

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

NEPR
Received:
Aug 2, 2024
10:36 PM

**IN RE: ELECTRIC VEHICLE
CHARGING INFRASTRUCTURE
DEPLOYMENT**

CASE NO. NEPR-MI-2021-0013

**SUBJECT: Supplementary Filing on Implementation of
EV TOU Rate for NEM Customers**

**SUPPLEMENTARY FILING REGARDING BARRIERS TO IMPLEMENTATION OF
INTERIM EV-TOU PILOT PROGRAM RATE FOR NEM CUSTOMERS AND
REQUEST FOR APPROVAL OF SHORT-TERM PROPOSALS**

TO THE HONORABLE PUERTO RICO ENERGY BUREAU:

COMES now LUMA Energy ServCo, LLC (“LUMA”), through the undersigned legal counsels, and respectfully states, submits and requests the following:

I. Introduction

1. On July 26, 2024, LUMA filed a *Notice of Barriers to Implementation of Interim EV-Tou Pilot Program Rate for NEM Customers*, notifying this Puerto Rico Energy Bureau of the Public Service Regulatory Board (“Energy Bureau”) of the barriers that LUMA is facing to implement the Interim Electric Vehicle Time of Use Rate (“Interim EV-TOU Rate”) for Net Energy Metering (NEM) customers (“July 26th Notice”). In what is relevant to this motion, LUMA informed of barriers regarding the application of combined or multiple customer tariffs that require additional time and resources to be supported in the Customer Care and Billing System (CC&B) and specifically, barriers to implement the Interim EV-TOU Rate for NEM customers. LUMA stated that it would file henceforth, additional information regarding the situation that it was facing, along with alternatives to address it.

2. In *Exhibit 1* of this Motion, LUMA offers a more comprehensive explanation of the billing configuration limitation LUMA has faced with its billing configuration and the limitations to offering the Interim EV-TOU Rate to Net Energy Metering General Residential Service (“NGRS”) customers. LUMA also shares valuable information gathered thus far, and alternatives and solutions to continue the Interim Electric Vehicle Time of Use Pilot Program (Interim EV-TOU Pilot Program), leveraging information to be obtained through the pilot program regarding the unique characteristics of NGRS customers given their dual role as renewable energy producers and owners of electric vehicles (“EV”).

3. As further explained in *Exhibit 1*, LUMA is setting forth short-term and long-term proposals to address the identified barriers to implement the Interim EV-TOU Rate for NGRS customers. The short-term proposals aim to pause the NEM customer enrollment to the Interim EV-TOU Pilot Program and conduct a research project aimed at NEM customers and their charging needs. LUMA hereby respectfully requests that the Energy Bureau approve these short-term proposals ahead of the next billing cycle that begins on August 28, 2024.

4. The long-term proposals focus stated in *Exhibit 1*, include technological enhancements to billing capabilities, additional EV- specific rates and program designs for other customer classes, and adopting future technologies.

5. LUMA understands that pilot programs such as this Interim EV-TOU Pilot Program allow for the opportunity to test out the strategies and technologies, gather and learn from data, and make the appropriate adjustments when needed. The information and proposals submitted in *Exhibit 1* aim to offer real solutions from identified issues, with the intention of leading Puerto Rico towards a more attainable and sustainable energy future.

6. LUMA remains steadfast in its commitment to implementing the Interim EV-TOU Pilot Program and maximizing the participation of all customers, including those with NEM arrangements.

II. Procedural Background

7. On July 21, 2022, LUMA submitted to this Energy Bureau an Electric Vehicle Rate Design Proposal (“EV Rate Design Proposal”) proposing an Interim EV-TOU Rate and including a draft tariff sheet for this interim rate (the “Draft Tariff Sheet”), in compliance with the Energy Bureau’s orders in this proceeding.¹ *See Motion Submitting Revised EV Rate Design Proposal* filed on July 21, 2022 (“July 21st Motion”). Also in compliance with such orders, LUMA submitted on September 1, 2022, a draft Phase I EV Plan (“Phase I EV Plan”). *See Motion Submitting Draft Phase I EV Plan and Request to Postpone Compliance Technical Hearing NO. 3 and Concomitant Deadline to Submit Revised Phase I EV Plan.*

8. On January 13, 2023, the Energy Bureau issued a Resolution and Order (the “January 13th Order”) in which it approved the Interim EV-TOU Rate in the EV Rate Design Proposal, subject to certain modifications, and directed LUMA to file, by March 30, 2023, a Final Phase I EV Plan and complete, by September 30, 2023, the development and launch of the Interim EV-TOU Pilot Program Rate. *See* January 13th Resolution and Order on pages 9, 10 and 14. The Energy Bureau ordered LUMA to submit a report every thirty (30) days on the progress with the

¹ *See* Resolution and Order of November 18, 2021 (“November 18th Order”), wherein the Energy Bureau ordered LUMA to file on or before September 1, 2022, a First Phase of an Electric Vehicle Charging Infrastructure Deployment Plan (“Phase I EV Plan”) in accordance with the specified requirements set forth in the November 18th Order, *see* November 18th Order on page 4, and file on or before May 31, 2022, a proposal for one or more rate designs targeting certain customer segments and addressing the requirements in the November 18th Order, *see id.* on pages 5-9. *See also*, Resolution and Order of May 19, 2022 (“May 19th Order”), wherein the Energy Bureau amended the deadlines for filing the draft of the rate design proposal to May 31, 2022, and for filing a draft Phase I EV Plan for September 30, 2022, as well as established a deadline to file a final Rate Design Proposal of June 30, 2022, among others. *See* May 19th Order on page 1. LUMA filed the first draft Rate Design Proposal on May 31, 2022. *See Motion Submitting Draft of EV Rate Design Proposal* filed on May 31, 2022.

data collection and billing to integrate the Interim EV-TOU Rate (“Billing Integration Report”). *See id.* on page 11. The Energy Bureau further ordered LUMA to update data collection and analysis methods related to the planning and design of its successor EV-TOU Rate, submit a project schedule for implementation of the Interim EV-TOU rate by January 10, 2023 and finish development and launch the Interim Rate by September 30, 2023. *See id.* on page 14.

