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

IN RE: THE PERFORMANCE OF THE PUERTO RICO ELECTRIC POWER AUTHORITY	**CASE NO.:** NEPR-MI-2019-0007 **SUBJECT:** Final Performance Baseline data and Benchmarks.

RESOLUTION AND ORDER

I. Introduction and Procedural History

On May 14, 2019, the Energy Bureau of the Puerto Rico Public Service Regulatory Board ("Energy Bureau") notified a Resolution and Order requiring the Puerto Rico Electric Power Authority ("PREPA") to provide quarterly reports of key performance metrics/indicators, beginning September 15, 2019.[1] On December 23, 2020, the Energy Bureau issued a Resolution and Order establishing the procedural schedule for the instant proceeding to request stakeholder input in the establishment of baseline performance metrics.[2] As part of the December 23 Resolution, the Energy Bureau published data tables and graphs summarizing 12 months of data (June 2019 through May 2020) provided by PREPA for 130 metrics across 11 categories.

On April 8, 2021, the Energy Bureau issued a Resolution and Order ("April 8 Resolution") through which it established that the fiscal-year 2020 data (July 2019 through June 2020) would be the baseline for metrics subject to modifications for specific metrics described therein. Additionally, the Energy Bureau ordered PREPA to (i) provide separate metrics of Days Sales Outstanding ("DSO") for Government and for General customers as part of the Customer Service category; (ii) restate the reliability metrics provided to the Energy Bureau consistent with the IEEE 1366 methodology for calculating SAIFI[3] and SAIDI[4]; and (iii) report on several Occupational Safety and Health Administration ("OSHA") metrics.

---

[1] *See* Resolution and Order, Case No. NEPR-MI-2019-0007, In Re: The Performance of the Puerto Rico Electric Power Authority, May 14, 2019 ("May 14 Resolution").

[2] *See* Resolution and Order, Case No. NEPR-MI-2019-0007, In Re: Commencement of Proceeding for the Establishment of a Performance Baseline and Performance Compliance Benchmarks, December 23, 2020 ("December 23 Resolution").

[3] System Average Interruption Frequency Index.

[4] System Average Interruption Duration Index.

Further, the Energy Bureau ordered PREPA to provide updated performance metrics and Fiscal Year 2020 baseline consistent with the April 8 Resolution.

On April 19, 2021, PREPA filed a document titled *Motion to Submit Additional Performance Metrics in Compliance (sic) the Resolution and Order Entered on (sic)* ("April 19 Motion"). PREPA provided the DSO metrics required in the April 8 Resolution as Exhibit A to the April 19 Motion. Also, PREPA included as Exhibit B to the April 19 Motion the required OSHA metrics. Regarding the correction of reliability metrics to follow the IEEE 1366 methodology for SAIDI and SAIFI, PREPA requested a 10-day extension to produce the requested information.

On April 28, 2021, LUMA[5] filed before the Energy Bureau a document titled *Motion for Partial Reconsideration of Resolution and Order of April 8, 2021, Motion Submitting Information in Support Thereof, and Requests for Clarifications* ("Motion for Partial Reconsideration"). As part of its Motion for Partial Reconsideration, LUMA requested the Energy Bureau to (i) include the proposed baselines that were set according to the results of the J.D Power Surveys; (ii) reconsider the period for setting future baselines; and (iii) accept its clarifications regarding PREPA's functionality to track Step Restoration Data and the calculation for 2019 interruption occurrences.

On April 29, 2021, PREPA filed a document titled *Motion to Supplement Additional Performance Metrics in Compliance with Resolution and Order Entered on April 8, 2021* ("Motion to Supplement"). As the Exhibit A to the Motion to Supplement, PREPA submitted the system SAIDI and SAIFI reliability metrics in compliance with Section V.A (3) of the April 8 Resolution.

On May 12, 2021, PREPA filed a document titled *Motion to Substitute Exhibit A of Motion Filed on April 29, 2021* ("May 12 Motion"). Through the May 12 Motion, PREPA requested leave to file a revised version of the Exhibit A filed as part of the Motion to Supplement. PREPA states that the aforementioned Exhibit A provides an example of mathematical calculations used to determine the T_{med} value consistent with IEEE 1366, as well as SAIDI and SAIFI indicators for PREPA's districts and regions for fiscal years 2018-2020.

II. Energy Bureau Statutory Authority

Act 57-2014[6] gives the Energy Bureau jurisdiction over PREPA and all other electric service companies. Furthermore, Act 57-2014 states it is public policy that all consumers

[5] LUMA Energy, LLC as Management Co., and LUMA Energy ServCo, LLC. (collectively, "LUMA").

[6] Known as the *Puerto Rico Energy Transformation and RELIEF Act*, as amended.

have the right to a reliable and stable electric service.[7]

Act 17-2019[8] broadened the Energy Bureau's authority and reinforced the foregoing public policy by declaring that, "(t)he electric power system should be reliable and accessible, promote industrial, commercial, and community development, improve the quality of life at just and reasonable cost, and promote the economic development of the Island."[9]

Act 17-2019 also established certain express mandates to the Energy Bureau including, but not limited to, developing incentive mechanisms to make the enforcement of the energy policy more feasible.

III. Principles for Establishing Benchmarks

A performance metric benchmark ("Benchmark") defines the precise level of service or output that a utility is expected to achieve during a particular time period for a particular metric. Benchmarks may be used as the basis for providing a utility with a financial incentive to achieve desired outcomes or simply as a tool to help guide a utility's performance with neither penalty nor reward attached.

The Energy Bureau has and will consider the following design principles and methods as it sets Benchmarks:

- Tie benchmarks to policy goals.
- Balance costs and benefits.
- Set realistic benchmarks.
- Historical performance.
- Peer utility performance.
- Frontier methods.
- Incorporate stakeholder input.
- Use deadbands to mitigate uncertainty and variability.
- Use time intervals that allow for long-term, sustainable solutions.
- Allow benchmarks to evolve.

Below, the Energy Bureau describes each method and/or design principles.

---

[7] *Id.*, Article 1.2(l).

[8] Known as the *Puerto Rico Energy Public Policy Act.*

[9] *Id.*, Statement of Motives, p.2.

A. Tie the Benchmark to the Ultimate Policy Goal

Consider the level of performance necessary to achieve policy goals, and state this explicitly. Doing so will help stakeholders evaluate whether Benchmarks were set so as to move the utility toward achieving the policy goals and to help maintain momentum in that direction, while also allowing stakeholders to better determine when the underlying policy objective—as opposed to simply meeting the benchmark—has been achieved.

B. Balance Costs and Benefits

Balance the costs to customers of achieving the benchmark with the benefits to customers. Ratepayer surveys can help to identify ratepayers' priorities and how much they are willing to pay for higher levels of utility performance. In theory, the optimal level of performance is obtained where the marginal benefits from improved performance are equal to the marginal costs of providing that increased level of performance. Identifying the optimal level requires knowledge of both the utility's marginal cost curve, and customers' willingness to pay for different levels of reliability.

Especially for some performance areas, it may be difficult to quantify the marginal costs and benefits to determine the optimal performance benchmark. In such cases, regulators may want to at least apply a qualitative assessment of what the costs and benefits to customers might be.

C. Set a Realistic Benchmark

The performance benchmark should be realistically achievable by a well-managed utility. If utility performance is satisfactory, then the performance benchmark could be set to simply maintain recent performance levels (assuming that future operating conditions will be similar to current conditions). If a higher level of performance is desired, a reasonable benchmark can be developed based on historical performance, peer utility performance, utility-specific studies or other methods such as data envelopment analysis.

D. Historical Performance

A utility's previous performance over a set period of time —for example, the past ten years—is used to set the Benchmarks. This method presumes that (i) the data was collected and is readily available; (ii) there has been little fundamental change in the key factors influencing utility performance; and (iii) that historical performance was satisfactory.

E. Peer Utility Performance

Peer group performance may be used to determine Benchmarks. If a peer group is used, effort should be made to account for the utility's unique circumstances that may affect its ability to reasonably achieve benchmarks (*e.g.* factors that could significantly impact performance, such as a major storm). This can be done through one of two ways: (i) choosing

a peer group similar to the utility in question or (ii) using econometric techniques to control for certain variables.

F. Frontier Methods

Frontier analysis is a benchmarking method using Data Envelopment Analysis (DEA). DEA measures technical efficiency of firms based on a sample of firms, their input use, and their outputs. The analysis identifies the most efficient firms and creates an efficiency frontier based on these firms' input usage per unit of output. Other firms are then assigned a score based on their efficiency relative to the efficiency frontier. Factors outside of a utility's control should be considered in the DEA analysis, but this is not easily done. This technique also suffers from a lack of internal validation, such as misspecification tests or goodness-of-fit statistics. Nevertheless, DEA analysis has been used by energy regulators to determine price and revenue requirements for utilities in Finland, Norway, the Netherlands, Germany, Austria, and Australia.

G. Utility-specific Studies.

Utility-specific economic and engineering studies may be used to set Benchmarks. For example, integrated resource plans may provide detailed cost and benefit information regarding certain resource investments under specific planning assumptions. Energy efficiency and demand response potential studies can identify the investments that would be cost-effective for the utility to make. Production cost simulations have been used to model efficient dispatch, operation, and purchasing decisions, providing benchmarks against which utility performance can be measured. These studies can help regulators identify and define specific resource investment benchmarks and costs.

H. Incorporate Stakeholder Input

Allowing for meaningful stakeholder input during the process of setting Benchmarks is likely to result in benchmarks that meet state regulatory goals, result in desired outcomes, and minimizes the potential for manipulating or gaming the benchmarks. In addition, a meaningful stakeholder process can enable stakeholder buy-in and enhance the legitimacy of benchmarks. Stakeholder input also reduces the likelihood of contentious disagreements once performance incentives are implemented and rewards and penalties start to be applied.

I. Use Deadbands to Account for Uncertainty and Variability

Deadbands create a neutral zone around a Benchmark level in which the utility does not receive a reward or penalty. Deadbands can help to account for uncertainty regarding the optimal performance level, and allow for some performance variance based on factors outside of the utility's control.

Deadbands are frequently set at one standard deviation of historical performance but may be larger or smaller based on sample size and the tolerance for error. That is, if large

amounts of historical data are available, then one standard deviation is likely to capture most of the normal variation in a utility's performance. If the sample size is small, for example three observations, then one standard deviation may not be large enough to capture the normal variation in a utility's performance. In such cases, a confidence interval can be constructed using the sample data and the regulator's desired level of confidence that the interval will sufficiently represent the range of normal variation.

J. Use Time Intervals That Allow for Long-Term, Sustainable Solutions

The timeframe for measuring performance can influence the compliance strategies that the utility implements. If performance is measured only over a short timeframe, such as over one year, the utility has an incentive to implement solutions that can be quickly implemented but may have only short-term benefits. Sometimes, these short-run solutions may be contrary to long-term sustainability. For example, a utility may compromise safety to achieve short-term economic goals.

