

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

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**IN RE: THE PERFORMANCE OF THE  
PUERTO RICO ELECTRIC POWER  
AUTHORITY**

**CASE NO.: NEPR-MI-2019-0007**

**SUBJECT: Motion in Compliance with Resolution and  
Order of December 26, 2024**

**MOTION IN COMPLIANCE WITH RESOLUTION AND ORDER OF DECEMBER 26, 2024**

**TO THE PUERTO RICO ENERGY BUREAU:**

**COMES NOW, LUMA ENERGY SERVCO, LLC (“LUMA”),** through the undersigned legal counsel and respectfully states and requests the following:

1. On May 14, 2019, the Puerto Rico Energy Bureau (“Energy Bureau”) issued a Resolution and Order in this proceeding, creating the requirement to submit quarterly reports on specified system data of the Puerto Rico Electric Power Authority (“PREPA”). Pursuant to Section 5.6 of the Puerto Rico Transmission and Distribution System Operation and Maintenance Agreement (“T&D OMA”), LUMA, as an agent of PREPA, submits systems data regarding the Transmission and Distribution System (“T&D System”).

2. LUMA has submitted quarterly reports on system data and updates, as requested by this Energy Bureau. *See* filings of August 6, 2021; August 13, 2021 (filing updated quarterly report with System Data for March through May 2021, in compliance with order of August 6, 2021); September 20, 2021; December 22, 2021; March 21, 2022; June 20, 2022; July 29, 2022; October 20, 2022; January 20, 2023; April 20, 2023; July 20, 2023; October 20, 2023; October 31,

2023 (submitting restated values); January 29, 2024; April 22, 2024, July 22, 2024, and November 20, 2024.

3. On August 9, 2024, the Energy Bureau issued a Resolution and Order (“August 9<sup>th</sup> Order”) whereby it required that LUMA and Genera PR LLC (“Genera”) answer requirements of information regarding System Data submitted with the Quarterly Report submitted on July 22, 2024.

4. On August 30, 2024, LUMA submitted a *Motion Submitting Response to the Request for Information Issued in the Resolution and Order of August 9, 2024*, with responses to the Requests for Information issued to LUMA in the August 9<sup>th</sup> Order (“August 30<sup>th</sup> Motion”).

5. On October 18, 2024, this Energy Bureau issued a Resolution and Order (“October 18<sup>th</sup> Order”), whereby it directed LUMA to align the data reported in this instant docket with the performance metric approved in *In re: Performance Targets for LUMA Energy Servco, LLC.*, Case No. NEPR-AP-2020-0025 (“LUMA’s Targets Proceeding”), and extended the original reporting deadline for the upcoming quarterly report from October 20, 2024, to November 20, 2024. The Energy Bureau stated that if inconsistencies in definitions or reporting methodologies were present, the definition and calculation methodology prescribed in LUMA’s Targets Proceeding, would prevail. *See* October 18<sup>th</sup> Order at p.3. The Energy Bureau further requested that LUMA identify in the report for the first quarter of Fiscal Year 2025 (“FY2025”), whether the definition and calculation methodology currently used in this instant docket, in relation to the specific metrics listed in Table 1 of the Order, aligns with the approach approved by the Energy Bureau in LUMA’s Targets Proceeding, and to make any applicable necessary changes. *See id.* at pp. 3-4.

6. In the October 18<sup>th</sup> Order, the Energy Bureau also issued a revised data template that included the revisions adopted in the July 10, 2024, Resolution and Order,<sup>1</sup> new metrics adopted in LUMA's Targets Proceeding, a new methodology tab, and eliminated previously required metrics. *See id.* at pp. 4-6. Regarding the methodology tab, the Energy Bureau ordered LUMA to detail the steps required to produce the data, along with any relevant formulas and data sources. *See id.* at p. 6. The Energy Bureau also stated that LUMA should provide the definition in English and Spanish for the new metrics, in its report for the first quarter of Fiscal Year 2025. *See* October 18 Order at p. 5.

7. Finally, the Energy Bureau ordered LUMA to use the template for future quarterly reports, beginning with the first quarter of FY2025, and further ordered that if LUMA was unable to provide data on any of the new metrics timely, LUMA should explain in detail the reasons and give an estimate of when it will be able to provide this information. *See id.* at p. 6.

8. On November 20, 2024, LUMA submitted a motion titled *Motion Submitting Quarterly Report on System Data for July through September 2024 and in Compliance with Order of October 18, 2024*, whereby it filed the Quarterly Report on System Data for July through September 2024, based on the revised data template issued in the October 18<sup>th</sup> Order ("November 20<sup>th</sup> Motion"). Therein, LUMA complied with additional requirements of the October 18<sup>th</sup> Order, whereby LUMA was to align the reported metrics in the instant proceeding with the Performance Metrics approved in LUMA's Targets Proceeding. In furtherance of that request, LUMA made changes to definitions and methodologies, adjusted reporting periods, and notified information on

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<sup>1</sup> On July 10, 2024, the Energy Bureau issued a Resolution and Order ("July 10<sup>th</sup> Order") approving LUMA's requests to add the Toa Baja district to the reliability metrics reported in the data template and align the DSO Government metric with the methodology adopted in Case No. NEPR-AP-2020-0025 for the reporting cycle beginning in Fiscal Year 2025. *See* July 10<sup>th</sup> Order at p. 3. Furthermore, the Energy Bureau ordered LUMA to use the existing reliability districts and DSO Government methodology to file System Data for April through June 2024. *Id.* The Energy Bureau also determined to amend the data template to incorporate changes applicable to Genera's reporting metrics. *Id.* In the July 10<sup>th</sup> Order, the Energy Bureau stated that it would update and re-issue the data template before October 2024.

those metrics to which it lacks data to begin reporting. LUMA also requested that the Energy Bureau consider the benefits of changing the names of the reported metrics, to align them with the names used in the LUMA's Targets Proceeding. Lastly, LUMA submitted restated values for reliability metrics for Fiscal Year 2024.

9. On December 26, 2024, the Energy Bureau issued a Resolution and Order ("December 26<sup>th</sup> Order") whereby, among others, it requested additional information from LUMA "to determine whether performance should be designated as improved or not improved". *See* December 26<sup>th</sup> Order at p.6. The Energy Bureau also stated that there were metrics for it would like clarification on "how to interpret the data currently being presented." *Id.* The Energy Bureau further stated these metrics were designated as "Under Review" throughout Tables 1 through 5 of the December 26<sup>th</sup> Order. Therefore, the Energy Bureau issued its Attachment C containing Requests for Information. *Id.* The Energy Bureau ordered LUMA to submit its responses to the ROIs in Attachment C on or before January 15, 2025.

10. In the December 26<sup>th</sup> Order, the Energy Bureau also ordered LUMA to, on or before January 15, 2025, explain "to the extent possible, the cause underlying the lack of improvement over the period July 2023 to June 2024 for each of those metrics so designated in Tables 1 through 5, save for those metrics already discussed in LUMA's August [30<sup>th</sup>] Motion." *Id.* The Energy Bureau added that the motion should include "LUMA's plans for improvement over the next fiscal year." *Id.*

11. As Exhibit 1 to this Motion, LUMA respectfully submits its responses to the Requests for Information included in Attachment C of the December 26<sup>th</sup> Order. LUMA also submits information on the performance metrics that the Energy Bureau designated as not

improved, as well as LUMA's plans for FY2025 in connection with those performance metrics.  
*See Exhibit 1.*

**WHEREFORE**, LUMA respectfully requests that this Honorable Bureau **take notice of** the aforementioned; **accept** the responses submitted herein as Exhibit 1; and **deem** LUMA in compliance with the December 26<sup>th</sup> Order.

**RESPECTFULLY SUBMITTED.**

In San Juan, Puerto Rico, this 15<sup>th</sup> day of January 2025.

We hereby certify that we filed this motion using the electronic filing system of this Energy Bureau and that we will send an electronic copy of this motion to PREPA's counsel of record, Alexis Rivera Medina, [arivera@gmlex.net](mailto:arivera@gmlex.net) and Mirelis Valle Cancel, [mvalle@gmlex.net](mailto:mvalle@gmlex.net), and Genera PR LLC, through its counsel of record Jorge Fernández-Reboredo, [jfr@sbglaw.com](mailto:jfr@sbglaw.com) and Alejandro López Rodríguez, [alopez@sbglaw.com](mailto:alopez@sbglaw.com), and the Independent Consumer Protection Office, Hannia Rivera Diaz, [hrivera@jrsp.pr.gov](mailto:hrivera@jrsp.pr.gov).



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*Exhibit 1*

# Performance Metrics Quarterly Report

Docket Number: NEPR-MI-2019-0007

**Response: RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-1**

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## SUBJECT

**OSHA Fatality & 12-Month Rolling OSHA Fatality**

## REQUEST

- A) Explanations of causes underlying the lack of improvement over the period July 2023 to June 2024.
- B) Plans for improvement over the next fiscal year.

## RESPONSE

- A) LUMA remains unwavering in its commitment to ensuring the safety of all employees and the public. Since assuming operations on June 1, 2021, safety has been and continues to be a cornerstone of our mission. During the fiscal year 2024 (FY2024), our safety performance showed significant progress in key metrics compared to baseline levels. Specifically, 25.79 for OSHA Severity Rate (baseline: 31.00), 1.7 for OSHA Recordable Rate (baseline: 6.90), and 1.3 for OSHA DART Rate (baseline: 4.80). Additionally, when compared to fiscal year 2023 (FY2023), both the OSHA Recordable Rate and DART Rate for FY2024 demonstrated further reductions.

Despite these advancements, we experienced two tragic and isolated incidents. A fatality occurred on September 2023 that is currently under contest with OSHA and in May 2024, a low-voltage employee conducted work without proper authorization, resulting in a fatality. These events, while deeply regrettable, do not reflect the overall improvements made across the organization. Nonetheless, they underscore the need for continued vigilance and enhanced preventive measures. As of these events, we completed a Distribution Live Line Work and Equal Potential Zone Training Program, which provided field employees with specialized training and a new manual for reference in the field.

