

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

NEPR
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IN RE:
ENERGY EFFICIENCY AND DEMAND
RESPONSE TRANSITION PERIOD PLAN

CASE NO.: NEPR-MI-2022-0001

SUBJECT: Submittal of
Responses to Requests for Information in
Appendix B of Resolution and Order of
October 12, 2022

**MOTION TO SUBMIT RESPONSES TO REQUESTS FOR INFORMATION IN
APPENDIX B OF RESOLUTION AND ORDER OF OCTOBER 12, 2022**

TO THE HONORABLE PUERTO RICO ENERGY BUREAU:

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

1. On April 21, 2021, the Puerto Rico Energy Bureau (“Energy Bureau”) issued a Resolution and Order commencing the proceeding in docket NEPR-MI-2021-0006, *In Re: Demand Response Plan Review, Implementation, and Monitoring* to begin the discussion related to the Three-Year Demand Response (“DR”) Plan that the Puerto Rico Electric Power Authority (“PREPA”) or its successor (LUMA) are required to prepare pursuant to the Regulation for Demand Response (“DR Regulation”)¹ and scheduling a Technical Conference on the subject², which conference was eventually held on June 15, 2021.

¹ Regulation 9246 issued on December 10, 2020 and effective December 21, 2020. This requirement arises from Section 3.02(C)(1)(a) of the DR Regulation.

² The Energy Bureau also ordered PREPA and LUMA to submit responses to an Attachment A, which responses LUMA and PREPA jointly filed on April 30, 2021. *See Joint Motion in Compliance with Resolution and Order Entered on April 21, 2021*, filed by PREPA and LUMA of that date.

2. On January 21, 2022, the Energy Bureau published the final version of the Regulation for Energy Efficiency (“EE Regulation”)³, requiring PREPA or LUMA to implement “quick start” EE programs during a two-year transition period (“Transition Period Plan” or “TPP”).⁴

3. On February 1, 2022, the Energy Bureau issued a Resolution and Order expanding the scope of the NEPR-MI-2021-0006 proceeding to include EE alongside DR, establishing a deadline of June 6, 2022 to submit both the Three-Year DR Plan and the EE TPP, and scheduling a Technical Workshop to discuss the development and launch of quick-start EE and DR programs and other Transition Period activities, which workshop was held on March 9, 2022.

4. On June 8, 2022, the Energy Bureau issued a Resolution and Order extending, until June 21, 2022, the deadline for submittal of a proposed EE and DR TPP by LUMA and scheduling a Workshop on the subject for June 29, 2022.

5. On June 21, 2022, LUMA filed with Energy Bureau its proposed EE and DR TPP (“Proposed EE and DR TPP”).

6. On June 28, 2022, the Energy Bureau issued a Resolution and Order initiating the instant proceeding for the review of LUMA’s Proposed EE and DR TPP, reaffirming that a Workshop would be held on June 29, 2022, and providing until July 13, 2022 for the public to provide comments to the Proposed EE and DR TPP.

7. On June 29, 2022, the Energy Bureau held a Workshop at which LUMA presented a summary of the Proposed EE and DR TPP.

³ The EE Regulation was at the time assigned the number 9354 by the Puerto Rico State Department. Regulation number 9354 was subsequently annulled, and the EE Regulation was resubmitted to the State Department and approved by the Puerto Rico Department of State on March 25, 2022, being assigned number 9367.

⁴ See EE Regulation, Section 2.01.

8. On September 29, 2022, the Energy Bureau issued a Resolution and Order scheduling for November 4, 2022 a Technical Conference regarding the Proposed EE and DR TPP, anticipating it would be issuing questions to the public and LUMA regarding the Proposed EE and DR TPP, and establishing a deadline of November 14, 2022 to submit reply comments following the Technical Conference.

9. On October 12, 2022, the Energy Bureau issued a Resolution and Order (“October 12th Order”) requesting responses by October 28, 2022 to two sets of requests for information- one directed to all stakeholders and LUMA, included in Appendix A to the October 12th Order, and the other directed only to LUMA, included in Appendix B to the October 12th Order (collectively, “Appendices A and B”).