Solutions that are optimal for the long-term may result in slow but steady improvement. For example, implementing sound maintenance and operational practices will result in long-term safety and economic benefits, but may not achieve short-term capacity factor benchmarks. Thus, performance measurements over the longer-term, such as using three-year rolling averages, may better encourage the utility to adopt sound long-term practices.

K. Allow Benchmarks to Evolve

Once a benchmark is set, it should be adjusted only slowly and cautiously to provide utilities with the regulatory certainty required to make long-term investments. However, benchmarks may need to evolve over time for two reasons. First, if performance needs to be improved, it may not be possible for the utility to immediately achieve the desired level of performance, and second some problems may take years to fully remedy, despite the utility undertaking immediate actions to remediate the situation. In such cases, the performance measurement time interval can be lengthened, or benchmarks can be set to become more stringent over time, providing the utility with a glide path for achieving the ultimately desired level of performance.

IV. Categorization of PREPA's Reported Metrics

The Energy Bureau has identified these categories in the analysis of PREPA's metrics. The *first* category includes those metrics where the Energy Bureau has established both a baseline and benchmark value. As part of these metrics, the Energy Bureau has incorporated the additional OSHA data provided by PREPA through the April 19 Motion. This data now includes: OSHA Recordable Incident Rate, OSHA Fatalities, OSHA Severity Rate, and OSHA Days Away, Restricted or Transferred ("DART") Rate. Also, the metrics include additional financial reporting data for Day Sales Outstanding required by the Energy Bureau and

provided by PREPA through the April 19 Motion. These metrics are detailed in Attachment A of this Resolution and Order.

The *second* category are those metrics where a comparison to either industry standards and/or peer group utilties may not be applicable. The Energy Bureau has established a baseline for the metrics and will use these metrics to monitor performance until such time the Energy Bureau deems it appropriate to establish a benchmark.

Some of these metrics may have benchmarks set in the future based on the outcomes from other proceedings before the Energy Bureau. These proceedings include, but are not limited to, the Energy Bureau's Implementation of the PREPA Integrated Resource Plan and Modified Action Plan (Case No. NEPR-MI-2020-0012), the Energy Bureau's Optimization Proceeding of Minigrid Transmission and Distribution Investments (Case No. NEPR-MI-2020-0016), the Energy Bureau's Regulation 9246, Regulation for Demand Response, and the Regulation for Energy Efficiency, once it is final (Case No. NEPR-MI-2021-0005). For these, the Energy Bureau establishes reporting-only metrics to be replaced at such time as the relevant proceedings have concluded.

The Energy Bureau notes that, for the metrics related to disconnections, the Energy Bureau has excluded the months of April 2020 through June 2020 due to COVID-19 disconnection moratoriums.[10] Further, the Energy Bureau has not included the SAIDI and SAIFI reliability metrics for district level, as filed by PREPA through the May 12 Motion. To be consistent with the IEEE 1366 methodology, PREPA must recalculate the reliability metrics for the district level using a T_{med} value per district. The recalculated information must be provided by PREPA or LUMA as part of the next quarterly report. The Energy Bureau will update the metrics and baseline table with updated reliability metrics when that data is available. The metrics related to the second category are detailed in Attachment B of this Resolution and Order.

The *third* category includes metrics that the Energy Bureau has determined to remove from future quarterly reporting requirements. The Energy Bureau has determined that further revision to these metrics is warranted and will provide any revised metrics to be reported. These metrics are detailed in Attachment C of this Resolution and Order.

The *fourth* category are new metrics, besides those required in Part V.B of the April 8 Resolution, that the Energy Bureau deems appropriate to require PREPA to include in its quarterly reporting, considering the upcoming transition to the Transmission and Distribution Operator. These metrics are detailed in Attachment D of this Resolution and Order.

[10] *See* Act 39-2020.

V. Analysis for the Establishment of Benchmarks

Considering the principles in Part III of this Resolution and Order, the Energy Bureau has established initial benchmark values for selected reported metrics, as detailed in Attachment A of this Resolution and Order. The Energy Bureau will continue to evaluate historic performance and utility and industry performance standards for consideration in adopting future benchmarks.

A. Identification and Discussion of Peer Group Utilities

The Energy Bureau has determined benchmark values based on a combination of historical performance, industry standards and/or peer group utlities across the country. The Energy Bureau has identifed a combination of (i) island utilities with some similar challenges as PREPA, (ii) investor-owned utility benchmarks for similarly sized utilities; and (iii) public power authorities for similarly sized utilities. No single utility is a perfect analog to PREPA. As a state-owned utility, PREPA is not an investor-owned ("IOU") utility. Finally, Puerto Rico's climate and geography also contribute to PREPA's uniqueness.

The Energy Bureau has identified the following utilties that share some elements with PREPA as useful peer utilities. These utilities are: Dominion Energy (South Carolina), Duke Energy Progress (North Carolina), Duke Energy Progress (Florida), Hawaii Electric Light Company ("HELCO"), Hawaiian Electric Company ("HECO"), Los Angeles Department of Water and Power ("LADWP"), City of San Antonio ("CPS Energy"), San Diego Gas and Electric Company ("SDGE"). Information from these utiltiies and applicable industry standards shall be an evolving process as comparable metric information becomes available.

Dominion Energy (South Carolina) has approximately 750,000 customers, being smaller than PREPA. Dominion Energy (South Carolina) has to address hurricane events. Similar to PREPA, the utility owns and operates generation, transmission and distribuion assets. Dominion Energy (South Carolina) reported 2019 System Average Interruption Duration Index (SAIDI) without Major Event Days (MED) of 77.8 minutes and a System Average Interruption Frequency Index (SAIFI) without MED of 1.03.[11] The Customer Average Interruption Duration Index (CAIDI) without Major Event Days ("MEDs") for the utility was 76 minutes for 2019.

Duke Energy Progress (North Carolina) has approximately 1.4 million customers, a comparable number to PREPA. Also, Duke Energy Progress (North Carolina) has to address hurricane events. Similar to PREPA, the utility owns and operates generation, transmission and distribuion assets. Duke Energy Progress (North Carolina) reported 2019 SAIDI without

[11] Energy Information Administration. Annual Electric Power Industry Report, Form 861 detailed data files. October 6, 2020. Year 2019. Available at https://www.eia.gov/electricity/data/eia861/

MEDs of 149 minutes and a SAIFI without MEDs of 1.29.[12] The Customer Average Interruption Duration Index (CAIDI) without MEDs for the utility was 115 minutes 2019.

Duke Energy Progress (Florida) has approximately 1.8 million customers, being larger than PREPA. Duke Energy Progress (Florida) has to address hurricane events and the vegetation management issues in Florida has similarities to Puerto Rico. Similar to PREPA, the utility owns and operates generation, transmission and distribuion assets. Duke Energy Progress (Florida) reported 2019 SAIDI without MEDs of 98 minutes and a SAIFI without MEDs of 1.12.[13] The CAIDI without MEDs for the utility was 88 minutes 2019.

Hawaii Electric Light Company has approximately 86,000 customers, much smaller than PREPA. HELCO has vegetation management issues similar to Puerto Rico, and some of the topography of the big island share similarities to Puerto Rico. Similar to PREPA, the utility owns and operates generation, transmission and distribuion assets on an islanded system. HELCO reported 2019 SAIDI without MEDs of 164 minutes and a SAIFI without MEDs of 1.84.[14] The CAIDI without MEDs for the utility was 90 minutes 2019.

Hawaiian Electric Company has approximately 305,000 customers, being smaller than PREPA. HECO has vegetation management issues similar to Puerto Rico, and some of the topography of the island of Oahu share similarities to Puerto Rico. Similar to PREPA, the utility owns and operates generation, transmission and distribuion assets on an islanded system. HECO reported 2019 SAIDI without MEDs of 89 minutes and a SAIFI without MEDs of 0.84.[15] The CAIDI without MEDs for the utility was 107 minutes 2019.

The Los Angeles Department of Water and Power (LADWP) has approximately 1.5 million customers, slightly larger than PREPA. LADWP is a municipal utility so it does not have shareholder investors. Similar to PREPA, LADWP owns and operates generation, transmission and distribution assets. LADWP reported 2019 SAIDI without MEDs of 112 minutes and a SAIFI without MEDs of 0.78.[16] The CAIDI without MEDs for the utility was 145 minutes 2019.

The City of San Antonio (CPS Energy) has approximately 829,000 customers. CPS Energy is a municipal utility so it does not have shareholder investors. Similar to PREPA, CPS Energy owns and operates generation, transmission and distribuion assets. CPS Energy

---

[12] *Id.*

[13] *Id.*

[14] *Id.*

[15] *Id.*

[16] *Id.*

reported 2019 SAIDI without MEDs of 55 minutes and a SAIFI without MEDs of 0.79.[17] The CAIDI without MEDs for the utility was 69 minutes 2019.

San Diego Gas and Electric Company (SDGE) has approximately 1.4 million customers, about the same size as PREPA. Similar to PREPA, the utility owns and operates transmission and distribuion assets. SDGE reported 2019 SAIDI without MEDs of 69 minutes and a SAIFI without MEDs of 0.60.[18] The CAIDI without MEDs for the utility was 115 minutes 2019.

B. Discussion of Identified Benchmarks

These sections detail by Category, the Energy Bureau's identification of an applicable benchmark. The section also details the reasons the Energy Bureau has declined to identify a benchmark for a specific metric.

i. Overall Metrics

For the absentism metric, the Energy Bureau uses the U.S. Bureau of Labor Statistics ("BLS") total absence rate for utilties of 2.4 percent for 2019 to establish a benchmark.[19]

For customer average interruption duration index ("CAIDI"), the Energy Bureau is using the the 2019 average CAIDI of 101 minutes calculated from the eight peer group utilties identified by the Energy Bureau to establish a benchmark.

For operational expenses vs. budget, the Energy Bureau has determined that the benchmark of within budget would be appropriate for this specific metric.

For capital expenses vs. budget, the Energy Bureau has determined that the benchmark of within budget would be appropriate for this specific metric.

ii. Generation Metrics

Average heat rate by system and by plant are PREPA specific metrics where an applicable benchmark value may be determined by the outcome of the IRP procurement proceeding and the implementation of the IRP Modified Action Plan. However, meanwhile, the Energy Bureau establishes the U.S. Energy Information Adminstration's ("EIA") average

---

[17] *Id.*

[18] *Id.*

[19] U.S. Bureau of Labor Statistics. Household Data Annual Averages 47. Absences from work of employed full-time wage and salary workers by occupation and industry. 2019. Available at https://www.bls.gov/cps/aa2019/cpsaat47.htm

heat rates by energy source for 2019 as a benchmark for PREPA's exsting thermal generation units.[20] For petroleum steam generators, the EIA has identified a heat rate of 10,236 BTU/kWh. For natural gas steam generators, the EIA has identified a heat rate of 10,347 BTU/kWh. For petroleum combined cycle generators, the EIA has identified a heat rate of 9,662 BTU/kWh. For petroleum turbine generators, the EIA has identified a heat rate of 13,315 BTU/kWh. And for petroleum interal combustion generators, the EIA has identified a heat rate of 10,325 BTU/kWh.

