

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

**NEPR**

**Received:**

**May 14, 2021**

**6:00 PM**

IN RE: REVIEW OF LUMA'S  
SYSTEM OPERATION PRINCIPLES

**CASE NO. NEPR-MI-2021-0001**

**SUBJECT: Submission of Additional Information  
Requested in Technical Conference, Supplemental  
Responses to Questions and Clarifications.**

**MOTION IN COMPLIANCE WITH ORDER SUBMITTING ADDITIONAL  
INFORMATION AND SUPPLEMENTAL RESPONSES TO QUESTIONS POSED IN  
TECHNICAL CONFERENCE AND SUBMITTING CLARIFICATIONS**

**TO THE HONORABLE PUERTO RICO ENERGY BUREAU:**

**COME NOW LUMA Energy, LLC** (“ManagementCo”), and **LUMA Energy ServCo, LLC** (“ServCo”), (jointly referred to as “LUMA”), and respectfully state and request the following:

1. On April 27, 2021, this honorable Puerto Rico Energy Bureau (“Bureau”) issued a Resolution and Order that set a procedural calendar in this proceeding and included a technical conference scheduled for May 10<sup>th</sup> and 11<sup>th</sup>, 2021 (“April 27<sup>th</sup> Order”).
2. The April 27<sup>th</sup> Order also directed that LUMA would have until May 14, 2021, to file additional information that the Bureau could require during the technical conference.
3. The technical conference was held on May 10<sup>th</sup> and 11<sup>th</sup>, 2021. Throughout the two days of the technical conference, Commissioners and Bureau consultants issued requests for additional information. Similarly, LUMA representatives offered and requested leave to file additional information or responses with regards to several topics, and/or to provide written clarifications on several matters. The Bureau issued bench orders granting LUMA leave to provide additional information or supplemental written responses to certain questions and/or to submit clarifications, on or before May 14, 2021.

4. In compliance with the April 27<sup>th</sup> Order and with the bench orders issued during the Technical Conference, LUMA is hereby submitting the additional information requested by the Bureau and Bureau consultants, as well as additional responses and/or clarifications, as the Bureau authorized during the Technical Conference. The table below itemizes the additional information and documents that LUMA is submitting to this Honorable Energy Bureau. It also identifies the documents that contain confidential information and that are being submitted today under seal of confidentiality (Responses 4, 5 and 6 and Attachment 1 to Response 5).

#	Response	Subject	Pages in which Confidential Information is Found, if applicable	Summary of Legal Basis for Confidentiality Protection, if applicable
1	TC-RFI-LUMA-MI-21-0001-210510-PREB-001	Retirements (Generation)	N/A	
1.1	TC-RFI-LUMA-MI-21-0001-210510-PREB-001 Attachment 1	Revised Section 3.3 - CLEAN	N/A	
1.2	TC-RFI-LUMA-MI-21-0001-210510-PREB-001 Attachment 2	Revised Section 3.3 – BLACK LINE	N/A	
2	TC-RFI-LUMA-MI-21-0001-210510-PREB-002	Customer Notification of Planned Outages	N/A	

#	Response	Subject	Pages in which Confidential Information is Found, if applicable	Summary of Legal Basis for Confidentiality Protection, if applicable
3	TC-RFI-LUMA-MI-21-0001-210510-PREB-003	Significant System Event	N/A	
4	TC-RFI-LUMA-MI-21-0001-210510-PREB-004	System Redundancy	Pages 1-2	Critical Energy Infrastructure Information 18 C.F.R. §388.113; 6 U.S.C. §§ 671-674
5	TC-RFI-LUMA-MI-21-0001-210510-PREB-005	System Restoration Capabilities	Pages 1-5	Critical Energy Infrastructure Information 18 C.F.R. §388.113; 6 U.S.C. §§ 671-674
5.1	TC-RFI-LUMA-MI-21-0001-210510-PREB-005 Attachment 1	Generation Unit Information	All Tabs	Critical Energy Infrastructure Information 18 C.F.R. §388.113; 6 U.S.C. §§ 671-674
6	TC-RFI-LUMA-MI-21-0001-210510-PREB-006	Interoperability	Page 1	Critical Energy Infrastructure Information 18 C.F.R. §388.113; 6 U.S.C. §§ 671-674 and Sensitive Commercial Information and Trade Secrets under Act 80-2011

