

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

**NEPR**

**Received:**

**Jan 26, 2023**

**6:16 PM**

IN RE: PERFORMANCE METRICS  
TARGETS FOR LUMA ENERGY SERVCO,  
LLC

**CASE NO. NEPR-AP-2020-0025**

**SUBJECT: Request for Authorization to  
Substitute Pre-Filed Testimonies**

**MOTION REQUESTING AUTHORIZATION TO SUBSTITUTE  
PRE-FILED TESTIMONIES**

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

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

1. On September 9, 2022, LUMA filed the testimony of Mr. Jorge Meléndez, which was accepted in an Order issued on September 10, 2022. The testimony covers the performance metrics related to safety, specifically: OSHA Recordable Incident Rate, OSHA Fatalities, OSHA Severity Rate, and OSHA Days Away, Restricted and Transfer Rate (“OSHA DART Rate”) (jointly, “safety metrics”).

2. On February 1, 2022, LUMA submitted a rebuttal testimony executed by Mr. Meléndez to respond to those portions of the pre-filed testimony of Mr. Agustín Irizarry (“Mr. Irizarry”) on behalf of the Local Environmental and Civil Organizations (“LECO”), filed on November 16, 2021.

3. LUMA hereby informs that Mr. Curtis Clark, Functional Lead, Emergency Preparedness for LUMA ServCo, LLC, has been designated by LUMA as the witness to testify in

support of, and in connection with, the safety metrics. Mr. Meléndez is no longer employed with the company. As stated in his testimony, Mr. Clark was a part of the LUMA team in charge of reviewing the baselines and targets for safety metrics to be included in the Revised Annex IX to the Puerto Rico Transmission and Distribution System Operation and Maintenance Agreement (“T&D OMA”) submitted to this Energy Bureau. *See* Direct Testimony of January 24, 2023, lines 20-24. Further, since June 2021, Mr. Clark has been in charge of preparing, verifying, and submitting the Health, Safety, and Environmental performance metrics, including the metrics reported to the Puerto Rico Energy Bureau in Case NEPR-MI-2019-0007. *Id.* lines 17-20. Mr. Clark is the person authorized by LUMA to provide testimony on the safety metrics.

4. Mr. Clark has adopted the testimonies offered by Mr. Meléndez on September 9, 2021, and February 1, 2022, and has not altered the substance of the original testimonies. The variations to Mr. Meléndez’s pre-filed testimonies are the responses to the questions that pertain to the academic and professional background of the witness, *see id.*, lines through 33 in both testimonies, and lines 42 through 45 in the Direct Testimony, as well as the disclosure of any previous appearances before this Energy Bureau to provide testimony as a witness, *see* Direct Testimony, lines 46-48. Also, limited portions of the Direct Testimony were edited to correct a hanging sentence and typographical errors. *See* Exhibit 1. Those revisions are shown in the redline comparisons submitted in Exhibit 3 of this Motion.

5. Secondly, LUMA respectfully informs that due to changes in the internal and management structure of LUMA’s Vegetation Management program, the person currently authorized to offer testimony on vegetation management is Diane Watkins, Vice President of

Vegetation and Work Management. Thus, LUMA requests authorization to substitute its prior witness, Mr. Brent Bolzenius, for Mrs. Watkins. Specifically, LUMA requests authorization to substitute the testimonies by Mr. Bolzenius of February 1, 2022, April 27, 2022, and October 28, 2022, for the testimonies included herewith, executed by Mrs. Watkins.

6. In the testimonies by Mrs. Watkins submitted with this Motion, Mrs. Watkins has adopted the testimonies previously submitted by Mr. Bolzenius. The variations to Mrs. Bolzenius' pre-filed testimonies are the responses to the questions that pertain to the academic and professional background of the witness, as well as the disclosure of any previous appearances before this Energy Bureau to provide testimony as a witness, and references to the materials reviewed to assume the prior pre-filed testimonies. Also, in Response to question 19 of the Direct Testimony (originally filed on October 28, 2022), a revision was made by the witness in the explanation of the targets. *See* Exhibit 2. As the witness may explain in the hearing, the revision is to correct an error. *See* Exhibit 3. Other non-substantive revisions may be identified in the redlines submitted as Exhibit 3 of this Motion.

7. In view of the foregoing, LUMA respectfully requests that this Energy Bureau receive and accept the Pre-Filed Testimonies of Mr. Curtis Clark in substitution of the testimonies that were filed on September 9, 2021, and February 1, 2022, by Mr. Jorge Mélenlez. Secondly, LUMA respectfully requests that this Energy Bureau receive and accept the Pre-Filed Testimonies of Mrs. Diane Watkins in substitution of the testimonies that were filed on February 1, 2022, April 27, 2022, and October 28, 2022, by Mr. Brent Bolzenius.

8. This request is done in good faith and responds to LUMA's need to substitute the witnesses available to provide testimony on the performance metrics related to safety and the proposed vegetation management metric.

**WHEREFORE**, LUMA respectfully requests that the Energy Bureau **receive and accept** the Pre-Filed Testimonies of Mr. Curtis Clark and Mrs. Diane Watkins submitted as Exhibits to this Motion.

**RESPECTFULLY SUBMITTED.**

We hereby certify that we filed this motion using the electronic filing system of this Energy Bureau and that I will send an electronic copy of this motion to the attorneys for PREPA, Joannely Marrero-Cruz, [jmarrero@diazvaz.law](mailto:jmarrero@diazvaz.law); and Katiuska Bolaños-Lugo, [kbolanos@diazvaz.law](mailto:kbolanos@diazvaz.law), the Office of the Independent Consumer Protection Office, Hannia Rivera Diaz, [hrivera@jrsp.pr.gov](mailto:hrivera@jrsp.pr.gov), and counsel for the Puerto Rico Institute for Competitiveness and Sustainable Economy ("ICSE"), Fernando Agrait, [agraitfe@agraitlawpr.com](mailto:agraitfe@agraitlawpr.com), counsel for the Colegio de Ingenieros y Agrimensores de Puerto Rico ("CIAPR"), Rhonda Castillo, [rhoncat@netscape.net](mailto:rhoncat@netscape.net), and counsels for Comité Diálogo Ambiental, Inc., El Puente de Williamsburg, Inc., Enlace Latino de Acción Climática, Alianza Comunitaria Ambientalista del Sureste, Inc., Coalición de Organizaciones Anti-Incineración, Inc., Amigos del Río Guaynabo, Inc., CAMBIO, Sierra Club and its Puerto Rico Chapter, and Unión de Trabajadores de la Industria Eléctrica y Riego (jointly, Puerto Rico Local and Environmental Organizations), [larroyo@earthjustice.org](mailto:larroyo@earthjustice.org), [rstgo2@gmail.com](mailto:rstgo2@gmail.com), [notificaciones@bufete-emmanuelli.com](mailto:notificaciones@bufete-emmanuelli.com), [pedrosaade5@gmail.com](mailto:pedrosaade5@gmail.com), [jessica@bufete-emmanuelli.com](mailto:jessica@bufete-emmanuelli.com); [rolando@bufete-emmanuelli.com](mailto:rolando@bufete-emmanuelli.com).

In San Juan, Puerto Rico, this 26<sup>th</sup> day of January 2023.





**DLA Piper (Puerto Rico) LLC**  
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*/s/ Margarita Mercado Echegaray*  
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*Exhibit 1*

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

**IN RE:**

PERFORMANCE TARGETS FOR LUMA  
ENERGY SERVCO, LLC

**CASE NO.: NEPR-AP-2020-0025**

Direct Testimony of  
Mr. Curtis Clark  
Functional Lead, Emergency Preparedness, LUMA Energy ServCo, LLC  
January 24, 2023<sup>1</sup>

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<sup>1</sup> This testimony was originally submitted by Mr. Jorge Meléndez on September 9, 2021.

1   **Q.    Please state your name.**

2   A.    My name is Curtis Clark.

3   **Q.    Please state your business mailing address, title, and employer.**

4   A.    My business address is PO Box 363508, San Juan, Puerto Rico 00936-3508. I am the  
5       Functional Lead of Emergency Preparedness at LUMA Energy ServCo, LLC.

6   **Q.    Please state your educational background.**

7   A.    I have a Bachelor of Science in Civil Engineering from the University of Alberta in  
8       Edmonton, Alberta, Canada and a Master of Science in Environmental Management from  
9       Royal Roads University in Victoria, British Columbia, Canada.

10  **Q.    Please state your professional experience.**

11  A.    I have worked in various roles in environmental, safety, quality, and emergency response  
12       within utilities and energy companies for the prior 14 years. I worked approximately 13  
13       years for ATCO's natural gas and electricity utility subsidiaries. I joined LUMA in March,  
14       2020 and participated in LUMA's Front-End Transition Period from June, 2020 through  
15       June, 2021 as Functional Lead, Environment within the Health, Safety, Environment and  
16       Quality Department. Starting on June 2021, I transitioned to the role of Functional Lead,  
17       Health, Safety, and Environment Programs. Throughout my roles with LUMA since June  
18       2021, I have been in charge of preparing, verifying and submitting the Health, Safety, and  
19       Environmental performance metrics, including the metrics reported to the Puerto Rico  
20       Energy Bureau in Case NEPR-MI-2019-0007. I was also a part of the LUMA team in  
21       charge of reviewing the baselines and targets for safety metrics to be included in the  
22       Revised Annex IX to the Puerto Rico Transmission and Distribution System Operation and  
23       Maintenance Agreement ("T&D OMA") submitted to this Energy Bureau on February 25,

24 2021 and August 18, 2021.

25 **Q. Please describe your work experience prior to joining LUMA.**

26 A. Prior to joining LUMA, I was responsible for managing an environmental and quality  
27 department at an ATCO natural gas subsidiary. The role included managing a team of  
28 professionals in ensuring organizational environmental and quality systems were  
29 established to minimize the operational impact to the environment and to ensure that work  
30 completed conformed to customer and regulatory requirements. Part of the role included  
31 validating and approving the organizational health, safety, environmental and quality  
32 metric data for submission to senior leadership and external stakeholders, including  
33 shareholders and government agencies.

34 **Q. On whose behalf are you testifying before the Puerto Rico Energy Bureau.**

35 A. My testimony is on behalf of LUMA as part of the Puerto Rico Energy Bureau ("Energy  
36 Bureau"), Commonwealth of Puerto Rico Public Service Regulatory Board proceeding  
37 Case No. NEPR-AP-2020-0025, the Performance Targets for LUMA Energy ServCo,  
38 LLC.

39 **Q. Are there any exhibits attached to your testimony?**

40 A. Yes, there is one exhibit attached to my testimony:

41 a. Exhibit A: KPI Metrics - Safety

42 **Q. Do you hold any professional licenses, and if so, which?**

43 A. I am a licensed Professional Engineer under the Association of Professional Engineer and  
44 Geoscientists of Alberta. I am also a Project Management Professional with the Project  
45 Management Institute.

46 **Q. Have you previously testified or made presentations before the Energy Bureau?**

47 A. Yes. I testified at the Technical Conference held on October 18, 2022 in case *In re*  
48 *LUMA's Initial Budgets*, Case NEPR-MI-2021-0004.

49 **Q. Which documents did you consider for your testimony?**

50 A. I considered the following documents:

- 51 a. LUMA's Performance Metrics Targets Revised filing submitted on August 18, 2021,  
52 in this proceeding, Case No. NEPR-AP-2020-0025,
- 53 b. The Resolutions and Order issued by the Puerto Rico Energy Bureau on April 8, 2021,  
54 May 21, 2021, and July 2, 2021, in Case NEPR-MI-2019-0007,
- 55 c. Motion resubmitting LUMA's comments on Performance Baselines and Metrics in  
56 Case No. NEPR-MI-2019-0007 submitted February 5, 2021 as revised on February 8,  
57 2021,
- 58 d. PREPA OSHA 300, 300A and 301 logs,
- 59 e. PREPA Casi Casi report, and
- 60 f. PREPA incident's log spreadsheet.

61 **Q. What is the purpose of your direct testimony?**

62 A. My testimony is in support of LUMA's Performance Metrics Targets Revised filing to be  
63 filed in this proceeding on August 18, 2021 ("LUMA's Performance Metrics Targets")  
64 on performance metrics related to safety, specifically:

- 65 a. OSHA Recordable Incident Rate – which is a calculation using total number of OSHA  
66 recordable incidents. An OSHA recordable incident is an injury or illness that results  
67 in one or more of the following: death, days away from work, restricted work or transfer  
68 to another job, medical treatment beyond first aid, loss of consciousness, a significant  
69 injury or illness diagnosed by a physician or other licensed health care professional,



- b. OSHA Fatalities – which as per OSHA requires, considers all work-related fatalities be reported to OSHA within eight (8) hours. The industry standard target is 0 fatalities, which has determined the Baseline and Target Performance Levels,
- c. OSHA Severity Rate– which is used to measure the severity of workplace injuries and is commonly used to measure safety performance across the utility industry. Its calculation considers the total number of restricted and lost time days incurred as a result of a work-related injury, and
- d. OSHA Days Away, Restricted and Transfer Rate (“OSHA DART Rate”) – which is a calculation that considers the total number of injury cases that resulted in either lost time, restricted time, or a transfer from the employee’s regular job.

**Q. Please describe the methodology for the Safety Performance Metrics.**

A. The methodology is aligned with OSHA requirements. As part of the OSHA requirements, every year employers must report to OSHA critical metrics that evidence their health and safety performance.

The reporting of these metrics is closely monitored by OSHA and the industries are subject to scrutiny based on their performance. These metrics are managed, tracked, and reported to ensure a safe & healthy workplace. Therefore, the primary value of these metrics is to evaluate and quantify the company’s safety performance. The description for each of the metrics is as follows:

- a. OSHA Recordable Incident Rate: is the number of work-related OSHA recordable injury cases. The formula = (number of injuries and illnesses X 200,000) / Employee hours worked]
- b. OSHA Fatalities: is the number of work-related fatalities,

- c. OSHA Severity Rate is calculated on the basis of the OSHA Severe Injuries number of total work-related industry cases with severity days. The formula = (Total number of lost workdays or restricted x 200,000)/ actual hours worked by all employees, and
- d. DART Rate is the number of work-related injuries- The formula = (# of work-loss or restricted cases x 200,000) /# of hours worked.

**Q. What data, if any, was analyzed for the Safety Performance Metrics?**

A. Health and Safety Performance Metrics were established taking into consideration the PREPA OSHA 300 and 301 Logs and the PREPA Injury and Illness Data Reports including a Casi Casi report that PREPA began recording at the end of 2019. The data provided includes records from GENCO, Administration, and Transmission & Distribution (“T&D”). The first step during the analysis was to segregate the data to reflect T&D and Administration only and exclude generation.

**Q. How was the available data analyzed to calculate the baseline for these Safety Performance Metrics?**

A. The segregated data for the time period proposed in the Energy Bureau’s Resolution and Order of May 21, 2021, was evaluated (2020 FY). Also, the cases or reportable injuries were reviewed, and recordable injury reports were validated. In LUMA’s review process the following evidence was found that raises questions on the reliability of the data that PREPA provided for Safety Metrics and that LUMA understands the Energy Bureau considered in its Resolution and Order of May 21, 2021:

1. New incident log for 2020 (Casi Casi) – A number of incidents and near misses included on a new report entitled ‘Casi Casi.’ These incidents were not classified as OSHA recordable injuries in the calculation of PREPA’s original safety metrics submission.



116 However, based on the information on the Casi Casi report, most of the incidents should  
117 have been recorded on the OSHA logs because they were injuries with medical treatment  
118 that included time out of work and/or medication. This information was crucial on our  
119 decision to include the relevant Casi Casi incidents that had evidence of OSHA  
120 recordability in the calculations on the baseline numbers instead of the numbers provided  
121 in the Energy Bureau based on PREPA's reported data, which exclude all Casi Casi  
122 incidents. I include two examples of incidents included on the Casi Casi report here for  
123 demonstration:

- 124 ○ Example 1 – on 1/03/2020 employee was involved on an official vehicle accident  
125 resulting on **10 days out of work**
- 126 ○ Example 2 – on 5/6/2020 an employee was struck by an insulated stick resulting on  
127 laceration on the right ear. Employee received **5 stitches**.

128 Based on a review of the data, the following information was included in the Casi Casi  
129 report but not included in the metrics data prepared by PREPA that LUMA understands  
130 was available to the Energy Bureau in issuing the Resolution and Order of May 21, 2021:

- 131 ○ 58 recordable injuries (for a revised total of 300 recordable injuries)
- 132 ○ 57 recordable injuries that resulted in lost workdays (for a revised total of 235  
133 recordable injuries that resulted in lost workdays)
- 134 ○ A total of 510 lost workdays (for a revised total of 1990 lost workdays) - See  
135 Exhibit 121 A, Worksheet Casi Casi 2019 2020 – N, and
- 136 ○ The total number of hours worked was based on half of the total number of hours  
137 worked in 2019 (LUMA did not have monthly hours worked for the 2019 calendar

year) plus the monthly hours worked from January 1 to June 30, 2021 - See Exhibit 125 A, Worksheet Casi Casi 2019 2020 – N.

**Q. What is your assessment of the data provided by PREPA to the Energy Bureau in connection with Safety Metrics?**

Evidence gathered during the front-end transition indicates that historical safety data compiled by PREPA contains inaccuracies. Although historical data for PREPA is available dating back to 2002, the detailed records to support that data are not available. In addition, interviews with individuals from the PREPA Occupational Health and Safety responsibility suggested that the supplied information contained inaccuracies. We also identified differences in the raw data that PREPA provided and OSHA records. Most of the Health & Safety data is collected and manually entered an excel spreadsheet, which may result in data transcription errors when manipulating data.

Also, PREPA was historically using an erroneous formula for Severity Rate. PREPA was using: Lost days/Total Incidents. The correct formula is: (Total Lost days and restricted/Total actual worked hours) X 200,000. Lastly, the aggregated data also includes Generation which should not be considered for LUMA.

Finally, LUMA requested from PREPA but did not receive, the reports of with the Corporación del Fondo del Seguro del Estado to determine if the recordable injury details match. The data that was used in the Resolution and Order of the Energy Bureau on May 21, 2021 in Case No. NEPR-MI-2019-0007, has not been compared to the reports of the Corporación del Fondo del Seguro del Estado. There is a significant risk with the variable of “Lost Days”. The determination for Lost Days comes from the Fondo del Seguro del Estado. The Fondo de Seguro del Estado is a government owned and operated organization.