- B) In addition to all the efforts to strengthen our safety performance, as explained on LUMA's Motion in Compliance with Order to Show Cause from June 10, 2024, filed on June 20, 2024, LUMA will strengthen its safety programs and implement additional measures included in our Comprehensive Training Program based on employee's job profiles through our learning management system. This includes the Apprenticeship Programs pairing field personnel with experienced, skilled, and trained temporary employees who provide critical guidance, ensure

**RESPONSES TO DECEMBER 26, 2024, RESOLUTION AND ORDER**

completion of job hazard analyses, teach safe, efficient, and standard work practices, and reinforce consistent work habits; Power System Work Standard (PSWS) procedure focused on three-way communication between field employees and the operator in charge; Bucket Rescue Training, Distribution Live Line Work and Equal Potential Zone Training Program, among others.

We will also continue the Injury Management Program, focusing on managing cases of injured employees and establishing contacts with hospitals around the island along with Puerto Rico State Insurance Fund Corporation to provide additional recovery-at-work options (i.e., modified duties).

Reinforcement of Telematics technology as a safety measure focused on monitoring vehicle use, location data and coaching for safety driving behaviors, providing real-time feedback and analytics to improve driving habits, reduce accidents, and ensure compliance with safety protocols.

As part of the commitment to prevent similar incidents in the future, we created and executed a new Low Voltage Manual, a bulletin Outlining the need to wear Secondary Rubber Gloves when working on voltages above 0 voltage, and a new Low Voltage Specific Job Hazard Analysis (JHA) creating a Job Specific JHA for the Low Voltage Employees outlining critical barriers for Low Voltage Tasks.

In addition, LUMA developed a Weekly Safety Communication based on leading indicators. Also, added three coaching and best practice roles to support all leaders: Lessons learned/incident investigation, Field safety observations, Job Site Observation (JSO) and coaching, Serious injury prevention and fundamental Health, Safety, and Environmental utility training. These initiatives underscore LUMA's ongoing commitment to health and safety, aiming to prevent future incidents and strengthen the organization's safety culture.



# Performance Metrics Quarterly Report

Docket Number: NEPR-MI-2019-0007

**Response: RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-2**

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## SUBJECT

**Operational expenses vs. budget**

## REQUEST

- A) Explanations of causes underlying the lack of improvement over the period July 2023 to June 2024.
- B) Plans for improvement over the next fiscal year.

## RESPONSE

- A) LUMA complies with its budgets approved by the Puerto Rico Energy Bureau (PREB) and authorized expenditures in its efforts to operate and maintain the Transmission and Distribution (T&D) system. LUMA files budgets with the intention of fully spending within the approved budgeted amounts as per our plan during each approved budget period. FY2023 LUMA's operational expenses vs. budget expenditures were 97.7% and for FY2024 LUMA's operational expenses vs. budget were 99.9%. Calculating an overall average based on the reported monthly values would be an incorrect representation of the actual performance, therefore, we disagree with PREB's determination of not improvement for this metric. LUMA's spend was in compliance with approved budget and our proposed plans to the PREB.
- B) See above response, to reiterate, LUMA files annual plans and budgets with the full intention of spending the requested amount to deliver on the approved plan. LUMA will spend within the PREB approved amounts to deliver on those plans.

# Performance Metrics Quarterly Report

## Docket Number: NEPR-MI-2019-0007

### Response: RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-3

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#### SUBJECT

**DSO (Days Sales Outstanding) – General Customers**

#### REQUEST

- A) Explanations of causes underlying the lack of improvement over the period July 2023 to June 2024.
- B) Plans for improvement over the next fiscal year.

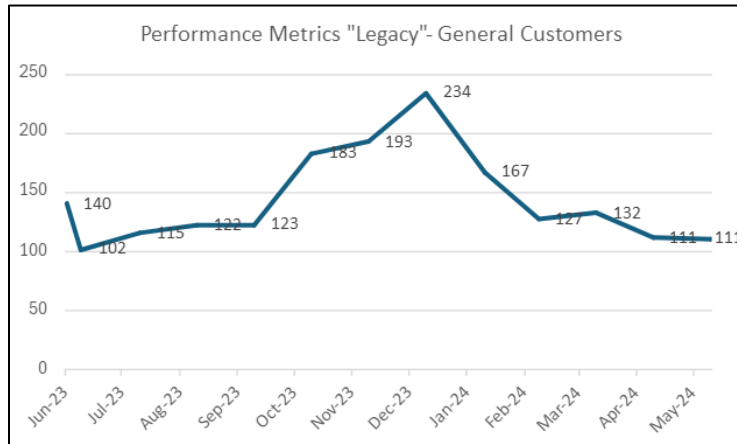
#### RESPONSE

- A) In October 2023, there was a Customer Care and Billing (CC&B) system incident that caused an issue with payment agreements, which led to payment plans being canceled unless the customer made a full payment on the plan. Once this situation was identified, it was promptly fixed. However, this resulted in an increase in outstanding account receivables due to an issue with payment agreements and customer cancellation of payment plan agreements, which caused an increase in the Accounts Receivables. Moreover, another issue reflected in the data is the customer's inability to comply with payment agreements, which leads to automatic cancellation after two missed payments. After the cancellation of a payment agreement occurs in a customer's account, the amount owed, for which the payment agreement was requested, returns to the account balance with its original aging, causing an increase to the Accounts Receivables. In addition, the residential Severance Process went live in May 2024 which led to service disconnections due to non-payment from customers. The Severance Process is triggered when eligible balances in an account are 90 days past due and includes a series of stemmer events, like the disconnection of the service, that should inspire the customer to pay.
- B) Once residential disconnections were implemented the DSO started to trend to a more favorable DSO number. In addition, LUMA expects DSO to start trending lower once the correct responsible party (customer) is identified and made responsible for their debt. For this, LUMA will continue to increase the accounts audited, targeting debt evasion. Any person who uses the electric power service must have a LUMA service contract in their name. When the service is billed in the name of one person and is used by another, each of those people is obligated to make payment in full for the service and for all obligations arising therefrom. When the person whose name the service is billed is not the one who pays for it, and the user does not respond to LUMA's request to establish service in their name or does not comply with the requirements to do

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so, LUMA may suspend their service. Act 7 of January 3, 2014, allows us to deny service to clients who have a prior debt, on the same premise, left by a person or legal entity established by persons related to the prior client, within the third consanguinity degree or second affinity degree. This Act also allows LUMA to transfer and collect any unpaid balance to any new client that falls within the same degree of familiarity, or that has benefited, in any way, from the electric service.

| FY24 DSO General (PREPA Calculation)* CILT |               |               |               |             |               |               |               |               |               |               |               |               |               |
|--|---------------|---------------|---------------|-------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|  | Jun-23        | Jul-23        | Aug-23        | Sep-23      | Oct-23        | Nov-23        | Dec-23        | Jan-24        | Feb-24        | Mar-24        | Apr-24        | May-24        | Jun-24        |
| General A/R                                | 1,045,808,507 | 1,135,825,883 | 1,137,439,145 | 948,159,946 | 1,206,325,095 | 1,229,578,407 | 1,171,735,695 | 1,090,971,438 | 1,073,162,960 | 1,077,065,542 | 1,062,890,168 | 1,091,263,712 | 1,171,266,706 |
| General Revenues                           | 246,782,034   | 369,014,747   | 325,128,870   | 257,035,069 | 324,809,347   | 221,765,002   | 200,677,969   | 153,718,719   | 211,781,643   | 278,839,276   | 265,438,198   | 313,657,577   | 349,023,283   |
| Monthly Billing Cycle                      | 33            | 33            | 33            | 33          | 33            | 33            | 33            | 33            | 33            | 33            | 33            | 32            | 33            |
| Total                                      | 140           | 102           | 115           | 122         | 123           | 183           | 193           | 234           | 167           | 127           | 132           | 111           | 111           |



LUMA has been working with the development of plans for improvement among which are the following: the modification of Procedure 3233 Payment Agreement Policy that will allow Revenue Protection to increase the negotiation options with our customers, the usage of automatic tools to increase our reach with our customers, the development and implementation of Law 22 Project, the continuous reduction of the Severance threshold to include more customers to the Severance Process, the enhancement of transferring debt from inactive Service Agreements to same customer's Service Agreements enabling the automated Collection and Severance Process to start, the usage of automatic call campaigns of Bill Reminder for No Answers and Left Voicemail, and continuously offer trainings and coaching for employees focused on negotiation skills.

# Performance Metrics Quarterly Report

## Docket Number: NEPR-MI-2019-0007

### Response: RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-4

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#### SUBJECT

Monthly CAIDI

#### REQUEST

- A) Explanations of causes underlying the lack of improvement over the period July 2023 to June 2024.
- B) Plans for improvement over the next fiscal year.

#### RESPONSE

A) LUMA is dedicated to enhancing the reliability of Puerto Rico's electrical grid. Our strategic initiatives are focused on improving service quality, reducing outage durations, and strengthening the overall resilience of the power infrastructure. The Customer Average Interruption Duration Index (CAIDI) is the reliability metric typically used to measure the average time required to restore service to customers per sustained interruption. However, it is important to note that there are some limitations to CAIDI. As described in Annex D of IEEE 1366-2022, *"Taken at face value, CAIDI is often viewed as a measure of average duration of interruptions. Shorter duration interruptions are preferred and therefore, a lower CAIDI is seen as desirable. It may appear counterintuitive, but the CAIDI index does not necessarily provide a meaningful comparison of interruption durations experienced by customers over time or in one service area compared to another. CAIDI is simply a weighted average of interruption durations for customers that have experienced interruptions. Reliability improvement actions by the system operator resulting in prevention of some interruptions may actually increase calculated CAIDI even though the overall customer experience has improved."* Notwithstanding, LUMA remains committed to improving Puerto Rico's electric system reliability and expects that its continued efforts, including field personnel (linemen) training, expanding works shifts, and operations switching practices that involve the transfer of electrical energy between different circuits or sections of a power system, will also help improve CAIDI. Below are the primary drivers behind the CAIDI increase when compared to the previous year.