#	Response	Subject	Pages in which Confidential Information is Found, if applicable	Summary of Legal Basis for Confidentiality Protection, if applicable
7	TC-RFI-LUMA-MI-21-0001-210510-PREB-007	Generator Reactive Testing	N/A	
8	TC-RFI-LUMA-MI-21-0001-210510-PREB-008	Interconnection	N/A	

5. Under separate cover and expediently, within the next ten days, as allowed by Section A.2 of the Energy Bureau's Policy on Management of Confidential Information," CEPR-MI-2016-0009, of August 31, 2016 as amended by the Resolution dated September 16, 2016, LUMA will be submitting a separate memorandum of law in support of its requests to file some of the aforementioned documents under seal of confidentiality.

**WHEREFORE**, LUMA respectfully requests that this Bureau **take notice** of the aforementioned and **deem** that LUMA complied with the portion of the April 27<sup>th</sup> Order that set a deadline to file additional information requested during the Technical Conference and with the bench orders issued by the Energy Bureau in the Technical Conference held on May 10<sup>th</sup> and 11<sup>th</sup>, 2021.

**RESPECTFULLY SUBMITTED.**

In San Juan, Puerto Rico, this 14<sup>th</sup> day of May 2021.

I hereby certify that I filed this motion using the electronic filing system of this Energy Bureau and that I will send an electronic copy of this motion to the attorneys for PREPA, Joannely Marrero-Cruz, [jmarrero@diazvaz.law](mailto:jmarrero@diazvaz.law); and Katuska Bolaños-Lugo, [kbolanos@diazvaz.law](mailto:kbolanos@diazvaz.law).



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# **NEPR-MI-2021-0001**

**System Operations Principles May 10-11, 2021**

**Technical Conference Request for Further Information**

## List of Response Attachments

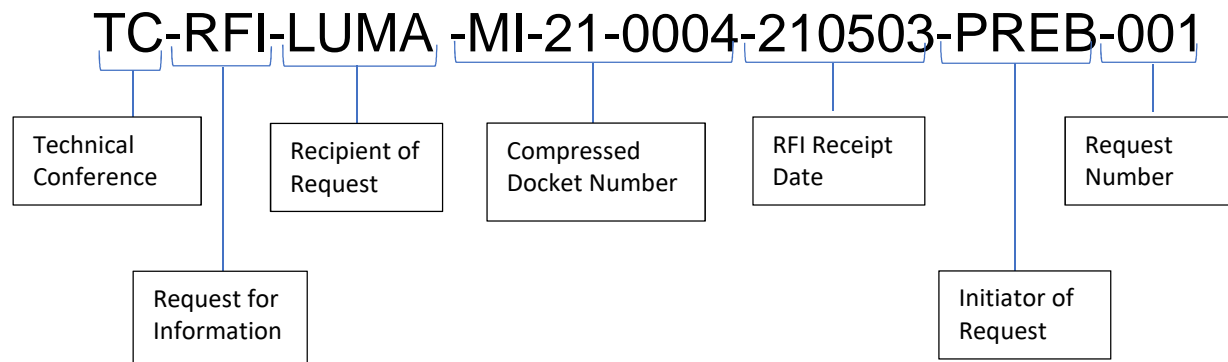
Response ID	Attachment Name	Description
TC-RFI-LUMA-MI-21-0001-210510-PREB-001	Attachment 1	Revised Section 3.3 - Clean
	Attachment 2	Revised Section 3.3 – Black Line
TC-RFI-LUMA-MI-21-0001-210510-PREB-005	Attachment 1*	Generation Unit Information

Note: \* Denotes attachments that have been provided in Microsoft Excel format.

