarded and in signing process.
- For Caonillas Hydro System, PREPA presented project Resolution to PREPA's Governing Board in August 2022, and it was approved. In the meeting with S&L held on September 14, 2022, PREPA requested the final specifications and RFP Bid Package. On November 8, 2022, PREPA requested approval of Task Order 9, S&L Contract 2022-P0007, to develop conceptual design, specifications and RFP Bid Package for an EPC project.

Note: The % Completion refers to the progress of the status stage and does not necessarily represent the progress percent of the project's development.



Generation System Projects - Water Projects

Water Projects with 428 Federal Funds

#	Project Name	Funding		% Last Month Completion Status	% Completion	Estimated Cost (\$M)*
Generation						
1	FAASt - Dos Bocas Reservoir – Dredging (Dams, Hydro, & Irrigation)	428	All Bathymetries field work done, office work on going	5%	15%	\$58.25
2	FAASt - Garzas Reservoir – Dredging (Dams, Hydro, & Irrigation)	428	All Bathymetries field work done, office work on going	5%	15%	\$1.53
3	FAASt - Guajataca Reservoir – Dredging (Dams, Hydro, & Irrigation)	428	All Bathymetries field work done, office work on going	5%	15%	\$18.99
4	FAASt - Guayabal Reservoir – Dredging (Dams, Hydro, & Irrigation)	428	All Bathymetries field work done, office work on going	5%	15%	\$7.75
5	FAASt - Guayo Reservoir – Dredging (Dams, Hydro, & Irrigation)	428	All Bathymetries field work done, office work on going	5%	15%	\$21.01
6	FAASt - Guerrero Reservoir – Dredging (Dams, Hydro, & Irrigation)	428	All Bathymetries field work done, office work on going	5%	15%	\$0.02
7	FAASt - Loco Reservoir – Dredging (Dams, Hydro, & Irrigation)	428	All Bathymetries field work done, office work on going	5%	15%	\$2.73
8	FAASt - Lucchetti Reservoir – Dredging (Dams, Hydro, & Irrigation)	428	All Bathymetries field work done, office work on going	5%	15%	\$35.81
9	FAASt - Guineo Reservoir – Dredging (Dams, Hydro, & Irrigation)	428	All Bathymetries field work done, office work on going	5%	15%	\$1.25
10	FAASt - Matrullas Reservoir – Dredging (Dams, Hydro, & Irrigation)	428	All Bathymetries field work done, office work on going	5%	15%	\$3.08
Total						\$150.42

• Dredging Projects

- Bathymetries field data collection for all dams are finished. PREPA submitted all the sampling plans for FEMA approvals. FEMA is in the process of preparing a PEA (Programmatic Environmental Assessment) for all Dredging Projects.
- Proposal for Biologic Benthic Study requested to CPM pending discussion. CPM submitted a proposal for a Preliminary Engineering Report for the dredging projects, task was awarded and kick off meeting was held with GLM.

Note: The % Completion refers to the progress of the status stage and does not necessarily represent the progress percent of the project's development.



Generation System Projects - 404

Note: The % Completion refers to the progress of the status stage and does not necessarily represent the progress percent of the project's development.

Generation Projects with 404 Funds					
#	Project Name	Funding	% Completion	Status	Estimated Cost (\$M)*
FEMA Approved Projects (Note 1)					
1	New Combined Cycle Planning and Studies (Generation)	404	100%	Technical (Feasibility) Studies completed	\$5.00
2	Simple Cycle Gas Turbines	404	100%	Feasibility Studies	\$280.82
3	Palo Seco Combine Cycle	404	100%	Feasibility Studies	\$567.38
Total					\$853.20
PREPA Proposed Allocation for Approved Projects (Note 2)					
4	Battery Energy Storage System	404	0%	Application Package under Development	\$254.20
5	Simple Cycle Gas Turbines	404	100%	Feasibility Studies	\$599.00
Total					\$853.20

• **Notes:**

1. These are the FEMA 404 funds approved for two generation projects, a new combine cycle in the North and the installation of new peaking units across Puerto Rico.
2. PREPA is proposing the replacement of 11 peaking units (totaling more than 300 MW) to improve the emergency generation fleet that will include the 4 Black Start units that have already been approved for Yabucoa and Costa Sur. The estimated costs detailed in the table respond to the actual circumstances presented as of today, which were determined in collaboration with COR3. These projects are essential to achieve the objective of PREPA to improve Puerto Rico's generation system. PREPA is currently developing a proposal to be submitted to COR3 and FEMA under section 404 Hazard Mitigation Grants for a battery energy storage system. The expenses for item 5 include \$5 million for feasibility studies.
 - On November 4, 2022, the PREB approved 7 peaking units to optimize the development of Minigrids strategy contemplated in the IRP. PREPA is preparing the RFP Bid Package for this project.
 - The RFP Bid Package for the 4 Black Start units was referred for PREB's approval on November 10, 2022.

Generation Projects with 404 Funds

<p>Total Projects</p> <p style="font-size: 24pt; font-weight: bold;">2</p>	<p>Total Investment</p> <p style="font-size: 24pt; font-weight: bold;">\$853.20 M</p>
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Generation System Projects

Generation Projects with CDBG-DR Federal Funds

#	Initial SOW Under Development - Project Name	Funding	% Last Month Completion Status	% Completion	Status	Estimated Cost (\$M)*
Generation						
TBD	Retrofit of the Hydroelectric turbines fleet	CDBG-DR	0	0	Pending Award by the PR Department of Housing	300.00

Sites (units):

1. Dos Bocas (3)
2. Caonillas 1 (2)
3. Caonillas 2 (1)
4. Toro Negro 1 (4)
5. Toro Negro 2 (1)
6. Garzas 1 (2)
7. Garzas 2 (1)
8. Yauco 1 (1)
9. Yauco 2 (2)
10. Río Blanco (2)
11. Isabela 1 (2)
12. Isabela 2 (2)
13. Carite 1(2)
14. Carite 2 (2)
15. Carite 3 (1)

- On September 21, 2021, PREPA submitted to the PR Housing Department (PRDOH) its unmet needs assessment, specifically including a Retrofit of the Hydroelectric Turbine Fleet Project, which is expected to be funded through CDBG-DR and is included within PRDOH Action Plan.
- HUD partially approved PRDOH Action Plan and is expected to fund this project within the Electrical Power Reliability and Resilience Program (ER2).
- Upon completion of these projects, it is expected to provide a maximum Hydroelectric Capacity of 125.1 MW.
- Draft of Application Package delivered to PREPA for evaluation on July 13, 2022, and PREPA Final Comments sent on August 10, 2022.
- On September 29, 2022, PREPA's Governing Board authorized an RFP process to contract A&E services for all Hydroelectric projects.
- On November 2, 2022, PREPA submitted the A&E RFP Bid Package for revision.
- On November 17, 2022, PREPA will present the Application Package, Scope of Work and benefits to the PR Housing Department.

Generation Projects with CDBG-DR Funds

Total Projects

15

Total Investment

\$300.00 M



Generation System Projects – 428 In Progress & Completed Projects

428 In Progress Generation Projects

#	Project Name	Funding	% Completion	Status	Estimated Cost (\$M)*
Completed Generation Projects					
1	Cambalache Power Plant – Flood Protection Barrier (Generation)	428	25%	Technical Studies	\$4.00
Total					\$4.00

- Cambalache Flood Protection Barrier – Task order issued for this project. Contractors are currently developing workplan for design and construction activities. Site Visit Walkdowns Report for 5/25/22; Design Criteria submitted on June 10, 2022. Conceptual Design Drawings were received in July 28 and reviewed. On August 23, 2022, comments sent to S&L for review and changes. PREPA held a meeting with S&L on September 14, 2022, and requested final specifications and RFP Bid Package.
- Targeted for end of November 2022: Conceptual Cost Estimate; FEMA summary report; Draft of Technical Specifications; and Scope of Work; Update of Design Drawings.