10. On October 27, 2022, LUMA requested the Energy Bureau an extension of seven (7) days to submit its responses to Appendices A and B, among others.⁵

11. On November 2, 2022, the Energy Bureau issued a Resolution and Order (“November 2nd Order”) extending the deadline for LUMA to submit its responses to Appendix B until November 4, 2022 and the deadline for LUMA and stakeholders to submit responses to Appendix A until November 9, 2022, scheduling a Technical Conference regarding the responses to these Appendices for November 16, 2022 at 10:00 a.m., and establishing a new deadline to submit reply comments of November 30, 2022. The Energy Bureau also determined to hold a workshop on November 4, 2022 at 10:00 a.m. to discuss the questions in Appendix A, instead of the originally scheduled Technical Conference.

⁵ See *Motion Requesting Extension to Submit Responses to Requests for Information in Resolution and Order of October 12, 2022, Rescheduling of Related Technical Conference and Extension of Attendant Reply Comment Period* of that date.

12. In compliance with the October 12th Order as revised by the November 2nd Order, LUMA hereby submits LUMA's responses to Appendix B, included in the attached *Exhibit 1*.

WHEREFORE, LUMA respectfully requests that the Energy Bureau **take notice** of the aforementioned and accept LUMA's responses to Appendix B, attached herein as *Exhibit 1*, in compliance with the October 12th Order, as revised by the November 2nd Order.

RESPECTFULLY SUBMITTED.

In San Juan, Puerto Rico, this 4th day of November 2022.

We hereby certify that we filed this Motion using the electronic filing system of this Energy Bureau and that we will send an electronic copy of this Motion to agraitfe@agraitlawpr.com; info@sesapr.org; elevin@veic.org; the attorneys for PREPA at jmarrero@diazvaz.law, kbolanos@diazvaz.law; and the Independent Office for Consumer Protection at hriviera@jrsp.pr.gov.



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EXHIBIT 1

LUMA's responses to Appendix B of the October 12th Order



LUMA's Responses to the Energy Bureau's Request for Information

NEPR-MI-2022-0001

November 4, 2022

1.0 Introduction

LUMA appreciates the opportunity to respond to the Energy Bureau's Request for Information on the filed Transition Period Plan (TPP) and provides the below responses. With the responses, LUMA intends to provide stakeholders, members of the public, and this honorable Energy Bureau with further insight into the Proposed Transition Period Plan.

LUMA took a strategic and systematic approach to the development of the TPP portfolio to contribute to Puerto Rico's energy and sustainability goals and welcomes discussions that will provide a greater understanding of the Puerto Rico market, customer needs and preferences, and how best to address barriers to adoption across LUMA's broad customer mix.

2.0 Questions from PREB – Appendix B: Request for Information for LUMA

QUESTION 1 Regarding residential demand response, Solar and Energy Storage Association of Puerto Rico (SESA-PR) stated there is a substantial untapped residential battery energy storage resource, and that the lack of a Demand Response (DR) program is resulting in underutilization of this resource. The Energy Bureau is considering requiring the replacement of the proposed residential battery demand response program with a scheduled dispatch program for both residential and commercial customers. The batteries could charge between 10am and 2pm daily and discharge between 6pm and 10pm. No dispatch would be required or expected when a storm warning is issued.

- a. Can daily dispatch be accomplished with installed hardware and customer lease contracts? Why or why not?
- b. Can LUMA use metering and communications in the batteries? Why or why not?
- c. Can LUMA use a scheduled approach rather than DERMS dispatch? Why or why not?
- d. How can daily dispatch be verified?
- e. Can LUMA to develop, pilot, and launch such a program in Year 1 rather than Year 2? Why or why not?
- f. Can LUMA enroll a portion of a battery in the program?
- g. Can LUMA estimate fuel cost savings from the programmatic load shift to quantify savings to fuel costs?

RESPONSE

a. Can daily dispatch be accomplished with installed hardware and customer lease contracts? Why or why not?

For network connected batteries, daily dispatch can be accomplished by scheduling the battery's operations via communication with the gateway (or equivalent) through the Wi-Fi network. The gateway provides energy management, time-based control and network communications, among other things. Some battery installations may not have a gateway installed, though LUMA does not know the proportions of these.

Regardless of the hardware installed, LUMA's understanding is that customers will need to be registered in the program, as their existing lease contracts do not deliberately state that the customer agrees to be automatically enrolled in future programs. While some existing lease contracts may have fine-print provisions that auto-enroll customers in future programs such as this, there is potential for customer backlash if they discover that their batteries have been dispatched without their express consent. For this reason, LUMA expects that customers will need re-enrollment into the program. To ensure transparency with customers, battery lease contracts will need to incorporate clauses for export and explanations of impact on battery life.

b. Can LUMA use metering and communications in the batteries? Why or why not?