## Request Naming Convention

Please note that LUMA proposes to use the following naming convention to categorize and reference any requests made in this process and future processes, related to technical sessions, conferences or hearings.

Example:





# **System Operations Principles 2021-05-10 Technical Conference Docket ID: NEPR-MI-2021-0001**

## **Response: TC-RFI-LUMA-MI-21-0001-210510-PREB-001**

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**Subject:** Retirements (Generation)

### **Request:**

LUMA seeks to clarify the process for the retirement of generation assets described in the System Operating Principles filing of February 23, 2021, Section 3.3, System Operator Will Coordinate All Generation Retirement Requests.

### **Response:**

To clarify the process for the retirement of generation assets, LUMA has provided an update to Section 3.3 of the LUMA System Operating Principles filing.

Please refer to TC-RFI-LUMA-MI-21-0001-210510-PREB-001 Attachment 1 for a clean version of the updated Section 3.3. Please refer to TC-RFI-LUMA-MI-21-0001-210510-PREB-001 Attachment 2 for a blackline version of Section 3.3. outlining the changes made as part of this response.

### **3.3 System Operator Will Coordinate All Generation Retirement Requests**

When a generation owner or operator has determined it plans to retire a generation unit, a request will be sent to the System Operator. To ensure that this process conforms with a uniform procedure, the System Operator will define rules related to how that retirement request must be presented. Any such retirement decision shall be evaluated by the System operator and presented to the PREB for regulatory approval. In accordance with IRP reporting requirements to the Bureau, LUMA would provide quarterly updates and compliance reports associated with the plans for retirement of steam units, with specific reporting and compliance information requirements and dates as described in the Modified Action Plan. These regular updates and compliance reports would include all information on the status of conversion to synchronous condensing where applicable.

All retirement evaluations shall be carried out consistent with the approved IRP and The Modified Action Plan, and in accordance with required approvals.

A list of criteria to evaluate in making the retirement decision (based on IRP), which would include considering the following:

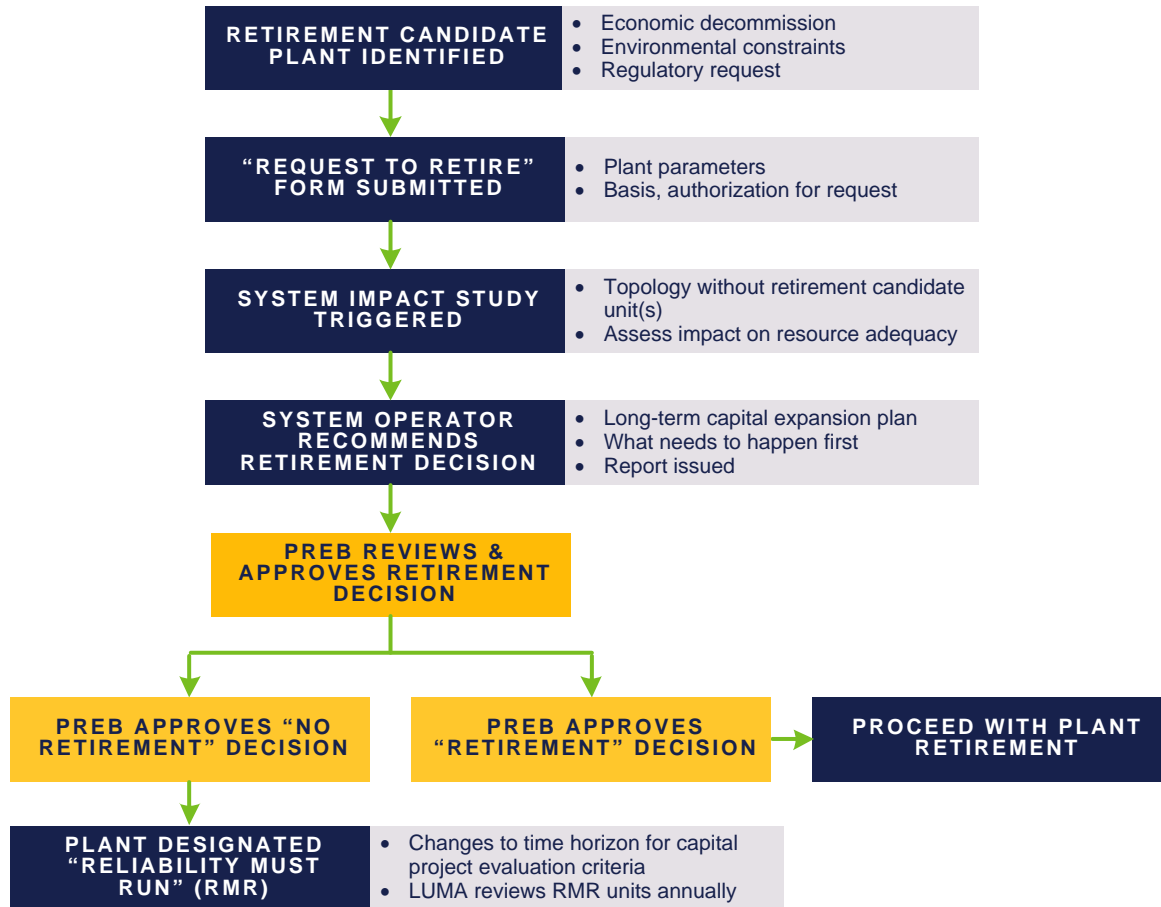
- Established schedule for retirement (IRP Paragraphs 92 and 841)
- Whether it should be aligned with conversion of some units to synchronous condensing operation (IRP Paragraphs 92 and 841)
- Whether applicable reliability milestones have been reached (IRP, Paragraphs 92 and 841)
- Load reduction, new capacity and existing capacity reliability. (IRP Paragraphs 662).
- Threshold capacity at which retirement of unit was slated to commence. (IRP Paragraphs 872)

LUMA will consider the following associated issues in its analysis of retirement scenarios:

- The Complete information and forms required to both carry out analysis of the requested retirement and to process the request,
- Date of requested retirement and findings from required system impact studies to determine overall system impact and any recommendation or requests regarding timing of retirement, and
- Whether the unit should be designated to be Reliability Must Run (RMR), as described below.

Figure 3-1 below describes the general process to retire a generating unit.

**Figure 3-1. General Process to Retire a Unit**



Note: "Reliability Must Run" can also be used at times to designate facilities that are necessary during certain operating conditions to maintain the security of the power system.