**Safety Improvements:** Safety is of utmost importance to LUMA. At the outset of our operations, we recognized the need to enhance our capabilities in this critical area, dedicating time and resources to training our field employees and implementing industry best practices. This effort ensures that critical safe practices are rigorously followed when working on electrical systems. As we implemented these safety-focused changes in both our practices and organizational culture,

## RESPONSES TO DECEMBER 26, 2024, RESOLUTION AND ORDER

we experienced impacts on productivity, leading to longer repair and restoration times. However, positive impacts on safety performance have been observed and although restoration times have increased, this is viewed as a short-term challenge. Efforts being driven on improving response efficiency and effectiveness will —overtime— offset these increases.

**Increase in Outages Events:** During FY2024, we experienced an increase in the number of interruption events, which had a direct impact on our restoration times, as indicated by the CAIDI metrics. Specifically, there was a 20% increase in outage events compared to FY2023. Although the average number of customers impacted by each outage was lower, the average outage duration increased which contributed to a higher overall system CAIDI.

B) The following update encompasses the efforts undertaken to improve reliability and improve restoration time:

### Resource Availability and Development:

- LUMA has acted throughout fiscal year 2025 (FY2025) to continue increasing the onboarding and deployment of experienced workers both for reliability work and outage responses. Shortly after commencement, LUMA undertook an aggressive upskilling program to bring the level of qualification of LUMA employees up to expected industry standards. The upskilling program was completed in November of FY2024 at which time LUMA had graduated 225 linemen to fully qualified status which allows LUMA to have more linemen work on the system unsupervised.
- During FY2025, LUMA seeks to continue to increase the onboarding and deployment of experienced workers both for outage responses and capital improvements. These efforts have been multi-pronged and include the following key efforts and programs:
  - Utility Fieldworkers: It is important to note that LUMA has more than 1,000 utility field workers, including linemen, in its Operations team. These are composed of approximately 60% by ex-PREPA employees who have deep experience and knowledge of the Puerto Rico electric system and with LUMA have received first class training and are fully equipped to work safely and effectively.
  - Linemen Apprenticeship Program: Focused on developing and growing local talent. An apprenticeship program cannot deliver qualified workers for approximately four years as the apprentice's work through the eight stages of development from pre-apprenticeship through to the completion of the Apprentice Period. Currently there are 198 apprentice linemen in the program and LUMA is expecting the first graduations from the linemen program to start in 2025. This program will begin to deliver more qualified workers to LUMA's workforce which can work on the electrical system unsupervised.
  - Substation Technician, Underground Residential Distribution (URD) Technician and Cyber Security Technician programs: Added to the apprenticeships being offered, with the URD program being the most advanced out of these three programs. Currently LUMA has 31 URD, 57 Substation and 7 Cyber Security apprentices. These programs allow LUMA to expand the workforce of qualified individuals that are needed to work effectively on the electrical system.

**RESPONSES TO DECEMBER 26, 2024, RESOLUTION AND ORDER**

- Off-island hiring programs: LUMA has instituted off-island hiring programs both within the US mainland and internationally. The US mainland program has resulted in more than 25 qualified worker hires, focused on attracting workers that have left Puerto Rico and had previously worked for PREPA. These workers bring a unique experience of having local system knowledge as well as bringing different work experience and knowledge from working with mainland utilities that help strengthen and diversify work practices.
- LUMA has continually onboarded contractors to supplement our internal workforce with qualified personnel when needed. This includes engineering resources to conduct system analysis and develop work order packages to execute key reliability work throughout the island by internal resources and construction contractors (i.e., transmission and distribution pole, transmission and distribution line rebuild, transmission and distribution substation reliability improvements, distribution automation and vegetation work). Having this flexible workforce allows LUMA to work effectively through periods of heavier workload such as the annual storm season without having to ramp up and down the permanent workforce.

# Performance Metrics Quarterly Report

Docket Number: NEPR-MI-2019-0007

## Response: RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-5

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### SUBJECT

**Wait time in Customer Service Centers**

### REQUEST

- A) Explanations of causes underlying the lack of improvement over the period July 2023 to June 2024.
- B) Plans for improvement over the next fiscal year.

### RESPONSE

- A) For FY2023, the annual average Wait Time in Customer Centers was 8.62 minutes, while for FY2024, this time was 9.43 minutes. It should be emphasized that this represents an annual average in the total waiting time. Calculating an overall average based on the reported monthly averages would be an incorrect representation of the actual performance. It is important to highlight that the average total waiting time for both periods remained significantly below the baseline of 30.9 minutes.

The increase in waiting time at customer service centers is attributed to a rise in the number of clients served at our offices. There was a 13.2% increase in the number of clients visiting our offices, when comparing FY2024 with FY2023.

- B) LUMA will continue to focus on continuous improvement processes in technology, including updates to our system to enhance access to additional information and data. Currently, the Turnos PR system does not consider wait times of less than one minute. LUMA has planned to update the system to incorporate this, which will enable us to enhance our overall waiting time and the results of the implemented efficiencies. Furthermore, we will maintain ongoing education for our teams through additional training sessions aimed at strengthening skills in the delivery of services to our clients in our customer service centers.

# Performance Metrics Quarterly Report

Docket Number: NEPR-MI-2019-0007

## Response: RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-6

### SUBJECT

Percent of bills estimated vs. read

### REQUEST

- A) Explanations of causes underlying the lack of improvement over the period July 2023 to June 2024.
- B) Plans for improvement over the next fiscal year.

### RESPONSE

A) LUMA made significant improvement from March 2024 onward, for the fourth quarter of FY2024, LUMA was able to reduce the estimated bill rate to 7.16% (in average). This improvement included the System implementation mentioned in LUMA’s Submission of Responses to Requirements of Information in Compliance with Resolution and Order of October 16, 2023, and Request for Extension to Respond to ROI 5(C), filed on October 31, 2023, detailing the estimation algorithm Java code error. In March of 2024, a critical estimation algorithm change was put into production. The table below shows the improvement in FY2024 with a reduction of 1.35%, when compared to FY2023.

| Jul-23 | Aug-23 | Sep-23 | Oct-23 | Nov-23 | Dec-23 | Jan-24 | Feb-24 | Mar-24 | Apr-24 | May-24 | Jun-24 | FY24 Average |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------------|
| 11.38% | 10.95% | 11.44% | 10.83% | 11.60% | 12.30% | 11.85% | 11.47% | 6.65%  | 7.24%  | 6.63%  | 7.61%  | 10.00%       |

| Jul-22 | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 | FY23 Average |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------------|
| 9.78%  | 9.87%  | 12.90% | 13.39% | 11.27% | 10.93% | 11.09% | 10.78% | 10.79% | 11.76% | 11.60% | 12.00% | 11.35%       |

B) First, as discussed in LUMA’s Submission of Responses to Requirements of Information in Compliance with Resolution and Order of October 16, 2023 and Request for Extension to Respond to ROI 5(C) (filed on October 31, 2023) and in LUMA’s Motion in Compliance with Resolution and Order of December 21, 2023 (filed on January 29, 2024), LUMA has key initiatives in underway as detailed previously, including the implementation of Advanced Metering



**RESPONSES TO DECEMBER 26, 2024, RESOLUTION AND ORDER**

Infrastructure (AMI) and the installation of new smart meters across Puerto Rico which LUMA expects to improve billing accuracy while reducing the number of estimated bills.

# Performance Metrics Quarterly Report

Docket Number: NEPR-MI-2019-0007

**Response: RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-7**

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## SUBJECT

**Generation from RPS- eligible PPOAs (percent of sales)**

## REQUEST

- A) Explanations of causes underlying the lack of improvement over the period July 2023 to June 2024.
- B) Plans for improvement over the next fiscal year.

## RESPONSE

- A) The metric Generation from RPS-eligible PPOAs (percent of sales) reflects the proportion of energy sales derived from renewable sources contracted under Renewable Portfolio Standard (RPS) Power Purchasing and Operating Agreements (PPOAs). This metric is dependent on how much renewable capacity has historically been constructed in Puerto Rico, plus new capacity added during the period. The metric will also be affected by seasonal variations in renewable energy production. This metric does not reflect LUMA's performance, therefore, LUMA disagrees with PREB's determination of not improvement for this metric. The change in values is a result of the nature of solar and wind generation. As we approach the summer months, the amount of renewable energy production will increase as the earth rotates and solar irradiance increases, and the days get longer.
- B) Looking further out, as new solar Tranche and non-Tranche projects reach their commercial operation date, this will also significantly increase this metric's value.

# Performance Metrics Quarterly Report

## Docket Number: NEPR-MI-2019-0007

### Response: RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-8

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#### SUBJECT

**Monthly SAIDI Distribution by Districts:** Arecibo, Canóvanas, Fajardo, Aguadilla, Ponce, San Juan

#### REQUEST

- A) Explanations of causes underlying the lack of improvement over the period July 2023 to June 2024.
- B) Plans for improvement over the next fiscal year.

#### RESPONSE

- A) LUMA remains committed to improving the reliability of Puerto Rico's electrical grid, with strategic initiatives designed to elevate service quality, minimize outage duration, and fortify the overall robustness of the power infrastructure. Reliability is typically analyzed on a multi-year basis to determine meaningful trends, because of the variation in weather and other external factors experienced over the year. LUMA's Reliability Performance Metrics are calculated in accordance with IEEE Std 1366-2012, which describes the need to have a minimum of five years of reliability data. Evaluating performance over shorter time periods can be misleading and can lead to erroneous conclusions about the state of the grid.

Nevertheless, LUMA has identified specific factors that have contributed to the increase in the SAIDI during FY2024 in these operational districts. The primary drivers behind the elevated SAIDI compared to the previous year are listed below under each operational district.

