



**COMMONWEALTH OF PUERTO RICO
PUERTO RICO ENERGY COMMISSION**

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

CASE NO.: CEPR-IN-2016-0002

SUBJECT: Performance Metrics.

RESOLUTION

I. INTRODUCTION AND HISTORY OF THE PROCEEDINGS

On November 15, 2016, the Puerto Rico Energy Commission (“Commission”) issued a “Notice of Investigation to Identify Opportunities to Improve Performance of the Puerto Rico Electric Power Authority” (“NOI”), initiating this proceeding. In the NOI, the Commission noted the Legislature’s concern over the inefficiencies and lack of oversight in the operations of the Puerto Rico Electric Power Authority (“PREPA”).¹ The NOI also set forth the Commission’s statutory authority to conduct this inquiry.² Further, the Commission established a sequence of events which consisted, in great part, of a Commission investigation, independent audits and rulemakings.³

In addition to the Commission setting its vision for the investigation, the Commission requested that interested stakeholders provide comments by December 15, 2016, on a series of questions posed by the Commission to aid it in framing the scope of its investigation.⁴ Comments were received from PREPA, Instituto de Competitividad y Sostenibilidad Económica de Puerto Rico (“ICSE-PR”); Enlace Latino de Acción Climática-El Puente de Williamsburg, Inc. y el Comité de Diálogo Ambiental, Inc. (“ELAC”); and, the Independent Consumer Protection Office (“ICPO”). The Commission appreciates the filed comments and has carefully reviewed them as part of this investigation. The comments are being taken into consideration as the Commission continues to develop the scope and subject areas of the investigation to identify opportunities to improve PREPA’s performance.

On February 17, 2017, the Commission issued a second Resolution and Order (“February 17 Resolution and Order”) in which it clarified the process by dividing the investigation into three part: the Commission Inquiry; the Independent Assessment; and,

¹ In Re: The Performance of the Puerto Rico Electric Power Authority, Case No. CEPR-IN-2016-0002, “Notice of Investigation to Identify Opportunities to Improve Performance of the Puerto Rico Electric Power Authority,” November 15, 2016, p. 3.

² *Id.*, p.3-4.

³ *Id.*, p.4-5.

⁴ *Id.*, p.10-11.

Rulemaking. The purpose of this, as explained in the February 17 Resolution and Order, is to increase the efficiency of the overall process relating to PREPA's performance.⁵

II. SUMMARY OF THE PROCESS

This Resolution addresses the Commission Inquiry and seeks further input from stakeholders, including PREPA, on certain metrics that PREPA has provided. The categories of metrics will be described below, followed by specific questions on these metrics for which public comment is sought. The Commission might hold additional technical conferences to further analyze PREPA's metrics and address comments received as part of this investigation.

III. THE PERFORMANCE METRICS

The purpose of performance metrics is to provide the utility, the regulator and interested parties a means of measuring in a transparent manner how a utility is performing in a number of key areas that are critical to a well-functioning utility. Periodic reporting of metrics provides the ability to assess whether the utility's performance is satisfactory, whether it has made progress, or whether performance is declining. Performance metrics have several key components: the identification of what is to be measured; the measurement tool used to assess the performance; and the establishment of a target for performance in that category.

1. PREPA'S Key Performance Indicators

PREPA has developed a set of Key Performance Indicators (KPI) for a series of performance measurements which are described in terms of what is being measured; the unit of measurement and the target for performance. Attachment 1 summarizes each KPI, the unit in which the metric is measured, and PREPA's current target for each metric. PREPA's KPIs are designated by the label "PREPA".

2. Additional Performance Metrics to Consider

The Commission recommends a set of proposed additional metrics for PREPA to report on a monthly or annual basis, which is supplemental to PREPA's internal KPIs. These prospective metrics are also summarized in Attachment 1, and are designated by the label "CEPR". Based on public comment and further results from its own investigation, the Commission may modify this set of proposed metrics through removal, addition, or consolidation. A revised set of metrics will be included, along with an attendant reporting framework, in the Commission's Performance Rules draft.