### 3.3 System Operator Will Coordinate All Generation Retirement Requests

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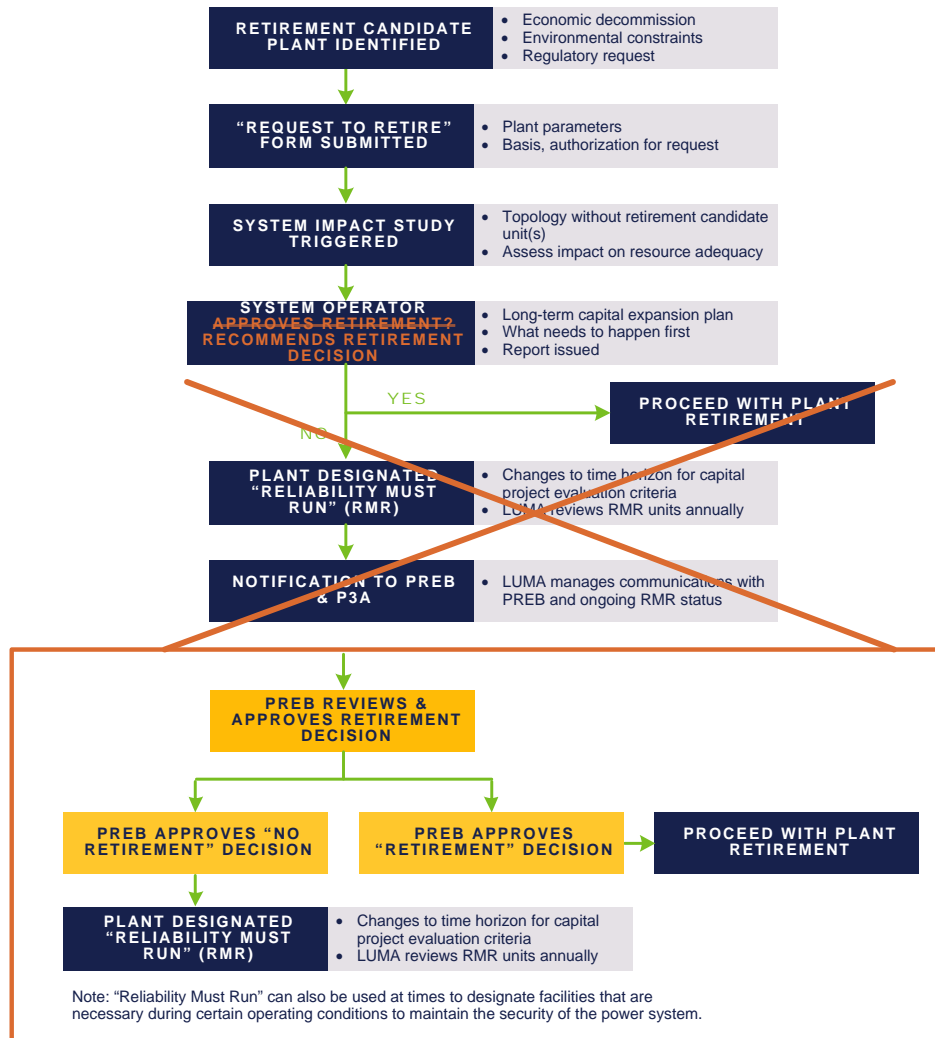
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- Whether it should be aligned with conversion of some units to synchronous condensing operation (IRP Paragraphs 92 and 841)
- Whether applicable reliability milestones have been reached (IRP, Paragraphs 92 and 841)
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Figure 3-1. General Process to Retire a Unit



# System Operations Principles

## 2021-05-10 Technical Conference

### Docket ID: NEPR-MI-2021-0001

## Response: TC-RFI-LUMA-MI-21-0001-210510-PREB-002

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**Subject:** Customer Notification of Planned Outages

**Request:**

How far in advance of planned outages is LUMA targeting the notification to end use consumers?

**Response:**

LUMA is targeting a notice of 5 days for planned outages where more than five customers are impacted, and, in accordance with Act No.17-2019, Section 1.10(k), LUMA will provide at a minimum, 48 hours-notice for planned outages where more than 5 customers will be impacted. Planned outages impacting 5 or less customers for localized work (for example, meter changes) will be mutually agreed upon with the impacted customers, if the outage will take place within the 48-hour time frame.

# System Operations Principles

## 2021-05-10 Technical Conference

### Docket ID: NEPR-MI-2021-0001

**Response: TC-RFI-LUMA-MI-21-0001-210510-PREB-003**

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**Subject:** Significant System Event

**Request:**

Definition of significant system event within Page 22, Section 8.4 of the System Operation Principles.

**Response:**

A significant system event requiring a root cause analysis would include, but not be limited to, when:

- An actual safety incident or near-miss situation occurs affecting employees or the general public,
- A LUMA equipment failure occurs resulting in a cost of \$100,000 or greater,
- A system event resulted in more than 20,500 customers out of service for more than 10 minutes.

System Operations, at its discretion, may determine that other events affecting the system are significant and merit a root cause analysis.