428 In Progress Project	
Total Projects	Total Investment
1	\$4.0 M

#	Project Name	Funding	% Completion	Status	Estimated Cost (\$M)*
Completed Generation Projects					
1	FAASt - Palo Seco Mega Gens (Generation)	428	100%	Completed	\$59.70
2	FAASt - Palo Seco Demin Water Tank 4 (Generation)	428	100%	Completed	\$2.55
Total					\$62.25

- Mega-Gens and Demin Tank are currently awaiting FEMA EHP Review and FEMA approval, considering EPA Administrative Order.
 - EPA’s Administrative Order was signed on November 10, 2021.
 - On June 15, 2022, EPA approved Emission Test Protocol No. 6.
 - PREPA completed the Emission Tests.
 - Emission Test Report received and referred to DRNA and EPA on September 8, 2022.
 - On November 10, 2022, PREPA received the Permit to Construct approved by the DNER.

428 Completed Projects	
Total Projects	Total Investment
2	\$62.25 M



Generation System Projects

Generating Units Repairs Projects with 428 Federal Funds

***Per FEMA request, SOWs should follow logical grouping which takes into consideration EHP review; thus, SOWs are being grouped by generating units and infrastructure.*

PREPA

Nov 15
 • PREPA submitted 104 projects with an estimated total cost of about \$344,209,675 for PREB's approval.

Jan 13 to Feb 14
 • PREPA submitted 102 SOWs for the 104 repairs works projects with a revised estimate of about \$358.18 Million, in addition to information required by PREB to continue the projects evaluation.

March
 • PREPA has submitted 27 SOWs to COR3 and FEMA for their approval.**

April 7
 • First FEMA Approved Project with \$18Million



January 4
 • PREB conditionally approved 89 repairs projects amounting \$253,774,675, pending submittal of the SOWs of each project and deferred for further evaluation 15 repairs projects amounting \$90,435,000.

February 10 to March 9
 • PREB approved SOWs for 62 repairs works projects amounting about \$166.81Million

April 13
 • PREB issued R&O approving 25 additional SOWs amounting about \$102.64 Million

July 21
 • PREB issued R&O approving 3 of this SOWs

PREB

Generation System Projects

PREPA actions

- PREPA awaits PREB's approval for 4 SOWs totaling \$52,000,000. Within the pending 4 SOWs there are needed repairs for San Juan Units 8 & 10 and Cambalache Unit 1. Until these SOWs are approved, PREPA cannot move forward with the already approved 31 SOWs for these units amounting \$102.38 million.
- PREPA continues working with the Environmental and Historic Preservation (EHP) documentation for submission with the projects SOWs to FEMA.
- COR3 and FEMA are evaluating the SOW of Costa Sur Power Plant.
- To date, FEMA has approved 11 projects for a total of \$187.83 million.

Next Steps

- Celebrate the technical conference between PREB and PREPA for discussing the repairs projects, particularly the denied projects.
- Continue working alongside FEMA and COR3 for projects formulation.
- Hydro Gas Peaker's to be sent to FEMA once EHP and Feasibility Study review is completed.
- As the power plants projects are approved by the PREB, continue submitting their SOWs for COR3 and FEMA approval.



Generation System Projects

Generating Units Repairs Projects with 428 Federal Funds

	Power Plant	Project	Estimated Cost (\$M)*
Projects submitted for PREBs Review			
1	San Juan	28	\$ 132.98
2	Aguirre	11	29.51
3	Aguirre Combined Cycle	5	5.28
4	Costa Sur	22	40.76
5	Palo Seco	13	31.50
6	Hydro Gas Peakers	6	50.18
7	Cambalache	4	33.54
8	Mayaguez	1	18.00
9	All Power Plants	12	16.44
Total		102	\$ 358.18

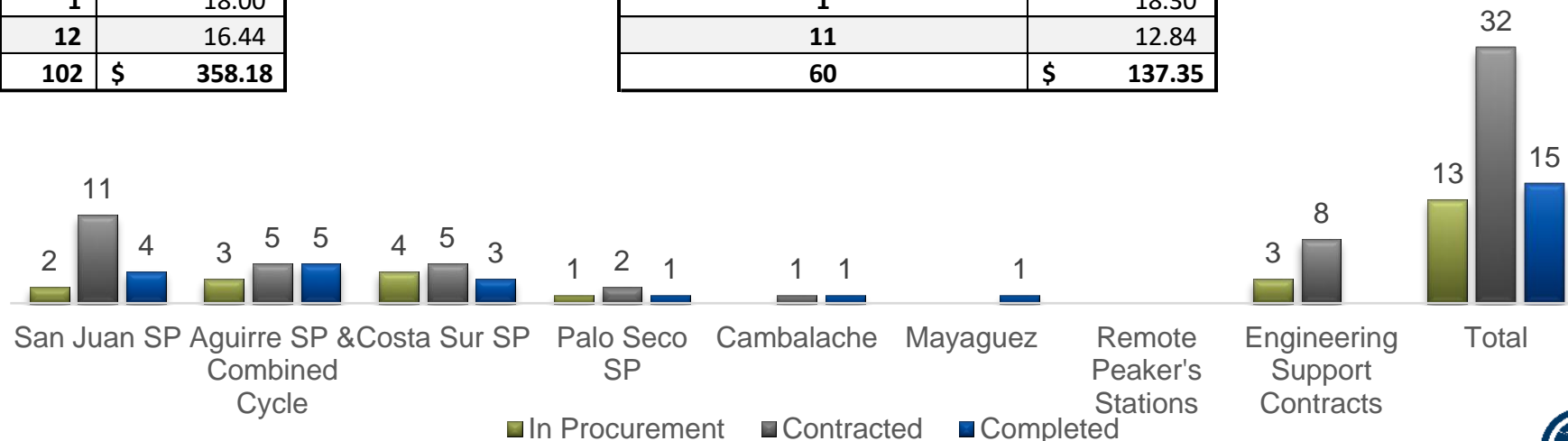


	Number of Projects in Procurement Process , Contracted or Completed	Estimated Cost (\$M)*
	17	\$ 39.81
	9	21.35
	4	3.92
	12	20.75
	4	7.34
	0	-
	2	13.04
	1	18.30
	11	12.84
Total	60	\$ 137.35

Management Comments:

While federal financing is secured PREPA is actively executing projects within several power plants.

As of November 2022, a total of **60** contracts totaling about **\$137.35 million** have been initiated (**32**), in procurement process (**13**) or completed (**15**).