9. The Energy Bureau also required LUMA to develop customer information about the Interim EV-TOU Pilot Program Rate, including the complete tariff sheet (meeting specified requirements), and send it to EV owners before implementing the tariff, to advise them of the rate and invite them to enroll in it. *See id.* on page 11.

10. On February 14, 2023, the Energy Bureau issued a Resolution and Order ordering LUMA to present the Billing Integration Report commencing on March 13, 2023, and every thirty (30) days thereafter with progress on data collection and billing to integrate the Interim EV-TOU Pilot Program Rate (“February 14th Order”).

11. Thereafter, LUMA submitted several Billing Integration Reports, in compliance with the January 13th Order and the February 14th Order.²

² *See Motion to Submit Billing Integration Report and Request to modify Frequency*, filed on March 13, 2023; *Motion to Submit May 2023 Billing Integration Report in Compliance with Orders of January 13 and February 14, 2023*, filed on May 13, 2023; *Motion to Submit June 2023 Billing Integration Report in Compliance with Orders of January 13 and February 14, 2023*, filed on June 12, 2023; *Motion to Submit July 2023 Billing Integration Report in Compliance with Orders of January 13 and February 14, 2023*, filed on July 11, 2023; *Motion to Submit August 2023 Billing Integration Report in Compliance with Orders of January 13 and February 14, 2023*, filed on August 10, 2023; *Motion to Submit September 2023 Billing Integration Report in Compliance with Orders of January 13 and February 14, 2023*, filed on September 11, 2023; *Motion to Submit October 2023 Billing Integration Report in Compliance with Orders of January 13 and February 14, 2023*, filed on October 10, 2023; *Motion to Submit November 2023 Billing Integration Report in Compliance with Orders of January 13 and February 14, 2023*, filed on November 8, 2023; *Motion to Submit December 2023 Billing Integration Report in Compliance with Orders of January 13 and February 14, 2023*, filed on December 8, 2023; *Motion to Submit January 2024 Billing Integration Report in Compliance with Orders of January 13 and February 14, 2023*, filed on January 8, 2024; *Motion to Submit February 2024 Billing Integration Report in Compliance with Orders of January 13 and February 14, 2023*, filed on February 6, 2024; *Motion to Submit March 2024 Billing Integration Report in Compliance with Orders of January 13 and February 14, 2023*, filed on March 7, 2024; *Motion to Submit April 2024 Billing Integration Report in Compliance with Orders of January 13 and February 14, 2023*, and *Inform of the Tarif Sheet for the Interim EV TOU Rate and Customer Outreach Progress* filed on April 8, 2024; *Motion to Submit May 2024 Billing Integration Report in Compliance with Orders of January 13 and February 14, 2023*, filed on May 8, 2024.

12. After other procedural events, on April 8, 2024, LUMA submitted the tariff sheet for the Interim EV-TOU Pilot Program Rate (the “EV-TOU Pilot Program Tariff Sheet”), in Spanish and English, and informed that it would provide a copy of the Tariff Sheet to all customers showing interest in enrolling in the Interim EV-TOU Pilot Program Rate via email through its webpage. *See Motion to Submit April 2023 Billing Integration Report in Compliance with Orders of January 13 and February 14, 2023, and Inform on the Tariff Sheet for the Interim EV-TOU Rate and Customer Outreach Progress* (“April 8th Motion”) on pages 4 and 5 and Exhibit 2.

13. On April 29, 2024, LUMA filed with the Energy Bureau an updated version of the EV-TOU Pilot Program Tariff Sheet informing the Energy Bureau that it had revised it to include the formula for the Interim EV-TOU Pilot Program Rate, instead of the specific rate filed in the April 8th Motion, which was subject to quarterly changes. *See Motion Re-Submitting the Tariff Sheet for the New Interim EV-TOU Rate* filed on April 29, 2024, on page 2.

14. On April 30, 2024, LUMA informed the Energy Bureau that it had completed the development and launch of the Interim EV-TOU Pilot Program Rate, including beginning billing integrating the Interim EV-TOU Rate, and requested the Energy Bureau to release LUMA from the requirement to submit further Billing Integration Reports after the filing of the Billing Integration Report scheduled for May 8, 2024. *See Informative Motion Regarding Launch of EV-TOU Rate and Request for Release from Requirement to File Billing Integration Reports.*

15. On May 22, 2024, the Energy Bureau issued a Resolution and Order (“May 22nd Resolution and Order”) taking notice of the EV-TOU Tariff Sheet and releasing LUMA from the requirement to submit further Billing Integration Reports after filing the report scheduled for May 8, 2024. *See May 22nd Resolution and Order* on pages 4-6. In addition, the Energy Bureau indicated

that it agreed with LUMA on using a formula-based approach in the Interim EV-TOU Pilot Program Rate Tariff Sheet as proposed by LUMA in the April 29th Motion. *See id.* on page 3.