161 In Puerto Rico, the Fondo de Seguro del Estado must be used. However, there is little to  
162 no challenging of the outcomes of Fondo de Seguro del Estado and little to no modified  
163 work or restricted work

164 **Q. Why did LUMA propose different baselines for the Safety Performance Metrics?**

165 A. As previously stated, LUMA understands that the Energy Bureau's baselines were  
166 calculated using a different Fiscal Year period and safety data that was inaccurate based on  
167 OSHA standards. The baseline proposed by LUMA is calculated using the health and  
168 safety data that is compliant with OSHA standards.

169 **Q. In brief, what are your recommendations for the baselines applicable to LUMA's**  
170 **Safety Metrics?**

171 A. LUMA believes that PREPA understated Safety Performance Metrics beginning in January  
172 2020 with the creation of the Casi Casi report. Inclusion of appropriate data from the Casi  
173 Casi report increases PREPA's Safety Performance Metrics to levels consistent with prior  
174 periods and more accurately represents PREPA's historical performance. As a result,  
175 LUMA requests that PREB approves LUMA's adjustment to the Safety Performance  
176 Metrics baselines inclusive of relevant incidents from the Casi Casi report.

177 The transparency and accuracy in the metrics reported is critical to avoid scrutiny from  
178 federal and local agencies. Reporting mistaken health and safety metrics creates a  
179 misconception on how the business is performing related to critical aspects such as the  
180 well-being of our employees, along with the opportunity to implement performance  
181 improvement plans based on the trending data.

182 **Q. How were LUMA's targets set for the Safety Performance Metrics?**



A. LUMA removed the GENCO incidents and added the relevant incidents in the Casi-Casi report to the data on the PREPA OSHA recordable injury log for the FY2019 and 2020. The proposed targets are laid out in Tables 2-9, 2-10, 2-11 and 2-12. OSHA Recordable Incident Rate target improvements were first compared to EEI industry standards then by assessing feasibility from PREPA's current state related to health and safety matters. A strategy was developed to lead LUMA to an Incident Reduction near 50% from the baseline in Year 3. Similar approaches were taken for OSHA Fatalities and OSHA DART Rate in terms of setting targets based on the goal to improve safety systems and processes. OSHA Severity targets rely significantly on external factors outside of LUMA's control. For that reason, targets were set with the goal to improve performance, but providing flexibility to the extenuating circumstances that exist on a case-by-case basis.

**Q. How will the improvements be achieved for the Safety Performance Metrics?**

A. As explained in Section 3 of LUMA's Performance Metrics Targets Revised Filing, there are several opportunities for improvements from the creation and application of a safety plan involving a safety culture, training, assessing training needs, development of a safety training plan, analysis of metrics trends and causes and identification of prevention strategies, and design an incident reporting system and process for analysis and follow up. All of these opportunities will boost the health and safety program. LUMA has prioritized objectives and initiatives to increase the level of safety for employees. The initiatives are supported by the programs in the Initial Budgets approved by the Energy Bureau, including establishing a software system for incident management, no-harm culture training and enhanced HSE&Q training programs and will also be

206 supported by operational federally funded programs of the approved System Remediation  
207 Plan.

208 **Q. What is your request to the Energy Bureau?**

209 A. I request that the LUMA Safety Performance Metrics baselines and targets as detailed in  
210 LUMA's Revised Performance Metrics Targets Filing be approved as requested.

211 **Q. Does this complete your testimony?**

212 A. Yes.

## ATTESTATION

Affiant, Mr. Curtis Clark, being first duly sworn, states the following:


The prepared Direct Testimony constitutes my direct testimony in the above-styled case before the Puerto Rico Energy Bureau. I would give the answers set forth in the Direct Testimony if asked the questions that are included in the Direct Testimony. The facts and statements provided herein are my Direct Testimony and to the best of my knowledge are true and correct.

  
Curtis Clark

Assiduit No. 834

Acknowledged and subscribed before me by Mr. Curtis Clark, in his capacity as Functional Lead, Emergency Preparedness of LUMA Energy ServCo, LLC, of legal age, legally married and resident of San Juan, Puerto Rico, who is personally known to me.

In San Juan, Puerto Rico, this 24th day of January 2023.

  
Public Notary



Direct Testimony

Exhibit A

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

**IN RE:**

PERFORMANCE TARGETS FOR LUMA  
ENERGY SERVCO, LLC

**CASE NO.: NEPR-AP-2020-0025**

Rebuttal Testimony of  
Mr. Curtis Clark  
Functional Lead, Emergency Preparedness, LUMA Energy ServCo, LLC  
January 24, 2023<sup>1</sup>

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<sup>1</sup> This Rebuttal Testimony was originally offered by Mr. Jorge Meléndez and filed in this proceeding on February 1, 2022.



1   **Q.     Please state your name.**

2   A.     My name is Curtis Clark

3   **Q.     Please state your business mailing address, title, and employer.**

4   A.     My business address is PO Box 363508 San Juan, Puerto Rico 00936-3508. I am the  
5         Functional Lead of Emergency Preparedness for LUMA Energy ServCo, LLC.

6   **Q.     Please state your educational background.**

7   A.     I have a Bachelor of Science in Civil Engineering from the University of Alberta in  
8         Edmonton, Alberta, Canada and a Master of Science in Environmental Management from  
9         Royal Roads University in Victoria, British Columbia, Canada.

10  **Q.     Please state your professional experience.**

11  A.     I have worked in various roles in environmental, safety, quality, and emergency response  
12         within utilities and energy companies for the prior 14 years. I worked approximately 13  
13         years for ATCO's natural gas and electricity utility subsidiaries. I joined LUMA in March,  
14         2020 and participated in LUMA's Front-End Transition Period from June, 2020 through  
15         June, 2021 as Functional Lead, Environment within the Health, Safety, Environment and  
16         Quality Department. Starting on June 2021, I transitioned to the role of Functional Lead,  
17         Health, Safety, and Environment Programs. Throughout my roles with LUMA since June  
18         2021, I have been in charge of preparing, verifying and submitting the Health, Safety, and  
19         Environmental performance metrics, including the metrics reported to the Puerto Rico  
20         Energy Bureau in Case NEPR-MI-2019-0007. I was also a part of the LUMA team in  
21         charge of reviewing the baselines and targets for safety metrics to be included in the  
22         Revised Annex IX to the Puerto Rico Transmission and Distribution System Operation and  
23         Maintenance Agreement ("T&D OMA") submitted to this Energy Bureau on February 25,

24 2021 and August 18, 2021.

25 **Q. Please describe your work experience prior to joining LUMA.**

26 A. Prior to joining LUMA, I was responsible for managing an environmental and quality  
27 department at an ATCO natural gas subsidiary. The role included managing a team of  
28 professionals in ensuring organizational environmental and quality systems were  
29 established to minimize the operational impact to the environment and to ensure that work  
30 completed conformed to customer and regulatory requirements. Part of the role included  
31 validating and approving the organizational health, safety, environmental and quality  
32 metric data for submission to senior leadership and external stakeholders, including  
33 shareholders and government agencies.

34 **Q. On whose behalf are you testifying before the Puerto Rico Energy Bureau.**

35 A. My testimony is on behalf of LUMA as part of the Puerto Rico Energy Bureau (“Energy  
36 Bureau”), Commonwealth of Puerto Rico Public Service Regulatory Board proceeding  
37 Case No. NEPR-AP-2020-0025, the Performance Targets for LUMA Energy ServCo,  
38 LLC.

39 **Q. Are there any exhibits attached to your testimony?**

40 A. No.

41 **Q. What is the purpose of your rebuttal testimony?**

42 A. To respond to those portions of the pre-filed testimony of Mr. Agustín Irizarry (“Mr.  
43 Irizarry”), on behalf of the Local Environmental and Civil Organizations (“LECO”), filed  
44 on November 16, 2021, in this proceeding, Case No. NEPR-AP-2020-0025, regarding  
45 LUMA’s proposed work-related safety metrics on OSHA Recordable Incident Rate,  
46 OSHA Fatalities, OSHA Severity Rate, and OSHA DART Rate. Specifically, I will address

Mr. Irizarry's recommendation number 6 on LUMA's proposed safety metrics to impose penalties if minimum standards are not met and that a comparison with similar jurisdictions should be conducted to establish the minimum standard, set forth on page 8, lines 11-16 and page 64, lines 20-25 of his direct pre-filed testimony, Mr. Irizarry's testimony and statements on page 48, lines 1-12 on safety metrics, and his proposal that the Energy Bureau should adopt public safety metrics in this proceeding, stated on page 25, lines 8-13 of his pre-filed testimony. I also testify to further support LUMA's Performance Metrics Targets filing of September 24, 2021 ("LUMA's Performance Metrics Targets") on performance metrics related to safety.

**Q. Did you consider any documents for your rebuttal testimony?**

A. Yes, I did.

**Q. Which documents did you consider for your rebuttal testimony?**

- a. LUMA's Performance Metrics Targets Revised filing submitted on September 24, 2021, in this proceeding, Case No. NEPR-AP-2020-0025,
- b. The Resolutions and Order issued by the Puerto Rico Energy Bureau on April 8, 2021, May 21, 2021, and July 2, 2021, in Case NEPR-MI-2019-0007,
- c. The pre-filed testimony of Mr. Agustín Irizarry of November 16, 2021, filed in this proceeding, Case No. NEPR-AP-2020-0025 and his expert report, which is an exhibit of his pre-filed testimony,
- d. The responses provided by Mr. Agustín Irizarry to LUMA's First and Second Sets of Interrogatories and Requests for Production of Documents notified on January 13, 2022, and
- e. Published Inspection Report by the Occupational Safety and Health Administration



(OSHA) found publicly online in the following link  
[https://www.osha.gov/pls/imis/establishment.inspection\\_detail?id=1522938.015](https://www.osha.gov/pls/imis/establishment.inspection_detail?id=1522938.015).

**Q. Do you agree with recommendation number 6 by Mr. Irizarry on page 8, lines 11-14, page 48, lines 8-10, and page 64, lines 20-23 of his pre-filed testimony, where he proposes that the safety metrics be used only to impose penalties if minimum standards are not met?**

**A.** No.

**Q. Please explain your response.**

**A.** I disagree with Mr. Irizarry's recommendation that the Energy Bureau impose penalties in connection with the safety metrics. First, like all utilities and other employers, LUMA falls under OSHA regulations and is subject to penalties and fines for noncompliance. Imposition of additional penalties will not promote incremental improvement in performance and could instead amount to double or multiple penalties. Second, LUMA's proposed safety metrics serve purposes different from those served by penalties, such as the ones OSHA has authority to impose. Incentives for safety metrics encourage the utility to improve safety metrics beyond the minimum threshold, whereas penalties are only useful for deterring poor performance in this area. LUMA's proposed metrics, baselines, and targets will allow LUMA and the Energy Bureau to assess LUMA's safety performance over time. The purpose of the performance metrics is to measure performance, not to deter conduct which is the main purpose served by penalties. Third, LUMA's Performance Metrics Targets on safety, submitted for consideration by the Puerto Rico Energy Bureau, were adopted within the competitive negotiated processes conducted by the Puerto Rico Public-Private Partnerships Authority that led to the execution of the Puerto Rico

Transmission and Distribution System Operation and Maintenance Agreement of June 22, 2020 (T&D OMA). Per Section 14.1 (k) of the T&D OMA and as explained in the Revised Annex IX to the T&D OMA, the T&D OMA can be canceled for failure to meet three (3) Key Performance Metrics (including OSHA Fatalities and OSHA Severity Rate) during three (3) or more consecutive Contract Years provided that no such failure shall have been excused by a Force Majeure Event, an Outage Event or Owner Fault. This is the severest of penalties. To my knowledge, other utilities do not face a similar type of penalty. The proposed Key Performance Metric on OSHA fatalities with a baseline and target of zero (0) fatalities, is a good example of the unsoundness of Mr. Irizarry's proposal that penalties be imposed if minimum standards are not met. This Key Performance Metric tracks all work-related recordable incidents. For example, if LUMA were to experience a higher recordable incidents rate than described in the baseline during three consecutive Contract Years LUMA could be faced with the harshest of penalties, which is the cancellation of the T&D OMA. It is unreasonable to advocate for the imposition of an additional penalty. The additional penalty proposed by Mr. Irizarry serves no purpose and does not further performance-based incentives interests.

**Q. Do you agree with Mr. Irizarry's recommendation on page 8, lines 14-16, page 48, lines 10-12, and page 64, lines 23-25 of his pre-filed testimony that Puerto Rico OSHA rules should be consulted and a comparison with similar jurisdictions should be conducted to establish the minimum standard?**

**A.** No.

**Q. Please explain your response.**

**A.** OSHA does not set minimum performance standards, baselines, or targets to impose

penalties. OSHA is not in the business of setting specified percentages in the reduction of recordable incidents or fatalities that a utility must meet. OSHA sets standards that must be met. On a case-by-case basis, OSHA investigates recordable incidents and imposes penalties if it determines that the employer incurred violations. Also, OSHA does not impose penalties for all recordable incidents, nor does OSHA impose penalties for failure to meet minimum performance standards. Lastly OSHA standards in Puerto Rico are consistent with other OSHA jurisdictions. Mr. Irizarry is mistaken in suggesting that Puerto Rico OSHA rules or those in other jurisdictions should be consulted to establish minimum performance standards to impose penalties on LUMA.

**Q. Please provide an example of circumstances in which an incident recordable with OSHA occurs, but OSHA does not impose a penalty against the employer or utility.**

A. One published example is found publicly in the OSHA website, [https://www.osha.gov/pls/imis/establishment.inspection\\_detail?id=1522938.015](https://www.osha.gov/pls/imis/establishment.inspection_detail?id=1522938.015), for Black Warrior Electric Membership Corporation, where OSHA investigated a fatality in the workplace and closed its investigation without imposing a penalty on the employer as there were no findings of an OSHA violation, which was an electric power utility.

**Q. Do you agree with Mr. Irizarry's statement on page 48, lines 1-6 of his pre-filed testimony, that the purpose of employee safety (labor safety) is to ensure that employees are not subjected to excessive risks?**

A. No.

**Q. Please explain your response.**

A. The statement on avoidance of excessive risks is incorrect. The term "excessive risks" employed by Mr. Irizarry is not part of OSHA's framework nor, in my experience, used in



139 the utility industry to measure safety performance by a utility. In my experience, OSHA  
140 seeks to eliminate all risks. LUMA's safety metrics are designed to induce performance in  
141 a manner that eliminates all risks.

142 **Q. Do you have a response to Mr. Irizarry's statement on page 48, lines 2-4, that it is a**  
143 **very bad idea to provide a financial incentive to a company for merely complying with**  
144 **basic moral, legal, and ethical obligations such as employee safety?**

145 A. Yes.

146 **Q. Please explain your response.**

147 A. Safety incentive metrics help utilities encourage employees to share the organization's  
148 goals for safety for all employees. Incentives utilize objective historical data designed to  
149 meet performance standards on safety, bearing in mind legal and regulatory standards.  
150 LUMA's performance metrics on safety are designed to track performance according to  
151 applicable OSHA requirements and to comply with Puerto Rico public policy to provide  
152 safe electric power services, which safety starts with LUMA's employees.

153 **Q. Do you agree with Mr. Irizarry's proposal that the Energy Bureau consider and**  
154 **approve a public safety metric on *Incidents, Injuries, and Fatalities*, which purpose is**  
155 **described as an "indicator of incidents, injuries and fatalities associated contact with**  
156 **the electric system by members of the public," as stated on page 25, lines 8-13 of his**  
157 **pre-filed testimony?**

158 A. No.

159 **Q. Please explain your response.**

160 A. The safety of the public is very important to LUMA. As a result, LUMA has and will  
161 continue to invest specifically in the education of the public regarding electrical safety.

162 However, LUMA cannot control the behaviors of third-party contractors and the public  
163 with respect to the electric power system. Incidents due to public wrongdoing violation do  
164 not imply any LUMA wrongdoing. For many public safety incidents, legal processes are  
165 conducted to determine responsibility after an extensive review of the relevant facts, and  
166 the process may take an extended period. As a result, LUMA strongly feels that public  
167 safety is not conducive to metric setting and should not be considered in this proceeding.  
168 Additionally, LUMA's Performance Metrics Targets were adopted within the competitive  
169 negotiated processes that resulted in the execution of the T&D OMA and revised in  
170 accordance with the procedures set forth in the T&D OMA. LUMA's proposal does not  
171 envision adding public safety metrics for the first three years of operations further than  
172 what is proposed in the T&D OMA. The public safety metric category proposed by Mr.  
173 Irizarry on incidents, injuries, and fatalities is not aligned with the T&D OMA.

174 **Q. Does this complete your testimony?**

175 **A.** Yes.



## ATTESTATION

Affiant, Mr. Curtis Clark, being first duly sworn, states the following:

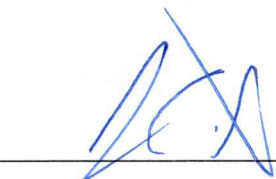
The prepared Rebuttal Testimony constitutes my Rebuttal Testimony in the above-styled case before the Puerto Rico Energy Bureau. I would give the answers set forth in the Rebuttal Testimony if asked the questions that are included in the Rebuttal Testimony. I further state that the facts and statements provided herein are my Rebuttal Testimony and, to the best of my knowledge, are true and correct.

  
Curtis Clark

Affidavit No. 833

Acknowledged and subscribed before me by Mr. Curtis Clark, in his capacity as Functional Lead, Emergency Preparedness, LUMA Energy ServCo, LLC, of legal age, legally married and resident of San Juan, Puerto Rico, who is personally known to me.

In San Juan, Puerto Rico, this 24<sup>th</sup> day of January 2023.

  
Public Notary

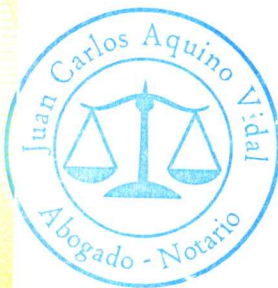


Exhibit 2

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

IN RE:

PERFORMANCE TARGETS FOR LUMA  
ENERGY SERVCO, LLC

CASE NO.: NEPR-AP-2020-0025

Direct Testimony of  
Mrs. Diane Watkins  
Vice President, Vegetation and Work Management, LUMA Energy ServCo, LLC  
January 24, 2023<sup>1</sup>

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<sup>1</sup> This testimony was initially submitted by Brent Bolzenius, LUMA's Director of Vegetation Management, on October 28, 2022.

1 **Q1. Please state your name, business address, title, and employer.**


2 A1. My name is Diane Watkins. My business address is PO Box 363508, San Juan, Puerto  
3 Rico, 00936-3508. I am Vice President, Vegetation and Work Management for LUMA  
4 Energy ServCo, LLC.