Generation System Projects

Generating Units Repairs Projects with 428 Federal Funds – Aguirre Complex

Unit 1

- Replacement of the HP/IP/LP \$9,772,359.
 - *Project Completed in August 2022.*
- Replacement of Super Heater 8 - \$2,221,713
 - *Project Completed in June 2022.*
- Replacement of Boiler Tubes South Wall, Repair of the GFR Conduct and Air Pre-Heaters - \$3,170,450
 - *Project Completed in July 2022.*

Unit 2

- Replacement of Generator's Excitation System - \$1,516,575
 - *Project to be completed on the 4th Week of May 2023.*
- Procurement. & Delivery of Two Motors for the Water Condenser Outfall Pumps - \$667,000
 - *Equipment delivered to PREPA in July 2022*

Combined Cycle

- Hot Gas Path Inspection Unit 2-4, Aguirre Combined Cycle – \$744,638
 - *Project completed in Dec 2021.*
- Major Inspection Unit 1-3, Aguirre Combined Cycle – \$1,700,000
 - *Major inspection of the turbine and compressor. Replacing Buckets on the turbine (2nd and 3rd Stage)/ Repairs of the Compressor*
 - *Project to be completed Dec 2022.*
- Unit 1-1, Hot Gas Path Inspection - \$277,498
 - *Project be completed in Dec 2022*
 - *Inspection of the combustion liners, transition pieces, and turbine buckets.*
- New Water Condensate Tank - \$1,200,000
 - *In RFP Process*
 - *Project to be completed in May 2023*



Generation System Projects

Generating Units Repairs Projects with 428 Federal Funds – Aguirre Complex

Units 1 and 2

- Rehabilitation of the Liner System Fuel Tank Farm Aguirre - \$1,385,701
 - *RFP Process Awarded and shall be Contracted in November 2022*
 - *Project to start in November 2022 and to be Completed on 4th Week of May 2023.*
- Replacement of Load Center 1-4 CCWP- \$600,000
 - *In RFP Process.*
 - *Manufacture, delivery and installation of a New Load Center for the Operation of the Travelling Screens in the Intake of the Sea Water for the cooling of the Condensers of Units 1 & 2*
 - *Project to start in December 2022 and will be completed on the 4th Week of July 2023.*
- Procurement & Delivery of a New Inner Barrel Bundle - \$1,699,935
 - *Project Contracted*
 - *Equipment will be delivered in the 2nd Week of December 2023.*
- Procurement & Installation Breakers 12 – 600 A, 480 V and 1,600 A, 480 V for Normal Bus 1A EESS - \$320,940
 - *Project Contracted*
 - *Equipment will be delivered in the 2nd Week of December 2023.*



Generation System Projects

Generating Units Repairs Projects with 428 Federal Funds – Costa Sur S.P.

Unit 5

- HP/IP/LP Turbine Repair and Replacement Work - \$9,388,488
 - *Project will be completed in April 2023.*
- Replacement of 4160 V Electric Cable Normal Transformer 5A, 5B - \$924,500
 - *Project will be completed in April 2023.*
- Procurement & Delivery of Air Pre-heater Baskets - \$1,121,459
 - *Equipment Received in July 2022.*
- Air Preheater Replacement & Repair - \$700,000
 - *In RFP Process.*
 - *Project will be completed on the 4th Week of January 2023.*

Unit 6

- HP/IP/LP Inspection - \$945,000
 - *Project completed in December 2021*
- LP-B Repair Work - \$2,072,416
 - *Project completed in December 2021.*
- Replacement of Water Heater 3, Unit 6 - \$400,000
 - *In RFP Process*
 - *Project to Start in November 2022 and to be Completed in May 2023.*

Units 5 and 6

- Procurement & Delivery of a New Inner Barrel Bundle - \$1,625,954
 - *Project will be completed in December 2022.*
- Replacement of Fuel Igniter Units 5 & 6- \$2,140,000
 - *Project will be completed in June 2023.*
- Procurement and Delivery of Four (4) Horizontal Steel Tanks for Sulfuric Acid and Caustic Soda - \$307,000
 - *Project Contracted*
 - *Manufacture started in October 2022 and will be delivered to PREPA in May 2023.*



Generation System Projects

Generating Units Repairs Projects with 428 Federal Funds – Costa Sur S.P.

Units 5 and 6

- Procurement and Replacement of Regulator Valves for Boiler Feed Water Units 5 and 6 - \$325,000
 - *In RFP Process*
 - *Manufacture will start in November 2022 and will be delivered to PREPA in May 2023.*
- Replacement of Electric Load Center Units 5 & 6- \$800,000
 - *In RFP Process*
 - *Manufacture will start in November 2022 and will be delivered to PREPA in June 2023.*



Generation System Projects

Generating Units Repairs Projects with 428 Federal Funds – San Juan C.C.

Unit 5

- CT and ST Turbine Overhaul Unit 5 - \$17,000,000
 - *Contractor, finish a Major Repair on the Combustion & Steam Turbines of Unit 5.*
 - *Project Completed in June 2022.*
- Unit 5 SCR – Ammonium Procurement - \$650,000
 - *Services Contracted and will be performed during the fiscal year 2022-23.*
- Unit 5 – Procurement HP Bleed Valves LP Bleed Pressure & Steam Injection Block Valve
 - *Project Completed in June 2022.*

Units 5 and 6

- Ovation DCS Upgrade Units 5 & 6 - \$3,203,050
 - *Project to be Completed in December 2022.*
- Replacement Cooling Tower Units 5 & 6 - \$1,407,100
 - *Project to be Completed in December 2022.*
- Black Start Generator Units 5 & 6 Control Upgrade - \$342,410.
 - *Project to be Completed in November 2022.*
- Units 5 and 6 Replacement of Outlet Valves and Elbow Condenser - \$375,000
 - *Project to be Completed in December 2022.*
- Units 5 & 6 Condenser Repair & Coating Application - \$520,800
 - *Project Completed in June 2022.*

Unit 6

- Long-Term Service Agreement Unit 6 - \$8,000,000
 - *Combustion Inspection of Unit 6 to be Completed in December 2022*



Generation System Projects

Generating Units Repairs Projects with 428 Federal Funds – San Juan Complex

Units 5 - 10

- Unit 5-10 Heavy Equipment Rental Services - \$850,000
 - *Services Contracted and will be performed during the fiscal year 2022-23.*
- Mechanical Repairs Nautilus (Clarifier Water Treatment System)- \$100,000
 - *Project Contracted*
 - *Project to start on November 2022 and to be completed in January 2023.*

Units 7 - 10

- Units 7-10 New Raw Water Tank - \$1,496,000
 - *Project Contracted*
 - *Project to Start in November 2022.*
 - *Project to be Completed in May 2023.*
- Structural Repair SJ 10 Fuel Tank - \$975,689
 - *Project Contracted*
 - *Project Started on October 2022.*
 - *Project to be Completed in March 2023.*
- Battery Banks Replacement Units 7-10 \$721,068
 - *In RFP Process*
 - *Project to Start in October 2022.*
 - *Project to be Completed in June 2023.*
- HRSG Modules Installation D & E - \$3,265,530
 - *Project Completed in June 2022.*
- UPS Replacement Units 7&8 - \$850,000
 - *In RFP Process*
 - *Project to Start in November 2022.*
 - *Project to be Completed in May 2023.*
- Unit 7 Air Preheaters Baskets Replacement - Units 7&8 - \$395,000
 - *Contracted*
 - *Project to Start in November 2022.*
 - *Project to be Completed in December 2022.*



Generation System Projects

Generating Units Repairs Projects with 428 Federal Funds

Palo Seco Steam Plant

- Mega Gens Environmental Commissioning - \$1,016,750
 - *All Environmental tests completed.*
 - *Mega Gens in Service*
- Procurement & Delivery Economizer Palo Seco SP - \$4,000,000
 - *Contracted*
 - *Equipment expected to be Received in February 2023.*
- Structural Repairs Water Retention Tank Num. 3 - \$690,000
 - *Project Contracted*
 - *Project to be Completed in May 2023.*
- New Water Condensate Tank 1- 2- \$1,693,000
 - *RFP Awarded*
 - *Project to be Completed in May 2023.*