For plant availability, the Energy Bureau establishes the North American Electric Reiliability Corporation's ("NERC") Generating Availability Data System ("GADS") database for 2019 generator information as an appropriate interim benchmark.[21] Where possible, the Energy Bureau assigned benchmark values based on NERC data for generators sized similarly to PREPA's plants. The NERC weighted plant availability factor ("WAF") for oil steam units was 82.7 percent. For oil steam units sized at 100-199 MW, it was 74.5 percent. For oil steam units sized between 400-599 MW, it was 84.8 percent. For hydro units 1-29 MW, it was 80.2 percent. For combined cycle units, it was 88.2 percent. For gas turbine units, it was 88.8 percent. For gas turbine units sized between 20-49 MW, it was 87.0 percent. And for diesel units of all sizes, it was 92.2 percent. This metric is PREPA specific, and this metric may have an future benchmark determined by the outcome of the IRP procurement proceeding and the implementation of the IRP Modified Action Plan.

For forced outage percentages, the Energy Bureau also establishes NERC's 2019 GADS database as an appropriate interim benchmark.[22] The NERC weighted forced outage rate ("WFOR") for oil steam units was 16.2 percent. For oil steam units 100-199 MW in size, the WFOR was 34.3 percent. The WFOR for natural gas steam units between 400 and 599 MW is 23.8 percent and the corresponding WFOR for oil is 39.4 percent. For hydro units between 1-29 MW, it was 10.4 percent. For combined cycle units, it was 2.3 percent. For gas turbine units 20-49 MW in size, it was 54.7percent. For gas turbine units larger than 49 MW in size, it was 30.0 percent. And for diesel units, it was 21.5 percent. This metric is PREPA specific, and this metric may have an future benchmark determined by the outcome of the IRP procurement proceeding and the implementation of the modified IRP Action Plan.

---

[20] U.S. Energy Information Administration. Table 8.2 Average Tested Heat Rates by Prime Mover and Energy Source, 2009-2019. Available at https://www.eia.gov/electricity/annual/html/epa_08_02.html.

[21] NERC. Generating Unit Statistical Brochure 2 2019- All Units Report. September 15, 2020. Available at https://www.nerc.com/pa/RAPA/gads/Reports/Generating%20Unit%20Statistical%20Brochure%202%20-%20All%20Units%20Reporting.xlsx

[22] *Id.*

iii. Transmission and Distribution Metrics

For SAIDI, the Energy Bureau is using PREPA's updated value of 1,243 minutes without major events for PREPA's baseline.[23] The average SAIDI without MEDs for the eight peer group utilities will be the benchmark for PREPA.[24] The average SAIDI without MEDs is 102 minutes.

For SAIFI, the Energy Bureau is using PREPA's updated value of 10.6 interruptions per customer without major events for PREPA's baseline.[25] The Energy Bureau is also using the 2019 average SAIFI without MEDs for the eight peer group utilities is 1.0 events as the SAIFI benchmark.

iv. Customer Service Metrics

For days sales outstading ("DSO"), the Energy Bureau has determined a benchmark of 48 days based on median value for utility companies provided in the annual Hackett Group study that analyzes the 1,000 largest listed nonfinancial companies in the United States.[26] The study from 2019 included six utilities.

For average speed to answer, the Energy Bureau has determined that a benchmark of 0.4 minutes (equivalent to 25 seconds) based on the average speed to answer reported by Dominion North Carolina, Duke Energy Progress North Carolina, and Duke Energy Carolinas for 2020.[27] The Energy Bureau notes that LUMA provided American Productivity & Quality Center ("APQC") benchmark values for average speed of answer in seconds for agent queue calls.[28] The median value from the APQC data is 15 seconds across a sample size of 28 organizations. The APQC data is a subscription based service, so the transparency of the data is not apparent to the Energy Bureau.

---

[23] May 12 Motion, Exhibit A.

[24] The 2019 data is the most recently available data posted by the EIA.

[25] May 12 Motion, Exhibit A.

[26] The Hackett Group. 2019 Working Capital Study. Page 18.

[27] Quarterly Customer Service Metrics and Average Response Time Performance Report. North Carolina Utilities Commission. Docket No. E-100, Sub 138.

[28] *See* Motion resubmitting LUMA's comments and proposals regarding PREPA's performance baselines and metrics, in compliance with Resolution and Order of December 23, 2020, and based on data published by the Energy Bureau and presented during technical conference held on January 19th, 2020, Case No. NEPR-MI-2019-0007, February 5, 2021, Exhibit 2, p. 10.

For wait time in commercial offices, the Energy Bureau has determined that the benchmark will be 30 minutes and 56 seconds based on PREPA's baseline values for fiscal year 2020, excluding the months of March through June 2020 due to COVID-19 restrictions.

The number of formal customer complaints metric will be reported as the rolling annual number of formal customer complaints per 100,000 customers going forward. The Energy Bureau has determined that the benchmark will be 6.9 complaints per 100,000 customers based HECO's 2019 reported customer complaint rate of 0.69 per 10,000 customers.[29] The baseline value is calculated based on the annual number of FY 2020 customer complaints.

The number of customer calls answered metric will now be presented as the percent of customer calls answered. The Energy Bureau has determined that the benchmark will be 100 percent.

For average time to resolve billing disputes, which refers to the period from the commencement of the initial investigation to the issuance of a determination on the dispute, the Energy Bureau has determined that the benchmark shall be no more than sixty (60) days.

For percent of customer billed, the Energy Bureau has determined that the benchmark will be 100 percent. For percent of bills estimated vs read, the benchmark will be 5 percent.

For average time to respond to service and outage complaints, the Energy Bureau has decided to await additional research to determine an appropriate benchmark. Historical data for this metric is currently reported as a general range of hours, and the Energy Bureau requests that PREPA revise its reporting and provide the average as requested. This metric will be a reporting-only metric for now.

v. Human Resources Metrics

For OSHA metrics, the Energy Bureau has identifed 2019 BLS statistics for the electric power utility industry generation, transmission and distribution and transmission and distribution utilities as benchmarks for PREPA and the Operator.[30] The incidence rate for electric utilites (generation, transmission, and distribution) is 1.8 and 2.3 for transmission and distribution utilities that will apply to the Operator. The days away restricted or transfer

---

[29] HECO. Complaint Rate 2019 Link. Available at https://www.hawaiianelectric.com/documents/about_us/key_performance_metrics/historical/historical_04_complaints.xlsx

[30] U.S. BLS. Table 1 Incidence rate of nonfatal occupational injuries and illnesses by industry and case types, 2019. November 4, 2020. Available at https://www.bls.gov/web/osh/summ1_00.htm.

("DART") rate for electric utilites (generation, transmission, and distribution) is 0.9 and 1.1 for transmission and distribution utilities that will be applicable to the Operator.

The benchmark for OSHA fatalities shall be zero for both PREPA and the Operator. The benchmark for the OSHA severity rate will be determined at a later date based on additional research.

vi. Renewable Energy and Demand Side Management Metrics

For the generation from RPS-eligible PPOA's (percent of sales), the Energy Bureau has determined that the benchmark shall be 40 percent by 2025 as required under Act 17-2019. The 40 percent also includes distributed energy resources.

VI. LUMA's Motion for Reconsideration

Through its Motion for Partial Reconsideration, LUMA requests the Energy Bureau to reconsider its determination to decline to consider the J.D. Power Survey to establish a baseline for customer satisfaction metrics. LUMA states that "these are the only measures with input directly from customers and the only proposed Customer Service Performance Metrics not impacted by uncertain and questionable historical data."[31]

LUMA states that the J.D Power Customer Satisfaction metric examines six factors: power quality and reliability, price, billing and payment, corporate citizenship, communications, and customer service.[32] Further, LUMA states that customer satisfaction will be measured by following up with surveys in four phases per year (for residential customers) or two phases per year (for commercial customers).[33]

Further, regarding the established baseline period, LUMA recommends the Energy Bureau to consider more recent data, such as up to the most recent quarter, in future baseline proceedings.[34] LUMA also requested the Energy Bureau to accept the clarifications regarding LUMA's comments on PREPA's functionality to track Step Restoration Data[35] and 2019 interruption occurrences (SAIFI).[36]

---

[31] Motion for Partial Reconsideration, p. 7.

[32] *Id.*, p. 7.

[33] *Id.* Exhibit 1, pp. 2-3.

[34] *Id.*, p. 10.

[35] *Id.*, pp. 10-11.

[36] *Id.*, pp. 11-12.

The determinations made by the Energy Bureau through this Resolution and Order does not preclude it from revising in the future the baselines and benchmarks determined for specific metrics related to PREPA's performance, since such revision is an ongoing process. Further, the review of PREPA's performance is also an ongoing process, for which the Energy Bureau may determine at a later date that a revision of the baseline period is warranted. Notwithstanding the foregoing, the Energy Bureau considers that including J.D. Power Customer Satisfaction metrics and baselines as part of this proceeding requires a more thorough analysis.

Therefore, the Energy Bureau **DENIES** LUMA's Motion for Partial Reconsideration regarding including the J.D. Power Customer Satisfaction metrics and baselines. Notwithstanding, the Energy Bureau **ACEPTS** the clarifications posed by LUMA in its Motion for Partial Reconsideration regarding its comments on PREPA's functionality to track Step Restoration and 2019 interruption occurrences (SAIFI).

VII. Conclusion

Through this Resolution and Order, the Energy Bureau **ESTABLISHES** baselines and benchmarks for the metrics detailed in Attachment A. Further, the Energy Bureau **ESTABLISHES** baselines for the metrics detailed in Attachment B.

The Energy Bureau appreciates the input from the general public and stakeholders in this important proceeding. The establishment of performance compliance metrics and benchmarks shall be an ongoing process. Therefore, the Energy Bureau **ORDERS** PREPA and LUMA to coordinate the necessary logistics to ensure the timely collection and filing of the the quarterly reports hereby required consistent with the directives in the April 8 Resolution and this Resolution and Order. As established in Part IV of this Resolution and Order, the Energy Bureau **ORDERS** PREPA and LUMA to submit recalculated values for the reliability metrics consistent with the IEEE 1366 methodology, as part of the next quarterly report.