##### **Arecibo:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIDI, with an increase of 48.9% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of over 17.2 million Customer Minutes of Interruption (CMI), which directly impacts over 11.7 minutes of overall system SAIDI. The vegetation category encompasses interruptions caused by falling trees or limbs, as well as the growth of trees, vines, and roots.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 56% compared to FY2023. This resulted in a contribution of 47

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million CMI. The increased frequency of these events had a direct impact on the system SAIDI of 30.5 minutes for FY2024. Equipment-related events refer to the failure of end-of-life components within the distribution system that resulted in customer interruptions. Examples of such equipment include conductors, insulators, interrupting devices, arresters, structures and supports, switches, and transformers, among others.

**Canóvanas:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIDI, with an increase of 22.7% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of over 21.9 million CMI, which directly impacts over 14.9 minutes of overall system SAIDI. The vegetation category encompasses interruptions caused by falling trees or limbs, as well as the growth of trees, vines, and roots.
- Equipment related events: During FY2024, there was a notable increase in equipment-related events, with an increase of 11% compared to FY2023, contributing significantly to a total of 52.3 million CMI. This rise in event frequency had a direct impact on the SAIDI for the year. Equipment-related events refer to the failure of end-of-life components within the distribution system that resulted in customer interruptions. Examples of such equipment include conductors, insulators, interrupting devices, arresters, structures and supports, switches, and transformers, among others.

**Fajardo:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIDI, with an increase of 21.3% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of over 6.2 million CMI, which directly impacts over 4.2 minutes of overall system SAIDI. The vegetation category encompasses interruptions caused by falling trees or limbs, as well as the growth of trees, vines, and roots.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 16% compared to FY2023. This resulted in a contribution of 10 million CMI. The increased frequency of these events had a direct impact on the system SAIDI for FY2024. Equipment-related events refer to the failure of end-of-life components within the distribution system that resulted in customer interruptions. Examples of such equipment include conductors, insulators, interrupting devices, arresters, structures and supports, switches, and transformers, among others.

**Aguadilla:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIDI, with an increase of 16.8% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of over 26.1 million CMI, which directly impacts over 16.1 minutes of overall system SAIDI. The vegetation

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category encompasses interruptions caused by falling trees or limbs, as well as the growth of trees, vines, and roots.

- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 14% compared to FY2023. This resulted in a contribution of 44.8 million CMI. The increased frequency of these events had a direct impact on the system SAIDI for FY2024. Equipment-related events refer to the failure of end-of-life components within the distribution system that resulted in customer interruptions. Examples of such equipment include conductors, insulators, interrupting devices, arresters, structures and supports, switches, and transformers, among others.

### **Ponce:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIDI, with an increase of 48.3% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of over 23.4 million CMI, which directly impacts over 16 minutes of overall system SAIDI. The vegetation category encompasses interruptions caused by falling trees or limbs, as well as the growth of trees, vines, and roots.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 20% compared to FY2023. This resulted in a contribution of 23 million CMI. The increased frequency of these events had a direct impact on the system SAIDI for FY2024. Equipment-related events refer to the failure of end-of-life components within the distribution system that resulted in customer interruptions. Examples of such equipment include conductors, insulators, interrupting devices, arresters, structures and supports, switches, and transformers, among others.

### **San Juan:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIDI, with an increase of 31.6% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of over 87.5 million CMI, which directly impacts over 59.5 minutes of overall system SAIDI. The vegetation category encompasses interruptions caused by falling trees or limbs, as well as the growth of trees, vines, and roots.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 11% compared to FY2023. This resulted in a contribution of 145 million CMI. The increased frequency of these events had a direct impact on the system SAIDI for FY2024. Equipment-related events refer to the failure of end-of-life components within the distribution system that resulted in customer interruptions. Examples of such equipment include conductors, insulators, interrupting devices, arresters, structures and supports, switches, and transformers, among others.

- B) To enhance the SAIDI in the distribution system, a range of targeted initiatives have been implemented and will continue throughout FY2025. These initiatives aim to improve grid reliability,

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reduce outage durations, and enhance the overall quality of power distribution. Additionally, addressing factors that contribute to outages, such as vegetation and equipment issues, which we expect to result in improvements in both the SAIFI and SAIDI.

**FEMA Funded Distribution Automation Program:**

This program focuses on deploying equipment for grid automation. It includes deploying automated switchgear and communicating fault sensors on distribution feeders to improve reliability. The included switchgear consists of three-phase and single-phase reclosers. To further enhance reliability, LUMA will continue deploying automatic switching distribution feeder automation systems. Communicating fault sensors will be also deployed to provide fault location information to Operations to improve service restoration times for customers. During FY2024, LUMA made significant progress with the installation of more than 2,000 devices including: the installation of three phase and single phase reclosers, cutout installations, and fault indicators.

As a result of the deployment of the grid automation devices, LUMA has successfully reduced the overall impact of outages to the electric distribution system by over 116 million CMIIs avoided and over 519,000 Customer Interruption (CI) avoided during FY2024. This translates to a reduction of SAIDI over 78 minutes and reduction in SAIFI of .35. As funding becomes available, LUMA will continue with the installation of Distribution Automation Devices throughout the system during FY2025.

**Outage Prevention Initiatives:****FEMA Funded Vegetation Clearing Program:**

- To further accelerate the vegetation work, in April 2023, LUMA submitted to FEMA an initial scope of work (ISOW) to clear all 16,000 or more miles of transmission and distribution lines in Puerto Rico over approximately a three-year timeframe. The first stage of this program has already started in the San Juan region. This capital remediation project, funded by non-recurring FEMA allocations, is strategically designed to prioritize system-wide reliability, ensuring maximum impact early in the process. LUMA expects this work and the Vegetation Safety and Reliability Initiative to bring important service improvements to customers across the island including a reduction in outages once the program is complete.

**Distribution Equipment Improvement Programs:**

- Visual Assessments: Performed visual assessments on the distribution system to identify high risk safety and reliability issues to help drive subsequent remediation work planning and prioritization and provide visibility to asset health/risk. Conducted 511 Feeder High Level Assessment in FY2024.
- Thermography (IR Scan): Serves to identify equipment at or near end of life or that presents a significant safety or reliability risk by focusing on feeders experiencing the most outages, looking for high-resistance connections or contacts. 81 thermography inspections were performed for overhead and underground feeders (switching units),

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during FY2024. LUMA repaired 422 hotspots in different distribution feeders that prevented unplanned outages in FY2024.

- Pole replacement: Maximizing use of available FEMA funds, replaced and effected repairs to damaged overhead distribution poles along with associated hardware and conductors. During FY2024, 2,752 poles were replaced.

While progress has been made in system upgrades initiatives, these challenges highlight the urgent need for investment in infrastructure upgrades and modernization. To date, much of this necessary funding has been either unfunded or underfunded due to budget constraints and limitations in the obligation process design. Without these critical investments, the aging grid will continue to deteriorate, increasing the risk of system-wide failures and further compromising reliability.

# Performance Metrics Quarterly Report

## Docket Number: NEPR-MI-2019-0007

### Response: RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-9

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#### SUBJECT

**Monthly SAIDI Transmission Substation by Districts:** Arecibo, Mayagüez, Ponce, Yauco

#### REQUEST

- A) Explanations of causes underlying the lack of improvement over the period July 2023 to June 2024.
- B) Plans for improvement over the next fiscal year.

#### RESPONSE

- A) LUMA has identified several factors contributing to the increase in Transmission and Substation SAIDI during FY2024 across its operational districts. The primary drivers of the elevated SAIDI compared to the previous year are detailed below for each district. It is important to note that the Transmission and Substation Network is interconnected, meaning that single outages can impact multiple operational districts. Furthermore, the current Transmission and Substation (T&S) system has lacked proper redundancy since its commencement and has not met the necessary requirements and therefore limited redundancy and load transfer capabilities. This deficiency hinders the ability to restore service quickly, potentially leading to extended outages.

##### **Arecibo:**

- **Transmission:** During FY2024, there was a significant rise in Transmission events with an increase of 27% compared to the previous year. These events tend to impact a larger number of customers. The increased duration of these events had a direct impact of more than 13.3 million CMI in SAIDI for FY2024, where outages in 38kV contributed 13.2 million CMI.
- **Substation:** FY2024, there was a decline in Substation events with a decrease of 5% compared to the previous year. Nevertheless, the increased duration of these events had a direct impact of more than 17.7 million CMI in SAIDI for FY2024, where outages caused by equipment contributed 14.5 million CMI and wildlife contributed 1.4 million CMI.

##### **Mayagüez:**



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- **Transmission:** During FY2024, there was a significant rise in Transmission events with an increase of 32% compared to the previous year. These events tend to impact a larger number of customers. The increased duration of these events had a direct impact of more than 42.9 million CMI in SAIDI for FY2024, where outages in 38kV contributed 42.1 million CMI.
- **Substation:** FY2024, there was a significant rise in Substation events with an increase of 150% compared to the previous year. The increased duration of these events had a direct impact of more than 16.9 million CMI in SAIDI for FY2024, where outages caused by equipment contributed 0.5 million CMI and wildlife contributed 9.52 million CMI.

### **Ponce:**

- **Transmission:** During FY2024, there was a significant rise in Transmission events with an increase of 63.2% compared to the previous year. These events tend to impact a larger number of customers. The increased duration of these events had a direct impact of more than 20.9 million CMI in SAIDI for FY2024, where outages in 38kV contributed 16.1 million CMI.
- **Substation:** During FY2024, there was a significant rise in Substation events with an increase of 26.1% compared to the previous year. These events tend to impact a larger number of customers. The increased duration of these events had a direct impact of more than 15.55 million CMI in SAIDI for FY2024, where outages caused by equipment contributed 5.6 million CMI and wildlife contributed 2.3 million CMI.