16. In what is relevant to this Motion, the Energy Bureau stated further that it “ha[d] recently learn[ed] of the potential impacts of LUMA’s Interim EV-TOU Rate on net metering customers depending on the amount of solar [energy] generated and the timing of EV Charging consumption under the Interim EV-TOU Rate” and that “customers are concerned about the impact on net metering credits should they begin to charge an EV 100% Off-Peak, which corresponds to the time of day their solar system is generating the most energy (9:00a.m. -5:00p.m.)” *See id.* on page 4. The Energy Bureau also mentioned that the EV Rate Design Proposal identified net metering customers as “in need of special consideration.” *See id.*

17. The Energy Bureau ordered LUMA to, within ten (10) days after issuance of the May 22nd Resolution and Order, respond to requests for information in Part III of the May 22nd Resolution and Order (“RFIs”), which RFIs included questions on enrollment specific to net metering or how the Interim EV-TOU Pilot Program Rate may affect this set of customers. *See id.* on pages 4-5.

18. On June 3, 2024, LUMA submitted Exhibit 2 as its response to the RFIs requested by the Energy Bureau. *See Motion to Submit Revised EV-TOU Tariff Sheet and Responses to Requests for Information in Compliance with Order of May 22, 2024, and Inform on Compliance with Requirement to Submit Model Bill* filed on June 3, 2024 (“June 3rd Motion”).

19. LUMA also re-filed with the Energy Bureau the Interim EV-TOU Pilot Program Tariff Sheet, as Exhibit 1 to the June 3rd Motion, in Spanish and English. *See June 3rd Motion* on page 9.

20. On July 15, 2024, LUMA re-submitted before the Energy Bureau the Spanish Interim EV-TOU Pilot Program Rate Tariff Sheet to correct an inconsistency between the language in the English and Spanish versions of the footnote found in item number four (4) of the Terms and Conditions of the Interim EV-TOU Pilot Program Rate Tariff Sheet submitted as Exhibit 1 in the June 3rd Motion. *See Motion Re-Submitting the Spanish EV-TOU Rate Tariff Sheet.*

21. On July 26, 2024, LUMA submitted the *Notice of Barriers to Implementation of Interim EV-TOU Pilot Program Rate for NEM Customers* (“July 26th Motion”), whereby it notified the Energy Bureau that it identified a billing configuration limitation within the Costumer Care and Billing system (“CC&B”) that prevents the simultaneous participation of General Residential Service (“GRS”) customers in both the NEM program and the Interim EV-TOU Pilot Program. Therefore, LUMA stated it was unable to offer the Interim EV-TOU Pilot Program rate to Net Energy Metering General Residential Service (“NGRS”) customers, and that the Interim EV-TOU rate would not be reflected in the NGRS customers’ upcoming bills.

22. In the July 26th Notice, LUMA further stated that it would provide the Energy Bureau a detailed assessment of the informed situation, including information on the limitations encountered, how LUMA proposes to maintain program participation and lessons learned, no later than August 2, 2024.

III. Submission of Supplemental Information to July 26th Motion and Request for Approval of short-term proposals.

23. As notified in the July 26th Motion, LUMA hereby submits in *Exhibit 1*, a supplement to the information set forth in the July 26th Motion.

24. In *Exhibit 1*, LUMA confirms its commitment to advancing clean energy, and offers an overview of the progress made in the Interim EV-TOU Pilot Program, the present technical

barriers that LUMA is facing in integrating the Interim EV-TOU Pilot Program Rate Billing for NEM customers, and LUMA's efforts to address them.

25. As discussed in *Exhibit 1*, LUMA has faced two main barriers posed by the interactions between the NEM program and the Interim EV-TOU Pilot Program Rate. To wit, 1) a pre-launch barrier and 2) a post-launch barrier. The pre-launch barrier involves limitations of LUMA's system for accounting solar energy generation during off-peak hours, while the post-launch barrier is due to a new billing configuration limitation that was identified within the CC&B system that prevents the simultaneous participation of a GRS customer in both the NEM program and the Interim EV-TOU Pilot Program.

26. LUMA has taken steps to notify affected NEM customers of the situation, the potential impact on billing, and the measures that LUMA is considering to address the situation. To evidence these efforts, LUMA is including a real email notice sent to one of its customers as *Exhibit 2*

27. In *Exhibit 1*, LUMA discusses mitigation strategies and proposes short and long-term solutions. The short-term solutions include unenrolling NEM customers from the Interim EV-TOU Pilot Program so that customers do not incur charges related to the Interim EV-TOU Pilot Program Rate, thus alleviating concerns about inaccurate billing. Simultaneously, LUMA proposes to conduct a research project aimed at NEM customers and their charging needs. Data obtained from implementing this project, will be combined with the findings of the Interim EV-TOU Pilot Program to provide a comprehensive overview of EV customers across the island, thereby contributing to the design of a permanent rate that is scalable, accessible, and satisfactory to EV customers in Puerto Rico.

28. The proposed long-term solutions include various technological enhancements to existing and potentially new NEM billing capabilities, exploring EV- specific rates and program designs that can better accommodate other customer classes, and adopting technology as it develops and/or becomes more accessible. *See Exhibit 1.*

29. LUMA emphasizes that its immediate goal is to implement the short-term solutions set forth in *Exhibit 1* before the next billing cycle, and, therefore, respectfully requests that the Energy Bureau approve the short-term proposal explained in *Exhibit 1*, ahead of the next billing cycle that begins on August 28, 2024.

30. LUMA is committed to continue working with its customers, the Energy Bureau, and stakeholders on the Interim EV-TOU Pilot Program and other efforts that support EV adoption in Puerto Rico.

WHEREFORE, LUMA respectfully requests that the Energy Bureau **take notice** of the aforementioned; **accept** *Exhibit 1* as a supplement to the July 26th Motion; **accept** *Exhibit 2* as evidence of LUMA’s notice to customers; and **approve** the short-term proposal offered by LUMA in *Exhibit 1*.