The Energy Bureau also **ORDERS** PREPA and LUMA to submit the ongoing quarterly reports using the Excel template included as part of this Resolution and Order.

Be it notified and published.

Edison Avilés Deliz
Chairman

Ángel R. Rivera de la Cruz
Associate Commissioner

Lillian Mateo Santos
Associate Commissioner

Ferdinand A. Ramos Soegaard
Associate Commissioner

Sylvia B. Ugarte Araujo
Associate Commissioner

CERTIFICATION

I hereby certify that the majority of the members of the Puerto Rico Energy Bureau has so agreed on May 21, 2021. I also certify that on this date a copy of this Resolution and Order was notified by electronic mail to: jmarrero@diazvaz.law; kbolanos@diazvaz.law; astrid.rodriguez@prepa.com; jorge.ruiz@prepa.com; mmercado@mercado-echagaray-law.com; margarita.mercado@us.dlapiper.com; carlos.reyes@ecoelectrica.com; Legal@lumamc.com; wayne.stensby@lumamc.com; mario.hurtado@lumamc.com; Ashley.engbloom@lumamc.com; Elias.sostre@aes.com; jesus.bolinaga@aes.com; cfl@mcvpr.com; ivc@mcvpr.com; notices@sonnedix.com; leslie@sonnedix.com; victorluisgonzalez@yahoo.com; tax@sunnova.com; jcmendez@reichardescalera.com; r.martinez@fonroche.fr; gonzalo.rodriguez@gestampren.com; kevin.devlin@patternenergy.com; fortiz@reichardescalera.com; jeff.lewis@terraform.com; mperez@prrenewables.com; cotero@landfillpr.com; geoff.biddick@radiangen.com; hjcruz@urielrenewables.com; carlos.reyes@ecoelectrica.com; brent.miller@longroadenergy.com; tracy.deguise@everstreamcapital.com; agraitfe@agraitlawpr.com; h.bobea@fonrochepr.com; ramonluisnieves@rlnlegal.com; hrivera@oipc.pr.gov; info@sesapr.org; yan.oquendo@ddec.pr.gov; acarbo@edf.org; pjcleanenergy@gmail.com; Jmadej@veic.org; nicolas@dexgrid.io; javrua@gmail.com; JavRua@sesapr.org; lmartinez@nrdc.org; thomas.quasius@aptim.com; rtorbert@rmi.org; tjtorres@amscm.com; lionel.orama@upr.edu; noloseus@gmail.com; aconer.pr@gmail.com; dortiz@elpuente.us; wilma.lopez@ddec.pr.gov; gary.holtzer@weil.com; ingridmvila@gmail.com; rstgo2@gmail.com; agc@agcpr.com; presidente@ciapr.org; cpsmith@unidosporutuado.org; jmenen6666@gmail.com; cpares@maximosolar;

CESA@cleanegroup.org; acasepr@gmail.com; secretario@ddec.pr.gov; julia.mignuccisanchez@gmail.com; professoraviles@gmail.com; gmch24@gmail.com; ausubopr88@gmail.com; carlos.rodriguez@valairlines.com; amaneser2020@gmail.com; acasellas@amgprlaw.com; presidente@camarapr.net; jmarvel@marvelarchitects.com; amassol@gmail.com; jmartin@arcainc.com; melitza.lopez@aep.pr.gov; eduardo.rivera@afi.pr.gov; leonardo.torres@afi.pr.gov; carsantini@gmail.com; directoralcaldes@gmail.com; imolina@fedalcaldes.com; crivera@fedalcaldes.com; LCSchwartz@lbl.gov; thomas@fundacionborincana.org; cathykunkel@gmail.com; joseph.paladino@hq.doe.gov; adam.hasz@ee.doe.gov; Sergio.Gonsales@patternenergy.com; energiaverdepr@gmail.com; hrivera@jrsp.pr.gov; Arnaldo.serrano@aes.com; gustavo.giraldo@aes.com; accounting@everstreamcapital.com; mgrpcorp@gmail.com; jczayas@landfillpr.com; auriarte@newenergypr.com; Jeanna.steele@sunrun.com; mildred@liga.coop; rodrigomasses@gmail.com; presidencia-secretarias@segurosmultiples.com. I also certify that today, May 21, 2021, I have proceeded with the filing of the Resolution and Order issued by the Puerto Rico Energy Bureau.

For the record, I sign this in San Juan, Puerto Rico, today May 21, 2021.

Wanda I. Cordero Morales
Interim Clerk

NEGOCIADO DE ENERGÍA DE PUERTO RICO
JUNTA REGLAMENTADORA DE SERVICIO PÚBLICO

Attachment A
Metrics with Baselines and Benchmarks

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline	Proposed Benchmark
Overall System				
Absenteeism		Percentage	13.1%	2.4%
CAIDI		Minutes	145	101
Operational expenses vs. budget (excluding fuel) (system)		Percentage	80.4%	Within Budget
Operational expenses vs. budget (excluding fuel) (by directorate)	A01 Junta de Gobierno	Percentage	65.7%	Within Budget
Operational expenses vs. budget (excluding fuel) (by directorate)	A02 Directorado Ejecutivo	Percentage	89.6%	Within Budget
Operational expenses vs. budget (excluding fuel) (by directorate)	A04 Directorado Consultor Jurídico	Percentage	78.0%	Within Budget
Operational expenses vs. budget (excluding fuel) (by directorate)	A05 Directorado Planificación y Protección Ambiental	Percentage	71.0%	Within Budget
Operational expenses vs. budget (excluding fuel) (by directorate)	A07 Directorado de Finanzas	Percentage	86.1%	Within Budget
Operational expenses vs. budget (excluding fuel) (by directorate)	A08 Directorado Administración de Operaciones e Infraestructura	Percentage	N/A	Within Budget
Operational expenses vs. budget (excluding fuel) (by directorate)	A09 Directorado Recursos Humanos	Percentage	95.4%	Within Budget
Operational expenses vs. budget (excluding fuel) (by directorate)	A10 Directorado Sistema Eléctrico	Percentage	92.7%	Within Budget
Operational expenses vs. budget (excluding fuel) (by directorate)	A11 Directorado Servicio al Cliente	Percentage	87.2%	Within Budget
Operational expenses vs. budget (excluding fuel) (by directorate)	A12 Directorado Transmisión y Distribución	Percentage	76.0%	Within Budget
Operational expenses vs. budget (excluding fuel) (by directorate)	A13 Responsabilidades Miscelaneas	Percentage	74.8%	Within Budget

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline	Proposed Benchmark
Capital expenses vs. budget (system)		Percentage	6.6%	Within Budget
Capital expenses vs. budget - Transmission & Distribution		Percentage	9.9%	Within Budget
Capital expenses vs. budget - Generation		Percentage	4.3%	Within Budget
Capital expenses vs. budget- Customer Service		Percentage	5.1%	Within Budget
Capital expenses vs. budget- Administrative & General (Exec)		Percentage	4.2%	Within Budget
Capital expenses vs. budget- Planning and Enviromental Protection		Percentage	2.8%	Within Budget
Generation				
Average heat rate (by plant)	San Juan - Steam	BTU/kWh	12,519	10,236
Average heat rate (by plant)	Palo Seco - Steam	BTU/kWh	11,411	10,236
Average heat rate (by plant)	Costa Sur - Steam - Oil	BTU/kWh	11,923	10,236
Average heat rate (by plant)	Costa Sur - Steam - Natural Gas	BTU/kWh	11,923	10,347
Average heat rate (by plant)	Aguirre - Steam	BTU/kWh	10,986	10,236
Average heat rate (by plant)	Ciclo Combinado San Juan	BTU/kWh	8,870	9,662
Average heat rate (by plant)	Ciclo Combinado - Aguirre	BTU/kWh	13,838	9,662
Average heat rate (by plant)	Mayagüez - Gas	BTU/kWh	10,326	13,315
Average heat rate (by plant)	Palo Seco - Gas	BTU/kWh	13,995	13,315
Average heat rate (by plant)	Costa Sur - Gas	BTU/kWh	N/A	13,315
Average heat rate (by plant)	Aguirre - Gas	BTU/kWh	15,377	13,315
Average heat rate (by plant)	Yabucoa - Gas	BTU/kWh	14,780	13,315
Average heat rate (by plant)	Daguao - Gas	BTU/kWh	15,640	13,315
Average heat rate (by plant)	Jobos - Gas	BTU/kWh	15,080	13,315
Average heat rate (by plant)	Vega Baja - Gas	BTU/kWh	13,709	13,315

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline	Proposed Benchmark
Average heat rate (by plant)	Cambalache - Gas	BTU/kWh	12,482	13,315
Average heat rate (by plant)	Vieques - Diesel	BTU/kWh	9,380	10,325
Average heat rate (by plant)	Culebra - Diesel	BTU/kWh	8,092	10,325
Plant availability (by plant)	San Juan - Steam	Percentage	42%	74.5%
Plant availability (by plant)	Palo Seco - Steam	Percentage	48%	82.7%
Plant availability (by plant)	Costa Sur - Steam	Percentage	42%	84.8%
Plant availability (by plant)	Aguirre - Steam	Percentage	46%	84.8%
Plant availability (by plant)	Ciclo Combinado San Juan	Percentage	71%	88.2%
Plant availability (by plant)	Ciclo Combinado - Aguirre	Percentage	52%	88.2%
Plant availability (by plant)	Mayagüez - Gas	Percentage	57%	88.8%
Plant availability (by plant)	Palo Seco - Gas	Percentage	46%	87.0%
Plant availability (by plant)	Costa Sur - Gas	Percentage	0%	87.0%
Plant availability (by plant)	Aguirre - Gas	Percentage	15%	87.0%
Plant availability (by plant)	Yabucoa - Gas	Percentage	49%	87.0%
Plant availability (by plant)	Daguao - Gas	Percentage	83%	87.0%
Plant availability (by plant)	Jobos - Gas	Percentage	53%	87.0%
Plant availability (by plant)	Vega Baja - Gas	Percentage	32%	87.0%
Plant availability (by plant)	Cambalache - Gas	Percentage	93%	88.8%
Plant availability (by plant)	Vieques - Diesel	Percentage	92%	92.2%
Plant availability (by plant)	Culebra - Diesel	Percentage	92%	92.2%
Plant availability (by plant)	Hydro	Percentage	22%	80.2%
Forced outages (by plant)	San Juan - Steam	Percentage	13%	34.3%