LUMA requires revenue grade metering data to measure the amount of energy consumed or dispatched, for billing and verification. It is possible to obtain this metering data directly from the batteries and avoid installing a separate meter, as discussed above. The challenge lies with obtaining, collecting and managing the metering data. One alternative is to enroll customers into a Distributed Energy Resources Management System (DERMS), which would provide LUMA with direct access to the battery's metering data. Alternatively, even without a DERMS, it is technically possible to obtain the battery metering data directly from Original Equipment Manufacturers (OEM). However, obtaining this data would still require a process of enrolling customers to obtain their consent as most OEM's will not provide customer data to utilities without explicit consent from the customer. Additionally, LUMA would be collecting data that has information on at least every 15 minutes from thousands of customers and processing that data for billing. This requires data collection, transfer and processing systems that are capable of this, which LUMA does not currently have, and would need to develop or outsource.

c. Can LUMA use a scheduled approach rather than DERMS dispatch? Why or why not?

It is useful here to distinguish between a passive (scheduled) approach and an active approach to dispatching batteries. A passive approach sets a fixed schedule for operation of the batteries, while the active approach operates the batteries directly as needed, without a fixed schedule. LUMA's program did not presuppose either approach, as it was yet to be determined which would be most viable.

Regardless of which approach is used to operate the batteries (passive or active), a DERMS or equivalent is still required to collect and manage the metering data from the battery for settlement, unless an arrangement can be made to obtain the data directly from OEMs as described above.

Both an active or passive approach would require LUMA to obtain metering data directly from the batteries (or a separate meter) to verify the amount of energy dispatched and determine the customer payment amount (aka “settlement”). As described above, LUMA would either need to obtain this data from a) smart meters, b) DERMS, or c) directly from OEMs, each of which has benefits and challenges.

It should be noted that LUMA doesn’t necessarily need to own the DERMS but could contract with an “aggregator” that provides their own DERMS. This could simplify the process for LUMA but would likely introduce added cost and potential complexities with multiple aggregators and OEMs.

d. How can daily dispatch be verified?

Verification is needed to ensure that the customer did in fact dispatch the battery when requested. Customers generally have the option to “opt-out” of a daily dispatch event by overriding the schedule. However, if they do opt-out of an event, they cannot be compensated for that event. This is the reason LUMA needs to obtain metering data for verification; to determine if the customer actually participated in the event and how much energy they need to be compensated for. Even if participants are compensated via a flat-fee or fixed amount (instead of per kWh dispatched), LUMA still needs metering data to verify that they actually dispatched the batteries and did not override the schedule.

Verification of daily dispatch requires metering and/or communications between hardware and network software. Most LUMA customers do not currently have meters capable of logging and communicating 15-minute interval data necessary to verify daily dispatch. However, as discussed above, the battery telemetry provides an alternative to this metering requirement, which can be communicated via the battery’s gateway.

LUMA will also need some form of third-party verification of battery telemetry data, to ensure the data provided to LUMA is accurate and has not been modified. This is the same approach taken to measure and verify savings from other Demand Response and Energy Efficiency programs.

e. Can LUMA develop, pilot, and launch such a program in Year 1 rather than Year 2? Why or why not?

LUMA considered many factors in the timing of the first year of this program’s launch. First and foremost, there are considerations around the logistics of dispatching events, obtaining metering data and processing incentive payments. These are discussed in answers 1 a-d above. LUMA also needs time to develop program design elements such as incentive structure, and to develop program materials for customers. If these program design details are not carefully planned, LUMA runs the risk of launching a program that creates frustration and confusion among customers and contractors. There are many examples of poorly designed demand response programs that ultimately failed. If these programs fail, customers and contractors could lose their trust in EE/DR programming and other services. We intend to develop these details during Year 1 of the TPP, with the assistance of an expert implementation contractor and/or aggregator.