RESPECTFULLY SUBMITTED.

In San Juan, Puerto Rico, this 2nd day of August 2024.

We hereby certify that we filed this motion using the electronic filing system of this Energy Bureau and that we will send an electronic courtesy copy of this motion to PREPA’s counsels, Mirelis Valle Cancel, mvalle@gmlex.net, Alexis Rivera, arivera@gmlex.net, and to the Independent Office of Consumer Protection by submittal to Hannia Rivera, hrivera@jrsp.pr.gov. LUMA understands that other participants or stakeholders in this proceeding will be notified as a result of the publicity of the filings in this process. Notwithstanding, LUMA will send a courtesy copy of the filing to the following stakeholders: agalloza@aggpr.com; alberto.cortes@warrendelcaribe.com; aldo@skootel.com; angel.d.rodriquez@outlook.com; antonio@velocicharge.com; apietrantoni@pmalaw.com; azayas@azeng.net; bigwheelcorp@gmail.com; blazquezmalu@gmail.com; brightsunpr@gmail.com; carlosxcdeno@gmail.com; clrivera@caguasexpressway.com; flota@caguasexpressway.com; cnegrette@solrenew.com; CR.Tejera@ddec.pr.gov; dacosta@aggpr.com;

daniel.perez@totalenergies.pr; dcordero@group-em.com; direxec@ciapr.org;
divine.energy@hotmail.com; ecruz@pmalaw.com; eduardo.pinera@toyota.com;
Edwin.Acevedo@ddec.pr.gov; emelyies.torres@toyota.com; epenergypr@gmail.com;
erica.cosme@gsonnell.com; Fberrios@peritoselectricistas.org; francisco.berrios@hotmail.com;
franciscojrullan@yahoo.com; gerard.berlinski@toyota.com; gerardo_cosme@solartekpr.net;
gperez@solrenew.com; hamely@motorambar.net; ialsina@plazalasamericas.com;
idiaz@glenninternational.com; info@carlosmatta.com; jack@pantekpartners.com;
jameauxl@aim.com; jan.rodriguez@toyota.com; javrua@sesapr.org;
jbouza@caguasexpressway.com; jcardona@aggpr.com; jmartinez@pmalaw.com;
jorrodriiguez@motorambar.net; jortiz@caguasexpressway.com; jose.maeso@crowley.com;
jpibernus@motorambar.com; JSantana@motorambar.com; jtosado@motorambar.net;
juan.diaz.galarza@guidehouse.com; jvazquez905@gmail.com;
kenan.d.davila@sargentlundy.com; kkoch@tesla.com; l.marcano@aconer.org; jweil@tesla.com;
luisgmoreno@gmail.com; Marangelly.Cruz@toyota.com; marilyn.maldonado@toyota.com;
mlandron@plazaad.com; mpietranтони@pmalaw.com; nannette.berrios@solpetroleum.com;
nmontes@ccmpr.com; nrodriguez@senado.pr.gov; Ochavez@Padigm.com;
odette@grupofernandezpr.com; omundo@plazalasamericas.com; patlopez00@gmail.com;
dany.oliva@toyota.com; pjcleanenergy@gmail.com; rdiaz@glenninternational.com;
repagan@burnsmcd.com; rry@tcm.law; Ruben.Gonzalez@pumaenergy.com;
rvega@guidehouse.com; salvadorlopez5@hotmail.com; shehaly.rosado@ddec.pr.gov;
Veronica@pantekpartners.com; Victor.Aponte@toyota.com; victor.martinez@totalenergies.pr;
wilfredsonllc@gmail.com; zlopez@efonalledas.com; mara.cruz@toyota.com;
lizette.cotto@toyota.com.



DLA Piper (Puerto Rico) LLC

500 Calle de la Tanca, Suite 401

San Juan, PR 00901-1969

Tel. 787-945-9122

Fax 939-697-6092

/s/ Margarita Mercado Echegaray

Margarita Mercado Echegaray

RUA NÚM. 16,266

margarita.mercado@us.dlapiper.com

/s/ Julián R. Anglada Pagán

Julián R. Anglada Pagán

RUA NUM. 22,142

julian.angladapagan@us.dlapiper.com

Exhibit 1



Deployment of Electric Vehicle Infrastructure

Update on the Interim EV-TOU Pilot Program

NEPR-MI-2021-0013

AUGUST 2, 202

Update on the Interim EV-TOU Pilot Program

August 2, 2024

1.0 Introduction

LUMA's Commitment to Advancing Clean Energy

LUMA is committed to empowering its customers by providing sustainable solutions, advancing clean energy priorities, and improving the electric grid to prepare for the addition of more renewable resources and the increasing electrification of the economy. Since June 2021, LUMA has facilitated the interconnection of approximately 100,000 customers to rooftop solar systems, representing over 650 megawatts of renewable electricity. This achievement represents a substantial increase, underscoring LUMA's support for Puerto Rico public energy policy goals and the integration of customer resources.

As part of this commitment, LUMA remains dedicated to implementing the Interim Electric Vehicle Time of Use Pilot Program ("Interim EV-TOU Pilot Program") and maximizing the participation of all customers, including those participating in the Net Energy Metering ("NEM") program. These efforts aim to support the adoption of EVs, achieve alignment of their respective loads to existing grid surplus capacity, and advance toward a more sustainable energy future for Puerto Rico.

Interim EV-TOU Pilot Program Progress

In its Revised Electric Vehicle Proposal, dated July 21, 2022¹, LUMA incorporated NEM customers into the Interim EV-TOU Pilot Program rate framework. By including NEM participants, LUMA sought to enhance the overall efficacy of the rate, acknowledging that many EV owners also have rooftop solar systems. This approach was designed to ensure that the benefits of the EV rate are extended to a broad customer base.