5 **Q2. On whose behalf are you testifying before the Puerto Rico Energy Bureau (the**  
6 **“Energy Bureau”).**

7 A2. My testimony is on behalf of LUMA Energy LLC and LUMA Energy ServCo, LLC, as  
8 part of the Commonwealth of Puerto Rico Public Service Regulatory Aboard Puerto Rico  
9 Energy Bureau (Energy Bureau) proceeding NEPR-AP-2020-0025, the Performance  
10 Targets for LUMA Energy ServCo, LLC.

11 **Q3. Are there any exhibits attached to your testimony?**

12 A3. No, there are no exhibits attached to my testimony.

 13 **Q4. What is your educational background?**

14 A4. I graduated from Arizona State University in December 1999 with a Bachelor of Science  
15 in Engineering (B.S.E.) degree in Electrical Engineering. I graduated again from Arizona  
16 State University in August 2007 with a Master of Business Administration (M.B.A.)  
17 degree.

18 **Q5. What is your professional experience?**

19 A5. I have over 20 years of professional experience in the utility industry. In October 2022, I  
20 joined LUMA Energy as Vice President of Vegetation and Work Management.

21 **Q6. Please describe your work experience prior to joining LUMA.**

22 A6. Prior to joining Luma, I was the Director of Wildfire Mitigation at Xcel Energy in Denver,  
23 Colorado. In that role, I led the company's strategic development and execution of the

wildfire mitigation plan. The plan included enhanced vegetation management practices, system hardening, and conservative operations in high-risk threat areas, among other activities. I also held a previous role at Xcel Energy in Federal Regulatory Affairs, where I prepared tariff compliance and position documents submitted to the Federal Energy Regulatory Commission (FERC), represented the company's positions on distributed energy resource issues at the Midcontinent Independent System Operator (MISO), and served as Chief Compliance Officer for FERC Standards of Conduct. Prior to my work in Federal Regulatory Affairs, I was the Manager of Substation Field Engineering, where I led a team of over 20 engineers who provided field support for the maintenance of over 1200 substations in eight (8) states. Before Xcel Energy, I held a variety of electric utility engineering and leadership roles at David Evans and Associates and Salt River Project, both in Phoenix, Arizona.

I am a Senior Member of the Institute of Electrical and Electronics Engineers (IEEE) and the current Vice Chair of the IEEE Power and Energy Society (PES) Technical Council.

In 2016, I served as Editor of the Substations Chapter of the 17<sup>th</sup> Edition of the McGraw-Hill *Standard Handbook for Electrical Engineers*.

**Q7. Do you hold any professional licenses, and if so, which?**

A7. Yes, I am registered as a Professional Engineer (P.E.) in Electrical Engineering by the State of Arizona.

**Q8. Have you previously testified or made presentations before the Energy Bureau?**

A8. No

**Q9. Which documents did you consider for your testimony?**

A9. I considered the following documents:



- LUMA's Revised Annex IX to the Puerto Rico Transmission and Distribution System Operation and Maintenance Agreement (T&D OMA) filed with this Energy Bureau on September 23, 2021, in this proceeding
- The T&D OMA
- The Revised Annex IX to the T&D OMA filed on October 28, 2022, in this proceeding
- LUMA's Vegetation Management Plan (VMP) filed with this Energy Bureau on August 5, 2021, Case *In re In Re: Revisión del Programa Comprensivo de Manejo de Vegetación de la Autoridad de Energía Eléctrica*, NEPR-MI-2019-0005
- The written testimony of Agustín Irizarry provided on behalf of LECO on November 17, 2021, and his testimony of March 22, 2022, filed in this proceeding
- The testimonies by Mr. Brent Bolzenius, filed in this proceeding, filed on February 1<sup>st</sup>, 2022, and April 27<sup>th</sup>, 2022

**Q10. What is the purpose of your Direct Testimony?**

A10. The purpose of my testimony is to explain a performance metric for vegetation management that has been included in the Revised Annex IX to the T&D OMA in attention to an order of this Energy Bureau. LUMA is presenting "Vegetation Maintenance Miles Completed (230kV, 115kV, 39kV, primary Distribution Lines)" for consideration in compliance with the Energy Bureau's Resolution and Order issued on August 1, 2022.

**Q11. Please describe the performance metric for the Vegetation Maintenance Miles Completed.**

70 A11. The metric monitors the number of line miles completed for vegetation maintenance work  
71 each fiscal year along 230kV, 115kV, 38kV lines, and primary Distribution lines.

72 **Q12. Describe what type of vegetation maintenance work is included in this performance**  
73 **metric.**

74 A12. Vegetation maintenance represents a continuous and repetitive process. These activities  
75 are classified into 3 categories:

- 76 • Reactive: Work that cannot be planned or scheduled but requires immediate  
77 attention. This work is typically related to service interruptions and outages.
- 78 • Corrective: Work that is difficult to plan for but, once identified, can be  
79 efficiently scheduled. This work is generated by customer requests, LUMA  
80 operations and/or LUMA staff.
- 81 • Preventative: Work that can be specifically planned for and prioritized, scheduled,  
82 and managed on a project basis. It represents the largest portion of Vegetation  
83 Management in the O&M budget.

84 **Q13. What is the objective of the Vegetation Maintenance Miles Completed performance**  
85 **metric?**

86 A13. The objective is to reduce the impact of vegetation near electric utility infrastructure  
87 resulting in improvements in the safety & reliability of the Transmission & Distribution  
88 (T&D) system. As the metric will allow LUMA to track progress on the Vegetation  
89 Management Plan and incentivizes improved system safety and reliability by promoting  
90 vegetation maintenance along transmission and distribution lines, it is my position that if  
91 the Energy Bureau rules that a Vegetation Management metric should be added to the  
92 Revised Annex IX to the T&D OMA, this should be the metric utilized for vegetation

management. I incorporate by reference other testimonies in this proceeding, originally filed on February 1, 2022, and April 27, 2022, by Mr. Brent Bolzenius, and which I am filing with this Energy Bureau today, that explain LUMA's position on vegetation management performance metrics suggested by intervenors, including that vegetation management metrics are already included in the SAIDI and SAIFI performance metrics.

**Q14. Explain how the performance metric on Vegetation Maintenance Miles Completed will result in improvements in the safety & reliability of the T&D system.**

A14. As Vegetation can often cause electrical outages in Puerto Rico, increasing the Vegetation Maintenance Miles Completed will assist in reducing interruptions of electrical service in tandem with LUMA's other efforts to improve reliability in order to provide safe and reliable service to LUMA's customers.

**Q15. Please describe the methodology for the performance metric on Vegetation Maintenance Miles Completed.**

A15. The performance metric target takes into account projections of vegetation maintenance miles possible to complete given the availability of resources, budgets, vegetation conditions, and required day-to-day operational support.

**Q16. Explain why only primary Distribution lines were included in the metric.**

A16. Examples of secondary Distribution lines include street light service lines and pole-to-house service drops, among others. These types of lines have a small overall impact on the reliability of the system; and the maintenance miles data associated with secondary Distribution lines are difficult to identify and track.

**Q17. What data was examined to develop the Vegetation Management Metric?**



115 A17. First, the actual recent historical number of Vegetation Maintenance Miles Completed  
116 was reviewed. Then, LUMA's working knowledge of the T&D system, existing  
117 vegetation conditions, and industry vegetation management best practices was considered  
118 to project forward a reasonable target for future performance.

119 **Q18. What considerations were made to determine the targets for 1,600 miles in Year 1,**  
120 **1,800 miles in Year 2, and 2,000 miles in Year 3?**

121 A18 Historical data was used to set targets while considering empirical and working  
122 knowledge of the T&D system. We considered that in Fiscal Year 2022, as described in  
123 LUMA's Vegetation Management Plan, much of LUMA's vegetation management  
124 activities were focused on reactive and corrective work in the first six months of  
125 operations due to the overall condition of vegetation clearances on the T&D system. The  
126 targets also consider that in quarters three and four of Fiscal Year 2022, LUMA initiated  
127 and transitioned to more planned vegetation maintenance and reclamation as an  
128 increasing amount of reactive and corrective work was resolved. We also considered the  
129 ongoing transition from reactive and corrective work during Fiscal Year 2023 as the  
130 portion of planned preventative work to the total vegetation maintenance work completed  
131 is increasing.

132 Finally, the targets consider that planned preventative work generally requires less time  
133 per mile to complete. Therefore, in future years as reactive work is decreased year over  
134 year, LUMA will be able to increase its yearly Vegetation Maintenance Miles Cleared  
135 target as reflected in the Revised Annex IX filing.

136 **Q19. Explain how the minimum performance levels were established?**

137 A19. The minimum performance is set at 10% of the annual target goal.

138 **Q20. What actions will LUMA take to meet the targets?**

139 A20. LUMA will continue to take several actions to meet the targets such as continuing to shift  
140 from the reactive/corrective remediation measures to more preventative reclamation of  
141 vegetation operations along the T&D system, continuing to seek and implement  
142 operational improvements, and seeking opportunities to utilize federal funding sources.

143 **Q21. In brief, what are your recommendations?**

144 A21. It is recommended that if the Energy Bureau determines that a vegetation management  
145 metric be included in the Revised Annex IX to the T&D OMA, the Energy Bureau adopt  
146 the Vegetation Maintenance Miles Completed metric as proposed by LUMA in Annex  
147 IX. The metric will allow LUMA to track progress on the VMP and incentivizes  
148 improved system safety and reliability by promoting vegetation maintenance along  
149 transmission and distribution lines.

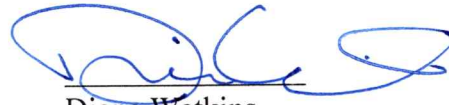
150 **Q22. Does this complete your testimony?**

151 A22. Yes.

## ATTESTATION

Affiant, Mrs. Diane Watkins, being first duly sworn, states the following:


The prepared Direct Testimony constitutes my direct testimony in the above-styled case before the Puerto Rico Energy Bureau. I would give the answers set forth in the Direct Testimony if asked the questions that are included in the Direct Testimony. I further state that the facts and statements provided herein in the Direct Testimony and to the best of my knowledge are true and correct.

  
Diane Watkins

Affidavit No. 557

Acknowledged and subscribed before me by Mrs. Diane Watkins in her capacity as Vice President, Vegetation and Work Management, LUMA Energy ServCo LLC, of legal age, married, and resident of San Juan, Puerto Rico, who I have identified through her Driver's License issued by the State Colorado, No. 14-212-1265.

In San Juan, Puerto Rico, this 24 day of January, 2023.

  
Notary Public



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

**IN RE:**

PERFORMANCE TARGETS FOR LUMA  
ENERGY SERVCO, LLC

CASE NO.: NEPR-AP-2020-0025

Rebuttal Testimony of  
Mrs. Diane Watkins  
Vice President, Vegetation & Work Management, LUMA Energy ServCo LLC  
January 24, 2023<sup>1</sup>

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<sup>1</sup> This testimony was initially submitted by Brent Bolzenius, LUMA's Director of Vegetation Management, on February 17, 2022.



1 **Q. Please state your name.**

2 A. My name is Diane Watkins.

3 **Q. Please state your business mailing address, title, and employer.**

4 A. My business mailing address is PO Box 363508, San Juan, Puerto Rico 00936-3508. I am  
5 the Vice President, Director of Vegetation & Work Management for LUMA Energy  
6 ServCo LLC.

7 **Q. Please state your educational background.**

8 A. I graduated from Arizona State University in December 1999 with a Bachelor of Science  
9 in Engineering (B.S.E.) degree in Electrical Engineering. I graduated again from Arizona  
10 State University in August 2007 with a Master of Business Administration (M.B.A.)  
11 degree.

12 **Q. Please state your professional experience.**

13 A. I have over 20 years of professional experience in the utility industry. In October 2022, I  
14 joined LUMA Energy as Vice President of Vegetation and Work Management.

15 **Q. Please describe your work experience prior to joining LUMA.**

16 A. Prior to joining Luma, I was the Director of Wildfire Mitigation at Xcel Energy in Denver,  
17 Colorado. In that role, I led the company's strategic development and execution of the  
18 wildfire mitigation plan. The plan included enhanced vegetation management practices,  
19 system hardening, and conservative operations in high-risk threat areas, among other  
20 activities. I also held a previous role at Xcel Energy in Federal Regulatory Affairs, where  
21 I prepared tariff compliance and position documents submitted to the Federal Energy  
22 Regulatory Commission (FERC), represented the company's positions on distributed  
23 energy resource issues at the Midcontinent Independent System Operator (MISO), and

24 served as Chief Compliance Officer for FERC Standards of Conduct. Prior to my work in  
25 Federal Regulatory Affairs, I was the Manager of Substation Field Engineering, where I  
26 led a team of over 20 engineers who provided field support for the maintenance of over  
27 1200 substations in eight (8) states. Before Xcel Energy, I held a variety of electric utility  
28 engineering and leadership roles at David Evans and Associates and Salt River Project,  
29 both in Phoenix, Arizona.

30 I am a Senior Member of the Institute of Electrical and Electronics Engineers (IEEE) and  
31 the current Vice Chair of the IEEE Power and Energy Society (PES) Technical Council.

32 In 2016, I served as Editor of the Substations Chapter of the 17<sup>th</sup> Edition of the McGraw-  
33 Hill *Standard Handbook for Electrical Engineers*.

34 **Q. Do you hold any professional licenses?**

35 A. Yes, I am registered as a Professional Engineer (P.E.) in Electrical Engineering by the  
36 State of Arizona.

37 **Q. Have you previously testified or made presentations before the Puerto Rico Energy**  
38 **Bureau?**

39 A. No.

40 **Q. On whose behalf are you testifying before the Puerto Rico Energy Bureau?**

41 A. My testimony is on behalf of LUMA as part of the Puerto Rico Energy Bureau ("Energy  
42 Bureau"), Commonwealth of Puerto Rico Public Service Regulatory Board proceeding  
43 Case No. NEPR-AP-2020-0025, the Performance Targets for LUMA Energy ServCo,  
44 LLC.

45 **Q. Are there any exhibits attached to your testimony?**

46 A. No.



47 **Q. What is the purpose of your rebuttal testimony?**

48 A. To respond to those portions of the pre-filed testimony of Mr. Agustín Irizarry (“Mr.  
49 Irizarry”) on behalf of the Local Environmental and Civil Organizations (“LECO”), filed  
50 on November 16, 2021, in this proceeding, regarding his proposed metric on Enhanced  
51 Vegetation Management.

52 **Q. Did you consider any documents for your rebuttal testimony?**

53 A. Yes, I did.

54 **Q. Which documents did you consider for your rebuttal testimony?**

55 a. LUMA’s Performance Metrics Targets Revised filing submitted on September 24,  
56 2021, in this proceeding, Case No. NEPR-AP-2020-0025,

57 b. The pre-filed testimony of Mr. Agustín Irizarry of November 16, 2021, filed in this  
58 proceeding, Case No. NEPR-AP-2020-0025 and his expert report, which is an exhibit  
59 of his pre-filed testimony,

60 c. The responses provided by Mr. Agustín Irizarry to LUMA’s First and Second Sets of  
61 Interrogatories and Requests for Production of Documents notified on January 13,  
62 2022, and

63 d. The responses provided by Mr. Agustín Irizarry to the Puerto Rico Energy Bureau’s  
64 Requirements for Information, notified on December 20, 2021.

65 **Q. Do you agree with Mr. Irizarry’s proposal for the Energy Bureau to adopt a metric**  
66 **on enhanced vegetation management, as stated on page 25, lines 16-18 of his direct**  
67 **pre-filed testimony?**

68 A. No.

69 **Q. Please explain your response.**

70 A. LUMA disagrees with such a proposal. First, an enhanced vegetation management  
71 incentive metric is not necessary. The existent operational metrics subject to incentives,  
72 such as SAIDI and SAIFI, will show any reduction of outages to customers and includes  
73 the results of a utility's vegetation management program. The addition of an enhanced  
74 vegetation management incentive metric, as proposed, would be duplicative of other  
75 technical metrics. It should also be noted that vegetation management incentive metrics do  
76 not in themselves provide for better reliability to the customer, and a more comprehensive  
77 methodology like SAIDI and SAIFI is more appropriate.

78 Second, Mr. Irizarry's proposal is based on the California Public Utilities Commission's  
79 ("CPUC") adoption of safety performance metrics after it placed the Pacific Gas and  
80 Electric Company ("PG&E") into the first step of the CPUC's Enhanced Oversight and  
81 Enforcement Process. The CPUC's action was based on PG&E's failure to sufficiently  
82 prioritize clearing vegetation on its highest-risk power lines as part of its wildfire mitigation  
83 work in 2020. The metrics referenced for PG&E were additional parameters added after a  
84 wildfire. The CPUC designed the Enhanced Oversight and Enforcement Process as a  
85 condition for approving PG&E's plan for exiting bankruptcy in May 2020. These efforts  
86 to monitor PG&E were part of many actions the CPUC took with respect to PG&E's  
87 bankruptcy, system safety, and mitigating wildfire threats. The vegetation safety issues  
88 were very different from those encountered in Puerto Rico.

89 From an applicability standpoint, one state in the United States with particular  
90 circumstances or probationary measures due to a catastrophic event does not dictate that  
91 these incentive metrics are -relative or applicable to Puerto Rico.

92 Q. Do you agree with Mr. Irizarry's proposal on page 25, lines 16-18 of his pre-filed

testimony, that the proposed metric should measure the electric miles lines annually subjected to tree trimming divided by the total electric line miles?

A. No.

**Q. Please explain your response.**

A. Mr. Irizarry's proposal tries to address a complex issue in a very simplistic way and fails to consider other equally important factors. Meaningful aspects of a vegetation management program include safety, customers, outage events and frequency, tree density, schedules, and specific vegetation types, among other areas. Tracking one unit or metric will not directly correlate to the success of a whole vegetation management program. The purpose of any utility's vegetation management program is to manage vegetation to reduce outages to acceptable levels. The prevention of all vegetation-caused outages is nearly impossible. Tracking miles alone can focus on the most negligible amounts of required vegetation to capture "miles" while not targeting work on areas of greater vegetation densities and the most significant impact despite being associated with lower amounts of miles. The effects of unmanaged vegetation often have varied impacts on different types of transmission and distribution infrastructure beyond transmission and distribution lines. For example, outages caused by vegetation at other facilities, such as substations, can have a greater impact on a higher number of customers than on a remote distribution line in a remote area.