### **Yauco:**

- **Transmission:** During FY2024, there was no change in Transmission events compared to the previous year. These events tend to impact a larger number of customers. Nevertheless, the increased duration of these events had a direct impact of more than 32.48 million CMI in SAIDI for FY2024, where outages in 38kV contributed 32.48 million CMI.
- **Substation:** During FY2024, there was a significant rise in Substation events with an increase 133.3% compared to the previous year. These events tend to impact a larger number of customers. The increased duration of these events had a direct impact of more than 12.58 million CMI in SAIDI for FY2024, where outages caused by equipment contributed 8.6 million CMI and wildlife contributed 0.7 million CMI.

B) To enhance the SAIDI in the Transmission and Substation system, a range of targeted initiatives have been implemented and will continue throughout FY2024. These initiatives aim to improve grid reliability, reduce outage durations, and enhance the overall quality of power distribution. Additionally, addressing factors that contribute to outages, such as equipment issues, can lead to improvements in both the System Average Interruption Frequency Index SAIFI and SAIDI. The following initiatives are currently underway and will continue throughout FY2025 to enhance the reliability of the system:

### **Outage Prevention Initiatives: Substations**

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- **Visual Inspections:** LUMA continues visual inspections of substations to identify deficiencies to help drive subsequent remediation work planning and prioritization and provide visibility to asset health/risk. Key areas assessed include (1) Overhead Hazards and Unsecure Equipment, (2) Yard (for unsafe conditions to equipment and personnel caused by erosion of the substation pad, vegetation incursion reducing the effectiveness of insulating gravel, etc.), Components (for indications of imminent failure of High Voltage (HV) equipment that can cause harm to employees or the public), and Control House (for leaking roofs or equipment enclosures). In summary, it is an inspection of the entire substation including buses, insulators, switches, fences and security, grounding, control building integrity and climate control to assess the overall condition of the facilities. LUMA completed 442 visual inspections during FY2024.
- **Transformer Testing and Oil Dissolved Gas Analysis (DGA):** LUMA has performed proactive functional testing of transformers, performed along with its oil DGA. DGA of transformer oil, measuring degradation of paper insulation, moisture, and quantity of combustible gases in oil which is a strong indicator of transformer condition/health. DGA program is targeted annually or more frequently, depending on the test results. DGA results help in identifying possible problems to make important decisions to prevent failure in a transformer, like taking the transformer out of service for repairs, reducing the load that may cause overheating or the need to process or replace the insulating oil. These actions help maximize the useful life of a transformer. LUMA completed 187 DGA tests during FY2024.
- **Breaker Test and Replacement:** LUMA continues visual inspection to monitor oil levels, control cabinets, general condition, insulation medium testing, and functional testing. LUMA completed inspection and maintenance on 133 transmission breakers and 154 distribution breakers during FY2024. During this time, 97 out of service feeder breakers were restored and put back into service. In addition, 18 transmission breakers and 11 distribution breakers were unable to be restored and were replaced with new breakers.
- **Relay Testing:** LUMA has continued performing testing of relay operation to ensure they remain within tolerance. Also, functional tests from relays to breaker are performed to confirm true operation of the protection zone. LUMA tested and calibrated 341 relays at 23 substations during FY2024.
- **Thermography (IR Scans):** LUMA continues proactive IR scans of power transformers, Load Tap Changers (LTCs), potential transformers and current transformers (tanks and connections), breakers (tanks, connections, and contacts), batteries (cell connections), and arrestors, cables, terminations, and capacitor banks for "hot spots" (indicator of real-time or potential future failures). LUMA completed assessments at 211 sites and corrected 903 hot spots during FY2024.
- **Direct Current (DC) System Assessments:** LUMA continues DC system assessments, which includes visual check of fluid levels and output voltage as well as electrical testing (to ensure battery and charger are operational and no bad cells). LUMA completed preventative maintenance for 430 battery banks and replaced 21 battery banks during FY2024.

**RESPONSES TO DECEMBER 26, 2024, RESOLUTION AND ORDER****Outage Prevention Initiatives: Transmission**

- **Visual Assessments:** Performed visual assessments on the 230 kV, 115 kV, and 38 kV systems to identify high risk of safety and reliability issues to help drive subsequent remediation work planning and prioritization and to provide visibility to asset health/risk. Assessments include aerial and ground patrol assessments. LUMA completed 92 visual inspections during FY2024. During these assessments, 787 structures were deemed deficient and were repaired.
- **Thermography (IR Scan):** Focused on lines experiencing trips, looking for high-resistance connections or contacts: splices, hardware, switches, etc. In so doing, we can identify equipment at or near the end of life or that presents a significant safety or reliability risk. LUMA completed 350 thermography assessments during FY2024 (16 of the 230 kV lines, 74 of the 115 kV lines, and 135 of the 38 kV lines). During these assessments, 168 hot spots were found and corrected (3 on the 230 kV lines, 39 on the 115 kV lines, and 126 on the 38 kV lines).
- **Switch Maintenance:** Performed assessments and operated transmission switches to ensure they operate correctly, including replacement if deemed necessary. LUMA assessed and performed maintenance on 285 transmission lines during FY2024.
- **Insulator Maintenance:** Conducted assessments and performed maintenance on insulators to reduce the number of trips and improve transmission line reliability. During FY2024, 1,275 insulators were assessed and maintained.
- **Pole Replacement Program:** Maximized the use of available FEMA funds, replaced and effected repairs to damaged overhead transmission poles and towers along with associated hardware and conductors. During FY2024, 103 poles were replaced.
- **Energy Wave Signal Monitoring:** Energy wave signal monitors have been installed in the majority of 230 kV Transmission Centers. This technology enables LUMA to effectively monitor the behavior of the 230 kV system, facilitating precise fault location. Furthermore, it is being explored as a valuable tool for optimizing future maintenance and prioritization decisions within the transmission system. The project is set to expand to 115 kV lines and some 38 kV lines during FY2025.

While progress has been made in system upgrades initiatives, these challenges highlight the urgent need for substantial investment in infrastructure upgrades and modernization. To date, much of this necessary funding has been either unfunded or underfunded due to budget constraints and limitations in the obligation process design. Without these critical investments, the aging grid will continue to deteriorate, increasing the risk of system-wide failures and further compromising reliability.

**Resource Availability and Development:** Please refer to response RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-4, Part B for detailed information.

# Performance Metrics Quarterly Report

Docket Number: NEPR-MI-2019-0007

**Response: RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-10**

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## SUBJECT

**Monthly SAIDI (T&D) by Districts:** Arecibo, Canóvanas, Mayagüez, Ponce, San Juan

## REQUEST

- A) Explanations of causes underlying the lack of improvement over the period July 2023 to June 2024.
- B) Plans for improvement over the next fiscal year.

## RESPONSE

- A) LUMA has identified specific factors that have contributed to the increase in the Distribution, Transmission and Substation SAIDI during FY2024 in these operational districts. The primary drivers behind the elevated SAIDI compared to the previous year are listed below under each operational district.

### **Arecibo:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIDI, with an increase of 48.9% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of over 17 million CMI, which directly impacts over 12.1 minutes of overall system SAIDI.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 56% compared to FY2023. This resulted in a contribution of 47 million CMI. The increased frequency of these events had a direct impact on the system SAIDI for 32 of FY2024.
- Transmission and Substation (T&S) events: During FY2024, there was a significant rise in T&S events with an increase of 11.9% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increased frequency of these events had a direct impact of more than 30.9 million CMIs in SAIDI for FY2024.

### **Canóvanas:**

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- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIDI, with an increase of 22.7% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of over 21 million CMI, which directly impacts over 14 minutes of the overall system SAIDI.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 11% compared to FY2023. This resulted in a contribution of 57 million CMI. The increased frequency of these events had a direct impact on the system of 38 minutes in system SAIDI for FY2024.
- T&S events: During FY2024, there was a significant rise in T&S events with an increase of 13.5% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increase frequency of these events had a direct impact of more than 26 million CMI in SAIDI for FY2024.

**Mayagüez:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIDI, with an increase of 11.8% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of over 35.7 million CMI, which directly impacts over 24.3 minutes of overall system SAIDI.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with a decrease of 6% compared to FY2023. This resulted in a contribution of 70.2 million CMI. The increased frequency of these events had a direct impact on the system SAIDI for FY2024.
- T&S events: During FY2024, there was a significant rise in T&S events with an increase of 54.8% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increased frequency of these events had a direct impact of more than 59.7 million CMI in SAIDI for FY2024.

**Ponce:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIDI, with an increase of 48.3% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of over 23.4 million CMI, which directly impacts over 16 minutes of overall system SAIDI.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 20% compared to FY2023. This resulted in a contribution of 28.6 million CMI. The increased frequency of these events had a direct impact on the system SAIDI for FY2024.

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- T&S events: During FY2024, there was a significant rise in T&S events with an increase of 42.9% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increased frequency of these events had a direct impact of more than 36.5 million CMI on the in SAIDI for FY2024.

**San Juan:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIDI, with an increase of 31.5% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of over 87.5 million CMI, which directly impacts over 59.6 minutes of overall system SAIDI.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 11% compared to FY2023. This resulted in a contribution of 162.6 million CMI. The increased frequency of these events had a direct impact on the system SAIDI for FY2024.

B) Please refer to previous responses for detailed information per initiative:

- **Distribution automation Program:** See RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-8, Part B.
- **Outage Prevention:** See RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-8 and A-9, Parts B.
- **Resource Availability and Development:** See RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-4, Part B.

# Performance Metrics Quarterly Report

## Docket Number: NEPR-MI-2019-0007

### Response: RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-11

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#### SUBJECT

**Monthly SAIFI Distribution by Districts:** Arecibo, Utuado, Vega Baja, Barranquitas, Caguas, Canóvanas, Fajardo, Aguadilla, Guayama, Ponce, San Juan

#### REQUEST

- A) Explanations of causes underlying the lack of improvement over the period July 2023 to June 2024.
- B) Plans for improvement over the next fiscal year.