Cambalache Power Plant

- Long Term Service Agreement Units 1-3 - \$12,000,000
 - *A Major Repair (Inspection C) of Unit 2 – Project Completed*
- Automatic Voltage Regulator (AVR) for Units 2 & 3 - \$1,103,000
 - *Project to be completed in March 2023.*

Mayagüez Power Plant

- Rehabilitation of Units 1A, 1B and 4A
 - *Unit 4A Project Completed on the 4th Week of January 2022. - \$590,577*
 - *Units 1A & 1B Gas Generators Repairs and Unit B Power Turbine Stage 2+ Upgrade Project is in the Contracting Stage - \$17,236,365*
 - *Project completed in May 2022.*



Generation System Projects

Generating Units Repairs Projects with 428 Federal Funds

Engineering & Technical Services Division Support Contracts

**Stamp R – Mechanical
Repair Works in Power Plant**

- ▶ Cost - \$1,950,000
- ▶ Contract signed on April 14, 2022

**Hydroblasting Services for
Condensers in Power Plants**

- ▶ Cost - \$650,000
- ▶ Contract signed on March 30, 2022

**Hydroblasting Services for
Boilers in Power Plants**

- ▶ Cost - \$950,000
- ▶ Contract signed on April 4, 2022

**Interior Dry-Cleaning
Services for Boilers in
Power Plants**

- ▶ Cost - \$850,000
- ▶ Contract signed on April 4, 2022



Generation System Projects

Generating Units Repairs Projects with 428 Federal Funds

Engineering & Technical Services Division Support Contracts

Electrical and Instrumentation Works in Power Plants

- ▶ Cost - \$850,000
- ▶ Contract signed on April 8, 2022

Procurement of Acid for all Power Plants

- ▶ Cost - \$1,100,000
- ▶ In Procurement Process
- ▶ Expected to have a Contract Signed on the 4th Week of August 2022

Refractory, Insulation, Stack and Painting Application Works for all Power Plants

- ▶ Cost - \$1,950,000
- ▶ Contract Signed on March 24, 2022

Scaffolding Inside and Outside of Boiler in Power Plants

- ▶ Cost - \$1,990,000
- ▶ Contract Signed on April 19, 2022



Generation System Projects

Generating Units Repairs Projects with 428 Federal Funds

Engineering & Technical Services Division Support Contracts

Inspection and Maintenance of Cargo Elevators for all Power Plants

- ▶ Cost - \$900,000
- ▶ Contract Signed on April 1, 2022

Non-Destructive Examinations and Inspection Services for all Power Plants

- ▶ Cost - \$750,000
- ▶ Contracts signed on the 2nd Week of June 2022

Waste Management Services for all Power Plants

- ▶ Cost - \$1,000,000
- ▶ In Procurement Process
- ▶ Expected to have a Contract Signed on the 4th Week August 2022



Emergency Repairs

Categories A and B Funds

Federal Funds



Puerto Rico
Electric Power
Authority

Whitefish Energy Holdings, LLC – Finance Summary

Contract Amounts and Payments

Concept	Total (\$M)*
Whitefish Energy holdings, LLC	
A. Total amount billed under contract	\$ 144.25
B. Federal Award Summary	
1. Amount obligated by FEMA	\$ 111.35
2. Amount disallowed by FEMA and under appeal	32.90
3. Amount reimbursed under federal award	111.35
4. Amount to be received/reimbursed	-
C. Payments to Contractor	
1. Amounts paid under contract during 2018	\$ 37.06
2. Amount paid under settlement	90.29
3. Total Payment Amounts	127.35
4. Payment Balance	16.90

Management Notes and Discussion Points

- Whitefish billed a total of about \$144.25 Million for emergency restoration after Hurricane María.
- A total of \$111.35 Million was approved by FEMA for reimbursement, disallowing a total of \$32.90 Million for mobilization costs and unreasonable helicopter fares.
- On February 3, 2022, PREPA executed a settlement agreement to close all outstanding debts with Whitefish, by means of 2 settlement payments:
 - \$63.80 Million – Paid on March 2, 2022
 - \$26.49 Million – Paid on April 11, 2022.
- Amounts disallowed by FEMA amounting to \$32.90 Million are currently under appeal. PREPA expects to find a resolution to such process during FY2023.



Cobra Acquisitions, LLC – Finance Summary

Contract Amounts and Payments

Concept	Amount (\$M)
Cobra Acquisitions, LLC	
A. Total amount billed (2 Contracts)	\$ 1,319.20
B. Federal Award Summary	
1. Amount obligated by FEMA	\$ 1,195.43
2. Amount pending obligation (A - B.1)	123.77
3. Amount reimbursed to PREPA	944.44
C. Payments to Contractor	
1. Amounts paid to companies	\$ 1,104.09
2. Outstanding balance (Pending Validation) (A - C.1)	215.11

Appeal Status:

On May 31, 2022, FEMA issued its First Appeal decision on PREPA's First Appeal of PW 251 (First PREPA-Cobra contract). FEMA approved \$24,439,810.49 and will amend PW 251 to obligate this additional funding. Also, FEMA denied \$21,451,272 in "daily minimum" costs invoiced by Cobra because they determined they were duplicative and not supported by the contract. PREPA is evaluating filing a Second Appeal with COR3 or a Request for Arbitration with the U.S. Civilian Board of Contract Appeals which is due 60 days of the decision (July 30, 2022).

Management Notes and Discussion Points

- Cobra billed a total of \$1,319.20 million under 2 contracts for emergency restoration after Hurricane María. Does not include interest.
- FEMA has reimbursed PREPA a total of \$944.44 Million for both contracts
- FEMA is currently formulating a net total of \$123.77 million obligation to cover the remaining work performed by Cobra.
- PREPA has appealed amount of \$47 Million which is expected to find a resolution during FY2023. Amount has not been de-obligated by FEMA as is still waiting for the appeal determination.
- Outstanding amount balance under contracts consist of:
 - \$54.11 million Tax Gross up invoices pending expert opinion from retained tax firm FPV.
 - Invoices approved by PREPA and pending processing \$21.5 Million and invoices not yet approved by PREPA for compliance reasons \$139.5 Million.



Mutual Aid Assistance – MOU Finance Summary

Contract Amounts and Payments

Concept	Amount (\$M)
Mutual Aid Assistance	
A. Total amount billed (31 companies)	\$ 325.90
B. Federal Award Summary	
1. Amount obligated by FEMA	\$ 311.66
2. Amount disallowed by FEMA under appeal or Version (A - B.1)	14.25
3. Amount reimbursed under federal award	301.44
C. Payments to Contractor	
1. Amounts paid to companies	\$ 301.44
2. Payments balance (12 companies - See details below) (A - C.1)	24.46

List of companies awaiting payment

Company Name	Balance Due (\$M)
Southern Company	\$ 0.62
Centerpoint	0.02
APS	4.11
Duke	8.59
Oncor Electric Delivery	2.38
XCEL	0.89

Company Name	Balance Due (\$M)
EXELON	\$ 2.87
Sacramento Municipal Utility	0.11
AES	0.06
Pacific Gas & Electric	1.38
Southern California Edison	2.02
Salt River Project	1.45

Management Notes and Discussion Points

- PREPA requested resources from 31 Investor and Municipal Owned Utilities under a Memorandum of Understanding to provide Emergency Assistance for the restoration of its electric power grid for a total of \$325.9 Million
- After FEMA CRC validation, a total of \$14.25 million were disallowed due to missing support or were deemed ineligible costs.. These costs are currently under an appeal and/or PW version process.
- 12 companies are still awaiting reimbursement for costs and expenses (at cost without any markup) incurred in providing Emergency Assistance. Outstanding balance is \$24.46 million.
- PREPA is currently working to process the outstanding payments to the contractors even though reimbursement process hasn't been finalized.
- PREPA is working alongside FEMA ,COR3 and the MOUs to finalize an agreed upon procedure as resolution to an outstanding Vay-go audit which questions over \$160 million on documentation cost. PREPA and COR3 are awaiting the completion of an Engagement Letter/3RD Party by FEMA , which will activate the reimbursement process while the agreed upon procedure is completed by the MOU's external auditors.