Additionally, LUMA was working with PREPA and proponents during the ongoing Tranche 1 Virtual Power Plant (VPP) procurement process, to work out preliminary details, which have significant implications for the viability of this program, as both would draw on the same pool of batteries for potential participants. LUMA recognizes the value of behind-the-meter batteries as a

resource, but requires more evidence on which approach would be best for procuring this resource (i.e. a PPOA procurement approach or a programmatic approach). LUMA recently learned that the VPP proposed in Tranche 1 has been approved, which could potentially leverage the same batteries as this program, thereby competing for participants. LUMA has also learned from conversations with aggregators and OEMs that its unclear whether a programmatic or a VPP procurement presents the most viable, flexible and cost-effective approach in the long-term. For this reason, it is critical to the success of either a PPOA and/or programmatic approach to resolve these implementation details in Year 1 to prepare the program for potential launch in Year 2. LUMA appreciates the urgency for development of programs but rushing customers into programs that are not carefully designed presents a high risk of failed programs.

f. Can LUMA enroll a portion of a battery in the program?

Yes, this is the standard approach. The program would specify that a certain fraction of the battery capacity would always be available to the customer to meet their needs during emergencies. Therefore, only the remaining portion of the battery would be available to enroll in a program.

g. Can LUMA estimate fuel cost savings from the programmatic load shift to quantify savings to fuel costs?

Yes, LUMA could conduct production cost modeling to estimate fuel cost savings from load shift during specified periods.

QUESTION 2 As for the rebate program, the Energy Bureau agrees with LUMA that low-income customers should be eligible for higher incentives than non-low-income customers. However, the Energy Bureau notes that the incentive levels cover 30 to 50 percent of the incremental cost. The Energy Bureau is considering requiring that the planned incentive levels cover 100 percent of the total costs for low-income residents as this is required for participation and this approach is similar to the approach adopted in other jurisdictions.

a. What is the planned coordination with WAP?

b. Is income screening feasible? Who will conduct the screening?

RESPONSE

In selecting programs for the Transition Period Plan, LUMA focused on programs that could be launched quickly and that fill gaps in the market. Since there is already a Weatherization Assistance Program (WAP) program serving customers in Puerto Rico, it would not be prudent for LUMA to launch a similar program, considering budget limitations. It should be noted that doubling the incentive amounts in LUMA's program will half the number of participants that could be served. LUMA do not yet know if income screening would be feasible at this point. That said, LUMA agrees with exploring opportunities that will increase low-income access to energy efficiency goods and services.

QUESTION 3: Regarding the rebate program, the Energy Bureau notes that the Inflation Reduction Act (IRA) funding opportunities came about after the proposed TPP filing. The Energy Bureau is considering requiring an adjustment to TPP rebate programs to account for IRA funding. The Energy Bureau is also considering requiring the addition of technical assistance to enable customers to estimate and claim IRA incentives.

- a. Could LUMA's implementation contractor assist PEPP with this coordination and implementation? In what way(s)?

RESPONSE

LUMA's implementation contractor will coordinate with the Public Energy Policy Program (PEPP). However, LUMA's implementation contractor will have a contract to provide a specific scope of services on behalf of LUMA. LUMA has already defined this scope of work and the deadline has passed for proposal submissions, which did not include conducting additional services on behalf of another entity. This topic would require further discussion and consideration to fully evaluate the extent to which LUMA's contractor could assist PEPP without creating management conflicts.

QUESTION 4: As for financing, the Energy Bureau agrees with LUMA's approach to not offer financing in the first few years of the program given the complexity of this offering and lack of structures in place in Puerto Rico. However, financing can take time to develop and gain consumer trust. The Energy Bureau is considering requiring that LUMA begin developing a pay-as-you-save program and design and implement an on-bill repayment process.

- a. Could LUMA plan launch a financing program launch in FY25 (the first year of the first three-year plan)? Why or why not?
- b. What assistance would LUMA need from the Energy Bureau to launch this program?

RESPONSE

LUMA may be able to launch a financing program in FY25. But without knowing the specifics and details of the financing program to be launched, it is difficult for LUMA to say definitely whether it can launch a financing program in FY25. LUMA believes that the next step towards launching a financing program is to develop a research and road mapping process to design an effective financing program. The key activities within this development process would include, but not be limited to:

- Understanding the extent to which lack of financing is a barrier to more efficient technology adoption in the near term, and the extent to which customer adoption would increase if financing were available (especially relative to incentives, which are much easier to develop and administer).
- Understanding existing financing sources and structures available in Puerto Rico for business as well as residential customers.
- Identifying possible financing program structures and mechanisms and understanding of implications for LUMA staff and systems (e.g., billing system, customer connection/reconnection policies) of these different structures and mechanisms.