#### RESPONSE

- A) As stated in RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-8, LUMA's initiatives and commitment to improve Puerto Rico's electrical grid are key to all the advancements made to date, despite all the challenges faced. There were multiple specific factors associated with the increase in the SAIFI in FY2024. The primary drivers behind the elevated SAIFI compared to the previous year are listed below under each operational district.

##### **Arecibo:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIFI, with an increase of 48.9% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of more than 76 thousand CI, this had a direct impact of over 0.05 to the overall system SAIFI.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 56% compared to FY2023. This resulted in a contribution of 184 thousand CI. The increased frequency of these events had a direct impact of two on the SAIFI for FY2024.

##### **Utuado:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIFI, with an increase of 44.7% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of more than 41 thousand CI, this had a direct impact of over 0.03 to the overall system SAIFI.

**RESPONSES TO DECEMBER 26, 2024, RESOLUTION AND ORDER**

- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 10% compared to FY2023. This resulted in a contribution of 49.3 thousand CI. The increased frequency of these events had a direct impact of two on the SAIFI for FY2024.

**Vega Baja:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIFI, with an increase of 41% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of more than 110 thousand CI, this had a direct impact of over 0.08 to the overall system SAIFI.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 9% compared to FY2023. This resulted in a contribution of 130 thousand CI. The decreased frequency of these events had a direct impact of two on the SAIFI for FY2024.

**Barranquitas:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIFI, with an increase of 79.2% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of more than 151 thousand CI, this had a direct impact of over 0.10 to the overall system SAIFI.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 19% compared to FY2023. This resulted in a contribution of 147 thousand CI. The increased frequency of these events had a direct impact of two on the SAIFI for FY2024.

**Caguas:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIFI, with an increase of 68.3% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of more than 169 thousand CI, this had a direct impact of over 0.12 to the overall system SAIFI.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 11% compared to FY2023. This resulted in a contribution of 126 thousand CI. The increased frequency of these events had a direct impact of two on the SAIFI for FY2024.

**Canóvanas:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIFI, with an increase of 22.7% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of more than 131 thousand CI, this had a direct impact of over 0.09 to the overall system SAIFI.



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- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 11% compared to FY2023. This resulted in a contribution of 342 thousand CI. The increased frequency of these events had a direct impact of two on the SAIFI for FY2024.

**Fajardo:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIFI, with an increase of 21.3% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of more than 30 thousand CI, this had a direct impact of over 0.02 to the overall system SAIFI.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 16% compared to FY2023. This resulted in a contribution of 59.7 thousand CI. The increased frequency of these events had a direct impact of two on the SAIFI for FY2024.

**Aguadilla:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIFI, with an increase of 16.8% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of more than 102 thousand CI, this had a direct impact of over 0.07 to the overall system SAIFI.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 14% compared to FY2023. This resulted in a contribution of 171 thousand CI. The decreased frequency of these events had a direct impact of two on the SAIFI for FY2024.

**Guayama:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIFI, with an increase of 121.8% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of more than 24 thousand CI, this had a direct impact of over 0.02 to the overall system SAIFI.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 13% compared to FY2023. This resulted in a contribution of 71.8 thousand CI. The increased frequency of these events had a direct impact of two on the SAIFI for FY2024.

**Ponce:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIFI, with an increase of 48.3% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of more than 139.5 thousand CI, this had a direct impact of over 0.10 to the overall system SAIFI.

**RESPONSES TO DECEMBER 26, 2024, RESOLUTION AND ORDER**

- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 20% compared to FY2023. This resulted in a contribution of 142.1 thousand CI. The increased frequency of these events had a direct impact of two on the SAIFI for FY2024.

**San Juan:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIFI, with an increase of 31.6% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of more than 350.6 thousand CI, this had a direct impact of over 0.24 to the overall system SAIFI.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 11% compared to FY2023. This resulted in a contribution of 580.5 thousand CI. The increased frequency of these events had a direct impact of two on the SAIFI for FY2024.

B) Please refer to previous responses for detailed information per initiative:

- **Distribution automation Program:** See RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-8, Part B.
- **Outage Prevention:** See RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-8 and A-9, Parts B.

# Performance Metrics Quarterly Report

## Docket Number: NEPR-MI-2019-0007

### Response: RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-12

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#### SUBJECT

**Monthly SAIFI Transmission Substation by Districts:** Utuado, Vega Baja, Barranquitas, Mayagüez, Guayama, Ponce, San Juan, Yauco

#### REQUEST

- A) Explanations of causes underlying the lack of improvement over the period July 2023 to June 2024.
- B) Plans for improvement over the next fiscal year.

#### RESPONSE

- A) LUMA has identified specific factors that have contributed to the increase in the Transmission and Substation SAIFI during FY2024 in these operational districts. The primary drivers behind the elevated SAIFI compared to the previous year are listed below under each operational district. It is important to note that the Transmission and Substation Network is interconnected, meaning that single outages can impact multiple operational districts. Furthermore, the current Transmission and Substation (T&S) system has lacked proper redundancy since its commencement and has not met the necessary requirements and therefore limited redundancy and load transfer capabilities. This deficiency hinders the ability to restore service quickly, potentially leading to extended outages.

##### Utuado:

- Transmission: During FY2024, there was a decline in Transmission events with a decrease of 10.7%, while CI increased by 10% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increase frequency of these events had a direct impact of more than 196.66 thousand CIs in SAIFI for FY2024, where outages in 38kV contributed 114.9 thousand CI.
- Substation: During FY2024, there was a decline in Substation events with a decrease -20%, while CI increased by 62% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increase frequency of these events had a direct impact of more than 30.27 thousand CI in SAIFI for FY2024, where outages caused by power supply contributed to 27.1 thousand CI.

**RESPONSES TO DECEMBER 26, 2024, RESOLUTION AND ORDER****Vega Baja:**

- Substation: During FY2024, there was a decline in Substation events with a decrease - 36.8%, while CI increased by 35% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increase frequency of these events had a direct impact of more than 105.46 thousand CI in SAIFI for FY2024, where outages caused by power supply contributed to 45.5 thousand CI.

**Barranquitas:**

- Transmission: During FY2024, there was a significant rise in Transmission events with an increase 129.4% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increase frequency of these events had a direct impact of more than 165.11 thousand CI in SAIFI for FY2024, where outages in 38kV contributed to 135.5 thousand CI.
- Substation: During FY2024, there was a significant rise in Substation events with an increase 33.3% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increase frequency of these events had a direct impact of more than 31.85 thousand CI in SAIFI for FY2024, where outages caused by power supply contributed to 10 thousand CI and wildlife contributed to 15 thousand CI.

**Mayagüez:**

- Transmission: During FY2024, there was a significant rise in Transmission events with an increase of 32.4% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increase frequency of these events had a direct impact of more than 326.21 thousand CI in SAIFI for FY2024, where outages in 38kV contributed to 298 thousand CI.
- Substation: During FY2024, there was a significant rise in Substation events with an increase 150% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increase frequency of these events had a direct impact of more than 92.96 thousand CI in SAIFI for FY2024, where outages caused by power supply contributed to 42 thousand CI and wildlife contributed to 36 thousand CI.

**Guayama:**

- Transmission: During FY2024, there was a significant rise in Transmission events with an increase 323.1% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increase frequency of these events had a direct impact of more than 239.93 thousand CI in SAIFI for FY2024, where outages in 38kV contributed to 169 thousand CI.

**RESPONSES TO DECEMBER 26, 2024, RESOLUTION AND ORDER**

- Substation: During FY2024, there was a significant rise in Substation events with an increase of 33.3% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increase frequency of these events had a direct impact of more than 45.26 thousand CI in SAIFI for FY2024, where outages caused by power supply contributed to 9 thousand CI and equipment contributed to 25.1 thousand CI.

**Ponce:**

- Transmission: During FY2024, there was a significant rise in Transmission events with an increase 63.2% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increase frequency of these events had a direct impact of more than 176.39 thousand CI in SAIFI for FY2024, where outages in 38kV contributed to 132 thousand CI.
- Substation: During FY2024, there was a significant rise in Substation events with an increase 26.1% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increase frequency of these events had a direct impact of more than 133.15 thousand CI in SAIFI for FY2024, where outages caused by power supply contributed to 67.1 thousand CI and equipment contributed to 41.3 thousand CI.

**San Juan:**

- Transmission: During FY2024, there was a significant rise in Transmission events with an increase of 16.3% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increase frequency of these events had a direct impact of more than 465.67 thousand CI in SAIFI for FY2024, where outages in 38kV contributed to 288.9 thousand CI.

**Yauco:**

- Substation: During FY2024, there was a significant rise in Substation events with an increase 133.3% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increase frequency of these events had a direct impact of more than 60.22 thousand CI in SAIFI for FY2024, where outages caused by power supply contributed to 34.6 thousand CI and equipment contributed to 18 thousand CI.

B) Please refer to previous responses for detailed information per initiative:

- **Outage Prevention:** See RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-8 and A-9, Parts B.

# Performance Metrics Quarterly Report

## Docket Number: NEPR-MI-2019-0007

### Response: RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-13

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#### SUBJECT

**Monthly SAIFI (T&D) by Districts:** Arecibo, Utuado, Vega Baja, Barranquitas, Caguas, Canóvanas, Fajardo, Aguadilla, Mayagüez, Guayama, Ponce, San Juan

#### REQUEST

- A) Explanations of causes underlying the lack of improvement over the period July 2023 to June 2024.
- B) Plans for improvement over the next fiscal year.

#### RESPONSE

- A) LUMA has identified specific factors that have contributed to the increase in the Distribution, Transmission and Substation SAIFI during FY2024 in these operational districts. The primary drivers behind the elevated SAIFI compared to the previous year are listed below under each operational district.