Among the objectives of the Interim EV-TOU Pilot Program is understanding how the integration of solar energy with electric vehicle (EV) charging could be optimized within the existing grid infrastructure, evaluating the feasibility of the rate framework, and identifying potential barriers and opportunities that could arise from this integration.

The Interim EV-TOU Pilot Program provides a controlled environment to study different configurations and variables, allowing LUMA to observe real-world interactions between solar energy and EV charging patterns. This pilot helps to assess how well the proposed EV-TOU rate structure could accommodate the unique energy profiles of NEM customers, who produce their own electricity and may have different usage patterns compared to non-NEM customers.

Program Barriers and Proposed Solutions

As informed in the Notice of Barriers to Implementation of Interim EV-TOU Pilot Program Rate for NEM Customers submitted on June 26, 2024 to the Puerto Rico Energy Bureau ("Energy Bureau"), LUMA is encountering technical barriers in integrating the Interim EV-TOU Pilot Program Rate Billing for NEM customers².

¹ See *Motion Submitting EV Rate Design Proposal*, on July 21, 2022, Sections 2.4.2, 4, Objective 3, & 5.7.

² See *Notice of Barriers to Implementation of Interim EV-Tou Pilot Program Rate for New Customers* submitted on July 26, 2024.



Update on the Interim EV-TOU Pilot Program

August 2, 2024

Given the current technical limitation, NEM customers are currently unable to see the EV-TOU rate reflected in their bills. Accordingly, LUMA is proposing a strategic approach to advance the implementation of the EV-TOU rate for eligible customers, while also maintaining NEM customers engaged in the Interim EV-TOU Pilot Program.

Update on the Interim EV-TOU Pilot Program

August 2, 2024

2.0 Procedural Background and Context

On July 21, 2022, LUMA submitted the EV Rate Design Proposal, noting that a significant percentage of EV owners would have solar photovoltaic (PV) systems and operate under a NEM arrangement with bi-directional metering³. Consequently, LUMA identified these customers would need special consideration in the development of the Interim EV-TOU Pilot Program rate.

In the EV Rate Design Proposal, the NEM credit was outlined to be based on the amount the participating customer would otherwise pay for their total consumption, encompassing both non-EV and EV charging consumption⁴. The proposal was structured to allow LUMA the flexibility to explore and determine the most effective methods for addressing and incorporating these customers in alignment with the purpose of a pilot program.

The EV Rate Design Proposal was developed to address the needs of residential EV charging. The initial design was based on the GRS tariff structure. Billing integration tests conducted in connection with the implementation of the EV Rate Design Proposal did not identify limitations in integrating the Net Energy Metering General Residential Service (“NGRS”) tariff structure with the EV-TOU rate. Consequently, the implementation of the EV-TOU rate was designed to apply to both GRS and NGRS customers.

In compliance with the January 13th Resolution and Order⁵, LUMA developed a rate based on Vehicle or EV chargers’ usage data as ascertained from a telematics solution, rather than installing separate interval meters for EV charging. The Interim EV-TOU Pilot Program rate was aligned with the initial proposal and the Energy Bureau’s directives.

On April 8, 2024, LUMA informed the Energy Bureau of its internal customer outreach and enrollment plan, which had successfully increased awareness and interest in the program⁶. Accordingly, LUMA provided a disclaimer on its website indicating potential barriers for NEM customers, noting that, given it is currently not possible to determine the source of the energy used to charge the EV, customers enrolled in the EV-TOU rate would be charged for their EV charging consumption as if all the energy had been supplied by the grid. Interested customers were asked to confirm their intention to remain enrolled in the EV-TOU Pilot Program, despite this metering and billing limitation. This was integral to gauging the market interest in participation and corresponding characteristics of customers in a pilot such as this one.

In the Motion filed on June 3 to the Energy Bureau, LUMA informed that it was exploring options to understand the interactions between the NEM program and the Interim EV-TOU Pilot Program Rate. LUMA identified a specific barrier for NEM customers, noting that the current metering system is unable to distinguish whether the electric vehicle (EV) being charged is utilizing power from the PREPA electrical grid or from the customer’s onsite generation source. However, LUMA continued to advance efforts to resolve this barrier and support as many customers as possible during the pilot period. LUMA stated that it would explore alternatives to support NEM customers who wish to participate in rates like the Interim

³ See *id.*, p.18.

⁴ See *id.*, p.50.

⁵ See *Motion to Submit Final Phase I EV Plan in Compliance with Resolution and Order of January 13, 2023*, submitted on May 1, 2023, pp. 77-80.

⁶ See *Motion to Submit April 2024 Billing Integration Report in Compliance with Orders of January 13 and February 14, 2023, and Inform of the Tariff Sheet for the Interim EV-TOU Rate and Customer Outreach Progress*, submitted on April 8, 2024, p. 5.

Update on the Interim EV-TOU Pilot Program

August 2, 2024

EV-TOU Pilot Program. For further details on the alternatives and ongoing efforts, please refer to Section 5.0 of this document.

As detailed in the Motion *Notice of Barriers to Implementation of Interim EV-TOU Pilot Program Rate for New Customers*, submitted on July 26, 2024, LUMA sent an email (see Exhibit 2) to all affected NEM customers to maintain transparency and keep them informed. This communication outlined an unforeseen barrier to implementing the Interim EV-TOU Pilot Program, which arose from billing configuration limitations within the Customer Care and Billing (CC&B) system. These limitations prevent simultaneous participation in both the NEM program and the Interim EV-TOU Pilot Program. The email explained the nature of the problem, its potential impact on billing, and the steps being taken to address it. LUMA committed to resolving these issues and provided advance notice of its ongoing efforts.