**Q. Do you agree with Mr. Irizarry's statement on page 25, lines 16-18, of his pre-filed testimony that an enhanced vegetation management metric reduces voltage fluctuations, improves public safety, and eliminates damage to lines during storms?**

A. No.

116 **Q. Please explain your response.**

117 A. Mr. Irizarry's statement draws a direct correlation between vegetation management and the  
118 reduction of voltage fluctuations, which is not entirely correct. One single statistic alone  
119 does not speak to the success of the whole vegetation management program. Tracking line  
120 miles in itself does not promote or eliminate outages during storms. Outages during a  
121 storm can occur for many reasons outside vegetation (example: blowing debris, flooding,  
122 and broken infrastructure). Additionally, in general, the way to reduce vegetation outages  
123 and harden the grid during storms is to increase the clearances between conductors and  
124 vegetations, which is not addressed when solely addressing line miles. Further, voltage  
125 fluctuations are caused by a range of issues that are not solely the result of vegetation-  
126 related outages. They can be caused by but are not limited to insufficient generation or  
127 equipment failures due to historically neglected infrastructure.

128 **Q. Do you have a response to Mr. Irizarry's statement on page 35, line 16, of his pre-**  
129 **filed testimony in which he states that the Energy Bureau has recognized the value of**  
130 **enhanced vegetation management?**

131 A. Yes, I do.

132 **Q. Please state and explain your response.**

133 A. LUMA does not dispute the value of vegetation management programs. The Energy  
134 Bureau has a dedicated proceeding to vegetation management in Case No. NEPR-MI-  
135 2019-0005. LUMA has submitted a Vegetation Management Plan in said proceeding,  
136 which is currently before the Energy Bureau for its approval. However, this does not  
137 necessitate the need to earn an incentive in vegetation management. LUMA believes the  
138 Energy Bureau's monitoring of vegetation management through the current docket (NEPR-



MI-2019-0005) is a more constructive measure.

**Q. Do you have a response to Mr. Irizarry's statement on page 35, line 17-21, that LUMA has refused to provide information on planned trimmed miles, trim acreage, and widening miles?**

A. Yes, I do.

**Q. Please state and explain your response.**

A. Mr. Irizarry's characterization of LUMA's responses to the discovery requests issued by the Energy Bureau is improper. LUMA could not provide the requested information during discovery to the Energy Bureau as this information had not been developed at the time of the request. LUMA is open to regular reporting on agreed-upon information to provide progress and effectiveness of LUMA's Vegetation Management Plan. Once again, this does not require an incentive performance metric in vegetation management.

**Q. Do you agree with Mr. Irizarry's proposal for the Energy Bureau to set penalties for failure to fulfill the planned tasks, as stated on page 35, lines 21-23 of his direct pre-filed testimony?**

A. LUMA disagrees with Mr. Irizarry's proposal. LUMA's Vegetation Management Plan establishes the basis to transition from PREPA's practices into a more effective and efficient Vegetation Management Program and guides its management and organization. However, the implementation of LUMA's Vegetation Management Plan requires initial investments. It also requires continuous improvement through refinements and adjustments to accommodate changing objectives and conditions. The expectation is that implementation of the Vegetation Management Plan, over time, will reduce the cost and intensity of the vegetation management work required while at the same time improving

162 system reliability and safety. Despite the effort to focus solely on implementing and  
163 executing the Vegetation Management Plan, there are still times for more reactive and  
164 correct work as a result of outages, reliability, customer, public safety, or storm restoration  
165 to address conditions or critical/emergency circumstances. A penalty-based mechanism  
166 would incentivize the utility not to be agile and responsive to customer needs. It would  
167 result in incentivizing LUMA not to prioritize vegetation management work orders based  
168 on the circumstances at the time.

169 The Vegetation Management Plan recognizes that events will occur when planned  
170 preventive vegetation maintenance does not suffice, and corrective, agile, and responsive  
171 maintenance will be required. The expectation is that, over time, corrective vegetation  
172 maintenance will be performed as necessary as a one-off exception rather than a mode of  
173 operation based on localized reliability issues. Also, reactive vegetation maintenance will  
174 occur in response to tree-initiated faults, interruptions, and outages.

175 Contrary to what Mr. Irizarry states in his responses to the discovery requests issued by the  
176 Energy Bureau, Puerto Rico is not under or subject to the Federal Energy Regulatory  
177 Commission (FERC) as it relates to vegetation management. FERC and North American  
178 Electric Reliability Corporation (NERC)<sup>2</sup> requirements are generally only applicable for  
179 those lines greater than 200kV and part of the overall bulk electric system in the continental  
180 portions of North America. Since NERC does not have jurisdiction over Puerto Rico 's  
181 electric grid, there should not be any penalty to LUMA for not meeting standards that are  
182 not applicable to the system LUMA is operating. "LUMA's Vegetation Management Plan

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<sup>2</sup> NERC is a not-for-profit international regulatory authority responsible to administrate regulations and measurements to ensure the effectively operate the Bulk Electrical System ("BES") across the continental United States, Canada, and the northern portion of Baja California, Mexico. Puerto Rico is not part of the BES.



183 for the high voltage transmission system (230 and 115 kV) will generally be aligned with  
184 the NERC standard.”<sup>3</sup>

185 LUMA’s Vegetation Management Plan cannot be converted to metrics and baselines, such  
186 as “trimmed and inspected miles for both the transmission and distribution system,” as Mr.  
187 Irizarry proposes in his responses to the discovery requests issued by the Energy Bureau.  
188 The Vegetation Management Plan’s purpose is not to supply metrics but to outline the  
189 strategy, processes, procedures, and timelines. Failure to complete any required tasks under  
190 LUMA’s Vegetation Management Plan will not necessarily translate to customer impacts  
191 such as an immediate increase in voltage fluctuations, worse public safety or more damage  
192 to lines during storms. As such, the imposition of penalties would not promote the  
193 improvement of customer-centric outcomes.

194 **Q. Does this complete your testimony?**

195 **A.** Yes.

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<sup>3</sup> LUMA’s Vegetation Management Plan, page 20, <https://energia.pr.gov/wp-content/uploads/sites/7/2021/04/Petition-Submitting-Vegetation-Management-Plan-Final-April-11-2021-NEPR-MI-2019-0005.pdf>

ATTESTATION

Affiant, Mrs. Diane Watkins, being first duly sworn, states the following:

The prepared Rebuttal Testimony constitutes my Rebuttal in the above-styled case before the Puerto Rico Energy Bureau. I would give the answers set forth in the Rebuttal Testimony if asked the questions included in the Rebuttal Testimony. I further state that the facts and statements provided herein are my rebuttal testimony and are true and correct to the best of my knowledge.

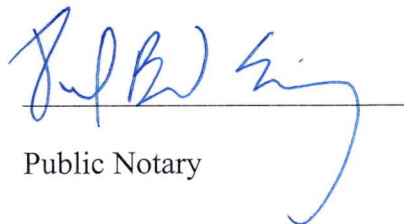
  
Diane Watkins

Affidavit No. 555

Vice President (005)

Acknowledged and subscribed before me by Mrs. Diane Watkins in her capacity as ~~Director~~ of Vegetation Management of LUMA Energy, of legal age, married, and resident of San Juan Puerto Rico, who I have identified through her Driver's License issued by the State Colorado, No. 14-212-1265.

In San Juan, Puerto Rico, this 24<sup>th</sup> day of January 2023.

  
Public Notary



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

**IN RE:**

PERFORMANCE TARGETS FOR LUMA  
ENERGY SERVCO, LLC

**CASE NO.: NEPR-AP-2020-0025**

Rebuttal Testimony of  
Mrs. Diane Watkins  
Vice President, Vegetation & Work Management, LUMA Energy ServCo, LLC  
January 24, 2023<sup>1</sup>

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<sup>1</sup> This testimony was initially submitted by Brent Bolzenius, LUMA's Director of Vegetation Management, on April 27, 2022.

1 **Q. Please state your name.**

2 A. My name is Diane Watkins.

3 **Q. Please state your business mailing address, title, and employer.**

4 A. My business mailing address is PO Box 363508, San Juan, Puerto Rico 00936-3508. I am  
5 the Vice President of Vegetation & Work Management for LUMA Energy ServCo, LLC.

6 **Q. Please state your educational background.**

7 A. I graduated from Arizona State University in December 1999 with a Bachelor of Science  
8 in Engineering (B.S.E.) degree in Electrical Engineering. I graduated again from Arizona  
9 State University in August 2007 with a Master of Business Administration (M.B.A.)  
10 degree.

11 **Q. Please state your professional experience.**

12 A. I have over 20 years of professional experience in the utility industry. In October 2022, I  
13 joined LUMA Energy as Vice President of Vegetation and Work Management.

14 **Q. Please describe your work experience prior to joining LUMA.**

15 A. Prior to joining Luma, I was the Director of Wildfire Mitigation at Xcel Energy in Denver,  
16 Colorado. In that role, I led the company's strategic development and execution of the  
17 wildfire mitigation plan. The plan included enhanced vegetation management practices,  
18 system hardening, and conservative operations in high-risk threat areas, among other  
19 activities. I also held a previous role at Xcel Energy in Federal Regulatory Affairs, where  
20 I prepared tariff compliance and position documents submitted to the Federal Energy  
21 Regulatory Commission (FERC), represented the company's positions on distributed  
22 energy resource issues at the Midcontinent Independent System Operator (MISO), and  
23 served as Chief Compliance Officer for FERC Standards of Conduct. Prior to my work in

24 Federal Regulatory Affairs, I was the Manager of Substation Field Engineering, where I  
25 led a team of over 20 engineers who provided field support for the maintenance of over  
26 1200 substations in eight (8) states. Before Xcel Energy, I held a variety of electric utility  
27 engineering and leadership roles at David Evans and Associates and Salt River Project,  
28 both in Phoenix, Arizona.

29 I am a Senior Member of the Institute of Electrical and Electronics Engineers (IEEE) and  
30 the current Vice Chair of the IEEE Power and Energy Society (PES) Technical Council.  
31 In 2016 I served as Editor of the Substations Chapter of the 17<sup>th</sup> Edition of the McGraw-  
32 Hill *Standard Handbook for Electrical Engineers*.

33 **Q. Do you hold any professional licenses?**

34 A. Yes, I am registered as a Professional Engineer (P.E.) in Electrical Engineering by the  
35 State of Arizona.

36 **Q. Have you previously testified or made presentations before the Puerto Rico Energy**  
37 **Bureau?**

38 A. No

39 **Q. On whose behalf are you testifying before the Puerto Rico Energy Bureau?**

40 A. My testimony is on behalf of LUMA as part of the Puerto Rico Energy Bureau ("Energy  
41 Bureau"), Commonwealth of Puerto Rico Public Service Regulatory Board proceeding  
42 Case No. NEPR-AP-2020-0025, the Performance Targets for LUMA Energy ServCo,  
43 LLC.

44 **Q. Are there any exhibits attached to your testimony?**

45 A. No.

46 **Q. What is the purpose of your rebuttal testimony?**



47 A. To respond to those portions of the additional pre-filed testimony of Mr. Agustín Irizarry  
48 (“Mr. Irizarry”) on behalf of the Local Environmental and Civil Organizations (“LECO”),  
49 filed on March 22, 2022, in this proceeding, regarding his proposed metric on Vegetation  
50 Management.

51 **Q. Did you consider any documents for your rebuttal testimony?**

52 A. Yes, I did.

53 **Q. Which documents did you consider for your rebuttal testimony?**

54 a. LUMA’s Performance Metrics Targets Revised filing submitted on September 24,  
55 2021, in this proceeding, Case No. NEPR-AP-2020-0025,

56 b. The pre-filed testimony of Mr. Agustín Irizarry of November 16, 2021, filed in this  
57 proceeding, Case No. NEPR-AP-2020-0025 and his expert report, which is an exhibit  
58 of his pre-filed testimony,

59 c. The additional pre-filed testimony of Mr. Agustín Irizarry of March 22, 2022, filed in  
60 this proceeding, Case No. NEPR-AP-2020-0025,

61 d. The responses provided by Mr. Agustín Irizarry to LUMA’s First and Second Sets of  
62 Interrogatories and Requests for Production of Documents notified on January 13,  
63 2022,

64 e. The responses provided by Mr. Agustín Irizarry to the Puerto Rico Energy Bureau’s  
65 Requirements for Information notified on December 20, 2021, and

66 f. The responses provided by Mr. Agustín Irizarry to LUMA’s Third Set of  
67 Interrogatories and Request for Production of Documents notified on April 21, 2022,

68 **Q. Do you agree with Mr. Irizarry’s recommendations that LUMA should only be**  
69 **rewarded if its performance in the vegetation management area achieves a hard-to-**

70 reach target, as stated on page 13, lines 11-17 and 19-24 of his additional direct pre-  
71 filed testimony?

72 A. No.

73 **Q. Please explain your response.**

74 A. LUMA disagrees with such a recommendation. Vegetation management aims to ensure  
75 safe and reliable service to all customers regardless of access; limitations, or perceived ease  
76 of access to vegetation work. Contrary to Mr. Irizzary's concerns, there are many "hard-  
77 to-reach targets" along roadside transmission and distribution infrastructure or within short  
78 distances of roads. Examples include vegetation located in back yards, and in urban areas  
79 where the only access points are through or over a home or building. Consequentially all  
80 equipment and debris must pass over or through the domicile to address the tree-risk  
81 electrical conductors; or where vegetation is located roadside and where the conditions  
82 warrant multiple days of work to remediate risk to the overhead conductor. The Puerto  
83 Rico Transmission and Distribution (T&D) System is fragile, and the vegetation conditions  
84 are poor across the entire island. Whether vegetation work is easily accessible or "hard-to-  
85 reach", LUMA is committed to finding the best way to complete the necessary vegetation  
86 work regardless if the targets are "hard-to-reach" or considered roadside. The work location  
87 is entirely subjective and should not be the only factor in setting goals.

88 **Q. Do you agree with Mr. Irizzary's recommendation that the Energy Bureau also**  
89 **require LUMA to identify the relative difficulty for vegetation maintenance for each**  
90 **line or region, as stated on page 13, lines 26, and page 14, lines 1-2 of his additional**  
91 **direct pre-filed testimony?**

92 A. No.

93 **Q. Please explain your response.**

94 A. Mr. Irizarry's recommendation is impractical. The "relative difficulty" concept he  
95 proposes is entirely subjective. Moreover, Irizarry does not provide a basis for this  
96 "concept". There are no industry standards, definitions, or criteria for "relative difficulty"  
97 in vegetation management. Additionally, the configuration of most electrical feeders or  
98 circuits will have a combination of roadside, backyard, and cross-country sections of line  
99 within the same feeder or circuit. Vegetation management on a day-to-day basis is not as  
100 categorically encapsulated as Mr. Irizarry tries to portray in his testimony. Mr. Irizarry's  
101 concerns that LUMA would only complete easily accessible work is incorrect, LUMA  
102 intends to address vegetation management work across the system regardless of the  
103 challenges, including access to specific work sites.

104 **Q. Do you agree with Mr. Irizarry's statement on page 11, lines 14-24 of his additional**  
105 **pre-filed testimony that tree trimming of lines adjacent to roads and highways is easy**  
106 **as these lines are easy to reach than lines that cross mountainous regions?**

107 A. No.

108 **Q. Please explain your response.**

109 A. Mr. Irizarry's statement characterizes vegetation management in such a manner that, based  
110 on what he implies, the Puerto Rico Electric Power Authority should have had no problems  
111 managing vegetation in the past. The idea that tree trimming of lines adjacent to roads and  
112 highways is easy as these lines are easy to reach is incorrect. As stated before, "hard-to-  
113 reach targets" in vegetation management can be found everywhere and are not only limited  
114 to cross-mountainous regions. Mr. Irizarry's statement comes from a very simplistic  
115 understanding of vegetation management and fails to consider challenges present in


“urban” vegetation management scenarios.

**Q. Do you have a response to Mr. Irizarry’s statement on page 10, lines 14-15, of his additional pre-filed testimony in which he states that vegetation management is critically important for reliability, resiliency, and public safety?**

A. Yes, I do.

**Q. Please state and explain your response.**

A. Vegetation management is only one of several things that can impact customer service reliability. SAIFI and SAIDI are the metrics that directly indicate the reliability of service to customers and already capture the impact of vegetation management related to service reliability to customers, among many other outage causes. The addition of an enhanced vegetation management incentive metric is duplicative of other technical metrics, such as SAIDI & SAIFI. It would lead to a situation where the metric would result in a redundant incentive structure.

 **Q. Do you agree with Mr. Irizarry’s proposal on page 11, lines 1-10, of his additional pre-filed testimony that the Energy Bureau can set some metrics on LUMA’s overall progress on vegetation management using as baselines and benchmarks the responses requested by the Energy Bureau in a discovery request?**

A. No.

**Q. Please state and explain your response.**

A. LUMA believes that metrics regarding vegetation management are already incorporated in the SAIDI and SAIFI metrics performance. Therefore, adding vegetation management metrics would be a duplicative, and overly prescriptive effort that would incentivize less than cost-effective spending on reliability improvement.



139 The objectives of most utility vegetation management programs are to address vegetation  
140 in both short-term reliability and long-term cost control. Compliance-based programs  
141 typically address the short-term reliability for compliance with regulations and not the best  
142 value or use of available resources and budgets.

143 **Q. Do you have a response to Mr. Irizarry's statement on page 11, lines 8-10, of his**  
144 **additional pre-filed testimony in which he states that the Energy Bureau should avoid**  
145 **setting a compliance benchmark and, even more so, a target that offers an incentive,**  
146 **that is a global percentage based on all lines?**

147 A. Yes, I do.

148 **Q. Please state and explain your response.**

149 A. This would not be good for Puerto Rico. These "commission-based" specifications  
150 typically, in both the short and long run, tend to raise the cost of service; and usually fail  
151 to fully identify or remediate the risks associated with vegetation management along  
152 electrical lines.

153 **Q. Does this complete your testimony?**

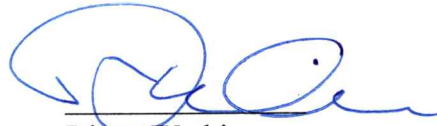
154 A. Yes.



## ATTESTATION

Affiant, Mrs. Diane Watkins, being first duly sworn, states the following:

The prepared Rebuttal Testimony constitutes my rebuttal testimony in the above-styled case before the Puerto Rico Energy Bureau. I would give the answers set forth in the Rebuttal Testimony if asked the questions that are included in the Rebuttal Testimony. I further state that the facts and statements provided herein is the rebuttal testimony and, to the best of my knowledge, are true and correct.

  
Diane Watkins

Affidavit No. 556

Acknowledged and subscribed before me by Mrs. Diane Watkins in her capacity as Vice President, Vegetation Management, LUMA Energy ServCo LLC, of legal age, married, and resident of San Juan, Puerto Rico, who I have identified through her Driver's License issued by the State Colorado, No. 14-212-1265.