##### **Arecibo:**

- **Vegetation related events:** During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIFI, with an increase of 48.8% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of more than 82.9 CI, this had a direct impact of over 0.06 to the overall system SAIFI.
- **Equipment related events:** During FY2024, there was a significant rise in equipment related events, with an increase of 56% compared to FY2023. This resulted in a contribution of 217 thousand CI. The increased frequency of these events had a direct impact on SAIFI for FY2024.
- **Transmission and Distribution (T&D) events:** During FY2024, there was a significant rise in T&D events with an increase of 11.9% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increased frequency of these events had a direct impact of more than 158.8 thousand CIs in SAIFI for FY2024.

##### **Utuado:**

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- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIFI, with an increase of 44% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of more than 55.5 thousand CI, this had a direct impact of over 0.04 to the overall system SAIFI.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 10% compared to FY2023. This resulted in a contribution of 50.9 thousand CI. The increased frequency of these events had a direct impact on SAIFI for FY2024.
- Transmission and Distribution (T&D) events: During FY2024, there was a significant rise in T&D events with a decrease of 12.1% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increased frequency of these events had a direct impact of more than 226.2 thousand CI in SAIFI for FY2024.

**Vega Baja:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIFI, with an increase of 41% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of more than 110.5 thousand Customer Interruption (CI), this had a direct impact of over 0.06 to the overall system SAIFI.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 9% compared to FY2023. This resulted in a contribution of 150.4 thousand CI. The decreased frequency of these events had a direct impact on SAIFI for FY2024.
- Transmission and Distribution (T&D) events: During FY2024, there was a significant rise in T&D events with a decrease of 39.5% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The decreased frequency of these events had a direct impact of more than 299.4 thousand CI in SAIFI for FY2024.

**Barranquitas:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIFI, with an increase of 79.3% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of more than 151.4 thousand CI, this had a direct impact of over 0.10 to the overall system SAIFI.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 19% compared to FY2023. This resulted in a contribution of 157.5 thousand CI. The increased frequency of these events had a direct impact on SAIFI for FY2024.

**RESPONSES TO DECEMBER 26, 2024, RESOLUTION AND ORDER**

- Transmission and Distribution (T&D) events: During FY2024, there was a significant rise in T&D events with an increase of 104.3% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increased frequency of these events had a direct impact of more than 196.9 thousand CI in SAIFI for FY2024.

**Caguas:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIFI, with an increase of 68.3% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of more than 169.1 thousand CI, this had a direct impact of over 0.12 to the overall system SAIFI.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 11% compared to FY2023. This resulted in a contribution of 193.4 thousand CI. The increased frequency of these events had a direct impact on SAIFI for FY2024.
- Transmission and Distribution (T&D) events: During FY2024, there was a significant rise in T&D events with an increase of 57.6% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increased frequency of these events had a direct impact of more than 288.4 thousand CI in SAIFI for FY2024.

**Canóvanas:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIFI, with an increase of 22.7% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of more than 131 thousand CI, this had a direct impact of over 0.09 to the overall system SAIFI.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 11% compared to FY2023. This resulted in a contribution of 371.7 thousand CI. The increased frequency of these events had a direct impact on SAIFI for FY2024.
- Transmission and Distribution (T&D) events: During FY2024, there was a significant rise in T&D events with an increase of 13.5% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increased frequency of these events had a direct impact of more than 210.2 CI in SAIFI for FY2024.

**Fajardo:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIFI, with an increase of 21.3% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of more than 30



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thousand Customer Interruption (CI), this had a direct impact of over 0.02 to the overall system SAIFI.

- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 16% compared to FY2023. This resulted in a contribution of 63.1 thousand CI. The increased frequency of these events had a direct impact on SAIFI for FY2024.
- Transmission and Distribution (T&D) events: During FY2024, there was a significant rise in T&D events with an increase of 25% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The decreased frequency of these events had a direct impact of more than 94.3 thousand CI in SAIFI for FY2024.

### **Aguadilla:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIFI, with an increase of 16.9% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of more than 106.6 thousand CI, this had a direct impact of over 0.07 to the overall system SAIFI.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 14% compared to FY2023. This resulted in a contribution of 188.2 thousand CI. The decreased frequency of these events had a direct impact on SAIFI for FY2024.

### **Mayagüez:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIFI, with an increase of 11.8% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of more than 138.6 thousand CI, this had a direct impact of over 0.09 to the overall system SAIFI.
- Transmission and Distribution (T&D) events: During FY2024, there was a significant rise in T&D events with an increase of 54.8% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increased frequency of these events had a direct impact of more than 419.1 thousand CI in SAIFI for FY2024.

### **Guayama:**

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on SAIFI, with an increase of 122.2% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of more than 24.7 thousand CI, this had a direct impact of over 0.02 to the overall system SAIFI.

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- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 13% compared to FY2023. This resulted in a contribution of 96.9 thousand CI. The increased frequency of these events had a direct impact of two on the SAIFI for FY2024.
- Transmission and Distribution (T&D) events: During FY2024, there was a significant rise in T&D events with an increase of 55.8% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increased frequency of these events had a direct impact of more than 285.1 thousand CI in SAIFI for FY2024.

### Ponce:

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on the SAIFI, with an increase of 48.3% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of more than 139.5 thousand CI, this had a direct impact of over 0.10 to the overall system SAIFI.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 20% compared to FY2023. This resulted in a contribution of 183.4 thousand CI. The increased frequency of these events had a direct impact on SAIFI for FY2024.
- Transmission and Distribution (T&D) events: During FY2024, there was a significant rise in T&D events with an increase of 42.9% compared to the previous year. While a significant portion of these events were short in duration, these events tend to impact a larger number of customers. The increased frequency of these events had a direct impact of more than 309.5 thousand CI in SAIFI for FY2024.

### San Juan:

- Vegetation related events: During FY2024, there was a significant rise in vegetation related events that had a direct impact on SAIFI, with an increase of 31.5% of vegetation related events when compared to FY2023. This uptick resulted in a contribution of more than 352.1 thousand CI, this had a direct impact of over 0.24 to the overall system SAIFI.
- Equipment related events: During FY2024, there was a significant rise in equipment related events, with an increase of 11% compared to FY2023. This resulted in a contribution of 648 thousand CI. The increased frequency of these events had a direct impact on SAIFI for FY2024.

B) Please refer to previous responses for detailed information per initiative:

- **Outage Prevention:** See RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-8 and A-9, Parts B.

# Performance Metrics Quarterly Report

## Docket Number: NEPR-MI-2019-0007

### Response: RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-14

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#### SUBJECT

**Number of Act 57 Claims Opened**

#### REQUEST

- A) Explanations of causes underlying the lack of improvement over the period July 2023 to June 2024.
- B) Plans for improvement over the next fiscal year.

#### RESPONSE

- A) Customer complaints have increased since April 2023, partially due to the launch of the ability for customers to use MiLuma to object their invoices. This was detailed previously in RFI-LUMA-MI-2019-0007-20231221-PREB-Attachment B- 14 included in LUMA's Motion in Compliance with Resolution and Order of December 21, 2023, filed on January 29, 2024. In December 2023, LUMA added the function to object invoices to the Interactive Voice Response (IVR) and we believe this resulted in an increase in the number of bill objections received. The Energy Transformation and RELIEF Act, known as Act No. 57 of May 27, 2014, as amended, provides that: Pursuant to Act No. 57 of May 27, 2014, the customer may object to its bill and request an investigation thereof no later than thirty (30) days from the bill date, (government bills (45 days). All invoices should advise the customer of its right to object and the procedure available to do so. The term from the sending of the invoice to the due date indicated shall never be less than thirty (30) days.
- B) LUMA provides all customers with the same level of customer service and all improvements benefit all customers. We are committed to addressing each customer's complaint to provide a quality of service. Future improvements are taking place in FY2025 re-designing the Interactive Voice Response (IVR) and MiLuma to include the customer payment requirement prior to proceeding to open an objection. This is slated to be completed by the end of quarter three and LUMA expects that the amount Act 57 claims will decrease in FY2025. Advanced Metering Infrastructure (AMI) deployment will also improve billing accuracy, which will decrease customer objections.

# Performance Metrics Quarterly Report

## Docket Number: NEPR-MI-2019-0007

### Response: RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-15

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#### SUBJECT

**Fuel Expenditure vs Forecast by Sub-Group: DIESEL #2, #6**

#### REQUEST

- A) Explanations of causes underlying the lack of improvement over the period July 2023 to June 2024.
- B) Plans for improvement over the next fiscal year.

#### RESPONSE

- A) This metric measures the forecast accuracy for #2 and # 6 oil only. These two fuel types represent a partial subset of the fuel procured and consumed by the generators in the period. The expenditures for #2 and #6 oil were generally higher than forecasted for the period. This is a function of more generation from diesel and residual fired units and rising prices on global fuel markets for the period. The different consumption numbers are directly a result of Genera's plant availability and the fuel prices in global markets.

This metric does not consider natural gas consumption but as described in response RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-16, the use of natural gas was considerably less than forecasted during this period, which explains that this metric for #2 and #6 oil used more fuel oil than forecasted because of less natural gas being consumed than forecasted. The reason for that is fuel supply delivery issues and availability of the natural gas fired generators.

- B) LUMA continues to work with generators to improve the forecast accuracy of their dispatch and the modeling tools used to forecast production. Genera has recently started to conduct performance tests at its units which have not been conducted in over 10 years. Other steps such as improved maintenance or outage planning are completely dependent on Genera's performance and LUMA depends upon Genera for the inputs to these forecasts.

# Performance Metrics Quarterly Report

Docket Number: NEPR-MI-2019-0007

**Response: RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-16**

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## SUBJECT

**MMBTU consumed vs. forecast By Sub-Group: DIESEL #2, #6, NG**

## REQUEST

- A) Explanations of causes underlying the lack of improvement over the period July 2023 to June 2024.
- B) Plans for improvement over the next fiscal year.