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline	Proposed Benchmark
Forced outages (by plant)	Palo Seco - Steam	Percentage	19%	16.2%
Forced outages (by plant)	Costa Sur - Steam - Oil	Percentage	54%	39.4%
Forced outages (by plant)	Costa Sur - Steam - Natural Gas	Percentage	54%	23.8%
Forced outages (by plant)	Aguirre - Steam	Percentage	31%	39.4%
Forced outages (by plant)	Ciclo Combinado San Juan	Percentage	8%	2.3%
Forced outages (by plant)	Ciclo Combinado - Aguirre	Percentage	9%	2.3%
Forced outages (by plant)	Mayagüez - Gas	Percentage	15%	30.0%
Forced outages (by plant)	Palo Seco - Gas	Percentage	52%	54.7%
Forced outages (by plant)	Costa Sur - Gas	Percentage	100%	54.7%
Forced outages (by plant)	Aguirre - Gas	Percentage	85%	54.7%
Forced outages (by plant)	Yabucoa - Gas	Percentage	50%	54.7%
Forced outages (by plant)	Daguao - Gas	Percentage	13%	54.7%
Forced outages (by plant)	Jobos - Gas	Percentage	45%	54.7%
Forced outages (by plant)	Vega Baja - Gas	Percentage	67%	54.7%
Forced outages (by plant)	Cambalache - Gas	Percentage	1%	30.0%
Forced outages (by plant)	Vieques - Diesel	Percentage	0%	21.5%
Forced outages (by plant)	Culebra - Diesel	Percentage	0%	21.5%
Forced outages (by plant)	Hydro	Percentage	48%	10.4%
Transmission and Distribution				
SAIDI	System	Minutes	1,243	102
SAIFI	System	Interruptions per customer	10.6	1.0

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline	Proposed Benchmark
Customer Service				
DSO (Days Sales Outstanding) - Total customers		Days	197	48
DSO (Days Sales Outstanding) - government customers		Days	619	48
DSO (Days Sales Outstanding) - general customers		Days	132	48
Average speed to answer		Minutes	8.3	0.4
Wait time in commercial offices		Minutes	30.9	30.9
Number of formal customer complaints per 100,000 customers		Number of cases per 100,000 customers	841	7
Percent of customer calls answered		Number of calls	Awaiting revision	100%
Average time to resolve billing disputes		Days	Awaiting revision	No more than 60 days
Percent of customers billed		Percentage	99%	100%
Percent of bills estimated vs. read		Percentage	9%	5%
Average time to respond to service and outage complaints		Hours	Awaiting revision	To be determined
Human Resources				
OSHA Recordable Incident Rate		Rate	6.9	1.8 for generation + T&D 2.3 for T&D only
OSHA Fatalities		Number of cases	0	0
OSHA Severity Rate		Rate	31	To be determined

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline	Proposed Benchmark
OSHA Days Away, Restricted, or Transferred (DART) Rate		Rate	4.8	0.9 for generation + T&D 1.1 for T&D only
Renewable Energy and Demand Side Management				
Generation from RPS-eligible PPOA's (percent of sales)		Percentage	3%	40% by 2025 (includes DERs)

Attachment B
Metrics with Baselines

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline
Overall System			
Number of customers by customer class	Total	Number of customers	1,466,878
Number of customers by customer class	Residential	Number of customers	1,341,477
Number of customers by customer class	Commercial	Number of customers	121,551
Number of customers by customer class	Industrial	Number of customers	588
Number of customers by customer class	Public Lighting	Number of customers	2,166
Number of customers by customer class	Agriculture	Number of customers	1,094
Number of customers by customer class	Others	Number of customers	2
Monthly system sales by customer class	Total	GWh	1,328
Monthly system sales by customer class	Residential	GWh	536
Monthly system sales by customer class	Commercial	GWh	598
Monthly system sales by customer class	Industrial	GWh	163
Monthly system sales by customer class	Public Lighting	GWh	26
Monthly system sales by customer class	Agriculture	GWh	2
Monthly system sales by customer class	Others	GWh	3
Monthly sales by Municipality	Total	GWh	1,328
Monthly sales by Municipality	Adjuntas	GWh	3
Monthly sales by Municipality	Aguada	GWh	8
Monthly sales by Municipality	Aguadilla	GWh	24
Monthly sales by Municipality	Aguas Buenas	GWh	4
Monthly sales by Municipality	Aibonito	GWh	8
Monthly sales by Municipality	Añasco	GWh	9

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline
Monthly sales by Municipality	Arecibo	GWh	38
Monthly sales by Municipality	Arroyo	GWh	5
Monthly sales by Municipality	Barceloneta	GWh	16
Monthly sales by Municipality	Barranquitas	GWh	5
Monthly sales by Municipality	Bayamón	GWh	80
Monthly sales by Municipality	Cabo Rojo	GWh	13
Monthly sales by Municipality	Caguas	GWh	54
Monthly sales by Municipality	Camuy	GWh	7
Monthly sales by Municipality	Canóvanas	GWh	13
Monthly sales by Municipality	Carolina	GWh	78
Monthly sales by Municipality	Cataño	GWh	14
Monthly sales by Municipality	Cayey	GWh	18
Monthly sales by Municipality	Ceiba	GWh	3
Monthly sales by Municipality	Ciales	GWh	3
Monthly sales by Municipality	Cidra	GWh	13
Monthly sales by Municipality	Coamo	GWh	8
Monthly sales by Municipality	Comerío	GWh	4
Monthly sales by Municipality	Corozal	GWh	7
Monthly sales by Municipality	Culebra	GWh	1
Monthly sales by Municipality	Dorado	GWh	23
Monthly sales by Municipality	Fajardo	GWh	24
Monthly sales by Municipality	Florida	GWh	2
Monthly sales by Municipality	Guánica	GWh	4
Monthly sales by Municipality	Guayama	GWh	20

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline
Monthly sales by Municipality	Guayanilla	GWh	6
Monthly sales by Municipality	Guaynabo	GWh	65
Monthly sales by Municipality	Gurabo	GWh	16
Monthly sales by Municipality	Hatillo	GWh	11
Monthly sales by Municipality	Hormigueros	GWh	4
Monthly sales by Municipality	Humacao	GWh	32
Monthly sales by Municipality	Isabela	GWh	10
Monthly sales by Municipality	Jayuya	GWh	4
Monthly sales by Municipality	Juana Díaz	GWh	18
Monthly sales by Municipality	Juncos	GWh	18
Monthly sales by Municipality	Lajas	GWh	5
Monthly sales by Municipality	Lares	GWh	5
Monthly sales by Municipality	Las Marías	GWh	2
Monthly sales by Municipality	Las Piedras	GWh	17
Monthly sales by Municipality	Loíza	GWh	4
Monthly sales by Municipality	Luquillo	GWh	6
Monthly sales by Municipality	Manatí	GWh	27
Monthly sales by Municipality	Maricao	GWh	2
Monthly sales by Municipality	Maunabo	GWh	2
Monthly sales by Municipality	Mayagüez	GWh	36
Monthly sales by Municipality	Moca	GWh	7
Monthly sales by Municipality	Morovis	GWh	5
Monthly sales by Municipality	Naguabo	GWh	6

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline
Monthly sales by Municipality	Naranjito	GWh	5
Monthly sales by Municipality	Orocovis	GWh	4
Monthly sales by Municipality	Patillas	GWh	4
Monthly sales by Municipality	Peñuelas	GWh	5
Monthly sales by Municipality	Ponce	GWh	65
Monthly sales by Municipality	Quebradillas	GWh	5
Monthly sales by Municipality	Rincón	GWh	4
Monthly sales by Municipality	Río Grande	GWh	16
Monthly sales by Municipality	Sabana Grande	GWh	5
Monthly sales by Municipality	Salinas	GWh	8
Monthly sales by Municipality	San Germán	GWh	9
Monthly sales by Municipality	San Juan	GWh	232
Monthly sales by Municipality	San Lorenzo	GWh	9
Monthly sales by Municipality	San Sebastián	GWh	8
Monthly sales by Municipality	Santa Isabel	GWh	10
Monthly sales by Municipality	Toa Alta	GWh	18
Monthly sales by Municipality	Toa Baja	GWh	23
Monthly sales by Municipality	Trujillo Alto	GWh	20
Monthly sales by Municipality	Utuado	GWh	5
Monthly sales by Municipality	Vega Alta	GWh	10
Monthly sales by Municipality	Vega Baja	GWh	20
Monthly sales by Municipality	Vieques	GWh	3
Monthly sales by Municipality	Villalba	GWh	6

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline
Monthly sales by Municipality	Yabucoa	GWh	7
Monthly sales by Municipality	Yauco	GWh	10
Monthly system peak	Total	MW	2,911
Monthly peak by customer class		MW	Missing
Monthly peak by district		MW	Missing
Cost of generation per customer (system)		$/customer	$90
Average revenue per kilowatt-hour sold		$/kWh	$0.22
Generation			
Plant availability (system)		Percentage	51%
Forced outages (system)		Percentage	29%
Cost of generation (by Plant Type)	Steam - O&M	$/kWh	$0.010
Cost of generation (by Plant Type)	Gas - O&M	$/kWh	$0.013
Cost of generation (system total) AEE, exc. PPOA's gen		$/kWh	$0.14
Cost of generation (system: fuel)		$/kWh	$0.13
Cost of generation (system: O&M AEE, exc. PPOA's gen)		$/kWh	$0.01
Cost of generation (by Plant Type)	Steam - Fuel	$/kWh	$0.09
Cost of generation (by Plant Type)	Gas - Fuel	$/kWh	$0.35
Cost of generation (by Plant Type)	Steam - Total	$/kWh	$0.10
Cost of generation (by Plant Type)	Gas - Total	$/kWh	$0.36
Cost of generation (by Plant Type)	Hydro Total	$/kWh	$0.08
Monthly thermal generation (system) including PPOA's gen		GWh	-

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline
Monthly thermal generation (system) AEE, excluding PPOA's gen		GWh	-
Monthly thermal generation (by plant)			-
Monthly thermal generation (by plant)	San Juan - Steam	GWh	-
Monthly thermal generation (by plant)	Palo Seco - Steam	GWh	-
Monthly thermal generation (by plant)	Costa Sur - Steam	GWh	-
Monthly thermal generation (by plant)	Aguirre - Steam	GWh	-
Monthly thermal generation (by plant)	Ciclo Combinado San Juan	GWh	-
Monthly thermal generation (by plant)	Ciclo Combinado - Aguirre	GWh	-
Monthly thermal generation (by plant)	Mayagüez - Gas	GWh	-
Monthly thermal generation (by plant)	Palo Seco - Gas	GWh	-
Monthly thermal generation (by plant)	Costa Sur - Gas	GWh	-
Monthly thermal generation (by plant)	Aguirre - Gas	GWh	-
Monthly thermal generation (by plant)	Yabucoa - Gas	GWh	-
Monthly thermal generation (by plant)	Daguao - Gas	GWh	-
Monthly thermal generation (by plant)	Jobos - Gas	GWh	-
Monthly thermal generation (by plant)	Vega Baja - Gas	GWh	-
Monthly thermal generation (by plant)	Cambalache - Gas	GWh	-
Monthly thermal generation (by plant)	Vieques - Diesel	GWh	-
Monthly thermal generation (by plant)	Culebra - Diesel	GWh	-
Average heat rate (system)		BTU/kWh	11,410
Purchased energy from thermal PPOA's	Total	GWh	-
Purchased energy from thermal PPOA's	EcoEléctrica	GWh	-