In San Juan, Puerto Rico, this 24 day of January, 2023.


  
Notary Public



Exhibit 3

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

IN RE:

PERFORMANCE TARGETS FOR LUMA  
ENERGY SERVCO, LLC

CASE NO.: NEPR-AP-2020-0025

Direct Testimony of

Mr. ~~Jorge Meléndez~~ Curtis Clark

~~Safety and Training~~ Functional Lead, Emergency Preparedness, LUMA Energy ServCo, LLC  
~~September —, 2021~~  
January 24, 2023<sup>1</sup>

<sup>1</sup> This testimony was originally submitted by Mr. Jorge Meléndez on September 9, 2021.



1 Q. Please state your name.

2 A. My name is ~~Jorge Meléndez~~Curtis Clark.

3 Q. Please state your business mailing address, title, and employer.

4 A. My business address is PO Box 363508, San Juan, Puerto Rico 00936-3508. I am the  
5 ~~Safety- and Training Department~~ Functional Lead of Emergency Preparedness at LUMA  
6 Energy ServCo, LLC.

7 Q. Please state your educational background.

8 A. I have a ~~bachelor's degree from Marshall University, WV with concentration in~~  
9 ~~accounting studies~~Bachelor of Science in Civil Engineering from the University of  
10 Alberta in Edmonton, Alberta, Canada and a Master of Science in Environmental  
11 Management from Royal Roads University in Victoria, British Columbia, Canada.

12 Q. Please state your professional experience.

13 ~~A. I have approximately twenty-one years of professional experience in the Occupational~~  
14 ~~Safety and Health in the Power and Energy Industry. In 2003, I joined the Quanta~~  
15 ~~Services Safety, Environmental, Health and Quality Department as a Corporate Training~~  
16 ~~and Safety Manager Lead.~~

17 A. I have worked in various roles in environmental, safety, quality, and emergency response  
18 within utilities and energy companies for the prior 14 years. I worked approximately 13  
19 years for ATCO's natural gas and electricity utility subsidiaries. I joined LUMA in  
20 March, 2020 and participated in LUMA's Front-End Transition Period from June, 2020  
21 through June, 2021 as Functional Lead, Environment within the Health, Safety,  
22 Environment and Quality Department. Starting on June 2021, I transitioned to the role of  
23 Functional Lead, Health, Safety, and Environment Programs. Throughout my roles with



| 24 LUMA since June 2021, I have been in charge of preparing, verifying and submitting the  
| 25 Health, Safety, and Environmental performance metrics, including the metrics reported to  
| 26 the Puerto Rico Energy Bureau in Case NEPR-MI-2019-0007. I was also a part of the  
| 27 LUMA team in charge of reviewing the baselines and targets for safety metrics to be  
| 28 included in the Revised Annex IX to the Puerto Rico Transmission and Distribution  
| 29 System Operation and Maintenance Agreement (“T&D OMA”) submitted to this Energy  
| 30 Bureau on February 25, 2021 and August 18, 2021.

31 **Q. Please describe your work experience prior to joining LUMA.**

| 32 A. ~~I have worked for several years developing, evaluating, and maintaining safety programs~~  
| 33 ~~throughout all Quanta Services Companies. In addition, participated and/or lead many~~  
| 34 ~~incidents investigations.~~ Prior to joining LUMA, I was responsible for managing an  
| 35 environmental and quality department at an ATCO natural gas subsidiary. The role  
| 36 included managing a team of professionals in ensuring organizational environmental and  
| 37 quality systems were established to minimize the operational impact to the environment  
| 38 and to ensure that work completed conformed to customer and regulatory requirements.  
| 39 Part of the role included validating and approving the organizational health, safety,  
| 40 environmental and quality metric data for submission to senior leadership and external  
| 41 stakeholders, including shareholders and government agencies.

42 **Q. On whose behalf are you testifying before the Puerto Rico Energy Bureau.**

43 A. My testimony is on behalf of LUMA as part of the Puerto Rico Energy Bureau (“Energy  
44 Bureau”), Commonwealth of Puerto Rico Public Service Regulatory Board proceeding  
45 Case No. NEPR-AP-2020-0025, the Performance Targets for LUMA Energy ServCo,  
46 LLC.

47 **Q. Are there any exhibits attached to your testimony?**

48 A. Yes, there is one exhibit attached to my testimony:

49 a. Exhibit A: KPI Metrics - Safety

50 **Q. Do you hold any professional licenses, and if so, which?**

51 A. ~~I hold the Certified Utility Safety Professional (CUSP) and Certified Health and Safety~~  
52 ~~Technician (CHST) certifications.~~ am a licensed Professional Engineer under the  
53 Association of Professional Engineer and Geoscientists of Alberta. I am also a Project  
54 Management Professional with the Project Management Institute.

55 **Q. Have you previously testified or made presentations before the Energy Bureau?**

56 A. ~~No~~ Yes. I testified at the Technical Conference held on October 18, 2022 in case *In re*  
57 *LUMA's Initial Budgets*, Case NEPR-MI-2021-0004.

58 **Q. Which documents did you consider for your testimony?**

59 A. I considered the following documents:

60 a. LUMA's Performance Metrics Targets Revised filing submitted on August 18, 2021,  
61 in this proceeding, Case No. NEPR-AP-2020-0025,

62 b. The Resolutions and Order issued by the Puerto Rico Energy Bureau on April 8,  
63 2021, May 21, 2021, and July 2, 2021, in Case NEPR-MI-2019-0007,

64 c. Motion resubmitting LUMA's comments on Performance Baselines and Metrics in  
65 Case No. NEPR-MI-2019-0007 submitted February 5, 2021 as revised on February 8,  
66 2021,

67 d. PREPA OSHA 300, 300A and 301 ~~log~~logs,

68 e. PREPA Casi Casi report, and

69 f. PREPA incident's log spreadsheet.

70 **Q. What is the purpose of your direct testimony?**

71 A. My testimony is in support of LUMA's Performance Metrics Targets Revised filing to be  
72 filed in this proceeding on August 18, 2021 ("LUMA's Performance Metrics Targets")  
73 on performance metrics related to safety, specifically:

74 a. OSHA Recordable Incident Rate – which is a calculation using total number of  
75 OSHA recordable incidents. An OSHA recordable incident is an injury or illness that  
76 results in one or more of the following: death, days away from work, restricted work  
77 or transfer to another job, medical treatment beyond first aid, loss of consciousness, a  
78 significant injury or illness diagnosed by a physician or other licensed health care  
79 professional,

80 b. OSHA Fatalities – which as per OSHA requires, considers all work-related fatalities  
81 be reported to OSHA within eight (8) hours. The industry standard target is 0  
82 fatalities, which has determined the Baseline and Target Performance Levels,

83 c. OSHA Severity Rate– which is used to measure the severity of workplace injuries  
84 and is commonly used to measure safety performance across the utility industry. Its  
85 calculation considers the total number of restricted and lost time days incurred as a  
86 result of a work-related injury, and

87 d. OSHA Days Away, Restricted and Transfer Rate ("OSHA DART Rate") – which is a  
88 calculation that considers the total number of injury cases that resulted in either lost  
89 time, restricted time, or a transfer from the employee's regular job.

90 **Q. Please describe the methodology for the Safety Performance Metrics.**

91 A. The methodology is aligned with OSHA requirements. As part of the OSHA  
92 requirements, every year employers must report to OSHA critical metrics that evidence

their health and safety performance. ~~Some of those metrics and their associated calculations are:~~

The reporting of these metrics is closely monitored by OSHA and the industries are subject to scrutiny based on their performance. These metrics are managed, tracked, and reported to ensure a safe & healthy workplace. Therefore, the primary value of these metrics is to evaluate and quantify the company's safety performance. The description for each of the metrics is as follows:

- a. OSHA Recordable Incident Rate: is the number of work-related OSHA recordable injury cases. The formula = (number of injuries and illnesses X 200,000) / Employee hours worked]
- b. OSHA Fatalities: is the number of work-related fatalities,
- c. OSHA Severity Rate is calculated on the basis of the OSHA Severe Injuries number of total work-related industry cases with severity days. The formula = (Total number of lost workdays or restricted x 200,000)/ actual hours worked by all employees, and
- d. DART Rate is the number of work-related injuries- The formula = (# of work-loss or restricted cases x 200,000) /# of hours worked.

**Q. What data, if any, was analyzed for the Safety Performance Metrics?**

A. Health and Safety Performance Metrics were established taking into consideration the PREPA OSHA 300 and 301 Logs and the PREPA Injury and Illness Data Reports including a Casi Casi report that PREPA began recording at the end of 2019. The data provided includes records from GENCO, Administration, and Transmission & Distribution ("T&D"). The first step during the analysis was to segregate the data to

reflect T&D and Administration only and exclude generation.

**Q. How was the available data analyzed to calculate the baseline for these Safety Performance Metrics?**

A. The segregated data for the time period proposed in the Energy Bureau's Resolution and Order of May 21, 2021, was evaluated (2020 FY). Also, the cases or reportable injuries were reviewed, and recordable injury reports were validated. In LUMA's review process the following evidence was found that raises questions on the reliability of the data that PREPA provided for Safety Metrics and that LUMA understands the Energy Bureau considered in its Resolution and Order of May 21, 2021:

1. New incident log for 2020 (Casi Casi) – A number of incidents and near misses included on a new report entitled 'Casi Casi.' These incidents were not classified as OSHA recordable injuries in the calculation of PREPA's original safety metrics submission. However, based on the information on the Casi Casi report, most of the incidents should have been recorded on the OSHA logs because they were injuries with medical treatment that included time out of work and/or medication. This information was crucial on our decision to include the relevant Casi Casi incidents that had evidence of OSHA recordability in the calculations on the baseline numbers instead of the numbers provided in the Energy Bureau based on PREPA's reported data, which exclude all Casi Casi incidents. I include two examples of incidents included on the Casi Casi report here for demonstration:

- Example 1 – on 1/03/2020 employee was involved on an official vehicle accident resulting on **10 days out of work**



- Example 2 – on 5/6/2020 an employee was struck by an insulated stick resulting on laceration on the right ear. Employee received **5 stitches**.

Based on a review of the data, the following information was included in the Casi Casi report but not included in the metrics data prepared by PREPA that LUMA understands was available to the Energy Bureau in issuing the Resolution and Order of May 21, 2021:

- 58 recordable injuries (for a revised total of 300 recordable injuries)
- 57 recordable injuries that resulted in lost workdays (for a revised total of 235 recordable injuries that resulted in lost workdays)
- A total of 510 lost workdays (for a revised total of 1990 lost workdays) - See Exhibit 121 A, Worksheet Casi Casi 2019 2020 – N, and
- The total number of hours worked was based on half of the total number of hours worked in 2019 (LUMA did not have monthly hours worked for the 2019 calendar year) plus the monthly hours worked from January 1 to June 30, 2021 - See Exhibit 125 A, Worksheet Casi Casi 2019 2020 – N.

**Q. What is your assessment of the data provided by PREPA to the Energy Bureau in connection with Safety Metrics?**

Evidence gathered during the front-end transition indicates that historical safety data compiled by PREPA contains inaccuracies. Although historical data for PREPA is available dating back to 2002, the detailed records to support that data are not available. In addition, interviews with individuals from the PREPA Occupational Health and Safety responsibility suggested that the supplied ~~info~~information contained inaccuracies. We

also identified differences in the raw data that PREPA provided and OSHA records. Most of ~~all~~ the Health & Safety data is collected and manually entered an excel spreadsheet, which may result in data transcription errors when manipulating data.

Also, PREPA was historically using an erroneous formula for Severity Rate. PREPA was using: Lost days/Total Incidents. The correct formula is: (Total Lost days and restricted/Total actual worked hours) X 200,000. Lastly, the aggregated data also includes Generation which should not be considered for LUMA.

Finally, LUMA requested from PREPA but did not receive, the reports of with the Corporación del Fondo del Seguro del Estado to determine if the recordable injury details match. The data that was used in the Resolution and Order of the Energy Bureau on May 21, 2021 in Case No. NEPR-MI-2019-0007, has not been compared to the reports of the Corporación del Fondo del Seguro del Estado. There is a significant risk with the variable of “Lost Days”. The determination for Lost Days comes from the Fondo del Seguro del Estado. The Fondo de Seguro del Estado is a government owned and operated organization. In Puerto Rico, the Fondo de Seguro del Estado must be used. However, there is little to no challenging of the outcomes of Fondo de Seguro del Estado and little to no modified work or restricted work

**Q. Why did LUMA propose different baselines for the Safety Performance Metrics?**

A. As previously stated, LUMA understands that the Energy Bureau’s baselines were calculated using a different Fiscal Year period and safety data that was inaccurate based on OSHA standards. The baseline proposed by LUMA is calculated using the health and safety data that is compliant with OSHA standards.

**Q. In brief, what are your recommendations for the baselines applicable to LUMA's Safety Metrics?**

A. LUMA believes that PREPA understated Safety Performance Metrics beginning in January 2020 with the creation of the Casi Casi report. Inclusion of appropriate data from the Casi Casi report increases PREPA's Safety Performance Metrics to levels consistent with prior periods and more accurately represents PREPA's historical performance. As a result, LUMA requests that PREB approves LUMA's adjustment to the Safety Performance Metrics baselines inclusive of relevant incidents from the Casi Casi report. The transparency and accuracy in the metrics reported is critical to avoid scrutiny from federal and local agencies. Reporting mistaken health and safety metrics creates a misconception on how the business is performing related to critical aspects such as the well-being of our employees, along with the opportunity to implement performance improvement plans based on the trending data.

**Q. How were LUMA's targets set for the Safety Performance Metrics?**

A. LUMA removed the GENCO incidents and added the relevant incidents in the Casi-Casi report to the data on the PREPA OSHA recordable injury log for the FY2019 and 2020. The proposed targets are laid out in Tables 2-9, 2-10, 2-11 and 2-12. OSHA Recordable Incident Rate target improvements were first compared to EEI industry standards then by assessing feasibility from PREPA's current state related to health and safety matters. A strategy was developed to lead LUMA to an Incident Reduction near 50% from the baseline in Year 3. Similar approaches were taken for OSHA Fatalities and OSHA DART Rate in terms of setting targets based on the goal to improve safety systems and processes.

OSHA Severity targets rely significantly on external factors outside of LUMA's control. For that reason, targets were set with the goal to improve performance, but providing flexibility to the extenuating circumstances that exist on a case-by-case basis.

**Q. How will the improvements be achieved for the Safety Performance Metrics?**

A. As explained in Section 3 of LUMA's Performance Metrics Targets Revised Filing, there are several opportunities for improvements from the creation and application of a safety plan involving a safety culture, training, assessing training needs, development of a safety training plan, analysis of metrics trends and causes and identification of prevention strategies, and design an incident reporting system and process for analysis and follow up. All of these opportunities will boost the health and safety program.

LUMA has prioritized objectives and initiatives to increase the level of safety for employees. The initiatives are supported by the programs in the Initial Budgets approved by the Energy Bureau, including establishing a software system for incident management, no-harm culture training and enhanced HSE&Q training programs and will also be supported by operational federally funded programs of the approved System Remediation Plan.

**Q. What is your request to the Energy Bureau?**

A. I request that the LUMA Safety Performance Metrics baselines and targets as detailed in LUMA's Revised Performance Metrics Targets Filing be approved as requested.

**Q. Does this complete your testimony?**

A. Yes.

## ATTESTATION

Affiant, Mr. ~~Jorge Meléndez~~Curtis Clark, being first duly sworn, states the following:

The prepared Direct Testimony constitutes my direct testimony in the above-styled case before the Puerto Rico Energy Bureau. ~~Affiant states that he~~I would give the answers set forth in the Direct Testimony if asked the questions that are included in the Direct Testimony. ~~Affiant further states that,~~The facts and statements provided herein ~~is his direct testimony~~are my Direct Testimony and to the best of ~~his~~my knowledge are true and correct.

---

Curtis Clark

Acknowledged and subscribed before me by Mr. ~~Jorge Meléndez~~Curtis Clark, in his capacity as ~~Safety and Training~~Functional Lead, Emergency Preparedness of LUMA Energy ServCo, LLC, of legal age, legally married and resident of San Juan, Puerto Rico, who is personally known to me.

In San Juan, Puerto Rico, this ~~—~~24th day of ~~September 2021~~January 2023.

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Public Notary



Direct Testimony

Exhibit A

<b>Summary report:</b> <b>Litera Compare for Word 11.2.0.54 Document comparison done on</b> <b>1/26/2023 2:02:39 PM</b>	
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GOVERNMENT OF PUERTO RICO  
PUERTO RICO PUBLIC SERVICE REGULATORY BOARD  
PUERTO RICO ENERGY BUREAU

IN RE:

PERFORMANCE TARGETS FOR LUMA  
ENERGY SERVCO, LLC

CASE NO.: NEPR-AP-2020-0025

Rebuttal Testimony of

Mr. ~~Jorge Meléndez~~ Curtis Clark

~~Safety and Training~~ Functional Lead, Emergency Preparedness, LUMA Energy ServCo., LLC

~~February 1, 2022~~

January 24, 2023<sup>1</sup>

<sup>1</sup> This Rebuttal Testimony was originally offered by Mr. Jorge Meléndez and filed in this proceeding on February 1, 2022.



1 Q. Please state your name.

2 A. My name is ~~Jorge Meléndez~~ Curtis Clark

3 Q. Please state your business mailing address, title, and employer.

4 A. My business address is PO Box 363508 San Juan, Puerto Rico 00936-3508. I am the  
5 ~~Safety and Training Department~~ Functional Lead ~~at~~ of Emergency Preparedness for LUMA  
6 Energy ServCo~~z~~ LLC.

7 Q. Please state your educational background.

8 A. I have a ~~bachelor's degree from Marshall University, WV, with a concentration in~~  
9 ~~accounting studies~~ Bachelor of Science in Civil Engineering from the University of  
10 Alberta in Edmonton, Alberta, Canada and a Master of Science in Environmental  
11 Management from Royal Roads University in Victoria, British Columbia, Canada.