- Discussions with stakeholders and local financial institutions.
- Identifying possible funding sources (e.g., third-parties, revolving credit fund, ratepayers, etc.).
- Understanding potential default and credit risks associated with the provision of financing, and which entity(ies) these risks would be borne by under the various possible financing program structures and mechanisms.

Regardless of the overall structure and features of the financing program, LUMA strongly recommends that funds for any financing program should be provided by a third-party financial institution to mitigate risks to ratepayers and of unnecessarily increasing rates to customers. This approach will also leverage the institution's existing financing tools, processes and mechanisms. On-bill financing can still be achieved with the use of third-party financing and providing third parties with access to the customer bill for loan recovery.

QUESTION 5: Regarding performance metrics, the Energy Bureau is considering requiring an expansion of the reported metrics to include estimates of (1) customer energy savings as a percent of usage, (2) bill savings, (3) participation rates by geography, and (4) GHS emission reductions.

- a. Will LUMA leverage an existing database to track results?
- b. Is there funding in the budget for a new database or necessary database updates?

RESPONSE

As stated in the filed Transition Period Plan, LUMA will prepare detailed Annual Reports including achievements and lessons learned, progress towards implementation, final annual energy and demand savings by program and sector and program costs. If the decision is made to report additional progress at some point, LUMA suggests this is added to the Annual Report. The Transition Period Plan is an opportunity to learn more about EE and DR markets and program implementation and how to effectively overcome barriers to EE adoption in Puerto Rico. Through testing a range of programs across its customer base, LUMA will track program performance and learnings.

LUMA does not have an existing database or funding for a new database to develop and track these metrics.

Currently, LUMA only reports on progress regarding the performance of the T&D System as part of Docket NEPR-MI-2019-0007. There LUMA provides information and data on metrics established for the performance of PREPA generation and on the T&D System performance based on the Energy Bureau's established metrics for PREPA's performance.

Additionally, LUMA has proposed the approval of Performance Metrics to measure its performance under Docket NEPR-AP-2020-0025 which is still under consideration by the Energy Bureau and where no final decision on the metrics that will measure LUMA's performance has been made to date. As a matter of fact, on October 28, 2022, LUMA will present additional metrics as required by the PREB on their December 22, 2021 Resolution and Order which ordered LUMA to propose metrics on Distributed Energy Resources, Vegetation Management, Energy Efficiency and Demand Response.

QUESTION 6: As for funding sources and mechanisms, the Energy Bureau is considering the following.

For FY23: (1) LUMA budget funds support all activities, including marketing, outreach, and education program implementation, up through and including incentive program launch, (2) EE Rider collection starts after incentive program launch, at a level intended to recover the appropriate share of the budget for FY23, and (3) LUMA and EE Rider funds are not segregated in this year.

For FY24 and subsequent years, the Energy Bureau is considering a structure in which: (1) LUMA uses its budget for planning and administration costs and (2) the EE Rider funds incentive costs only.

a. The Energy Bureau would like to better understand the timeframe for how revenue flows in response to customer consumption. Please provide a timeline mapping consumption to billing to funds received by LUMA. That is, if a customer uses a kWh on a particular day, when does that consumption show up on that customer's bill? How many days after the billing month does the customer receive the bill? How long does the customer must pay the bill? When does it actually show up in LUMA's accounts, and is able to be spent?

b. Relative to the start date of rebate programs, when would the EE Rider value need to be established, and when does it start getting collected, so it would not appear on bills until 2 weeks after programs are widely available?

RESPONSE

LUMA has allocated funding within its FY23 Annual Budget for program planning, administration and startup costs. LUMA believes that this allocation was warranted in order to “kick-start” the EE/DR programs and cover one-time startup costs for program planning and administration. However, it was LUMA's intention that this source of funding would be temporary and transitional until more secure funding was available through an EE Rider.

While LUMA proposed a “split” funding arrangement solely for FY23 to kick-start the EE/DR programs in advance of the implementation of the proposed EE Rider, LUMA did not intend for such “split” funding to be permanent. LUMA is not aware of any other utilities operating their EE/DR programs under such a “split” arrangement. This is especially important as the portfolio scales up to full size in the 3-year planning period, where administrative costs could be upwards of \$15-\$20 million per year. For reference, program administrative costs are generally 20%-40% of total program costs, depending on the types of programs offered.