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline
Purchased energy from thermal PPOA's	AES	GWh	-
Cost of capacity purchased from thermal PPOA's	EcoEléctrica	$ / kW-month	-
Cost of capacity purchased from thermal PPOA's	AES	$ / kW-month	-
Cost of energy (base + excess) purchased from thermal PPOA's	EcoEléctrica	$ / kWh	-
Cost of energy (base + excess) purchased from thermal PPOA's	AES	$ / kWh	-
Transmission and Distribution			
Net monthly work orders balance		Number of work orders	274,821
MAIFI	System	Percentage	Missing
SAIDI (by district)			
SAIDI (by district)	Arecibo	Minutes	Awaiting revision
SAIDI (by district)	Manatí	Minutes	Awaiting revision
SAIDI (by district)	Quebradillas	Minutes	Awaiting revision
SAIDI (by district)	Utuado	Minutes	Awaiting revision
SAIDI (by district)	Bayamón	Minutes	Awaiting revision
SAIDI (by district)	Corozal	Minutes	Awaiting revision
SAIDI (by district)	Palo Seco	Minutes	Awaiting revision
SAIDI (by district)	Vega baja	Minutes	Awaiting revision
SAIDI (by district)	Barranquitas	Minutes	Awaiting revision
SAIDI (by district)	Caguas	Minutes	Awaiting revision
SAIDI (by district)	Cayey	Minutes	Awaiting revision
SAIDI (by district)	Humacao	Minutes	Awaiting revision
SAIDI (by district)	Canóvanas	Minutes	Awaiting revision

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline
SAIDI (by district)	Carolina	Minutes	Awaiting revision
SAIDI (by district)	Fajardo	Minutes	Awaiting revision
SAIDI (by district)	Aguadilla	Minutes	Awaiting revision
SAIDI (by district)	Mayagüez	Minutes	Awaiting revision
SAIDI (by district)	San Germán	Minutes	Awaiting revision
SAIDI (by district)	San Sebastián	Minutes	Awaiting revision
SAIDI (by district)	Guayama	Minutes	Awaiting revision
SAIDI (by district)	Ponce	Minutes	Awaiting revision
SAIDI (by district)	Santa Isabel	Minutes	Awaiting revision
SAIDI (by district)	Yauco	Minutes	Awaiting revision
SAIDI (by district)	Guaynabo	Minutes	Awaiting revision
SAIDI (by district)	Monacillos	Minutes	Awaiting revision
SAIDI (by district)	Río piedras	Minutes	Awaiting revision
SAIFI (by district)			
SAIFI (by district)	Arecibo	Interruptions per customer	Awaiting revision
SAIFI (by district)	Manatí	Interruptions per customer	Awaiting revision
SAIFI (by district)	Quebradillas	Interruptions per customer	Awaiting revision
SAIFI (by district)	Utuado	Interruptions per customer	Awaiting revision
SAIFI (by district)	Bayamón	Interruptions per customer	Awaiting revision
SAIFI (by district)	Corozal	Interruptions per customer	Awaiting revision
SAIFI (by district)	Palo Seco	Interruptions per customer	Awaiting revision
SAIFI (by district)	Vega Baja	Interruptions per customer	Awaiting revision
SAIFI (by district)	Barranquitas	Interruptions per customer	Awaiting revision

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline
SAIFI (by district)	Caguas	Interruptions per customer	Awaiting revision
SAIFI (by district)	Cayey	Interruptions per customer	Awaiting revision
SAIFI (by district)	Humacao	Interruptions per customer	Awaiting revision
SAIFI (by district)	Canóvanas	Interruptions per customer	Awaiting revision
SAIFI (by district)	Carolina	Interruptions per customer	Awaiting revision
SAIFI (by district)	Fajardo	Interruptions per customer	Awaiting revision
SAIFI (by district)	Aguadilla	Interruptions per customer	Awaiting revision
SAIFI (by district)	Mayagüez	Interruptions per customer	Awaiting revision
SAIFI (by district)	San Germán	Interruptions per customer	Awaiting revision
SAIFI (by district)	San Sebastián	Interruptions per customer	Awaiting revision
SAIFI (by district)	Guayama	Interruptions per customer	Awaiting revision
SAIFI (by district)	Ponce	Interruptions per customer	Awaiting revision
SAIFI (by district)	Santa Isabel	Interruptions per customer	Awaiting revision
SAIFI (by district)	Yauco	Interruptions per customer	Awaiting revision
SAIFI (by district)	Guaynabo	Interruptions per customer	Awaiting revision
SAIFI (by district)	Monacillos	Interruptions per customer	Awaiting revision
SAIFI (by district)	Río Piedras	Interruptions per customer	Awaiting revision
Customer Service			
Cash recovered on theft		Million dollars	$0.9
NTL as a % of net generation		Percentage	Awaiting revision
NTL reduction as a % of net generation		Percentage	Awaiting revision
Number of customers on AMI	System	Number of customers	19,691

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline
Number of customers on AMI	Bayamón	Number of customers	478
Number of customers on AMI	Caguas	Number of customers	2,826
Number of customers on AMI	Carolina	Number of customers	2,646
Number of customers on AMI	Dorado	Number of customers	2,220
Number of customers on AMI	Guaynabo	Number of customers	452
Number of customers on AMI	Gurabo	Number of customers	1,682
Number of customers on AMI	San Juan	Number of customers	3,596
Number of customers on AMI	Toa Alta	Number of customers	3,007
Number of customers on AMI	Toa Baja	Number of customers	284
Number of customers on AMI	Trujillo Alto	Number of customers	2,500
Percent of customers on AMI	System	Percentage	4%
Percent of customers on AMI	Bayamón	Percentage	1%
Percent of customers on AMI	Caguas	Percentage	5%
Percent of customers on AMI	Carolina	Percentage	4%
Percent of customers on AMI	Dorado	Percentage	15%
Percent of customers on AMI	Guaynabo	Percentage	1%
Percent of customers on AMI	Gurabo	Percentage	10%
Percent of customers on AMI	San Juan	Percentage	2%
Percent of customers on AMI	Toa Alta	Percentage	13%
Percent of customers on AMI	Toa Baja	Percentage	1%
Percent of customers on AMI	Trujillo Alto	Percentage	10%
Percent of automatically-generated NTL leads found to be occurrences of theft		Percentage	13%

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline
Number of customer complaints appealed by customer class		Number of cases	155
Number of disconnections by customer class		Number of disconnections	9,904
Number of disconnections by customer class	Residential	Number of disconnections	Missing
Number of disconnections by customer class	Commercial	Number of disconnections	Missing
Number of disconnections by customer class	Industrial	Number of disconnections	Missing
Number of disconnections by customer class	Public Lighting	Number of disconnections	Missing
Number of disconnections by customer class	Agriculture	Number of disconnections	Missing
Number of disconnections by customer class	Others	Number of disconnections	Missing
Number of disconnections by Area	Total	Number of disconnections	9,904
Number of disconnections by Area	Arecibo	Number of disconnections	1,449
Number of disconnections by Area	Bayamón	Number of disconnections	1,539
Number of disconnections by Area	Caguas	Number of disconnections	1,297
Number of disconnections by Area	Mayagüez	Number of disconnections	1,680
Number of disconnections by Area	Metro	Number of disconnections	2,358
Number of disconnections by Area	Ponce	Number of disconnections	1,041
Number of customers enrolled in extended payment plans by class	Total	Number of customers	32,460
Number of customers enrolled in extended payment plans by class	Residencial	Number of customers	27,610
Number of customers enrolled in extended payment plans by class	Gobierno	Number of customers	16
Number of customers enrolled in extended payment plans by class	Uso Indebido	Number of customers	6,945
Number of customer defaulting on extended payment plans by class	Total	Number of customers	8,439

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline
Number of customer defaulting on extended payment plans by class	Residencial	Number of customers	6,067
Number of customer defaulting on extended payment plans by class	Gobierno	Number of customers	9
Number of customer defaulting on extended payment plans by class	Uso Indebido	Number of customers	2,363
Number of customers completing extended payment plans by class	Total	Number of customers	1,882
Number of customers completing extended payment plans by class	Residencial	Number of customers	1,713
Number of customers completing extended payment plans by class	Gobierno	Number of customers	1
Number of customers completing extended payment plans by class	Uso Indebido	Number of customers	168
Finance			
Timely submission of Monthly Operating Report		Days	21
Accounts Payable days outstanding		Days	19
Planning and Environmental			
Timeliness of response to regulatory requests		Percentage	91%
Timeliness of permitting - new and renewals		Percentage	94%
Emissions of SO2, Nox, CO2, PM, Hg and other regulated pollutants (system)		tons	130,886
Emissions rates of SO2, Nox, CO2, PM, Hg and other regulated pollutants (system)		lb / MMBTU	Missing
Carbon intensity of fossil generation		tons / MWH	Missing
Operations-Warehousing			
Inventory turns (annualized percent of value)	Total	Rate	Missing

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline
Inventory turns (annualized percent of value)	Warehouse General Depot (Distribution Center)	Rate	10%
Inventory turns (annualized percent of value)	Warehouse T & D (Region & District)	Rate	82%
Inventory turns (annualized percent of value)	Warehouse Plants	Rate	15%
Inventory value		Million dollars	$236
Operations-Fleet			
Fleet out of service (system)		Percentage	16%
Total available vehicles in service (system)		Number of vehicles	2,709
Operations-Fuel			
Fuel dispatch accuracy	Diesel #2	Percentage	5620%
Fuel dispatch accuracy	#6	Percentage	13%
Inventory control	Diesel #2	Percentage	46%
Inventory control	#6	Percentage	63%
MMBTU consumed	Diesel #2	MMBTU	3.8
MMBTU consumed	#6	MMBTU	4.9
MMBTU consumed	NG	MMBTU	2.1
MMBTU consumed vs. forecast	Diesel #2	Percentage	5340%
MMBTU consumed vs. forecast	#6	Percentage	8%
MMBTU consumed vs. forecast	NG	Percentage	-19%
Average price	Diesel #2	$ / MMBTU	$14
Average price	#6	$ / MMBTU	$12
Average price	NG	$ / MMBTU	$8
Average price vs. forecast price	Diesel #2	Percentage	2%