12 Q. Please state your professional experience.

13 ~~A. I have approximately twenty one years of professional experience in Occupational Safety~~  
14 ~~and Health in the Power and Energy Industry. In 2003, I joined the Quanta Services~~  
15 ~~Safety, Environmental, Health, and Quality Department as a Corporate Training and~~  
16 ~~Safety Manager Lead.~~

17 A. I have worked in various roles in environmental, safety, quality, and emergency response  
18 within utilities and energy companies for the prior 14 years. I worked approximately 13  
19 years for ATCO's natural gas and electricity utility subsidiaries. I joined LUMA in  
20 March, 2020 and participated in LUMA's Front-End Transition Period from June, 2020  
21 through June, 2021 as Functional Lead, Environment within the Health, Safety,  
22 Environment and Quality Department. Starting on June 2021, I transitioned to the role of



Functional Lead, Health, Safety, and Environment Programs. Throughout my roles with LUMA since June 2021, I have been in charge of preparing, verifying and submitting the Health, Safety, and Environmental performance metrics, including the metrics reported to the Puerto Rico Energy Bureau in Case NEPR-MI-2019-0007. I was also a part of the LUMA team in charge of reviewing the baselines and targets for safety metrics to be included in the Revised Annex IX to the Puerto Rico Transmission and Distribution System Operation and Maintenance Agreement (“T&D OMA”) submitted to this Energy Bureau on February 25, 2021 and August 18, 2021.

Q. Please describe your work experience prior to joining LUMA.

A. ~~I have worked for several years developing, evaluating, and maintaining safety programs throughout all Quanta Services Companies. In addition, I participated and/or led many incidents investigations.~~ Prior to joining LUMA, I was responsible for managing an environmental and quality department at an ATCO natural gas subsidiary. The role included managing a team of professionals in ensuring organizational environmental and quality systems were established to minimize the operational impact to the environment and to ensure that work completed conformed to customer and regulatory requirements. Part of the role included validating and approving the organizational health, safety, environmental and quality metric data for submission to senior leadership and external stakeholders, including shareholders and government agencies.

Q. On whose behalf are you testifying before the Puerto Rico Energy Bureau.

A. My testimony is on behalf of LUMA as part of the Puerto Rico Energy Bureau (“Energy Bureau”), Commonwealth of Puerto Rico Public Service Regulatory Board proceeding

45 Case No. NEPR-AP-2020-0025, the Performance Targets for LUMA Energy ServCo, LLC.

46 **Q. Are there any exhibits attached to your testimony?**

47 A. No.

48 **Q. What is the purpose of your rebuttal testimony?**

49 A. To respond to those portions of the pre-filed testimony of Mr. Agustín Irizarry (“Mr.  
50 Irizarry”), on behalf of the Local Environmental and Civil Organizations (“LECO”), filed on  
51 November 16, 2021, in this proceeding, Case No. NEPR-AP-2020-0025, regarding LUMA’s  
52 proposed work-related safety metrics on OSHA Recordable Incident Rate, OSHA  
53 Fatalities, OSHA Severity Rate, and OSHA DART Rate. Specifically, I will address Mr.  
54 Irizarry’s recommendation number 6 on LUMA’s proposed safety metrics to impose  
55 penalties if minimum standards are not met and that a comparison with similar  
56 jurisdictions should be conducted to establish the minimum standard, set forth on page  
57 8, lines 11-16 and page 64, lines 20-25 of his direct pre-filed testimony, Mr. Irizarry’s  
58 testimony and statements on page 48, lines 1-12 on safety metrics, and his proposal that  
59 the Energy Bureau should adopt public safety metrics in this proceeding, stated on page  
60 25, lines 8-13 of his pre-filed testimony. I also testify to further support LUMA’s  
61 Performance Metrics Targets filing of September 24, 2021 (“LUMA’s Performance  
62 Metrics Targets”) on performance metrics related to safety.

63 **Q. Did you consider any documents for your rebuttal testimony?**

64 A. Yes, I did.

65 **Q. Which documents did you consider for your rebuttal testimony?**

- 66 a. LUMA's Performance Metrics Targets Revised filing submitted on September 24,  
67 2021, in this proceeding, Case No. NEPR-AP-2020-0025,
- 68 b. The Resolutions and Order issued by the Puerto Rico Energy Bureau on April 8, 2021,  
69 May 21, 2021, and July 2, 2021, in Case NEPR-MI-2019-0007,
- 70 c. The pre-filed testimony of Mr. Agustín Irizarry of November 16, 2021, filed in this  
71 proceeding, Case No. NEPR-AP-2020-0025 and his expert report, which is an exhibit  
72 of his pre-filed testimony,
- 73 d. The responses provided by Mr. Agustín Irizarry to LUMA's First and Second Sets of  
74 Interrogatories and Requests for Production of Documents notified on January 13,  
75 2022, and
- 76 e. Published Inspection Report by the Occupational Safety and Health Administration  
77 (OSHA) found publicly online in the following link  
78 [https://www.osha.gov/pls/imis/establishment.inspection\\_detail?id=1522938.015](https://www.osha.gov/pls/imis/establishment.inspection_detail?id=1522938.015).

79 **Q. Do you agree with recommendation number 6 by Mr. Irizarry on page 8, lines 11-14,**  
80 **page 48, lines 8-10, and page 64, lines 20-23 of his pre-filed testimony, where he**  
81 **proposes that the safety metrics be used only to impose penalties if minimum standards**  
82 **are not met?**

83 **A. No.**

84 **Q. Please explain your response.**

85 **A. I disagree with Mr. Irizarry's recommendation that the Energy Bureau impose penalties**  
86 **in connection with the safety metrics. First, like all utilities and other employers, LUMA**

falls under OSHA regulations and is subject to penalties and fines for noncompliance. Imposition of additional penalties will not promote incremental improvement in performance and could instead amount to double or multiple penalties. Second, LUMA's proposed safety metrics serve purposes different from those served by penalties, such as the ones OSHA has authority to impose. Incentives for safety metrics encourage the utility to improve safety metrics beyond the minimum threshold, whereas penalties are only useful for deterring poor performance in this area. LUMA's proposed metrics, baselines, and targets will allow LUMA and the Energy Bureau to assess LUMA's safety performance over time. The purpose of the performance metrics is to measure performance, not to deter conduct which is the main purpose served by penalties.

~~Fourth,~~Third, LUMA's Performance Metrics Targets on safety, submitted for consideration by the Puerto Rico Energy Bureau, were adopted within the competitive negotiated processes conducted by the Puerto Rico Public-Private Partnerships Authority that led to the execution of the Puerto Rico Transmission and Distribution System Operation and Maintenance Agreement of June 22, 2020 (T&D OMA). Per Section 14.1 (k) of the T&D OMA and as explained in the Revised Annex IX to the T&D OMA, the T&D OMA can be canceled for failure to meet three (3) Key Performance Metrics (including OSHA Fatalities and OSHA Severity Rate) during three (3) or more consecutive Contract Years provided that no such failure shall have been excused by a Force Majeure Event, an Outage Event or Owner Fault. This is the severest of penalties. To my knowledge, other utilities do not face a similar type of penalty. The proposed Key Performance Metric on OSHA fatalities with a baseline and target of zero (0) fatalities, is a good

example of the unsoundness of Mr. Irizarry's proposal that penalties be imposed if minimum standards are not met. This Key Performance Metric tracks all work-related recordable incidents. For example, if LUMA were to experience a higher recordable incidents rate than described in the baseline during three consecutive Contract Years LUMA could be faced with the harshest of penalties, which is the cancellation of the T&D OMA, ~~it~~. It is unreasonable to advocate for the imposition of an additional penalty. The additional penalty proposed by Mr. Irizarry serves no purpose and does not further performance-based incentives interests.

**Q. Do you agree with Mr. Irizarry's recommendation on page 8, lines 14-16, page 48, lines 10-12, and page 64, lines 23-25 of his pre-filed testimony that Puerto Rico OSHA rules should be consulted and a comparison with similar jurisdictions should be conducted to establish the minimum standard?**

**A. No.**

**Q. Please explain your response.**

**A.** OSHA does not set minimum performance standards, baselines, or targets to impose penalties. OSHA is not in the business of setting specified percentages in the reduction of recordable incidents or fatalities that a utility must meet. OSHA sets standards that must be met. On a case-by-case basis, OSHA investigates recordable incidents and imposes penalties if it determines that the employer incurred violations. Also, OSHA does not impose penalties for all recordable incidents, nor does OSHA impose penalties for failure to meet minimum performance standards. Lastly OSHA standards in Puerto Rico are consistent with other OSHA jurisdictions. Mr. Irizarry is mistaken in suggesting that



131 Puerto Rico OSHA rules or those in other jurisdictions should be consulted to establish  
132 minimum performance standards to impose penalties on LUMA.

133 **Q. Please provide an example of circumstances in which an incident recordable with OSHA**  
134 **occurs, but OSHA does not impose a penalty against the employer or utility.**

135 **A.** One published example is found publicly in the OSHA website,  
136 [https://www.osha.gov/pls/imis/establishment.inspection\\_detail?id=1522938.015](https://www.osha.gov/pls/imis/establishment.inspection_detail?id=1522938.015), for  
137 Black Warrior Electric Membership Corporation, where OSHA investigated a fatality in  
138 the workplace and closed its investigation without imposing a penalty on the employer  
139 as there were no findings of an OSHA violation, which was an electric power utility.

140 **Q. Do you agree with Mr. Irizarry's statement on page 48, lines 1-6 of his pre-filed**  
141 **testimony, that the purpose of employee safety (labor safety) is to ensure that**  
142 **employees are not subjected to excessive risks?**

143 **A.** No.

144 **Q. Please explain your response.**

145 **A.** The statement on avoidance of excessive risks is incorrect. The term "excessive risks"  
146 employed by Mr. Irizarry is not part of OSHA's framework nor, in my experience, used in  
147 the utility industry to measure safety performance by a utility. In my experience, OSHA  
148 seeks to eliminate all risks. LUMA's safety metrics are designed to induce performance in  
149 a manner that eliminates all risks.

150 **Q. Do you have a response to Mr. Irizarry's statement on page 48, lines 2-4, that it is a very**  
151 **bad idea to provide a financial incentive to a company for merely complying with basic**  
152 **moral, legal, and ethical obligations such as employee safety?**

153 A. Yes.

154 Q. **Please explain your response.**

155 A. Safety incentive metrics help utilities encourage employees to share the organization's  
156 goals for safety for all employees. Incentives utilize objective historical data designed to  
157 meet performance standards on safety, bearing in mind legal and regulatory standards.  
158 LUMA's performance metrics on safety are designed to track performance according to  
159 applicable OSHA requirements and to comply with Puerto Rico public policy to provide  
160 safe electric power services, which safety starts with LUMA's employees.

161 Q. **Do you agree with Mr. Irizarry's proposal that the Energy Bureau consider and approve**  
162 **a public safety metric on *Incidents, Injuries, and Fatalities*, which purpose is described as**  
163 **an "indicator of incidents, injuries and fatalities associated contact with the electric**  
164 **system by members of the public," as stated on page 25, lines 8-13 of his pre-filed**  
165 **testimony?**

166 A. No.

167 Q. **Please explain your response.**

168 A. The safety of the public is very important to LUMA. As a result, LUMA has and will  
169 continue to invest specifically in the education of the public regarding electrical safety.  
170 However, LUMA cannot control the behaviors of third-party contractors and the public  
171 with respect to the electric power system. Incidents due to public wrongdoing violation  
172 do not imply any LUMA wrongdoing. For many public safety incidents, legal processes  
173 are conducted to determine responsibility after an extensive review of the relevant facts,  
174 and the process may take an extended period. As a result, LUMA strongly feels that

175 public safety is not conducive to metric setting and should not be considered in this  
176 proceeding. Additionally, LUMA's Performance Metrics Targets were adopted within the  
177 competitive negotiated processes that resulted in the execution of the T&D OMA and  
178 revised in accordance with the procedures set forth in the T&D OMA. LUMA's proposal  
179 does not envision adding public safety metrics for the first three years of operations  
180 further than what is proposed in the T&D OMA. The public safety metric category  
181 proposed by Mr. Irizarry on incidents, injuries, and fatalities is not aligned with the T&D  
182 OMA.

183 **Q. Does this complete your testimony?**

184 **A.** Yes.  
185

## ATTESTATION

Affiant, Mr. ~~Jorge Meléndez~~Curtis Clark, being first duly sworn, states the following:

The prepared Rebuttal Testimony constitutes my Rebuttal Testimony in the above-styled case before the Puerto Rico Energy Bureau. ~~Affiant states that he~~I would give the answers set forth in the Rebuttal Testimony if asked the questions that are included in the Rebuttal Testimony. ~~Affiant~~I further ~~states~~state that the facts and statements provided herein ~~is his direct testimony~~are my Rebuttal Testimony and, to the best of ~~his~~my knowledge, are true and correct.

---

~~Jorge Meléndez~~Curtis Clark

Affidavit No. \_\_\_\_\_

Acknowledged and subscribed before me by Mr. ~~Jorge Meléndez~~Curtis Clark, in his capacity as ~~Safety and Training~~Functional Lead ~~of~~, Emergency Preparedness, LUMA Energy ServCo~~, LLC~~, LLC, of legal age, legally married and resident of ~~Loíza~~San Juan, Puerto Rico, who is personally known to me.

In San Juan, Puerto Rico, this ~~1<sup>st</sup>~~24<sup>th</sup> day of ~~February 2022~~January 2023.

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Public Notary

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

IN RE:

PERFORMANCE TARGETS FOR LUMA  
ENERGY SERVCO, LLC

CASE NO.: NEPR-AP-2020-0025

Direct Testimony of

~~Mr.~~ Mrs. Brent Bolzenius Diane Watkins  
~~Director~~ Vice President, Vegetation and Work Management, LUMA Energy ServCo, LLC  
~~October 28~~ January 24, ~~2022~~  
2023<sup>1</sup>

<sup>1</sup> This testimony was initially submitted by Brent Bolzenius, LUMA's Director of Vegetation Management, on October 28, 2022.

1 **Q1. Please state your name, business address, title, and employer.**

2 A1. My name is ~~Brent Bolzenius~~Diane Watkins. My business address is PO Box 363508, San  
3 Juan, Puerto Rico, 00936-3508. I am ~~the Director~~Vice President, Vegetation and Work  
4 Management for LUMA Energy ServCo, LLC.

5 **Q2. On whose behalf are you testifying before the Puerto Rico Energy Bureau (the**  
6 **“Energy Bureau”).**

7 A2. My testimony is on behalf of ~~the~~ LUMA Energy LLC and LUMA Energy ServCo, LLC,  
8 as part of the Commonwealth of Puerto Rico Public Service Regulatory Aboard Puerto  
9 Rico Energy Bureau (Energy Bureau) proceeding NEPR-AP-2020-0025, the Performance  
10 Targets for LUMA Energy ServCo, LLC.

11 **Q3. Are there any exhibits attached to your testimony?**

12 A3. No, there are no exhibits attached to my testimony.

13 **Q4. What is your educational background?**

14 A4. I ~~hold a Bachelor's Degree in Forestry from the University of Missouri having graduated~~  
15 ~~December 2003. I also hold~~graduated from Arizona State University in December 1999  
16 with a Bachelor of Science in Engineering (B.S.E.) degree in Electrical Engineering. I  
17 graduated again from Arizona State University in August 2007 with a Master of Business  
18 Administration ~~from Black Hills State University having graduated in May 2014~~(M.B.A.)  
19 degree.

20 **Q5. What is your professional experience?**

21 A5. I have ~~approximately 18~~over 20 years of professional experience ~~vegetation management~~  
22 ~~in the United States Utility Industry with multiple notable utilities. In January 2021, I~~

23 ~~joined LUMA's Vegetation management department as a Director~~ in the utility industry.

24 In October 2022, I joined LUMA Energy as Vice President of Vegetation and Work

25 Management.

26 **Q6. Please describe your work experience prior to joining LUMA.**

27 A6. Prior to joining ~~LUMA~~ Luma, I ~~managed the overall vegetation programs at two of Xcel~~  
28 ~~Energy's operating companies in Colorado, Texas & New Mexico. Furthermore, prior to~~  
29 ~~Xcel Energy, I spent over 5 years in a leadership role at Black Hills Energy, a utility~~  
30 ~~who's three vegetation management programs over three states were centralized and~~  
31 ~~where tree caused outages were reduced by 70% during my tenure. Prior Roles included:~~  
32 ~~supervision of all vegetation management activities related to vegetation contractors,~~  
33 ~~their financial management, safety, and work planning at Ameren Union Electric in~~  
34 ~~Missouri and Aguila (merged with Evergy) in Missouri.~~ was the Director of Wildfire  
35 Mitigation at Xcel Energy in Denver, Colorado. In that role, I led the company's strategic  
36 development and execution of the wildfire mitigation plan. The plan included enhanced  
37 vegetation management practices, system hardening, and conservative operations in  
38 high-risk threat areas, among other activities. I also held a previous role at Xcel Energy in  
39 Federal Regulatory Affairs, where I prepared tariff compliance and position documents  
40 submitted to the Federal Energy Regulatory Commission (FERC), represented the  
41 company's positions on distributed energy resource issues at the Midcontinent  
42 Independent System Operator (MISO), and served as Chief Compliance Officer for FERC  
43 Standards of Conduct. Prior to my work in Federal Regulatory Affairs, I was the Manager  
44 of Substation Field Engineering, where I led a team of over 20 engineers who provided

field support for the maintenance of over 1200 substations in eight (8) states. Before  
Xcel Energy, I held a variety of electric utility engineering and leadership roles at David  
Evans and Associates and Salt River Project, both in Phoenix, Arizona.  
I am a Senior Member of the Institute of Electrical and Electronics Engineers (IEEE) and  
the current Vice Chair of the IEEE Power and Energy Society (PES) Technical Council.  
In 2016, I served as Editor of the Substations Chapter of the 17<sup>th</sup> Edition of the  
McGraw-Hill Standard Handbook for Electrical Engineers.

**Q7. Do you hold any professional licenses, and if so, which?**

A7. Yes. ~~Two Credentials from the International Society of Arboriculture: Certified Arborist~~  
~~& Utility Specialist and one from the Project Management Institute as a Project~~  
~~Management Professional.~~ I am registered as a Professional Engineer (P.E.) in Electrical  
Engineering by the State of Arizona.

**Q8. Have you previously testified or made presentations before the Energy Bureau?**

A8. No

~~A8. Yes. I have testified in the following proceedings before this Energy Bureau:~~  
~~a. In Re: Review of Puerto Rico Electric Power Authority's Comprehensive Vegetation~~  
~~Management Program, Case No. NEPR-MI-2019-0005 in an August 13, 2021 Technical~~  
~~Conference, and~~  
~~b. In RE Review of LUMA's Initial Budgets, Case NEPR-MI-2021-0004, in a September 13, 2022~~  
~~Technical Conference.~~

**Q9. Which documents did you consider for your testimony?**

A9. I considered the following documents:

- LUMA's Revised Annex IX to the Puerto Rico Transmission and Distribution

System Operation and Maintenance Agreement (T&D OMA) filed with this Energy Bureau on September 23, 2021, in this proceeding

- The T&D OMA
- The Revised Annex IX to the T&D OMA ~~to be~~ filed on October 28, 2022, in this proceeding
- LUMA’s Vegetation Management Plan (VMP) filed with this Energy Bureau on August 5, 2021, Case *In re In Re: Revisión del Programa Comprensivo de Manejo de Vegetación de la Autoridad de Energía Eléctrica*, NEPR-MI-2019-0005
- The written testimony of Agustín Irizarry provided on behalf of LECO on November 17, 2021, and his testimony of March 22, 2022, filed in this proceeding
- ~~My prior~~ The testimonies by Mr. Brent Bolzenius, filed in this proceeding, filed on February 1<sup>st</sup>, 2022, and April 27<sup>th</sup>, 2022.