Environmental Protection

Environmental Protection



Puerto Rico
Electric Power
Authority

Environmental Protection - Palo Seco Mega Generators

Status

- ▶ November 10, 2021 – EPA signed the administrative order document.
- ▶ November 10, 2021 - Present – PREPA and EPA has been meeting and exchanging information for compliance with the administrative order requirements and conditions.
 - PREPA has been and remains in compliance with the administrative order and applicable environmental laws and regulations.
- ▶ On February 8, 2022, PREPA submitted to EPA and DNER, permitting amendment and PSD applicability analysis.
 - EPA sent response on October 6, 2022, stating that the project will not be subject to PSD regulations nor non-attainment NSR for SO2 regulations.
- ▶ EPA continues evaluating the SO2 29 tons mitigation plan, for which demonstration of actual emissions is pending (as discussed with EPA in the 03-17-2022 meeting and 03-28-2022 communication).
 - On July 12, 2022, PREPA met with EPA for status update.
 - On November 8, 2022, PREPA submitted supplemental information to EPA.
- ▶ On July 30, 2022, testing at MP-1, MP-2 and MP-3 was completed (preliminary results shows emissions below limits), after EPA approved the Emission Test Protocol No. 6 on June 15, 2022. Laboratory tests and first report completed on August 29, 2022. Final report completed and submitted to EPA on September 8, 2022.
- ▶ On November 4, 2022, PREPA submitted the Permit to Construct to DNER.

Status

- ▶ On November 7 and 8, 2022, PREPA had discussions with DNER and EPA and sent supplementary information to EPA in compliance with the administrative order.
- ▶ On November 9, 2022, PREPA submitted:
 - No Action Assurance request to EPA.
 - Emergency Variance to DNER.
 - Palo Seco Title V modification to EPA.
- ▶ On November 10, 2022, the DNER approved the Permit to Construct, and the EPA found that all PREPA's submittals are complete.
- ▶ On November 23, the DNER found the Palo Seco Title V modification submittals complete and provided the Protective Shield under the Title V Permit.

Next Steps

- PREPA continues to operate these units in accordance with the terms and conditions established in the Permit to Construct and the Title V Modification Permit.
- PREPA and its consultants are in standby for any questions or clarifications EPA or DNER may have in the future.



Environmental Protection - Sulfur Dioxide (SO₂) State Implementation Plan (SIP)

- EPA designated Guayama-Salinas and San Juan air districts as SO₂ nonattainment areas as of April 2018.
- Department of Natural and Environmental Resources (DNER) is required to submit a SIP to EPA for approval, which must demonstrate attainment by April 9, 2023.
- Sanctions can apply if EPA does not find the SIP complete by:
 - **June 3, 2022:** *2-to-1 offset for each new ton of SO₂ emitted from any a new or modified source in the nonattainment areas.*
 - **December 3, 2022:** *Highway fund sanctions (exclusive of safety funds) in nonattainment areas.*
- EPA has 60 days from DNER's final SIP submission to determine that SIP is complete.
- DNER should preferably had submitted the final SIP by April 3, 2022, for avoiding the 2-to-1 offset sanction, and by October 3, 2022, to avoid highway funds sanction.



Environmental Protection - Sulfur Dioxide (SO₂) State Implementation Plan (SIP)

DNER and PREPA actions

- ▶ On February 2, 2022, DNER and PREPA executed a Memorandum of Understanding (MOU) for implementing an emissions monitoring network.
- ▶ On February 11, 2022, PREPA submitted a motion regarding SIP's compliance to the Puerto Rico Energy Bureau (PREB) with a strategy focused on renewables integration and fuel switching to natural gas (NG).
- ▶ On March 10, 2022, DNER published the SIP draft document for public comments and conducted a public hearing on April 11, 2022. PREPA participated in the public hearing. From April 9 to May 5, 2022, PREPA submitted comments and information to the DNER regarding the SIP draft document.
- ▶ DNER did not submit the final SIP to EPA for approval by May 23, 2022 (2 to 1 Offset sanction applicable since 06-03-2022) and started working in a new draft SIP.
- ▶ On June 3 and 24, 2022, PREPA submitted motions reiterating its request for starting fuel switching works and of a technical conference for discussing SIP compliance. On August 3 and 18, 2022, PREB issued orders denying the fuel switching to NG. On September 3 and 7, 2022, PREPA submitted motions requesting reconsideration to PREB's orders.
- ▶ On August 26, 2022, DNER published the new SIP regulation draft for public comments and held a public hearing on September 14, 2022.
 - PREPA and consultants worked on the new comments to the SIP and Regulation and submitted them to DNER on October 7, 2022.

DNER and PREPA actions

- ▶ Implementation of the SO₂ compliance ambient monitoring network in accordance with the MOU between the DNER and PREPA:
 - Monitoring stations quotation from DNER evaluated and commented and sent to DNER on May 5, 2022. Pending response from DNER.
 - On October 11, 2022, PREPA received the first invoice for the monitoring stations from DNER and transferred these funds of \$1,808,934.10 on October 17, 2022, for fiscal year 2021-2022 expenses.
 - On November 21, 2022, PREPA received from DNER the amendments to the Rule 5281 (Air Compliance).
 - On November 22, 2022, DNER submitted the SIP to EPA and PREPA received a copy of the SIP.

Next Steps

- To avoid sanctions, the EPA shall find that the DNER's SIP is complete by December 3, 2022.
- PREPA and their consultants are evaluating the information and will follow the process available to proceed in order to maintain in compliance and continue to maintain an efficient and reliable Generation for the Electric System in PR under the Clean Air Act.
- PREPA and their consultants are preparing a Motion of Reconsideration.



Environmental Protection - Sulfur Dioxide (SO₂) State Implementation Plan (SIP)

- **PREPA’s Compliance Strategy**

- **SO₂ compliance ambient monitoring network:**

- *Installation of emissions monitoring equipment for verifying attainment with real measurements instead of simulations, in coordination with DNER, projected for summer 2023.*

- **Reliable integration of new renewable resources:**

- *Execution of the tranches procurement processes mandated by the Puerto Rico Energy Bureau (PREB) for the acquisition of 3,750 MW of renewable sources plus 1500 MW of 4-hour battery energy storage by 2025.*

- **Fuel switching in existing generating units:**

- *Ultra-low sulfur diesel (ULSD) fuel expected to be combusted in MobilePac units, by February 2023 (for SO2 SIP Schedule purpose).*
 - *Convert San Juan Units 7, 8, 9, and 10 to combust both bunker C fuel and natural gas.*
 - *Conditioned to PREB’s approval, if the fuel conversion projects could start during January 2023, the following schedule would be feasible:*

Unit Number	Commencement Date for Project Development	Completion Date
San Juan 7	January 2027	December 2028
San Juan 8	January 2023	December 2024
San Juan 9	January 2029	December 2030
San Juan 10	January 2025	December 2026

← An extended two (2) year contingency period may be in effect if the proposed schedule is affected by unforeseen and extraordinary events such as atmospheric disturbances or earthquakes, among others.