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline
Average price vs. forecast price	#6	Percentage	6%
Average price vs. forecast price	NG	Percentage	-10%
Renewable Energy and Demand Side Management			
Operational RPS-eligible capacity		MW	273
Contracted but not operational RPS-eligible capacity		MW	1,208
Average delay in anticipated online date of RPS-eligible projects		Days	1,493
Mean time to interconnect utility-scale RPS-eligible projects**		Days	Missing
Average capacity factor of RPS-eligible capacity			
Average capacity factor of RPS-eligible capacity	Pattern Santa Isabel	Percentage	22%
Average capacity factor of RPS-eligible capacity	Punta Lima Wind Farm	Percentage	Missing
Average capacity factor of RPS-eligible capacity	AES Ilumina	Percentage	22%
Average capacity factor of RPS-eligible capacity	Windmar Cantera Martinó	Percentage	25%
Average capacity factor of RPS-eligible capacity	San Fermín Solar Farm	Percentage	20%
Average capacity factor of RPS-eligible capacity	Horizon Energy	Percentage	26%
Average capacity factor of RPS-eligible capacity	Landfill Gas Technologies Fajardo (LFGT)	Percentage	23%
Average capacity factor of RPS-eligible capacity	Oriana Energy	Percentage	20%
Average capacity factor of RPS-eligible capacity	Windmar Coto Laurel SolarFarm	Percentage	18%
Average capacity factor of RPS-eligible capacity	Humacao Solar Project	Percentage	19%
Average capacity factor of RPS-eligible capacity	Landfill Gas Technologies Toa Baja (LFGT)	Percentage	37%
Generation from RPS-eligible PPOA's (by unit)		GWh	34
Generation from RPS-eligible PPOA's (by unit)	Pattern Santa Isabel	GWh	12

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline
Generation from RPS-eligible PPOA's (by unit)	Punta Lima Wind Farm	GWh	0
Generation from RPS-eligible PPOA's (by unit)	AES Ilumina	GWh	3
Generation from RPS-eligible PPOA's (by unit)	Windmar Cantera Martinó	GWh	0
Generation from RPS-eligible PPOA's (by unit)	San Fermín Solar Farm	GWh	3
Generation from RPS-eligible PPOA's (by unit)	Horizon Energy	GWh	2
Generation from RPS-eligible PPOA's (by unit)	Landfill Gas Technologies Fajardo (LFGT)	GWh	0
Generation from RPS-eligible PPOA's (by unit)	Oriana Energy	GWh	7
Generation from RPS-eligible PPOA's (by unit)	Windmar Coto Laurel SolarFarm	GWh	1
Generation from RPS-eligible PPOA's (by unit)	Humacao Solar Project	GWh	5
Generation from RPS-eligible PPOA's (by unit)	Landfill Gas Technologies Toa Baja (LFGT)	GWh	1
Annual savings from government energy efficiency program		MWh	-557
Annual savings from government energy efficiency program	Central Agencies	MWh	0
Annual savings from government energy efficiency program	Legislature	MWh	0
Annual savings from government energy efficiency program	Public Corporations	MWh	-472
Annual savings from government energy efficiency program	Municipalities	MWh	-85
Total installed distributed generation capacity by type (system and per district)			
Total installed distributed generation capacity-Photovoltaic	Total	MW	170.2
Total installed distributed generation capacity-Photovoltaic	Aguadilla	MW	8.2

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline
Total installed distributed generation capacity-Photovoltaic	Arecibo	MW	4.4
Total installed distributed generation capacity-Photovoltaic	Barranquitas	MW	1.8
Total installed distributed generation capacity-Photovoltaic	Bayamón	MW	6.9
Total installed distributed generation capacity-Photovoltaic	Caguas Norte	MW	9.2
Total installed distributed generation capacity-Photovoltaic	Caguas Sur	MW	2.8
Total installed distributed generation capacity-Photovoltaic	Canóvanas	MW	6.5
Total installed distributed generation capacity-Photovoltaic	Carolina	MW	4.8
Total installed distributed generation capacity-Photovoltaic	Cayey	MW	2.7
Total installed distributed generation capacity-Photovoltaic	Dorado	MW	6.5
Total installed distributed generation capacity-Photovoltaic	Fajardo	MW	3.5
Total installed distributed generation capacity-Photovoltaic	Guayama	MW	3.3
Total installed distributed generation capacity-Photovoltaic	Hato Rey	MW	2.1
Total installed distributed generation capacity-Photovoltaic	Humacao	MW	3.8
Total installed distributed generation capacity-Photovoltaic	Juana Díaz	MW	3.2
Total installed distributed generation capacity-Photovoltaic	Juncos	MW	6.5
Total installed distributed generation capacity-Photovoltaic	Manatí	MW	4.3

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline
Total installed distributed generation capacity-Photovoltaic	Mayagüez	MW	4.4
Total installed distributed generation capacity-Photovoltaic	Minillas	MW	4.6
Total installed distributed generation capacity-Photovoltaic	Monacillos	MW	19.5
Total installed distributed generation capacity-Photovoltaic	Palo Seco	MW	6.1
Total installed distributed generation capacity-Photovoltaic	Ponce Norte	MW	3.1
Total installed distributed generation capacity-Photovoltaic	Ponce Sur	MW	5.0
Total installed distributed generation capacity-Photovoltaic	Puerto Nuevo	MW	8.2
Total installed distributed generation capacity-Photovoltaic	Quebradillas	MW	5.2
Total installed distributed generation capacity-Photovoltaic	Río Piedras	MW	1.1
Total installed distributed generation capacity-Photovoltaic	Sabana Llana	MW	3.6
Total installed distributed generation capacity-Photovoltaic	San Germán	MW	7.1
Total installed distributed generation capacity-Photovoltaic	San Juan	MW	6.9
Total installed distributed generation capacity-Photovoltaic	San Sebastián	MW	2.3
Total installed distributed generation capacity-Photovoltaic	Santa Isabel	MW	3.9
Total installed distributed generation capacity-Photovoltaic	Utuado	MW	0.9
Total installed distributed generation capacity-Photovoltaic	Vega Baja	MW	4.2

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline
Total installed distributed generation capacity- Photovoltaic	Yauco	MW	3.6
Total installed distributed generation capacity- Wind	Total	MW	0.0
Total installed distributed generation capacity- Wind	Quebradillas	MW	0.0
Total installed distributed generation capacity- Wind	Santa Isabel	MW	0.0
Incremental installed distributed generation capacity per year by type (system and per district)			
Incremental installed distributed generation capacity per year- Photovoltaic	Total	MW	1.5
Incremental installed distributed generation capacity per year- Photovoltaic	Aguadilla vs FEB 2019	MW	0.1
Incremental installed distributed generation capacity per year- Photovoltaic	Arecibo	MW	0.1
Incremental installed distributed generation capacity per year- Photovoltaic	Barranquitas	MW	0.0
Incremental installed distributed generation capacity per year- Photovoltaic	Bayamón	MW	0.1
Incremental installed distributed generation capacity per year- Photovoltaic	Caguas Norte	MW	0.1
Incremental installed distributed generation capacity per year- Photovoltaic	Caguas Sur	MW	0.0
Incremental installed distributed generation capacity per year- Photovoltaic	Canóvanas	MW	0.0
Incremental installed distributed generation capacity per year- Photovoltaic	Carolina	MW	0.0
Incremental installed distributed generation capacity per year- Photovoltaic	Cayey	MW	0.0
Incremental installed distributed generation capacity per year- Photovoltaic	Dorado	MW	0.1
Incremental installed distributed generation capacity per year- Photovoltaic	Fajardo	MW	0.0

Metric	Sub-Group	Unit of Measure	FY 2026 Baseline
Incremental installed distributed generation capacity per year- Photovoltaic	Guayama	MW	0.0
Incremental installed distributed generation capacity per year- Photovoltaic	Hato Rey	MW	0.0
Incremental installed distributed generation capacity per year- Photovoltaic	Humacao	MW	0.0
Incremental installed distributed generation capacity per year- Photovoltaic	Juana Díaz	MW	0.0
Incremental installed distributed generation capacity per year- Photovoltaic	Juncos	MW	0.0
Incremental installed distributed generation capacity per year- Photovoltaic	Manatí	MW	0.0
Incremental installed distributed generation capacity per year- Photovoltaic	Mayagüez	MW	0.0
Incremental installed distributed generation capacity per year- Photovoltaic	Minillas	MW	0.1
Incremental installed distributed generation capacity per year- Photovoltaic	Monacillos	MW	0.3
Incremental installed distributed generation capacity per year- Photovoltaic	Palo Seco	MW	0.0
Incremental installed distributed generation capacity per year- Photovoltaic	Ponce Norte	MW	-0.1
Incremental installed distributed generation capacity per year- Photovoltaic	Ponce Sur	MW	0.0
Incremental installed distributed generation capacity per year- Photovoltaic	Puerto Nuevo	MW	0.1
Incremental installed distributed generation capacity per year- Photovoltaic	Quebradillas	MW	0.1
Incremental installed distributed generation capacity per year- Photovoltaic	Río Piedras	MW	0.0
Incremental installed distributed generation capacity per year- Photovoltaic	Sabana Llana	MW	0.0

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline
Incremental installed distributed generation capacity per year- Photovoltaic	San Germán	MW	0.1
Incremental installed distributed generation capacity per year- Photovoltaic	San Juan	MW	0.0
Incremental installed distributed generation capacity per year- Photovoltaic	San Sebastián	MW	0.0
Incremental installed distributed generation capacity per year- Photovoltaic	Santa Isabel	MW	0.0
Incremental installed distributed generation capacity per year- Photovoltaic	Utuado	MW	0.0
Incremental installed distributed generation capacity per year- Photovoltaic	Vega Baja	MW	0.0
Incremental installed distributed generation capacity per year- Photovoltaic	Yauco	MW	0.0
Incremental installed distributed generation capacity per year- Wind	Total	MW	0.0
Incremental installed distributed generation capacity per year- Wind	Quebradillas	MW	0.0
Incremental installed distributed generation capacity per year- Wind	Santa Isabel	MW	0.0
Total number of distributed generation installations by type (system and per district)			
Total number of distributed generation installations- Photovoltaic	Total	Number of facilities	16,467
Total number of distributed generation installations- Photovoltaic	Aguadilla	Number of facilities	890
Total number of distributed generation installations- Photovoltaic	Arecibo	Number of facilities	444
Total number of distributed generation installations- Photovoltaic	Barranquitas	Number of facilities	261
Total number of distributed generation installations- Photovoltaic	Bayamón	Number of facilities	696