# System Operations Principles 2021-05-10 Technical Conference Docket ID: NEPR-MI-2021-0001

**Response: TC-RFI-LUMA-MI-21-0001-210510-PREB-004**

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**Subject:** System Redundancy

**Request:**

If there is a fault on the transmission lines from EcoElectrica, what will happen if unable to use these lines to inject into the system? Do we have adequate redundancy?

**Response:**

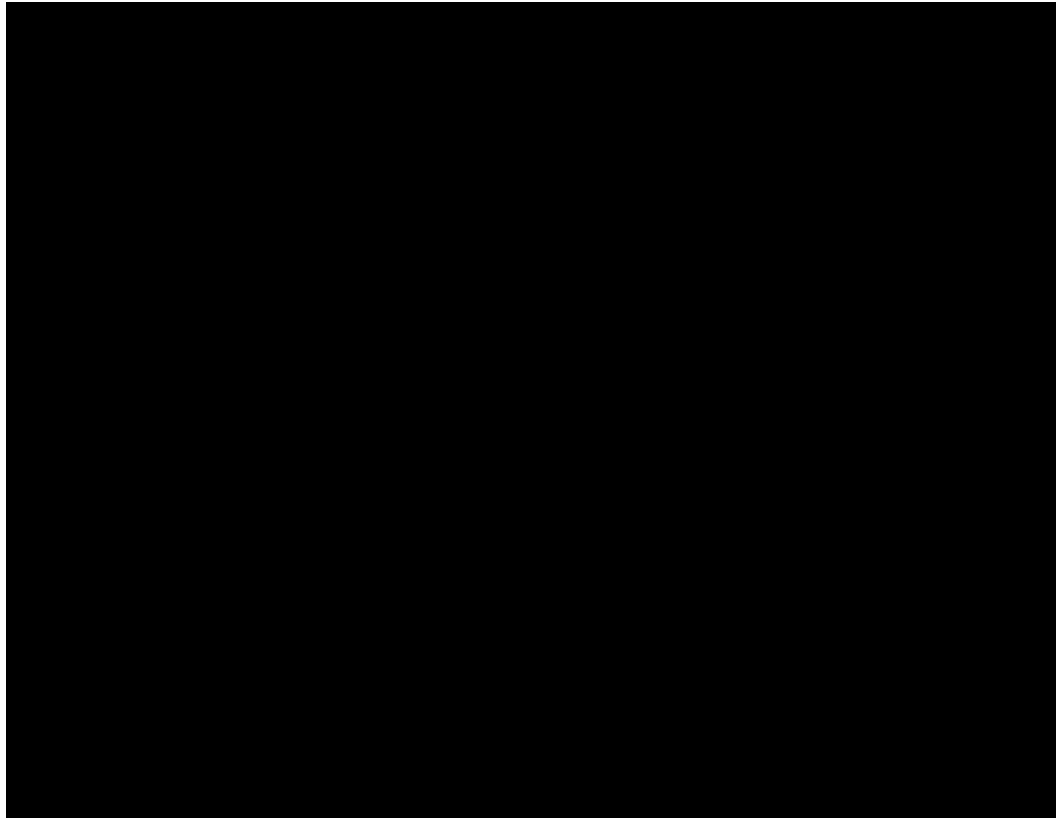
The following is a summary of the hypothetical results of an outage to the 230kV Line 51100 (EcoElectrica to Costa Sur) based on observed characteristics of the system and modelling using PSSE.

[REDACTED]

[REDACTED]

[REDACTED]





[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]

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**System Operations Principles  
2021-05-10 Technical Conference  
Docket ID: NEPR-MI-2021-0001**

**Response: TC-RFI-LUMA-MI-21-0001-210510-PREB-005**

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**Subject:** System Restoration Capabilities

**Request:**

Black-start capabilities, and generation unit capacity and characteristics.