Environmental Protection - Air Consent Decree and Title V

- In progress
 - QAQC reports for monthly, trimester and semi-annual periods.
 - Toxic Release Inventory RY 2021 was submitted on July 2022 (TT)
 - Comments review on 1999 Consent Decree modifications presented by EPA, PREPA sent respond.
 - 3rd Quarter 2022 QAQC quarterly parametric monitors field audits in process.
 - MATS PM Emissions test for AG-2/SJ-7/PS 3& 4 completed on September 17, 2022. Preliminary results indicate all units complied with regulation standard. Report was submitted to EPA.
 - Yearly BONUS Survey (completed on the Week of July 25,2022)
 - DOE Visit/Site inspection was completed on August 2, 2022.
 - EPA Caribbean Office & Region 2 (NY) NPDES Site Inspections to AG/CS/SJ/PS (May 17 to May 20, 2022). Reports from EPA were received on July 18, 2022. The responses to these reports will be submitted by the end of December.
 - EPA Caribbean Office & Region 2 (NY) SCC/FRP Site Inspections to AG/CS/SJ/PS/Mayagüez (June 27 to June 30, 2022). Reports from EPA were received on August 24, 2022. The responses to these reports will be submitted on December 6, 2022.



EPA and DNER

- **Clean Air Act**
 - PREPA submitted notifications to transition San Juan Units 7 & 8 from limited use units to Non-Continental Liquid Oil Fired Units under MATS.
 - EPA has reached out to legal advisor to reinstate MATS Consent Decree Negotiations.
- **PROTECO superfund**
 - Ongoing evaluation of the associated responsibilities.
 - Potentially Responsible Parties group (PRP) increasing, this allows to identify additional responsible parties sharing site mitigation efforts.
 - Geosyntec (PROTECO Site Contractor) Conflict With PREPA being resolved.
 - PREPA's interim allocation share is currently 15.24% as of August 25, 2022.




Generation Directorate

Units Repairs Schedule



Puerto Rico
Electric Power
Authority

Generation Fleet – Base Generation Current Status

 Puerto Rico Electric Power Authority												
Current Status of PREPA Generation Fleet												
REV: October 30, 2022												
Power Station	Unit	Capacity (MW)	Available Capacity	Condition	Date of last major maintenance boiler	Date of last major maintenance turbine	Person in charge of attending findings	NME (Million)	FY 2021-22 Available Budget	FY22	FY23	Currents Status / Action Plan / Comments
PREPA's Base Generation												
San Juan	CT 5	160	140	Available	June 30 2022		Eng. Victor Ortiz Plant Manager	\$45.00	\$38.00	\$45.00		Unit affected by Huracane Fiona. Major overhaul beginning January 15, 2022 until jun 30 2022; Approximate cost \$45 millions including LTSA (Long Term Services Agreement).
	STM 5	60		Not Available	June 30 2022							Unit affected by Huracane Fiona. Forecast december 2022 Major overhaul beginning January 15, 2022 until june 30 2022.. Verifying delivery of steam turbine parts is a critical path.
	CT 6	160	140	Available				\$33.00			\$33.00	Problems with turbine control valves in steam units cause a limitation on combustion units. Planning short outage in october 2022, Unit Major overhaul; Proposed date: February 2023; Approximate cost \$33 millions.
	STM 6	60	0	Not Available	Sep-13	Jun-10						Generator Rotor Inspection October 27, 2021; Generator Instrumentation Problems (field ground). Unit online January 30, 2022. Unit off line on april 30 2022 ,problems with turbine control valves. Forecast December 2022. Major overhaul Proposed date: February 2023.
	7	100	70	Available	Aug-08	Aug-08		\$18.00			\$18.00	Boiler Fauilure feb 12 2022; Boiler repair finish March 17 2022; Valve inspection and repair finish january 5 2022; Turbine rotors have expired hours for major repair (over 70K hours). Approximate repair cost \$5 millions. Boilers Repairs (\$10 millions) needed. Major inspection date to be determined. Unit in limited use (8%) according to EPA MATS (Mercury and Air Toxic Standards). Total Outage cost aproximate \$18 millions.
	8	100	0	Not available	Nov-10	Nov-10		\$18.00			\$18.00	Boiler pipe breakage problems, steam leaks and feedwater heater #6 problems. Limited use unit (8%) according to EPA (MATS). Boiler air leaks. Approximate cost of boiler repairs and auxiliary equipment, \$18 millions including new boiler piping.
	9	100	90	Available	Nov-19	Aug-12		\$2.00			\$2.00	Unit affected by Hurace Fiona. Limitation cause for problems BFP; repair finish july 25 2022. Unit have problem with excitation system on december 30 2021; Luma working from january 2 to january 3 2022. Unit Star up january 4 2022. Programmed outage finished: 7 days (October 28 - November 3, 2021): coolers replacement, BFP 9-1 and 9-2 inspection, condenser cleaner, etc. DEMI (Demineralized) water production problems. Temporary water production plant of the Central (RO) faces operational problems. In the process of completing the installation of a new permanent DEMI plant.
	10	100	0	Not available	Sep-09	Sep-09		\$17.00			\$17.00	Low pressure turbine fault. Unit not available since the end of 2015. Returning the unit to service entails an approximate investment of \$17 millions and an estimated duration of the works, 6 months. Forecast Unit Online June 30 2023. Epa requirement re-activation policy.

Legend:

Works not started
Works in progress
Major repairs completed



Generation Fleet – Base Generation Current Status

Power Station	Unit	Capacity (MW)	Available Capacity	Condition	Date of last major maintenance boiler	Date of last major maintenance turbine	Person in charge of attending findings	NME (Million)	FY 2021-22 Available Budget	FY22	FY23	Currents Status / Action Plan / Comments
Palo Seco	1	85	0	Not available	Apr-08	Apr-08	Eng. Antonio Kalil Plant Manager	\$10.00			\$10.00	Limited use unit EPA (MATS). Boiler air leaks, requires replacement of boiler piping. Generator has major stator failure and requires turbine work.
	2	85	0	Not available				\$15.00			\$15.00	Limited used unit EPA (MATS). Faulty unit generator; the unit's Main Power Transformer is used as an output transformer for new MPA FT-8.
	3	216	200	Available	Nov-09	Nov-09		\$9.00			\$9.00	Several Forced Outage between October 31 - December 16, 2021: Economizer (boiler) tubes failure, condenser tubes failure, front standard problems. Forecast Unit return online for December 17, 2021. It is required to purchase boiler tube and economizer panels for approximately \$5 millions and repair auxiliary equipments, for march 2023-may 2023
	4	216	0	Not Available	May-09	Jun-19		\$3.00	\$3.00	\$3.00		Forced Outage beginning september 3 to november 3 2022 . Problems with DC Pump; turbine bearing inspection. Environmental outage beginning january 23 2022 until march 21 2022; Work will be carried out on the boiler and replacement of the air pre-heater baskets. Unit online BFP 4-1 repair finished December 12. Forced outage on september due to oil leak through control wiring and high pressure differential on the air preheaters. Unit return to service on Sunday, October 10, 2021. Work will be carried out on the boiler and replacement of the air pre-heater baskets.
Aguirre Steam Plant	1	450	0	Not Available	Feb-12	Dec-08	Eng. Alexis Cruz Plant Manager	\$20.70	\$16.00	\$19.00	\$1.70	Do a reinspection in generator area. Forecast december 2022 or january 2023. Major repair beginning on March 16 2022 until july 30 2022. Major works, environmental outages, boiler tubes replacement and turbine rotors replacement for an approximate \$19 millions.
	2	450	330	Available	Mar-10	Dec-19		\$2.35			\$2.35	Unit affected by Huracane Fiona. Unit on line by october 13 2022. Last inspection beginning march 2 until march 11 2022. Repair airheater seals and boilers air infiltration. This action eliminated at least 50 mw limitation. Beginnig the procurement process to repair the Excitation System next fiscal year.
Costa Sur	5	410	222	Available	Jul-13	Jul-13	Eng. Miguel Beauchamp Plant Manager	\$21.80	\$2.80	\$2.80	\$19.00	Unit limited to 222 mw for BFP problems until december 2022. Forced Outage between may 12 to may 24 2022 to replace the generator hydrogen seals. Forced Outage November 30 - December 5, 2021. BFP 5-1 and BFP 5-2 motors failure. Main steam piping failure on September 13, 2021. Unit return service on Wednesday, October 6, 2021. Major outage (boiler, environmental maintenance and replacement of turbine rotors) scheduled for January 2023. Approximate cost \$19 millions.
	6	410	0	Not Aavailable	Sep-12	Feb-21		\$6.70	\$3.00	\$5.00	\$1.70	Unit off line for boiler backpass cleaning until nov 4. Unit online january 5 2022. Last summer Low pressure turbine failure (LP turbine failure) after major unit repair including these rotors for \$20 millions. Rotors were shipped to the US workshop by ship during the week of September 20-27. Findings report and repairs begginig october and finished on December 2, 2021. Rotor shipped to Puerto Rico on December 6, 2021. Unit on test December 30 2021; Turbine balance works from januart 1 to january 7 , 2022 an approximate cost of replacement of damaged parts of \$5 millions.
Total PREPA Base Generation		3162	1192	37.70%				\$221.55	\$62.80	\$91.80	\$129.75	Available



Generation Fleet – Reserve Generation Current Status

PREPA's Reserve Generation Fleet												
Aguirre Combined Cycle	I-1	50	0	Not Available		(4,000)	Eng. William Rios Mera Plant Manager	\$1.00	\$1.00	\$1.00		Mayor inspection 11 July to 21 October; Repair and inspect collector rings. Until March 5 2022; Hot
	I-2	50	50	Available SC		(2,841)		\$1.00	\$1.00	\$1.00		Unit affected by Hurricane Fiona. Inlet filters clogged. Hot gas path inspection scheduled for June 2022.
	I-3	50	0	Not Available		(11,392)		\$2.50	\$1.00	\$2.50		Major inspection scheduled for 2/14/22 until 12/2/2022. Repair cost \$2.5 millions
	I-4	50	50	Available		(1,574)		\$2.00			\$2.00	Unit affected by Hurricane Fiona. PT Repair; Minor outage October 20 - return unit online for November 5 2021
	ST-1	96	0	Not Available				\$2.00	\$1.00	\$1.00	\$1.00	Unit off line inspect 4160 bar. Unit affected by Hurricane Fiona. Unit off line October 19 2021 ; water line repair to cooling tower; condenser fouling and air in leakages. Unit on line May 2022.
	II-1	50	0	Not available				\$2.00			\$2.00	MPT 2-1, 2-2 failure; in process to replacement until October 2022
	II-2	50	0	Not available				\$2.00			\$2.00	MPT 2-2 failure; in process to replacement until October 2022; Mayor inspection
	II-3	50	50	Available		(1,307)		\$1.00			\$1.00	Unit affected by Hurricane Fiona. Repair coolers fan radiators
	II-4	50	50	Available		(3,637)		\$1.70			\$1.70	Unit affected by Hurricane Fiona. Stand by Transformer fail. Hot gas path inspection and spare rotor \$1.7 millions.
ST-2	96	0	Not available		\$2.00			\$2.00	Steam Tube Failure and generator rings problems			
Total Aguirre CC		592	200	33.78%				\$17.20	\$4.00	\$5.50	\$11.70	Availability
DAGUAO	1-1	21	20	Available			Eng. Jaime Umpierre Hidro Gas Head Division	\$2.00	\$1.00	\$2.00		Unit affected by Hurricane Fiona. Mayor Outage Repair planned April 2022
	1-2	21	17	Available				\$2.00	\$1.00	\$2.00		Unit affected by Hurricane Fiona. Generator Ground Inspection from Dec 20 2021; Mayor Outage Repair for 2022
AGUIRRE	2-1	21	0	Not available				\$4.00			\$4.00	Unit requires major turbine repair and a complete generator assembly.
	2-2	21	0	Not available				\$2.00	\$1.00	\$2.00		Mayor Outage Repair
PALO SECO	1-1	21	20	Available				\$2.00	\$1.00	\$2.00		Mayor Outage Repair 2022
	1-2	21	0	Not available				\$2.30			\$2.30	Mayor Outage Repair and Generator breaker replacement
	2-1	21	20	Available				\$2.00	\$1.00	\$2.00		Mayor Outage Repair 2022
	MPA 1	28	28	Available				\$0.10	\$0.10	\$0.10		Environmental air permit. Contract awarded to perform environmental acceptance tests. EPA approve emission testing. Emission test between July-August 2022.
	MPA 2	28	28	Available				\$0.10	\$0.10	\$0.10		Environmental air permit. Contract awarded to perform environmental acceptance tests. EPA approve emission testing. Emission test between July-August 2022
COSTA SUR	MPA 3	28	28	Available				\$0.10	\$0.10	\$0.10		Environmental air permit. Contract awarded to perform environmental acceptance tests. EPA approve emission testing. Emission test between July-August 2022
	1-1	21	0	Not available				\$2.00	\$2.00	\$2.00		Unit reached full speed not load with excitation. Phasing tests schedule for July 2022. Mayor Outage Repair
JOBOS	1-2	21	0	Not available				\$4.00			\$4.00	Turbocompressor replacement. Mayor Outage Repair
	1-1	21	20	Available				\$2.00	\$1.00	\$2.00		Unit affected by Hurricane Fiona. Mayor Outage Repair 2022
YABUCOA	1-2	21	20	Available				\$2.00	\$1.00	\$2.00		Unit affected by Hurricane Fiona. Due for major inspection (August 2020) and speed reduction gearbox replacement.
	1-1	21	0	Not available				\$2.00	\$1.00	\$2.00		Unit affected by Hurricane Fiona. Alignment process.
VEGA BAJA	1-2	21	0	Not Available				\$2.00	\$1.00	\$2.00		Unit affected by Hurricane Fiona. Alignment process finish ;
	1-1	21	0	Not available				\$2.10	\$0.00	\$2.10		Voltage regulator repair unit expected in service on April 2022
	1-2	21	0	Not available				\$4.00			\$4.00	Turbocompressor major failure.
Total 18 Peaking Units		399	201	50.38%				\$36.70	\$11.30	\$22.40	\$14.30	Availability