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline
Total number of distributed generation installations-Photovoltaic	Caguas Norte	Number of facilities	926
Total number of distributed generation installations-Photovoltaic	Caguas Sur	Number of facilities	467
Total number of distributed generation installations-Photovoltaic	Canóvanas	Number of facilities	545
Total number of distributed generation installations-Photovoltaic	Carolina	Number of facilities	579
Total number of distributed generation installations-Photovoltaic	Cayey	Number of facilities	319
Total number of distributed generation installations-Photovoltaic	Dorado	Number of facilities	555
Total number of distributed generation installations-Photovoltaic	Fajardo	Number of facilities	343
Total number of distributed generation installations-Photovoltaic	Guayama	Number of facilities	599
Total number of distributed generation installations-Photovoltaic	Hato Rey	Number of facilities	69
Total number of distributed generation installations-Photovoltaic	Humacao	Number of facilities	499
Total number of distributed generation installations-Photovoltaic	Juana Dáaz	Number of facilities	493
Total number of distributed generation installations-Photovoltaic	Juncos	Number of facilities	451
Total number of distributed generation installations-Photovoltaic	Manatí	Number of facilities	539
Total number of distributed generation installations-Photovoltaic	Mayagüez	Number of facilities	547
Total number of distributed generation installations-Photovoltaic	Minillas	Number of facilities	459
Total number of distributed generation installations-Photovoltaic	Monacillos	Number of facilities	821

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline
Total number of distributed generation installations-Photovoltaic	Palo Seco	Number of facilities	376
Total number of distributed generation installations-Photovoltaic	Ponce Norte	Number of facilities	337
Total number of distributed generation installations-Photovoltaic	Ponce Sur	Number of facilities	373
Total number of distributed generation installations-Photovoltaic	Puerto Nuevo	Number of facilities	448
Total number of distributed generation installations-Photovoltaic	Quebradillas	Number of facilities	691
Total number of distributed generation installations-Photovoltaic	Río Piedras	Number of facilities	112
Total number of distributed generation installations-Photovoltaic	Sabana Llana	Number of facilities	399
Total number of distributed generation installations-Photovoltaic	San Germán	Number of facilities	1,046
Total number of distributed generation installations-Photovoltaic	San Juan	Number of facilities	104
Total number of distributed generation installations-Photovoltaic	San Sebastián	Number of facilities	256
Total number of distributed generation installations-Photovoltaic	Santa Isabel	Number of facilities	635
Total number of distributed generation installations-Photovoltaic	Utuado	Number of facilities	147
Total number of distributed generation installations-Photovoltaic	Vega Baja	Number of facilities	514
Total number of distributed generation installations-Photovoltaic	Yauco	Number of facilities	529
Total number of distributed generation installations-Wind	Total	Number of facilities	2
Total number of distributed generation installations-Wind	Quebradillas	Number of facilities	1

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline
Total number of distributed generation installations-Wind	Santa Isabel	Number of facilities	1
Incremental number of distributed generation installations per year by type (system and per district)		Number of facilities	
Incremental number of distributed generation installations per year- Photovoltaic	Total	Number of facilities	573
Incremental number of distributed generation installations per year- Photovoltaic	Aguadilla vs FEB 2019	Number of facilities	13
Incremental number of distributed generation installations per year- Photovoltaic	Arecibo	Number of facilities	14
Incremental number of distributed generation installations per year- Photovoltaic	Barranquitas	Number of facilities	5
Incremental number of distributed generation installations per year- Photovoltaic	Bayamón	Number of facilities	37
Incremental number of distributed generation installations per year- Photovoltaic	Caguas Norte	Number of facilities	33
Incremental number of distributed generation installations per year- Photovoltaic	Caguas Sur	Number of facilities	13
Incremental number of distributed generation installations per year- Photovoltaic	Canóvanas	Number of facilities	20
Incremental number of distributed generation installations per year- Photovoltaic	Carolina	Number of facilities	22
Incremental number of distributed generation installations per year- Photovoltaic	Cayey	Number of facilities	10
Incremental number of distributed generation installations per year- Photovoltaic	Dorado	Number of facilities	20
Incremental number of distributed generation installations per year- Photovoltaic	Fajardo	Number of facilities	12
Incremental number of distributed generation installations per year- Photovoltaic	Guayama	Number of facilities	20
Incremental number of distributed generation installations per year- Photovoltaic	Hato Rey	Number of facilities	3

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline
Incremental number of distributed generation installations per year- Photovoltaic	Humacao	Number of facilities	13
Incremental number of distributed generation installations per year- Photovoltaic	Juana Díaz	Number of facilities	19
Incremental number of distributed generation installations per year- Photovoltaic	Juncos	Number of facilities	13
Incremental number of distributed generation installations per year- Photovoltaic	Manatí	Number of facilities	14
Incremental number of distributed generation installations per year- Photovoltaic	Mayagüez	Number of facilities	18
Incremental number of distributed generation installations per year- Photovoltaic	Minillas	Number of facilities	19
Incremental number of distributed generation installations per year- Photovoltaic	Monacillos	Number of facilities	47
Incremental number of distributed generation installations per year- Photovoltaic	Palo Seco	Number of facilities	16
Incremental number of distributed generation installations per year- Photovoltaic	Ponce Norte	Number of facilities	18
Incremental number of distributed generation installations per year- Photovoltaic	Ponce Sur	Number of facilities	13
Incremental number of distributed generation installations per year- Photovoltaic	Puerto Nuevo	Number of facilities	26
Incremental number of distributed generation installations per year- Photovoltaic	Quebradillas	Number of facilities	20
Incremental number of distributed generation installations per year- Photovoltaic	Rio Piedras	Number of facilities	7
Incremental number of distributed generation installations per year- Photovoltaic	Sabana Llana	Number of facilities	20
Incremental number of distributed generation installations per year- Photovoltaic	San Germán	Number of facilities	21
Incremental number of distributed generation installations per year- Photovoltaic	San Juan	Number of facilities	7

Metric	Sub-Group	Unit of Measure	FY 2020 Baseline
Incremental number of distributed generation installations per year- Photovoltaic	San Sebastián	Number of facilities	7
Incremental number of distributed generation installations per year- Photovoltaic	Santa Isabel	Number of facilities	19
Incremental number of distributed generation installations per year- Photovoltaic	Utuado	Number of facilities	2
Incremental number of distributed generation installations per year- Photovoltaic	Vega Baja	Number of facilities	20
Incremental number of distributed generation installations per year- Photovoltaic	Yauco	Number of facilities	13
Incremental number of distributed generation installations per year- Wind	Total	Number of facilities	0
Incremental number of distributed generation installations per year- Wind	Quebradillas	Number of facilities	0
Incremental number of distributed generation installations per year- Wind	Santa Isabel	Number of facilities	0
Total installed energy storage capacity by type (system and per district)		MW	0
Incremental installed energy storage capacity per year by type (system and per district)		MW	0
Total number of energy storage installations by type (system and per district)		Number of facilities	0
Incremental number of energy storage installations per year by type (system and per district)		Number of facilities	0

Attachment C
Metrics not required for Quarterly Reporting

Metric	Sub-Group	Unit of Measure
Customer Service		
Number of informal customer complaints		Number of cases
Percent of billing disputes not resolved in 120 days		Percentage
Number of customer complaints by customer class		Number of cases
Number of customer complaints by customer class	Residential	Number of cases
Number of customer complaints by customer class	Commercial	Number of cases
Number of customer complaints by customer class	Industrial	Number of cases
Number of customer complaints by customer class	Public Lighting	Number of cases
Number of customer complaints by customer class	Agriculture	Number of cases
Number of customer complaints by customer class	Others	Number of cases
Operations-Purchasing		
Purchase order cycle time		Days
Requisition cycle time		Days
Contracts as percent of spending		Percentage
IT		
On-time IT projects		Percentage
System uptime		Percentage
Average time to resolve a ticket		Days
Unresolved tickets after 30 days		Percentage
Human Resources		
Jobs with current job description		Percentage
Average time to fill vacancies		Days
Legal		
Time to respond to opinions		Days
Time to respond to contracts		Days
Time to respond to claims		Days
Time to respond to claims	Judicial	Days
Time to respond to claims	Extra Judicial	Days
Time to respond to claims	Administrative	Days
Renewable Energy and Demand Side Management		
Average actual vs. anticipated capacity factor of RPS-eligible capacity		Percentage

Metric	Sub-Group	Unit of Measure
Average actual vs. anticipated capacity factor of RPS-eligible capacity	Pattern Santa Isabel	Percentage
Average actual vs. anticipated capacity factor of RPS-eligible capacity	Punta Lima Wind Farm	Percentage
Average actual vs. anticipated capacity factor of RPS-eligible capacity	AES Ilumina	Percentage
Average actual vs. anticipated capacity factor of RPS-eligible capacity	Windmar Cantera Martinó	Percentage
Average actual vs. anticipated capacity factor of RPS-eligible capacity	San Fermín Solar Farm	Percentage
Average actual vs. anticipated capacity factor of RPS-eligible capacity	Horizon Energy	Percentage
Average actual vs. anticipated capacity factor of RPS-eligible capacity	Landfill Gas Technologies Fajardo (LFGT)	Percentage
Average actual vs. anticipated capacity factor of RPS-eligible capacity	Oriana Energy	Percentage
Average actual vs. anticipated capacity factor of RPS-eligible capacity	Windmar Coto Laurel SolarFarm	Percentage
Average actual vs. anticipated capacity factor of RPS-eligible capacity	Humacao Solar Project	Percentage
Average actual vs. anticipated capacity factor of RPS-eligible capacity	Landfill Gas Technologies Toa Baja (LFGT)	Percentage

Attachment D
New Metrics to be reported[37]

Metric	Sub-Group	Unit of Measure
Customer Service		
Technical losses as % of net generation		Percentage
Technical loss reduction as a % of net generation		Percentage
Total number of calls received		Number
Average length of time to resolve customer complaint appeals		Days
Renewable Energy and Demand Side Management		
Number of curtailed hours from RPS-eligible capacity		Number of hours
Number of curtailed hours from RPS-eligible capacity	Pattern Santa Isabel	Number of hours
Number of curtailed hours from RPS-eligible capacity	Punta Lima Wind Farm	Number of hours
Number of curtailed hours from RPS-eligible capacity	AES Ilumina	Number of hours
Number of curtailed hours from RPS-eligible capacity	Windmar Cantera Martinó	Number of hours
Number of curtailed hours from RPS-eligible capacity	San Fermín Solar Farm	Number of hours
Number of curtailed hours from RPS-eligible capacity	Horizon Energy	Number of hours
Number of curtailed hours from RPS-eligible capacity	Landfill Gas Technologies Fajardo (LFGT)	Number of hours
Number of curtailed hours from RPS-eligible capacity	Oriana Energy	Number of hours
Number of curtailed hours from RPS-eligible capacity	Windmar Coto Laurel SolarFarm	Number of hours
Number of curtailed hours from RPS-eligible capacity	Humacao Solar Project	Number of hours
Number of curtailed hours from RPS-eligible capacity	Landfill Gas Technologies Toa Baja (LFGT)	Number of hours

[37] Note that the metrics contained in Attachment D are additional to the metrics required in Part V.B of the April 8 Resolution.