**Q10. What is the purpose of your Direct Testimony?**

A10. The purpose of my testimony is to explain a performance metric for vegetation management that has been included in the Revised Annex IX to the T&D OMA in attention to an order of this Energy Bureau. LUMA is presenting “Vegetation Maintenance Miles Completed (230kV, 115kV, 39kV, primary Distribution Lines)” for consideration in compliance with the Energy Bureau’s Resolution and Order issued on August 1, 2022.

**Q11. Please describe the performance metric for the Vegetation Maintenance Miles Completed.**



A11. The metric monitors the number of line miles completed for vegetation maintenance work each fiscal year along 230kV, 115kV, 38kV lines, and primary Distribution lines.

**Q12. Describe what type of vegetation maintenance work is included in this performance metric.**

A12. Vegetation maintenance represents a continuous and repetitive process. These activities are classified into 3 categories:

- Reactive: Work that cannot be planned or scheduled but requires immediate attention. This work is typically related to service interruptions and outages.
- Corrective: Work that is difficult to plan for, but once identified, can be efficiently scheduled. This work is generated by customer requests, LUMA operations and/or LUMA staff.
- Preventative: Work that can be specifically planned for and prioritized, scheduled, and managed on a project basis. It represents the largest portion of Vegetation Management in the O&M budget.

**Q13. What is the objective of the Vegetation Maintenance Miles Completed performance metric?**

A13. The objective is to reduce the impact of vegetation near electric utility infrastructure resulting in improvements in the safety & reliability of the Transmission & Distribution (T&D) system. As the metric will allow LUMA to track progress on the Vegetation Management Plan and incentivizes improved system safety and reliability by promoting vegetation maintenance along transmission and distribution lines, it is my position that if the Energy Bureau rules that a Vegetation Management metric should be added to the Revised Annex IX to the T&D OMA, this should be the metric utilized for vegetation

management. I incorporate by reference ~~my prior~~other testimonies in this proceeding,  
originally filed on February 1, 2022, and April 27<sup>th</sup>27, 2022, ~~where I explained~~by Mr.  
Brent Bolzenius, and which I am filing with this Energy Bureau today, that explain  
LUMA's position on vegetation management performance metrics suggested by  
intervenors, including that vegetation management metrics are already included in the  
SAIDI and SAIFI performance metrics.

**Q14. Explain how the performance metric on Vegetation Maintenance Miles Completed  
will result in improvements in the safety & reliability of the T&D system.**

A14. As Vegetation can often cause electrical outages in Puerto Rico, increasing the  
Vegetation Maintenance Miles Completed will assist in reducing interruptions of  
electrical service in tandem with LUMA's other efforts to improve reliability in order to  
provide safe and reliable service to LUMA's customers.

**Q15. Please describe the methodology for the performance metric on Vegetation  
Maintenance Miles Completed.**

A15. The performance metric target takes into account projections of vegetation maintenance  
miles possible to complete given the availability of resources, budgets, vegetation  
conditions, and required day-to-day operational support.

**Q16. Explain why only primary Distribution lines were included in the metric.**

A16. Examples of secondary Distribution lines include street light service lines and ~~pole-to~~  
~~house~~pole-to-house service drops, among others. These types of lines have a small  
overall impact on the reliability of the system; and the maintenance miles data associated  
with secondary Distribution lines are difficult to identify and track.

135 Q17. What data ~~did you examine~~was examined to develop the Vegetation Management  
136 Metric?

137 A17. ~~I began with a review of~~First, the actual recent historical number of Vegetation  
138 Maintenance Miles Completed was reviewed. Then, ~~I considered~~ LUMA's working  
139 knowledge of the T&D system, existing vegetation conditions, and industry vegetation  
140 management best practices was considered to project forward a reasonable target for  
141 future performance.

142 Q18. What considerations were made to determine the targets for 1,600 miles ~~on~~in Year  
143 1, 1,800 miles in Year 2, and 2,000 miles in Year 3?

A18 Historical data was used to set targets while considering empirical and working knowledge of the T&D system. ~~I~~We considered that in Fiscal Year 2022, as described in LUMA's Vegetation Management Plan, much of LUMA's vegetation management activities were focused on reactive and corrective work in the first six months of operations due to the overall condition of vegetation clearances on the T&D system. The targets also consider that in quarters three and four of Fiscal Year 2022, LUMA initiated and transitioned to more planned vegetation maintenance and reclamation as an increasing amount of reactive and corrective work was resolved. ~~I~~We also considered the ongoing transition from reactive and corrective work during Fiscal Year 2023 as the portion of ~~preventative~~ planned preventative work to the total vegetation maintenance work completed is increasing.

Finally, the targets consider that ~~preventative~~ planned preventative work generally requires less time per mile to complete. Therefore, in future years as reactive work is decreased year over year, LUMA will be able to increase its yearly Vegetation Maintenance Miles Cleared target as reflected in the Revised Annex IX filing.

**Q19. Explain how the minimum performance levels were established?**

A19. ~~Consistent with other metrics in LUMA's Revised Annex IX to the T&D OMA, the~~The minimum performance is set at 10% of the annual target goal.

**Q20. What actions will LUMA take to meet the targets?**

A20. LUMA will continue to take several actions to meet the targets such as continuing to shift from the reactive/corrective remediation measures to more preventative reclamation of vegetation operations along the T&D system, continuing to seek and implement operational improvements, and seeking opportunities to utilize federal funding sources.

167     **Q21. In brief, what are your recommendations?**

168     A21. It is recommended that if the Energy Bureau determines that a vegetation management  
169           metric be included in the Revised Annex IX to the T&D OMA, the Energy Bureau adopt  
170           the Vegetation Maintenance Miles Completed metric as proposed by LUMA in Annex  
171           IX. The metric will allow LUMA to track progress on the VMP and incentivizes  
172           improved system safety and reliability by promoting vegetation maintenance along  
173           transmission and distribution lines.

174     **Q22. Does this complete your testimony?**

175     A22. Yes.

176

## ATTESTATION

Affiant, ~~Mr. Brent Bolzenius~~Mrs. Diane Watkins, being first duly sworn, states the following:

The prepared Direct Testimony constitutes my direct testimony in the above-styled case before the Puerto Rico Energy Bureau. ~~Affiant states that he~~I would give the answers set forth in the Direct Testimony if asked the questions that are included in the Direct Testimony. ~~Affiant~~I further ~~states~~state that, ~~the~~the facts and statements provided herein ~~is his direct testimony~~in the Direct Testimony and to the best of ~~his~~my knowledge are true and correct.

~~Brent Bolzenius~~Diane Watkins

Affidavit No. \_\_\_\_\_

Acknowledged and subscribed before me by ~~Mr. Brent Bolzenius in his~~Mrs. Diane Watkins in  
her capacity as ~~Director~~Vice President, Vegetation and Work Management, LUMA Energy  
ServCo LLC, of legal age, ~~single~~married, and resident of ~~Bayamón~~San Juan, Puerto Rico, who ~~is~~  
~~personally known to me~~I have identified through her Driver's License issued by the State  
Colorado, No. 14-212-1265.

In ~~Bayamón~~San Juan, Puerto Rico, this ~~28<sup>th</sup>~~24 day of ~~October 2022~~January 2023

\_\_\_\_\_  
Notary Public



<b>Summary report:</b> <b>Litera Compare for Word 11.2.0.54 Document comparison done on</b> <b>1/26/2023 8:37:30 AM</b>	
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GOVERNMENT OF PUERTO RICO  
PUERTO RICO PUBLIC SERVICE REGULATORY BOARD  
PUERTO RICO ENERGY BUREAU

IN RE:

PERFORMANCE TARGETS FOR LUMA  
ENERGY SERVCO, LLC

CASE NO.: NEPR-AP-2020-0025

Rebuttal Testimony of

~~Mr.~~Mrs. Brent Bolzenius Diane Watkins  
~~Director~~Vice President, Vegetation & Work Management, LUMA Energy ServCo LLC  
~~February 1, 2022~~  
January 24, 2023<sup>1</sup>

<sup>1</sup> This testimony was initially submitted by Brent Bolzenius, LUMA's Director of Vegetation Management, on February 17, 2022.



1 Q. Please state your name.

2 A. My name is ~~Brent Bolzenius~~ Diane Watkins.

3 Q. Please state your business mailing address, title, and employer.

4 A. My business mailing address is PO Box 363508, San Juan, Puerto Rico 00936-3508. I am  
5 the Vice President, Director of Vegetation & Work Management for LUMA Energy ServCo  
6 LLC.

7 Q. Please state your educational background.

8 A. I ~~hold a Bachelor Degree in Forestry from~~ graduated from Arizona State University ~~of~~  
9 ~~Missouri having graduated~~ in December ~~2003. I also hold a Masters~~ 1999 with a Bachelor  
10 of Science in Engineering (B.S.E.) degree in Electrical Engineering. I graduated again from  
11 Arizona State University in August 2007 with a Master of Business Administration ~~from~~  
12 ~~Black Hills State University having graduated in May 2014~~ (M.B.A.) degree.

13 Q. Please state your professional experience.

14 A. I have ~~approximately 18~~ over 20 years of professional experience in ~~vegetation~~  
15 ~~management in the United States~~ the utility industry ~~with multiple notable utilities. In~~  
16 ~~January 2021. In October 2022,~~ I joined LUMA Energy as Vice President of Vegetation  
17 and Work Management.

18 Q. Please describe your work experience prior to joining LUMA.

19 A. Prior to joining ~~LUMA~~ Luma, I ~~managed the overall vegetation programs at two of Xcel~~  
20 ~~Energy's operating companies in Colorado, Texas, and New Mexico. Furthermore, prior~~  
21 ~~to Xcel Energy, I spent over 5 years in a leadership role at Black Hills Energy, a utility~~  
22 ~~whose three vegetation programs over three states were centralized and where~~

~~tree caused outages were reduced by 70% during my tenure. Prior roles included:~~  
~~supervision of all vegetation management activities related to vegetation contractors,~~  
~~their financial management, safety, and work planning at Ameren Union Electric in~~  
~~Missouri and Aquilla (merged with Evergy) in Missouri.~~ was the Director of Wildfire  
Mitigation at Xcel Energy in Denver, Colorado. In that role, I led the company's strategic  
development and execution of the wildfire mitigation plan. The plan included enhanced  
vegetation management practices, system hardening, and conservative operations in  
high-risk threat areas, among other activities. I also held a previous role at Xcel Energy in  
Federal Regulatory Affairs, where I prepared tariff compliance and position documents  
submitted to the Federal Energy Regulatory Commission (FERC), represented the  
company's positions on distributed energy resource issues at the Midcontinent  
Independent System Operator (MISO), and served as Chief Compliance Officer for FERC  
Standards of Conduct. Prior to my work in Federal Regulatory Affairs, I was the Manager  
of Substation Field Engineering, where I led a team of over 20 engineers who provided  
field support for the maintenance of over 1200 substations in eight (8) states. Before  
Xcel Energy, I held a variety of electric utility engineering and leadership roles at David  
Evans and Associates and Salt River Project, both in Phoenix, Arizona.

I am a Senior Member of the Institute of Electrical and Electronics Engineers (IEEE) and  
the current Vice Chair of the IEEE Power and Energy Society (PES) Technical Council.  
In 2016, I served as Editor of the Substations Chapter of the 17<sup>th</sup> Edition of the  
McGraw-Hill Standard Handbook for Electrical Engineers.

Q. Do you hold any professional licenses?

45 A. Yes. ~~Two credentials from the International Society of Arboriculture: Certified Arborist &~~  
46 ~~Utility Specialist and one from the Project Management Institute as a Project~~  
47 ~~Management Professional.~~ I am registered as a Professional Engineer (P.E.) in Electrical  
48 Engineering by the State of Arizona.

49 Q. Have you previously testified or made presentations before the Puerto Rico Energy  
50 Bureau?

51 A. ~~Yes, I made a presentation during a Technical Conference on LUMA's Vegetation~~  
52 ~~Management Plan held on August 13, 2021.~~ No.

53 Q. On whose behalf are you testifying before the Puerto Rico Energy Bureau?

54 A. My testimony is on behalf of LUMA as part of the Puerto Rico Energy Bureau ("Energy  
55 Bureau"), Commonwealth of Puerto Rico Public Service Regulatory Board proceeding  
56 Case No. NEPR-AP-2020-0025, the Performance Targets for LUMA Energy ServCo, LLC.

57 Q. Are there any exhibits attached to your testimony?

58 A. No.

59 Q. What is the purpose of your rebuttal testimony?

60 A. To respond to those portions of the pre-filed testimony of Mr. Agustín Irizarry ("Mr.  
61 Irizarry") on behalf of the Local Environmental and Civil Organizations ("LECO"), filed on  
62 November 16, 2021, in this proceeding, regarding his proposed metric on Enhanced  
63 Vegetation Management.

64 Q. Did you consider any documents for your rebuttal testimony?

65 A. Yes, I did.

66 Q. Which documents did you consider for your rebuttal testimony?

- a. LUMA's Performance Metrics Targets Revised filing submitted on September 24, 2021, in this proceeding, Case No. NEPR-AP-2020-0025,
- b. The pre-filed testimony of Mr. Agustín Irizarry of November 16, 2021, filed in this proceeding, Case No. NEPR-AP-2020-0025 and his expert report, which is an exhibit of his pre-filed testimony,
- c. The responses provided by Mr. Agustín Irizarry to LUMA's First and Second Sets of Interrogatories and Requests for Production of Documents notified on January 13, 2022, and
- d. The responses provided by Mr. Agustín Irizarry to the Puerto Rico Energy Bureau's Requirements for Information, notified on December 20, 2021.

**Q. Do you agree with Mr. Irizarry's proposal for the Energy Bureau to adopt a metric on enhanced vegetation management, as stated on page 25, lines 16-18 of his direct pre-filed testimony?**

**A. No.**

**Q. Please explain your response.**

A. LUMA disagrees with such a proposal. First, an enhanced vegetation management incentive metric is not necessary. The existent operational metrics subject to incentives, such as SAIDI and SAIFI, will show any reduction of outages to customers and includes the results of a utility's vegetation management program. The addition of an enhanced vegetation management incentive metric, as proposed, would be duplicative ~~with~~of other technical metrics. It should also be noted that vegetation management incentive



metrics do not in themselves provide for better reliability to the customer, and a more comprehensive methodology like SAIDI and SAIFI is more appropriate.

Second, Mr. Irizarry's proposal is based on the California Public Utilities Commission's ("CPUC") adoption of safety performance metrics after it placed the Pacific Gas and Electric Company ("PG&E") into the first step of the CPUC's Enhanced Oversight and Enforcement Process. The CPUC's action was based on PG&E's failure to sufficiently prioritize clearing vegetation on its highest-risk power lines as part of its wildfire mitigation work in 2020. The metrics referenced for PG&E were additional parameters added after a wildfire. The CPUC designed the Enhanced Oversight and Enforcement Process as a condition for approving PG&E's plan for exiting bankruptcy in May 2020. These efforts to monitor PG&E were part of many actions the CPUC took with respect to PG&E's bankruptcy, system safety, and mitigating wildfire threats. The vegetation safety issues were very different from those encountered in Puerto Rico.

From an applicability standpoint, one state in the United States with particular circumstances or probationary measures due to a catastrophic event does not dictate that these incentive metrics are -relative or applicable ~~for~~to Puerto Rico.

Q. Do you agree with Mr. Irizarry's proposal on page 25, lines 16-18 of his pre-filed testimony, that the proposed metric should measure the electric miles lines annually subjected to tree trimming divided by the total electric line miles?

A. No.

Q. Please explain your response.

A. Mr. Irizarry's proposal tries to address a complex issue in a very simplistic way and fails

to consider other equally important factors. Meaningful aspects of a vegetation management program include safety, customers, outage events and frequency, tree density, schedules, and specific vegetation types, among other areas. Tracking one unit or metric will not directly correlate to the success of a whole vegetation management program. The purpose of any utility's vegetation management program is to manage vegetation to reduce outages to acceptable levels. The prevention of all vegetation-caused outages is nearly impossible. Tracking miles alone can focus on the most negligible amounts of required vegetation to capture "miles" while not targeting work on areas of greater vegetation densities and the most significant impact despite being associated with lower amounts of miles. The effects of unmanaged vegetation often have varied impacts on different types of transmission and distribution infrastructure beyond transmission and distribution lines. For example, outages caused by vegetation at other facilities, such as substations, can have a greater impact on a higher number of customers than on a remote distribution line in a remote area.

**Q. Do you agree with Mr. Irizarry's statement on page 25, lines 16-18, of his pre-filed testimony that an enhanced vegetation management metric reduces voltage fluctuations, improves public safety, and eliminates damage to lines during storms?**

**A. No.**

**Q. Please explain your response.**

**A. Mr. Irizarry's statement draws a direct correlation between vegetation management and the reduction of voltage fluctuations, which is not entirely correct. One single statistic alone does not speak to the success of the whole vegetation management program.**

Tracking line miles in itself does not promote or eliminate outages during storms. Outages during a storm can occur for many reasons outside ~~of~~ vegetation (example: blowing debris, flooding, and broken infrastructure). Additionally, in general, the way to reduce vegetation outages and harden the grid during storms is to increase the clearances between conductors and vegetations, which is not addressed when solely addressing line miles. Further, voltage fluctuations are caused by a range of issues that are not solely the result of vegetation-related outages. They can be caused by but are not limited to insufficient generation or equipment failures due to historically neglected infrastructure.

**Q. Do you have a response to Mr. Irizarry's statement on page 35, line 16, of his pre-filed testimony in which he states that the Energy Bureau has recognized the value of enhanced vegetation management?**

**A.** Yes, I do.

**Q. Please state and explain your response.**

**A.** LUMA does not dispute the value of vegetation management programs. The Energy Bureau has a dedicated proceeding to vegetation management in Case No. NEPR-MI-2019-0005. LUMA has submitted a Vegetation Management Plan in said proceeding, which is currently before the Energy Bureau for its approval. However, this does not necessitate the need to earn an incentive in vegetation management. LUMA believes the Energy Bureau's monitoring of ~~the~~ vegetation management through the current docket (NEPR-MI-2019-0005) is a more constructive measure.