**Response:**

Please refer to TC-RFI-LUMA-MI-21-0001-210510-PREB-005-Att1 (provided in Microsoft Excel format) for black-start capabilities, and generation unit capacity and characteristics.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Country	Year	Population (millions)	Urban population (millions)	Urban population (%)	Population density (per sq km)
Algeria	2000	24.0	10.0	41.7	15.0
Algeria	2001	24.2	10.2	42.2	15.2
Algeria	2002	24.4	10.4	42.6	15.4
Algeria	2003	24.6	10.6	43.1	15.6
Algeria	2004	24.8	10.8	43.6	15.8
Algeria	2005	25.0	11.0	44.0	16.0
Algeria	2006	25.2	11.2	44.5	16.2
Algeria	2007	25.4	11.4	44.9	16.4
Algeria	2008	25.6	11.6	45.3	16.6
Algeria	2009	25.8	11.8	45.7	16.8
Algeria	2010	26.0	12.0	46.2	17.0
Algeria	2011	26.2	12.2	46.6	17.2
Algeria	2012	26.4	12.4	47.0	17.4
Algeria	2013	26.6	12.6	47.4	17.6
Algeria	2014	26.8	12.8	47.8	17.8
Algeria	2015	27.0	13.0	48.2	18.0
Algeria	2016	27.2	13.2	48.6	18.2
Algeria	2017	27.4	13.4	49.0	18.4
Algeria	2018	27.6	13.6	49.4	18.6
Algeria	2019	27.8	13.8	49.8	18.8
Algeria	2020	28.0	14.0	50.0	19.0



[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

[REDACTED]

[REDACTED]

[illegible]

**System Operations Principles  
2021-05-10 Technical Conference  
Docket ID: NEPR-MI-2021-0001**

**Response: TC-RFI-LUMA-MI-21-0001-210510-PREB-006**

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**Subject:** Interoperability

**Request:**

Please provide further details for the framework LUMA is developing on interoperability.

**Response:**

[REDACTED]

[REDACTED]

## **System Operations Principles 2021-05-10 Technical Conference Docket ID: NEPR-MI-2021-0001**

### **Response: TC-RFI-LUMA-MI-21-0001-210510-PREB-007**

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**Subject:** Generation Reactive Testing

**Request:**

Please provide LUMA's procedures for generator reactive testing. Will all resources be required to test - thermal, sun, wind, hydro?

**Response:**

Existing independent power plants have requirements to provide reactive power, but do not require reactive testing under existing PPOAs. In a similar manner, PREPA generating units will be required to provide reactive power, but it is not expected that reactive power testing will be a priority for the legacy PREPA facilities. This is partly because it has not been conducted in the past 10 years, and the conduct of such a test could create several operational risk concerns regarding the other plants' ability to support grid stability while such a test was conducted on the larger PREPA units.

The Generator Capability procedure will be completed within 6 months after commencement and will define reactive testing requirements for new plants on the system. Newly interconnected facilities are expected to require reactive testing at the time of commissioning, following plant modifications or upgrades that affect reactive power capability. These requirements will be defined and included in future RFP solicitations for new renewables.



## **System Operations Principles 2021-05-10 Technical Conference Docket ID: NEPR-MI-2021-0001**

### **Response: TC-RFI-LUMA-MI-21-0001-210510-PREB-008**

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**Subject:** Interconnection

#### **Clarification:**

PREPA's current Distributed Generation (DG) Interconnection Process takes around 80 days on average. During the Technical Conference there was a question on what portion of projects are coming in less than 80 days.

#### **Response:**

According to PREPA's most recent Interconnection Progress Report in Docket NEPR-MI-2019-0016<sup>1</sup>, the average time to authorize the interconnection of expedited DG systems was 80 days since July 2020. The number of customers who waited a period of more than thirty days for the net measurement agreement to be reflected in their invoice, after the interconnection of their DG system was 58%. LUMA does not have more detailed data indicating how many customers have been interconnected in less than 80 days.

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<sup>1</sup> <https://energia.pr.gov/wp-content/uploads/sites/7/2021/02/Presentacion-a-ser-Utilizada-Durante-Vista-de-Cumplimiento-del-19-de-febrero-de-2021-NEPR-MI-2019-0016-1.pdf>