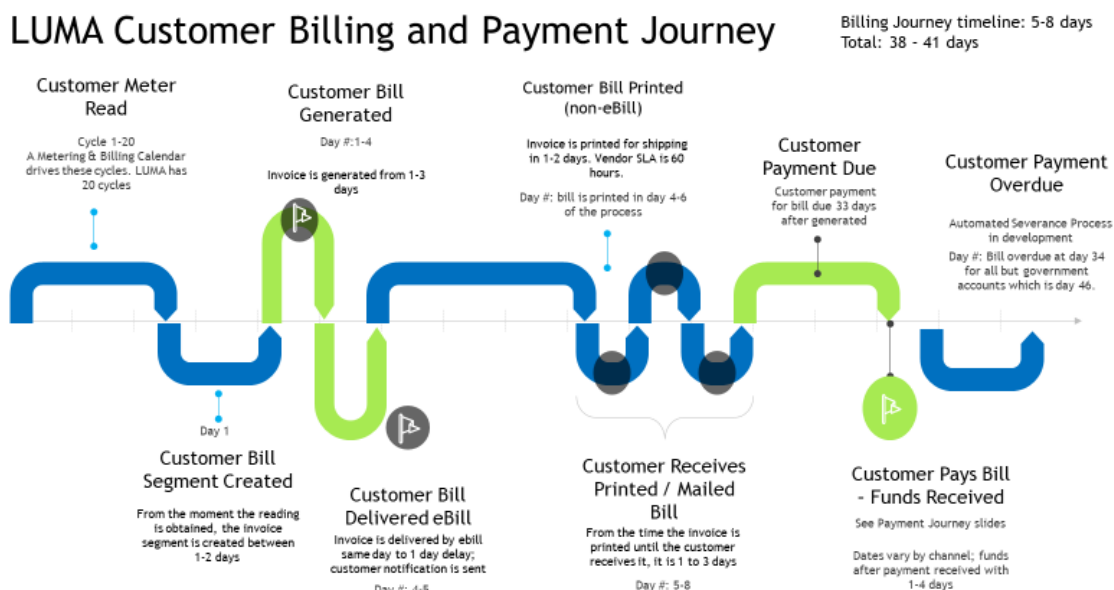
Additionally, just as the incentive budget will need flexibility for minor increases, so will the corollary program administrative budget. If programs are very popular and LUMA needs to exceed the incentive budget to prevent closing programs early, we would also need a corresponding increase to the administrative budget. However, LUMA's annual budget is fixed and cannot be exceeded.

It is LUMA's understanding that all of the funding for the FY24 EE/DR program would come from the EE Rider and that no further allocation from LUMA's FY24 Annual Budget would be required, as annual EE programs were not contemplated in the currently applied 2017 Rate Order. This arrangement, with the

entirety of the EE/DR budget coming from a dedicated rider, is common throughout the US and Canada for regulated utilities required to do EE and DR.

LUMA, therefore, proposes that the proposed EE Rider for FY24 be set to recover all the required cost of the EE/DR programs for FY24. In subsequent years, the EE Rider would similarly be set to recover the budgeted cost of the EE/DR programs for the year. To the extent that federal government or other funding sources are available and actually obligated, the EE Rider could be adjusted. The applicability of federal funds for these programs in Puerto Rico at this stage is highly uncertain and speculative.

LUMA bills customer consumption on a monthly basis through 20 billing cycles. The customer's meter is read once a month for Automatic Meter Reading (AMR) meters during the reading window. The meter read represents consumption during the cycle. A cycle is between 28 and 33 days. Thus, consumption is read after a period of 28-33 days and then is billed to the customer. The journey map below provides the high-level billing and payment process. The overall process of generating and sending a printed bill is between 5-8 days, as shown below.



A customer has 30-45 days to pay their invoice. Once funds are received from the customer, they are deposited into bank accounts (PREPA accounts). Depending on the payment channel it takes 1-4 days to process a payment. The majority of payments are made through the web or app or through the automated phone system of the contact center (IVR) and these payments are processed in 1-2 days through reconciliation and processing. Once deposits clear in banks the funds are ready to be used to pay expenses as required.