3.0 Interim EV-TOU Pilot Program Objectives, Barriers, and Lessons Learned

One of the main goals of the Interim EV-TOU Pilot Program is to provide LUMA with insights into determining if an incentivized time-based rate design is effective for achieving the goals of EV customers. Also, it provides information to determine if, moving forward, EV adoption levels require grid balancing for this new and growing end-use load type in Puerto Rico. In general, pilot programs serve to validate or refute assumptions of the planning phase and identify potential areas of improvement or other unanticipated shortcomings that are revealed once the program is in operation.

Recognizing that this pilot program may reveal areas for refinement, LUMA is committed to leveraging the lessons learned to enhance the Interim EV-TOU Pilot Program Rate framework.

Moreover, LUMA has identified the following barriers posed by the interactions between the NEM program and the Interim EV-TOU Pilot Program Rate:

- **Pre-launch Barrier:** Before the launch of the Interim EV-TOU Pilot Program, LUMA recognized that its current system for accounting solar energy during off-peak hours might result in charging customers for energy that would otherwise be consumed directly from NEM generation onsite. Essentially, this means customers might be paying for energy that would otherwise be free, given the source of the energy used to charge their EVs.
- **Post-launch Barrier:** After the successful launch and initial enrollment period of the Interim EV-TOU Pilot Program, a new billing configuration limitation was identified within the CC&B system that prevents the simultaneous participation of a General Residential Service (GRS) customer in both the NEM program and the Interim EV-TOU Pilot Program.

Both pre-launch and post-launch barriers summarized above, impact NEM customers who registered for the Interim EV-TOU Pilot Program.

Additional Barriers

Many customers also do not qualify for the program based on their EV and/or charger technical configuration. These customers' equipment is unsupported by LUMA's telematics provider, their systems might not be fully activated in Puerto Rico or be compatible with LUMA's telematics provider. While



Update on the Interim EV-TOU Pilot Program

August 2, 2024

technology vendors are working to expand their lists of eligible telematics-enabled vehicles and equipment, this equipment compatibility issue is beyond LUMA's ability to manage.

Additionally, customers who live in multi-family homes or premises that are not directly metered are unable to receive support under the current design of the Interim EV-TOU Pilot Program rate. This includes customers who use chargers in public areas such as a parking garage or public infrastructure. There are several potential technologies to address this problem or that could be accommodated through alternate rate and program design mechanisms. In particular, LUMA is actively pursuing solutions for multi-family customers.

LUMA expects to identify additional insights throughout this pilot that will highlight any inefficiencies or inequalities in applying a permanent rate. These findings will guide LUMA in designing a more comprehensive program that aims to maximize impact, participation, and effectiveness.

Initial Observations

Before June 15, 2024, LUMA reached out to approximately 70 registered NEM customers to notify and explain the metering limitations that prevented LUMA from discerning the source of the energy used to charge the EV. Despite this metering limitation, 76% of the respondents preferred to remain in the pilot, allowing LUMA to gather relevant data on NEM customers' interest on the Interim EV-TOU Pilot Program.

During the first 90 days of the Interim EV-TOU Pilot Program, from April 30 to July 30, LUMA received 130 registrations, of which 90 are NEM customers (NGRS rate). See Figure 1.

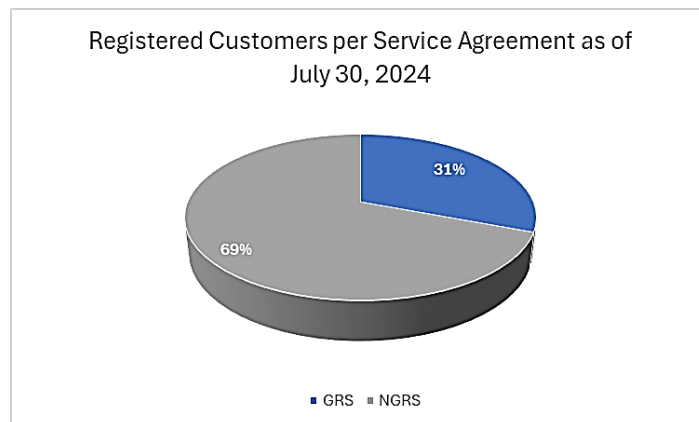


Figure 1: Interim EV-TOU Pilot Program Registered Customers per Service Agreement as of July 30, 2024.

LUMA has also been conducting data analysis to evaluate the effectiveness of the rates, and respective pricing periods. While LUMA expects to provide more detailed information in the upcoming Electric Vehicle Semi-Annual Report, preliminary findings show that a sizable portion of enrolled customers charge their vehicles during shoulder-peak hours (See Figures 2 and 3 below). Notably, 54% of these customers are NEM participants. This trend may be due to the fact that these NEM customers might prefer to avoid off-peak charging, as solar energy is more readily available during off-peak periods. By charging during shoulder-peak hours, they can avoid being charged for energy that they could otherwise obtain for free from their solar generation.