## RESPONSE

- A) The underlying cause for variance and potential improvements are detailed in response RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-15. This metric measures the variance in MMBTUs and the metric discussed on A-15 measures variance in dollars. The variance in MMBTUs increased in August and September, before improving markedly in October and November. This metric does show #2, #6, and NG so the relationship between these fuel types is clearer. During the period, variance increased in July to June before improving considerably in October and November. These variances were generally a result of less utilization of natural gas which then had to be made up for by increased #2 and #6 oil consumption.
- B) LUMA continues to work with generators to improve the forecast accuracy of their dispatch and the modeling tools used to forecast production. Genera has recently started to conduct performance tests at its units which have not been conducted in over 10 years. Other steps such as improved maintenance or outage planning are completely dependent on Genera's performance and LUMA depends upon Genera for the inputs to these forecasts.

# Performance Metrics Quarterly Report

## Docket Number: NEPR-MI-2019-0007

### Response: RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment C-1

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#### SUBJECT

**Distribution line inspections, Transmission Line Inspections & T&D Substation Inspections**

#### REQUEST

For each Distribution Line, Transmission Line, and T&D Substation Inspections:

- A) Explain how LUMA determines the number of inspections it plans to conduct.
- B) State whether LUMA conducted greater or fewer inspections than planned during FY24.
- C) Explain the reason for any deviations between the actual and planned number of inspections for FY24.

#### RESPONSE

##### **Distribution Lines:**

- A) The plan for the number of distribution line visual inspections is based on industry practices and recommendations combined with local system operational considerations and needs (including system criticality, reliability, operational events, historical performance and experience).
- B) For distribution line visual inspections, LUMA conducted more than planned during FY2024.
- C) In addition to completing the planned distribution line visual inspections, due to the needs and priorities of the system, LUMA also shifted and directed resources to conduct additional visual inspections to help feed reliability improvements and system restoration efforts.

##### **Transmission Lines:**

- A) The plan for the number of transmission line visual inspections is based on industry practices and recommendations combined with local system operational considerations and needs (including system criticality, reliability, operational events, historical performance and experience).
- B) For transmission line visual inspections, LUMA conducted more than planned during FY2024.

**RESPONSES TO DECEMBER 26, 2024, RESOLUTION AND ORDER**

- C) In addition to completing the planned transmission line visual inspections, due to the needs and priorities of the system, LUMA also shifted and directed resources to conduct additional visual inspections to help feed reliability improvements and system stabilization efforts.

**Substations:**

- A) The plan for the number of substation site visual inspections is based on industry practices and recommendations combined with local system operational considerations and needs (including system criticality, reliability, operational events, historical performance and experience).
- B) For substation site visual inspections, LUMA conducted less than planned during FY2024.
- C) Due to the deteriorated state of the system leading to unplanned system failures, events, and emergencies, LUMA had to re-direct resources from planned substations inspections to respond to these critical priorities.

# Performance Metrics Quarterly Report

Docket Number: NEPR-MI-2019-0007

## Response: RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment C-2

### SUBJECT

**Net monthly work orders balance**

### REQUEST

- A) Explain the reason for the increase in work orders relative to FY23.
- B) Provide the work order balance as of the close of FY24 by the categories defined in LUMA's response RFI-LUMA-MI-2019-0007-20231221 -PREB-Attachment D-6 as provided in LUMA's January 29 Motion.

### RESPONSE

- A) The work order balance increased in FY2024 compared to FY2023 due to the state of the electrical system and the inefficiencies of the supporting technologies and processes that persist. The response provided in TC-RFI-LUMA-MI-19-0007-211104-PREB-007 to the PREB on Nov 21, 2021, provides an accurate representation of how this metric has been calculated in FY2023 and FY2024, the situations regarding duplication and efforts to clean up outstanding backlog. The improvements LUMA has made towards intake of customer requests since starting operations, and the continued degradation of the Electrical system continue to contribute to the growing backlog of customer requests.

The table below demonstrates the Work Order Balance as reported for FY2023 and updated for FY2024. A tabulation error was identified from April 2024 through June 2024, has been corrected and is being submitted for adjustment with FY2025 Q2 reporting.

| Work Order Balance |         |         |
|--------------------|---------|---------|
| Month              | FY2023  | FY2024  |
| July               | 181,105 | 282,890 |
| August             | 196,380 | 294,100 |
| September          | 209,482 | 303,374 |
| October            | 231,028 | 310,459 |
| November           | 232,925 | 319,271 |
| December           | 241,964 | 326,726 |



## RESPONSES TO DECEMBER 26, 2024, RESOLUTION AND ORDER

|                 |         |         |
|-----------------|---------|---------|
| <b>January</b>  | 239,835 | 333,230 |
| <b>February</b> | 249,579 | 340,250 |
| <b>March</b>    | 249,887 | 347,250 |
| <b>April</b>    | 246,415 | 356,007 |
| <b>May</b>      | 262,297 | 366,101 |
| <b>June</b>     | 280,708 | 377,151 |

LUMA continues to focus on processes and technological improvements and training to reduce the balance of work orders. These efforts are occurring within the work request initiation phase which includes properly categorizing tickets, restricting duplicate ticket creation and informing customers, within the work request closure phase by identify and closing aging tickets which have already been addressed, bundling work geographical with different work types, focused efforts and technology enhancements to assist with asset and work management, and through the ongoing FEMA reconstruction efforts that seek to address the root of customer concerns such as the vegetation reset, the streetlight program and pole replacement program as examples.

- B) The revised work order balance at the close of FY2024 was 377,151. See below the breakdown of categories defined in LUMA's response RFI-LUMA-MI-2019-0007-20231221 -PREB- Attachment D-6 as provided in LUMA's January 29, 2024, Motion. Most of the work orders can be categorized into the defined categories of Streetlight, Vegetation, High or Fluctuating Voltage, Fire, Dangerous Situation, Phase Out, Arc Flashes, Broken Pole, Line Dropped, Leaking Transformer, or Exposed Pedestal. However, a small portion that cannot be categorized has been bucketed as Other.

| <b>Work Order Balance by Category</b> |                |
|---------------------------------------|----------------|
| <b>Category</b>                       | <b>Total</b>   |
| Streetlight                           | 113,951        |
| Vegetation                            | 82,578         |
| High or Fluctuating Voltage           | 94,585         |
| Fire                                  | 46             |
| Dangerous Situation                   | 18,338         |
| Phase Out                             | 7,355          |
| Arc Flashes                           | 1,947          |
| Broken Pole                           | 24,545         |
| Line Dropped                          | 8,183          |
| Leaking Transformer                   | 1,429          |
| Exposed Pedestal                      | 1,083          |
| Other                                 | 23,111         |
| <b>Total</b>                          | <b>377,151</b> |

# Performance Metrics Quarterly Report

Docket Number: NEPR-MI-2019-0007

**Response: RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment C-3**

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## **SUBJECT**

**Reliability Metrics by District for BAYAMÓN**

## **REQUEST**

Reliability metrics by district for Bayamón:

- A) Confirm whether LUMA defined the reliability district of Bayamón using the same method throughout FY23 and FY24.
- B) If not confirmed, explain what changed and the reason for the change.

## **RESPONSE**

- A) The calculation methods remain unchanged; however, the actual number of customers served in Bayamón varies based on the feeders that are associated with the district.
- B) As mentioned in the RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment C-3, Part A, the actual customer count served in Bayamón changed from 206,943 to 116,339. The Reliability Metrics calculation use the new customer count served in the Bayamón District.

# Performance Metrics Quarterly Report

Docket Number: NEPR-MI-2019-0007

**Response: RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment C-4**

## SUBJECT

**DSO (Days Sales Outstanding): Government Customers**

## REQUEST

- A) Explain the reason for the negative values reported for December and January (-18, -17 respectively).
- B) State what LUMA is doing to close out invoice reading objections by the government entities and by when resolution is expected.

## RESPONSE

- A) The DSO Government Customers metric calculation includes the Government Accounts Receivables (A/R). Government Accounts Receivables uses the total from several CC&B accounts on the Exhibit A Report from Finance to obtain the final value. This calculation methodology has faced challenges as it includes counter accounts for Public Lighting and the Contribution in Lieu of Taxes (CILT or the acronym CELI in Spanish). Consequently, this inclusion of negative values resulted in negative A/R and a negative DSO.

| FY24 DSO Government (PREPA Calculation)* CILT |             |             |
|---|-------------|-------------|
|   | Dec-23      | Jan-24      |
| Government A/R                                | -30,172,133 | -27,533,272 |
| Government Revenues                           | 54,222,150  | 53,074,595  |
| Monthly Billing Cycle                         | 33          | 33          |
| <b>Total</b>                                  | <b>-18</b>  | <b>-17</b>  |

|  |                       |
|--|-----------------------|
| 1422 A.R. - Government - Payment Arrangements              | \$ 2,737,982.34       |
| 1422 A.R. - Government - Dispute                           | \$ 533.89             |
| 1422 A.R. - Government - Suspense/Unidentified Payments    | \$ 4,048,481.63       |
| 1422 A.R. - Government - General                           | \$ 1,976,375,714.55   |
| 1422 A.R. - Government - ContraAccount to 14221            | \$ (127,681,855.46)   |
| 1422 A.R. - Government - Public Lighting Counteraccount    | \$ (307,204,750.19)   |
| 1422 A.R. - Government - CILT Counteraccount               | \$ (1,629,965,901.77) |
| 1422 A.R. - Government - Energy Supplier Regulatory Charge | \$ (33,174,167.90)    |
| 1432 Misc. Acc. Receivable - Government Accounts           | \$ 87,330,690.99      |
| Subtotal   | \$ (27,533,271.92)    |

The PREB, in its July 10, 2024, Resolution and Order titled Updated data template for Quarterly Reporting in Response to April 2024 Quarterly Report, determined and approved that CILT and Public Lighting should not be included in LUMA's calculation of the DSO Government Customers metric, beginning with FY2025.

- B) LUMA follows all laws in Puerto Rico and action the Act 57 Objections as per the timelines of the law. LUMA has a team dedicated to reviewing and appropriately processing all objections. See response RFI-LUMA-MI-2019-0007-20241226-PREB-Attachment A-14 for more details.