**Q. Do you have a response to Mr. Irizarry's statement on page 35, line 17-21, that LUMA**

154 has refused to provide information on planned trimmed miles, trim acreage, and  
155 widening miles?

156 A. Yes, I do.

157 Q. Please state and explain your response.

158 A. Mr. Irizarry's characterization of LUMA's responses to the discovery requests issued by  
159 the Energy Bureau is improper. LUMA could not provide the requested information  
160 during discovery to the Energy Bureau as this information had not been developed at the  
161 time of the request. LUMA is open to regular reporting on agreed-upon information to  
162 provide progress and effectiveness of LUMA's Vegetation Management Plan. Once  
163 again, this does not require an incentive performance metric in vegetation management.

164 Q. Do you agree with Mr. Irizarry's proposal for the Energy Bureau to set penalties for  
165 failure to fulfill the planned tasks, as stated on page 35, lines 21-23 of his direct  
166 pre-filed testimony?

167 A. LUMA disagrees with Mr. Irizarry's proposal. LUMA's Vegetation Management Plan  
168 establishes the basis to transition from PREPA's practices into a more effective and  
169 efficient Vegetation Management Program and guides its management and organization.  
170 However, the implementation of LUMA's Vegetation Management Plan requires initial  
171 investments. It also requires continuous improvement through refinements and  
172 adjustments to accommodate changing objectives and conditions. The expectation is  
173 that implementation of the Vegetation Management Plan, over time, will reduce the cost  
174 and intensity of the vegetation management work required while at the same time  
175 improving system reliability and safety. Despite the effort to focus solely on

176 implementing and executing the Vegetation Management Plan, there are still times for  
177 more reactive and correct work as a result of outages, reliability, customer, public safety,  
178 or storm restoration to address conditions or critical/emergency circumstances. A  
179 penalty-based mechanism would incentivize the utility not to be agile and responsive to  
180 customer needs. It would result in incentivizing LUMA not to prioritize vegetation  
181 management work orders based on the circumstances at the time.

182 The Vegetation Management Plan recognizes that events will occur when planned  
183 preventive vegetation maintenance does not suffice, and corrective, agile, and  
184 responsive maintenance will be required. The expectation is that, over time, corrective  
185 vegetation maintenance will be performed as necessary as a one-off exception rather  
186 than a mode of operation based on localized reliability issues. Also, reactive vegetation  
187 maintenance will occur in response to tree-initiated faults, interruptions, and outages.

188 Contrary to what Mr. Irizarry states in his responses to the discovery requests issued by  
189 the Energy Bureau, Puerto Rico is not under or subject to the Federal Energy Regulatory  
190 Commission (FERC) as it relates to vegetation management. FERC and North American  
191 Electric Reliability Corporation (NERC)<sup>42</sup> requirements are generally only applicable for  
192 those lines greater than 200kV and part of the overall bulk electric system in the  
193 continental portions of North America. Since NERC does not have jurisdiction over  
194 Puerto Rico 's electric grid, there should not be any penalty to LUMA for not meeting  
195 standards that are not applicable to the system LUMA is operating. "LUMA's Vegetation

<sup>42</sup> NERC is a not-for-profit international regulatory authority responsible to administrate regulations and measurements to ensure the effectively operate the Bulk Electrical System ("BES") across the continental United States, Canada, and the northern portion of Baja California, Mexico. Puerto Rico is not part of the BES.

196 Management Plan for the high voltage transmission system (230 and 115 kV) will  
197 generally be aligned with the NERC standard.”<sup>23</sup>

198 LUMA’s Vegetation Management Plan cannot be converted to metrics and baselines,  
199 such as “trimmed and inspected miles for both the transmission and distribution  
200 system,” as Mr. Irizarry proposes in his responses to the discovery requests issued by the  
201 Energy Bureau. The Vegetation Management Plan’s purpose is not to supply metrics but  
202 to outline the strategy, processes, procedures, and timelines. Failure to complete any  
203 required tasks under LUMA’s Vegetation Management Plan will not necessarily translate  
204 to customer impacts such as an immediate increase in voltage fluctuations, worse public  
205 safety or more damage to lines during storms. As such, the imposition of penalties would  
206 not promote the improvement of customer-centric outcomes.

207 **Q. Does this complete your testimony?**

208 **A.** Yes.  
209

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<sup>23</sup> LUMA’s Vegetation Management Plan, page 20,  
<https://energia.pr.gov/wp-content/uploads/sites/7/2021/04/Petition-Submitting-Vegetation-Management-Plan-Final-April-11-2021-NEPR-MI-2019-0005.pdf>

## ATTESTATION

Affiant, ~~Mr. Brent Bolzenius~~ Mrs. Diane Watkins, being first duly sworn, states the following:

The prepared Rebuttal Testimony constitutes my Rebuttal in the above-styled case before the Puerto Rico Energy Bureau. ~~Affiant states that he~~ would give the answers set forth in the Rebuttal Testimony if asked the questions included in the Rebuttal Testimony. ~~Affiant~~ further ~~states~~ state that the facts and statements provided herein are ~~his~~ my rebuttal testimony and are true and correct to the best of ~~his~~ my knowledge.

~~Bolzenius~~ Diane Watkins

~~Brent~~

Affidavit No.

Acknowledged and subscribed before me by ~~Mr. Brent Bolzenius in his~~ Mrs. Diane Watkins in her capacity as Director of Vegetation Management of LUMA Energy, of legal age, ~~single~~ married, and resident of ~~Bayamón,~~ San Juan Puerto Rico, who ~~is personally known to me~~ have identified through her Driver's License issued by the State Colorado, No. 14-212-1265.

In San Juan, Puerto Rico, this ~~1<sup>st</sup>~~ 24<sup>th</sup> day of ~~February 2022~~ January 2023.

\_\_\_\_\_  
Public Notary



<b>Summary report:</b> <b>Litera Compare for Word 11.2.0.54 Document comparison done on</b> <b>1/26/2023 8:35:25 AM</b>	
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GOVERNMENT OF PUERTO RICO  
PUERTO RICO PUBLIC SERVICE REGULATORY BOARD  
PUERTO RICO ENERGY BUREAU

IN RE:

PERFORMANCE TARGETS FOR LUMA  
ENERGY SERVCO, LLC

CASE NO.: NEPR-AP-2020-0025

Rebuttal Testimony of

Direct Testimony of

~~Mr.~~ Mrs. Brent Bolzenius Diane Watkins

~~Director~~ Vice President, Vegetation & Work Management, LUMA Energy ServCo, LLC

~~April 27~~ January 24, 2022

2023<sup>1</sup>

<sup>1</sup> This testimony was initially submitted by Brent Bolzenius, LUMA's Director of Vegetation Management, on April 27, 2022.



1 Q. Please state your name.

2 A. My name is ~~Brent Bolzenius~~ Diane Watkins.

3 Q. Please state your business mailing address, title, and employer.

4 A. My business mailing address is PO Box 363508, San Juan, Puerto Rico 00936-3508. I am  
5 the ~~Director~~ Vice President of Vegetation & Work Management for LUMA Energy ServCo,  
6 LLC.

7 Q. Please state your educational background.

8 A. I ~~hold a Bachelor Degree in Forestry from~~ graduated from Arizona State University ~~of~~  
9 ~~Missouri having graduated~~ in December ~~2003. I also hold a Masters~~ 1999 with a Bachelor  
10 of Science in Engineering (B.S.E.) degree in Electrical Engineering. I graduated again from  
11 Arizona State University in August 2007 with a Master of Business Administration ~~from~~  
12 ~~Black Hills State University having graduated in May 2014~~ (M.B.A.) degree.

13 Q. Please state your professional experience.

14 A. I have ~~approximately 18~~ over 20 years of professional experience in ~~vegetation~~  
15 ~~management in the United States~~ the utility industry ~~with multiple notable utilities. In~~  
16 ~~January 2021. In October 2022,~~ I joined LUMA Energy as Vice President of Vegetation  
17 and Work Management.

18 Q. Please describe your work experience prior to joining LUMA.

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20 ~~Energy's operating companies in Colorado, Texas, and New Mexico. Furthermore, prior~~  
21 ~~to Xcel Energy, I spent over 5 years in a leadership role at Black Hills Energy, a utility~~  
22 ~~whose three vegetation programs over three states were centralized and where~~

~~tree caused outages were reduced by 70% during my tenure. Prior roles included:~~  
~~supervision of all vegetation management activities related to vegetation contractors,~~  
~~their financial management, safety, and work planning at Ameren Union Electric in~~  
~~Missouri and Aquilla (merged with Evergy) in Missouri.~~ was the Director of Wildfire  
Mitigation at Xcel Energy in Denver, Colorado. In that role, I led the company's strategic  
development and execution of the wildfire mitigation plan. The plan included enhanced  
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Before Xcel Energy, I held a variety of electric utility engineering and leadership roles at  
David Evans and Associates and Salt River Project, both in Phoenix, Arizona.  
I am a Senior Member of the Institute of Electrical and Electronics Engineers (IEEE) and  
the current Vice Chair of the IEEE Power and Energy Society (PES) Technical Council.  
In 2016 I served as Editor of the Substations Chapter of the 17<sup>th</sup> Edition of the  
McGraw-Hill Standard Handbook for Electrical Engineers.

Q. Do you hold any professional licenses?

A. Yes. ~~Two credentials from the International Society of Arboriculture: Certified Arborist &~~

~~Utility Specialist and one from the Project Management Institute as a Project Management Professional.~~ I am registered as a Professional Engineer (P.E.) in Electrical Engineering by the State of Arizona.

Q. Have you previously testified or made presentations before the Puerto Rico Energy Bureau?

A. ~~Yes, I made a presentation during a Technical Conference on LUMA's Vegetation Management Plan held on August 13, 2021.~~ No

Q. On whose behalf are you testifying before the Puerto Rico Energy Bureau?

A. My testimony is on behalf of LUMA as part of the Puerto Rico Energy Bureau ("Energy Bureau"), Commonwealth of Puerto Rico Public Service Regulatory Board proceeding Case No. NEPR-AP-2020-0025, the Performance Targets for LUMA Energy ServCo, LLC.

Q. Are there any exhibits attached to your testimony?

A. No.

Q. What is the purpose of your rebuttal testimony?

A. To respond to those portions of the additional pre-filed testimony of Mr. Agustín Irizarry ("Mr. Irizarry") on behalf of the Local Environmental and Civil Organizations ("LECO"), filed on March 22, 2022, in this proceeding, regarding his proposed metric on Vegetation Management.

Q. Did you consider any documents for your rebuttal testimony?

A. Yes, I did.

Q. Which documents did you consider for your rebuttal testimony?

- 67 a. LUMA's Performance Metrics Targets Revised filing submitted on September 24,  
68 2021, in this proceeding, Case No. NEPR-AP-2020-0025,
- 69 b. The pre-filed testimony of Mr. Agustín Irizarry of November 16, 2021, filed in this  
70 proceeding, Case No. NEPR-AP-2020-0025 and his expert report, which is an exhibit  
71 of his pre-filed testimony,
- 72 c. The additional pre-filed testimony of Mr. Agustín Irizarry of March 22, 2022, filed in  
73 this proceeding, Case No. NEPR-AP-2020-0025,
- 74 d. The responses provided by Mr. Agustín Irizarry to LUMA's First and Second Sets of  
75 Interrogatories and Requests for Production of Documents notified on January 13,  
76 2022,
- 77 e. The responses provided by Mr. Agustín Irizarry to the Puerto Rico Energy Bureau's  
78 Requirements for Information notified on December 20, 2021, and
- 79 f. The responses provided by Mr. Agustín Irizarry to LUMA's Third Set of Interrogatories  
80 and Request for Production of Documents notified on April 21, 2022,

81 **Q. Do you agree with Mr. Irizarry's recommendations that LUMA should only be rewarded**  
82 **if its performance in the vegetation management area achieves a hard-to-reach target,**  
83 **as stated on page 13, lines 11-17 and 19-24 of his additional direct pre-filed testimony?**

84 **A. No.**

85 **Q. Please explain your response.**

86 **A. LUMA disagrees with such a recommendation. Vegetation management aims to ensure**  
87 **safe and reliable service to all customers regardless of access; limitations, or perceived**



ease of access to vegetation work. Contrary to Mr. Irizzary's concerns, there are many "hard-to-reach targets" along roadside transmission and distribution infrastructure or within short distances of roads. Examples include vegetation located in back yards, and in urban areas where the only access points are through or over a home or building. Consequentially all equipment and debris must pass over or through the domicile to address the ~~tree-risk~~tree-risk electrical conductors; or where vegetation is located roadside and where the conditions warrant multiple days of work to remediate risk to the overhead conductor. The Puerto Rico Transmission and Distribution (T&D) System is fragile, and the vegetation conditions are poor across the entire island. Whether vegetation work is easily accessible or "hard-to-reach", LUMA is committed to finding the best way to ~~completing~~complete the necessary vegetation work regardless if the targets are "hard-to-reach" or considered ~~road-side~~roadside. The work location is entirely subjective and should not be the only factor in setting goals.

Q. Do you agree with Mr. Irizzary's recommendation that the Energy Bureau also require LUMA to identify the relative difficulty for vegetation maintenance for each line or region, as stated on page 13, lines 26, and page 14, lines 1-2 of his additional direct pre-filed testimony?

A. No.

Q. Please explain your response.

A. Mr. Irizzary's recommendation is impractical. The "relative difficulty" concept he proposes is entirely subjective. Moreover, Irizzary does not provide a basis for this "concept". There are no industry standards, definitions, or criteria for "relative

difficulty” in vegetation management. Additionally, the configuration of most electrical feeders or circuits will have a combination of roadside, backyard, and cross-country sections of line within the same feeder or circuit. Vegetation management on a day-to-day basis is not as categorically encapsulated as Mr. Irizarry tries to portray in his testimony. Mr. Irizarry’s concerns that LUMA would only complete easily accessible work is incorrect, LUMA intends to address vegetation management work across the system regardless of the challenges, including access to specific work sites.

**Q. Do you agree with Mr. Irizarry’s statement on page 11, lines 14-24 of his additional pre-filed testimony that tree trimming of lines adjacent to roads and highways is easy as these lines are easy to reach than lines that cross mountainous regions?**

**A. No.**

**Q. Please explain your response.**

**A.** Mr. Irizarry’s statement characterizes vegetation management in such a manner that, based on what he implies, the Puerto Rico Electric Power Authority should have had no problems managing vegetation in the past. The idea that tree trimming of lines adjacent to roads and highways is easy as these lines are easy to reach is incorrect. As stated before, “hard-to-reach targets” in vegetation management can be found everywhere and are not only limited to ~~cross-mountainous~~cross-mountainous regions. Mr. Irizarry’s statement comes from a very simplistic understanding of vegetation management and fails to consider challenges present in “urban” vegetation management scenarios.

**Q. Do you have a response to Mr. Irizarry’s statement on page 10, lines 14-15, of his additional pre-filed testimony in which he states that vegetation management is**

132 critically important for reliability, resiliency, and public safety?

133 A. Yes, I do.

134 Q. Please state and explain your response.

135 A. Vegetation management is only one of several things that can impact customer service  
136 reliability. SAIFI and SAIDI are the metrics that directly indicate the reliability of service to  
137 customers and already ~~captures~~capture the impact of vegetation management related to  
138 service reliability to customers, among many other outage causes. The addition of an  
139 enhanced vegetation management incentive metric is duplicative of other technical  
140 metrics, such as SAIDI & SAIFI ~~and~~. It would lead to a situation where the metric would  
141 result in a redundant incentive structure.

142 Q. Do you agree with Mr. Irizarry's proposal on page 11, lines 1-10, of his additional  
143 pre-filed testimony that the Energy Bureau can set some metrics on LUMA's overall  
144 progress on vegetation management using as baselines and benchmarks the responses  
145 requested by the Energy Bureau in a discovery request?

146 A. No.

147 Q. Please state and explain your response.

148 A. LUMA believes that metrics regarding vegetation management are already incorporated  
149 in the SAIDI and SAIFI metrics performance. Therefore, adding vegetation management  
150 metrics would be a duplicative, and overly prescriptive effort that would incentivize less  
151 than cost-effective spending on reliability improvement.  
152 The objectives of most utility vegetation management programs are to address  
153 vegetation in both short-term reliability and long-term cost control. Compliance-based

154 programs typically address the short-term reliability for compliance with regulations and  
155 not the best value or use of available resources and budgets.

156 Q. Do you have a response to Mr. Irizarry's statement on page 11, lines 8-10, of his  
157 additional pre-filed testimony in which he states that **the Energy Bureau should avoid**  
158 **setting a compliance benchmark and, even more so, a target that offers an incentive,**  
159 **that is a global percentage based on all lines?**

160 A. Yes, I do.

161 Q. Please state and explain your response.

162 A. This would not be good for Puerto Rico. These "commission-based" specifications  
163 typically, in both the short and long run, tend to raise the cost of service; and usually fail  
164 to fully identify or remediate the risks associated with vegetation management along  
165 electrical lines.

166 Q. Does this complete your testimony?

167 A. Yes.

168

## ATTESTATION

Affiant, ~~Mr. Brent Bolzenius~~ Mrs. Diane Watkins, being first duly sworn, states the following:

The prepared ~~Rebuttal Testimony~~ Rebuttal Testimony constitutes my ~~Rebuttal~~ rebuttal testimony in the above-styled case before the Puerto Rico Energy Bureau. ~~Affiant states that he~~ I would give the answers set forth in the Rebuttal Testimony if asked the questions that are included in the Rebuttal Testimony. ~~Affiant~~ I further ~~states~~ state that the facts and statements provided herein ~~are his~~ is the rebuttal testimony and, to the best of my knowledge, are true and correct ~~to the best of his knowledge~~.

~~Brent Bolzenius~~

Diane Watkins

Affidavit No.

Acknowledged and subscribed before me by ~~Mr. Brent Bolzenius in his~~ Mrs. Diane Watkins in her capacity as ~~Director of~~ Vice President, Vegetation Management ~~of~~, LUMA Energy ServCo LLC, of legal age, ~~single~~ married, and resident of ~~Bayamón~~ San Juan, Puerto Rico, who ~~is personally known to me~~ have identified through her Driver's License issued by the State Colorado, No. 14-212-1265.

In ~~San Juan~~ Bayamón, Puerto Rico, this ~~27<sup>th</sup>~~ 24 day of ~~April 2022~~ January, 2023.

~~Public~~ Notary Public

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Embedded Excel	0
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