Update on the Interim EV-TOU Pilot Program

August 2, 2024

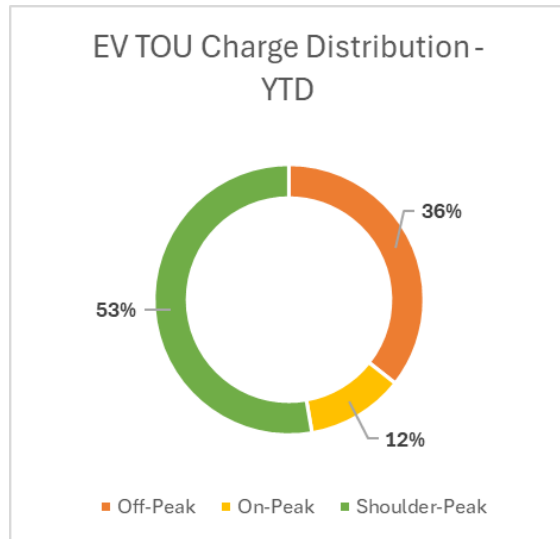


Figure 2: Year-to-date charging session distribution per Pricing Period, May 1, 2024, to July 26, 2024.

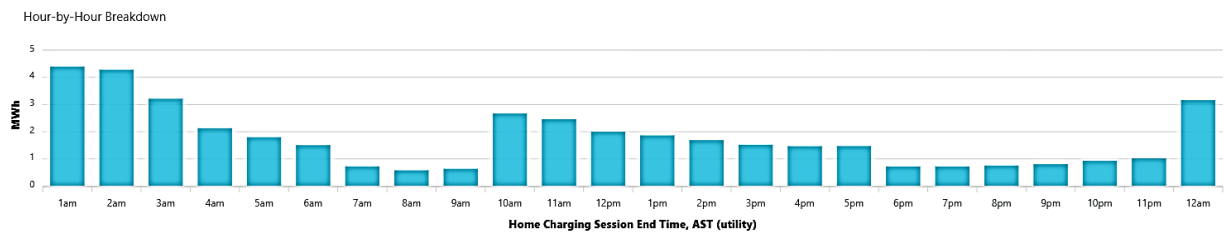


Figure 3: Hourly charging sessions, May 1, 2024, to July 26, 2024.

Update on the Interim EV-TOU Pilot Program

August 2, 2024

4.0 Examined Solutions for NEM Customers Participation in the Interim EV-TOU Pilot Program

LUMA has identified potential solutions to address the barriers for NEM customers during the Interim EV-TOU Pilot Program Rate. These solutions are outlined in this section.

Short Term Solutions (Pilot Period)

1. Unenroll NEM Customers from the Interim EV-TOU Rate and Launch of the EV Research Project

In the short term (1 year), LUMA will temporarily unenroll all NEM customers currently participating in the Interim EV-TOU Pilot Program. As of July 26, these customers have been notified via email about the barriers preventing their continued participation and informed that their bills will no longer include this rate.

New applications of NEM customers will not be accepted. LUMA will also update the Interim EV-TOU Pilot Program website and other communications channels to widely inform all customers about the determination.

Considering the importance and unique EV charging needs of NEM customers, LUMA proposes that the Interim EV-TOU Pilot Program is conducted side-by-side with a research project aimed at this group. The target participants of this analysis will be primarily NEM customers with an expressed interest in enrolling in the Interim EV-TOU Pilot Program.

This will be done by leveraging existing Interim EV-TOU Pilot Program assets (registration and data collection platform) and internal resources to learn about their actual EV charging behaviors and preferences. With this approach, it will be possible to develop a more suitable longer-term solution, tailored to the needs and constraints of NEM customers. This solution will involve adapting billing approaches to account for both EV usage and solar energy generation, integrating the EV-TOU rate with other LUMA customer programs and incentives, and optimizing alignment with consumer preferences and grid requirements. While this research will provide valuable insights for refining these approaches, it is important to recognize that it will not immediately resolve the existing billing configuration constraints. Instead, it will help lay the groundwork for future improvements once these constraints are addressed.

LUMA will invite NEM customers to participate in the research project and will provide detailed information about the exercise, along with general rules and a participation agreement form. Customers will be financially compensated for their participation and access to data, as is customary in other locations in the US⁷. Unlike the Interim EV-TOU Pilot Program, the incentive

⁷ For example, Smart Charge Hawaii pilot program uses customers' EV charging data to improve power grid reliability. Eligible EV drivers earn up to \$150 or 10,000 Hawaiian Miles. Source: [Smart Charge Hawaii | powered by ev.energy](#)

Update on the Interim EV-TOU Pilot Program

August 2, 2024

will not be performance-based, but rather a flat fee conditioned to participation over twelve (12) months, limited to 250 qualifying NEM and EV customers.

Data obtained in this exercise will be combined with the Interim EV-TOU Pilot Program findings from customers under the GRS service agreement to provide a comprehensive overview of EV customers across the island. This information will contribute to the design of a potential permanent EV-TOU Program Rate that is scalable, accessible, and satisfactory to a maximum number of EV customers in Puerto Rico.

Long Term Solutions:

1. Enhancement of NEM Billing Capabilities

Several system updates and modifications would be required to address the current barriers under the Interim EV-TOU Pilot Program. These updates include:

- System enhancements for updating multiple energy consumption measurements:
 - Ensuring revenue grade accuracy in tracking and accounting for solar energy generated by NEM customers alongside the energy consumed during that same period for a specific device or end use, such as an EV.
- Developing functionalities that can differentiate between energy generated and consumed during stated peak/off-peak time periods, as such with the intervention of planned and potential enabling technologies such as AMI.
- Integration with Interim EV-TOU Pilot Program Rate Structure:
 - Updating the CC&B system to integrate with a TOU Rate structure, allowing for proper application of off-peak benefits and accurate billing of both solar energy generation and simultaneous EV charging consumption.
 - Enhancing data processing capabilities to handle the complexities of combined NEM and Interim EV-TOU Pilot Program rate applications.
- Funding and Budget Considerations:
 - The estimated cost for these updates, which includes software development, system testing, and implementation, is approximately \$1 million.
 - Identifying appropriate funding sources for these updates in the short and long term. This may involve allocating budget from existing, higher impact priorities, or seeking additional financial support from other sources.