Generation Fleet – Reserve Generation Current Status

PREPA's Reserve Generation Fleet													
MAYAGÜEZ	1A	27.5	27.5	Available		Eng. Jaime Umpierre Hidro Gas Head Division Eng. Waldo Córdoba Plant Manager	\$18.00	\$8.00	\$18.00		Unit on line ; August 15 : Voltaje Regulator Control failed ; replacement on september 2022. Unit Repair Cost estimate \$18 millions for both units 1A an 1B. Mayor outage finished on may 22		
	1B	27.5	27.5	Available								Turbine Failure; Do a assessment to repair the unit; forecast finish September 14 2022	
	2A	27.5	27.5	Available									
	2B	27.5	27.5	Available									
	3A	27.5	27.5	Available									
	3B	27.5	0	Not Available									Problem with Gear box
	4A	27.5	27.5	Available					\$0.80	\$0.80	\$0.80		Combustor casing crack failure. First stage nozzle issues. Repair cost estimate \$800 K. Unit online february 5 2022
4B	27.5	27.5	Available										
Total Mayagüez		220	192.5	87.50%			\$18.80	\$8.80	\$18.80	\$0.00			
CAMBALACHE	1	82.5		Not available		Eng. Herminio Arroyo Plant Manager	\$20.00	\$0.00	\$18.00	\$2.00	Unit out of service since 2011; Combustion turbine failure; Proposal \$18 millions and six months.		
	2	82.5	82	Available				\$8.90	\$4.00	\$6.90	\$2.00	Outage beginind april 19 2022 until jun 15 2022; New Automatic Voltaje Regulator; Control System and Maintenance Services HTS.	
	3	82.5	82	Available				\$8.90	\$4.00	\$6.90	\$2.00	Outage LTSA with GE ;Unit until august 14 2022 New Automatic Voltaje Regulator; Control System and Maintenance Services HTS	
Total Cambalache		247.5	164	66.26%			\$37.80	\$8.00	\$31.80	\$6.00			
VIEQUES	1	3	0	Not Available		Eng. Jaime Umpierre Hidro Gas Head Division							
	2	3	3	Available								Troubleshooting control system issues.	
Culebra	1	2	2	Available		Eng. Jaime Umpierre Hidro Gas Head Division							
	2	2	2	Available									
	3	2	0	Not Available									
Total Vieques and Culebra		12	7	58.33%									
Total Peaking & Emergency Units		1,470.5	764.5	51.99%			\$110.50	\$32.10	\$78.50	\$32.00	Availability		



Generation Fleet – Hydroelectric Current Status

HYDROELECTRICS										
Toro Negro	1-1	1.5	1.5	Available						
Toro Negro	1-2	1.5	1.5	Available						
Toro Negro	1-3	1.5	1.5	Available						
Toro Negro	1-4	4	0	Not available						
Toro Negro	2	2	0	Not available						Turbine inlet main valve replacement. Phasing test pending.
Yauco	1	25	0	Not available		\$8.00	\$2.00	\$4.00	\$4.00	Pending turbine and generator major overhaul. Federal restoration funding allocation for \$8 millions.
Yauco	2-1	4.5	2	Available						Unit out of Service December 31 2021 General Inspection ; Limited pending relay protection system modifications.
Yauco	2-2	4.5	0	Not Available						
Garzas	1-1	3.6	0	Not Available						
Garzas	1-2	3.6	0	Not available						Generator bearing repair. Expected in-service on October 2021.
Garzas	2	5	0	Not available						Transmission line failure due to Hurricane María. Federal restoration funding approved.
Caonillas	1-1	9	0	Not available						
Caonillas	1-2	9	0	Not available		\$5.00		\$1.00	\$4.00	Station flooding failure due to Hurricane María. In preparation of specifications and bid process documents. Federal restoration funding allocation for \$5 millions.
Caonillas	2	3.6	0	Not available						Pending major restoration budget approvals.
Dos Bocas	1	5	0	Not Available						Restored generator in coordination for transportation to site.
Dos Bocas	2	5	5	Available						
Dos Bocas	3	5	0	Not Available						
Patillas	1-1	0.8	0	Not available						Downstream flow risk concerns.
Patillas	1-2	0.6	0	Not available						Downstream flow risk concerns.
Río Blanco	1	2.5	0	Not available						Penstock major failure. Federal restoration funding approved.
Río Blanco	2	2.5	0	Not available						Penstock major failure. Federal restoration funding approved.
Total Hydro		99.7	11.5	11.53%		\$13.00	\$2.00	\$5.00	\$8.00	
Total NME (Necessary Maintenance Expenses)						\$345.05	\$96.90	\$175.30	\$169.75	

Generating Units Fuel Conversion Plan

SIP and Other Clean Air Act Rules Compliance

- For achieving compliance with environmental regulations, while the safe and reliable integration of renewable energy take place, PREPA must switch from using Bunker C fuel in its steam turbine units to burn natural gas.
- On February 11, 2022, PREPA submitted a motion to the PREB presenting its plan for environmental compliance.
 - On June 3 and 24, 2022, PREPA submitted motions to the PREB reiterating its request for starting fuel switching works and of a technical conference for discussing SIP compliance. On August 3 and 18, 2022, PREB issued orders denying these works, to which PREPA requested a reconsideration on September 3 and 7, 2022.

Short and medium range plan

San Juan Power Plant

- PREPA is currently updating feasibility studies and preparing a motion to be submitted to the PREB for the conversion of steam turbine Units 7, 8, 9, and 10 for burning natural gas and Bunker C, as there is existing natural gas infrastructure on the power plant site.
- It is expected that:
 - The conversion works could take about 10 years, but actions can be undertaken to complete them in about 4 to 5 years since the projects' commencement.
 - Subject to PREB's approval, to start converting Unit 7, as there are several available unit's components.

Palo Seco Power Plant

- PREPA is not currently performing works on this power plant or an assessment regarding converting its units to burn natural gas.
- However, due to its proximity to San Juan Power Plant, a feasibility study should be conducted regarding the possibility of developing natural gas infrastructure on the power plant site.



Reorganization of PREPA

PREPA's Restructuring



Puerto Rico
Electric Power
Authority

GenCo, HydroCo and PropertyCo Update

- In accordance with what was agreed at the December 14 Governing Board meeting, on December 17, 2021, a letter was sent to Atty. Fermín Fontanes, Executive Director of the Puerto Rico Public–Private Partnership Authority (P3A), informing that the Governing Board:
 - Had approved the creation of the three subsidiaries and their related documents.
 - Understood that it would be more efficient and productive to have the comments of the proponents of the Legacy Generation Assets RFP process, before proceeding with the approval of the GGHOA, the Agreed Operating Procedures, and the Interconnection Agreement, which will govern the operational aspects between the generation operator and the transmission and distribution operator.
- The P3A shared the documents with the proponents of the Legacy Generation Assets RFP and received their comments, which have been under the evaluation of P3A’s consultants since February 2022.
 - As of the date of this report, PREPA’s Governing Board has not received the proponents' comments.
- At the April 2022 Governing Board meeting, the P3A requested the Governing Board to temporarily approve an interim GGHOA.

GenCo, HydroCo and PropertyCo Update

- At the May 2022 Governing Board meeting, the Governing Board approved a resolution for PREPA to:
 - Execute necessary changes to the GGHOA submitted by P3A to convert it to an interim GGHOA which would be effective for six months with possible monthly extensions until the generation operator is selected, which will be submitted for PREB's approval.
 - Submit a motion to the PREB for the creation of the subsidiaries GenCo, HydroCo, and PropertyCo.
- After the Governing Board approves the final GGHOA, the Agreed Operating Procedures, and the Interconnection Agreement, all documents will be referred to the PREB for approval.
- After the PREB's approval, PREPA will proceed to formalize the documents to register the subsidiaries in the Puerto Rico Department of State.