These updates are crucial for ensuring that the billing system accurately reflects the integration of NGRS and EV-TOU Rates. Addressing these barriers will enhance capabilities that support the integration and implementation of new programs, reflecting enhancements that are being implemented in other electric utilities. This approach ensures transparent billing for NEM customers, promotes their continued participation in renewable energy programs, and facilitates the adoption of EVs.

2. Additional Rate or Program Design Efforts LUMA is undertaking.

Despite the target customer segment of the Interim EV-TOU Pilot Program being residential customers with their own dedicated EV charging infrastructure, LUMA is exploring the potential for EV-specific rates and program designs that can better accommodate the barriers imposed for low/moderate income customers, underserved communities, customers with distributed

Update on the Interim EV-TOU Pilot Program

August 2, 2024

generation and/or storage systems, multi-family buildings, and customers using public EV charging infrastructure as part of the implementation of the pilot program.

Each of these customer classes and their unique barriers need not all fit into a singular EV-TOU Program rate but may in fact be better served through alternative structures. With a growing baseline of charging data, LUMA will be better equipped to offer a meaningful and empirical approach to aligning their charging needs with the optimization of desired grid outcomes.

Update on the Interim EV-TOU Pilot Program

August 2, 2024

5.0 Conclusion

In the short term, LUMA plans two key actions. First, LUMA will temporarily unenroll NGRS customers from the EV-TOU Rate. These customers, along with any future NGRS participants, will be invited to join a parallel research pilot which will be implemented in parallel as part of the EV-TOU pilot program designed to address their unique needs and gather targeted insights. This data is imperative in understanding the baseline load curve for charging of existing NGRS customers who may have alternate EV charging behaviors given their onsite generation. In addition, LUMA will be able to keep this growing customer base engaged in its efforts through both quantitative and qualitative engagement.

Second, current and prospective GRS customers will continue their participation in the Interim EV-TOU rate pilot under its existing structure for the remainder of the pilot period. This approach ensures that data collection remains uninterrupted and both customer groups are effectively studied.

Looking ahead, LUMA is committed to overcoming the identified barriers through strategic investments and advancements. Investments in the CC&B system will be crucial for enabling multi-characteristic billing, incorporating both NEM and EV-TOU rates. This investment will be managed within the planned budget and timelines, aligning with LUMA's planned enhancements to build out CC&B capabilities compatible with planned grid and programmatic improvements. As a result, the billing system will have a greater capability to support complex rate structures, as well as to integrate advanced technologies and meet the evolving needs of LUMA's customer base.

During the interim period, the EV-TOU rate for these NEM customers will be suspended until appropriate solutions, both short-term and long-term, are developed and tested. LUMA intends to finalize and implement the short-term solution described herein before the next billing cycle, scheduled for August 28, 2024. Collaboration with the Energy Bureau ahead of this deadline will ensure effective implementation of interim measures, providing NEM customers with clear expectations and consistent billing moving forward.

Exhibit 2

From: Electric Vehicles <EV@lumapr.com>

Sent: Saturday, July 27, 2024 2:00 PM

To: [REDACTED]

Cc: Electric Vehicles <EV@lumapr.com>

Subject: Actualización sobre el Programa Piloto EV TOU para clientes de Medición de Energía Neta

Estimado cliente,

Debido a limitaciones imprevistas en nuestro sistema de facturación, nuestro equipo está trabajando para resolver un problema que actualmente impide la reconciliación de las tarifas Medición De Energía Neta (NEM por sus siglas en inglés) y de Tiempo de Uso de Vehículos Eléctricos (EV TOU por sus siglas en inglés) en nuestra factura. Debido a esto, su próxima factura permanecerá sin cambios y su acuerdo de facturación NEM se mantendrá activo, sin embargo, las tarifas EV TOU no se podrán aplicar a su factura en este momento.

LUMA está realizando esfuerzos para determinar cómo los clientes actuales y potenciales de NEM inscritos en el Programa Piloto EV TOU pueden participar. Su participación ayudará aún más a contribuir a la recopilación de datos y la investigación destinada a la evaluación y el diseño de una tarifa TOU permanente para vehículos eléctricos.

Valoramos a todos nuestros clientes de Medición de Energía Neta y seguimos comprometidos en satisfacer sus necesidades de carga de vehículos eléctricos. Agradecemos su paciencia y comprensión por lo que le mantendremos informado mientras nuestro equipo trabaja en una solución.

Subject: Update on EV TOU Pilot for enrolled Net Energy Metering Customers

Dear Valued Customer,

Due to unforeseen technical limitations of our billing system, our team is working to

solve an issue that currently prevents the reconciliation of Net Energy Metering (NEM) and Electric Vehicle Time-of-Use (EV-TOU) rates on your bill. Given this, your upcoming bill will remain unchanged with your NEM billing agreement still active, however, the EV-TOU Pilot Program rates are not able to be applied to your bill at this time.

LUMA is undertaking efforts to determine how current and prospective NEM customers enrolled in the EV-TOU Pilot program can participate. Your participation will further help contribute to data collection and research aimed at the evaluation and design of a permanent EV-TOU rate.

We value all our Net Energy Metering customers and remain committed to supporting your EV charging needs. We appreciate your patience and understanding therefore we will keep you updated as our team works on a solution.

Atentamente,

Equipo de Vehículos Eléctricos de LUMA



EV@Lumapr.com

lumapr.com/vehiculos-electricos/

LUMA Energy ServCo, LLC, una compañía de responsabilidad limitada de Puerto Rico