While the Commission anticipates requiring PREPA to begin collecting all metrics in the revised set upon release of the Performance Rules Draft, the Commission intends to hold several of these metrics in "anticipated" status. In general, these metrics would apply to

⁵ Resolution and Order, February 17, 2017, Case No. CEPR-IN-2016-0002, p. 2.

anticipated future programs and activities. For example, because PREPA has no active non-governmental energy efficiency programs, we do not currently have a need for PREPA to collect certain energy efficiency-related metrics such as leveled program costs, but anticipate such a need upon commencement of such programs.

IV. COMMISSION REQUEST FOR COMMENTS

The Commission seeks comments from PREPA and interested stakeholders on the metrics set forth in Attachment 1. Specifically, the Commission expects interested stakeholders to respond to the following questions:

1. The Performance Metrics

- A. With regard to the list of performance metrics that PREPA is currently using and the additional metrics listed by the Commission:
 - i. Are there additional metrics that should be added? If so, please designate whether such metrics should be collected in the near term or be considered anticipated and provisional. If the latter, please indicate under what circumstances you think the Commission should require PREPA to report such metrics.
 - ii. Are there metrics in Attachment 1 that should be excluded?
 - iii. Are there any changes or modifications that you would recommend with regard to PREPA's performance metrics?
 - iv. Are there any changes or modifications that you would recommend with regard to the Commission's list of metrics?

2. The Units of Measurement

- A. With regard to PREPA's units of measurement for each performance metric, do you have any recommendations for modifying the unit of measure?
 - i. If the answer is in the affirmative, for each unit of measure for which you would recommend a modification, please describe what your proposed unit of measure would be and the rationale for the modification.
- B. With regard to the Commission's proposed units of measurement for each performance metric where it is indicated, do you have any recommendations for modifying the unit of measure?
 - i. If the answer is in the affirmative, for each unit of measure for which you would recommend a modification, please describe what your proposed unit of measure would be and the rationale for the modification.

3. Targets

- A. With regard to PREPA's internal target for each performance metric, do you have any recommendations concerning the level of the target? If you have proposed a different unit of measure for this metric in response to Question 2.A.i, please suggest an appropriate target in your proposed unit of measure.
 - i. If the answer is in the affirmative, for each target for which you would recommend a change, please describe what your proposed target would be and the rationale for the change.

- B. With regard to the Commission's target for each performance metric, do you have any recommendations regarding the process the Commission should use for target setting or the level of the target? If you have proposed a different unit of measure for this metric in response to Question 2.B.i, please suggest an appropriate target in your proposed unit of measure or discuss how target setting using your proposed metric should differ from the Commission's proposed metric. Should the targets be set forth in a manner that allows for incremental increases in the ambition of the target as PREPA adapts to new practices?

4. Other Related Issues

- A. Do you have comments on any other matter pertaining to the establishment of performance metrics?

- B. Are there performance metrics from other jurisdictions that you would like to bring to the Commission's attention?
 - i. If so, please provide a publicly-accessible citation to the relevant document or a copy of the document itself.

 - ii. Please describe these performance metrics and the rationale behind the portion of the metrics you would like the Commission to consider.

- C. What kinds of inducements (positive and/or negative) do you think the Commission should consider to motivate compliance?
 - i. Do you have examples of inducement (positive and/or negative) that can be applied to a government-owned utility like PREPA.

- D. What relationship do you see, if any, between the metrics proposed herein and the Commission's anticipated budget review process and mechanism as described in Part IV of the Commission's Final Order and Resolution on



PREPA's Rate Review (Case No. CEPR-AP-2015-0001)? Please describe specific potential mechanisms for intertying PREPA's reported performance as measured by the full set of performance metrics with the Commission's future reviews of PREPA's proposed budgets and revenue requirements.


The comments to be submitted by PREPA and interested stakeholders shall be filed with the Commission, via email to secretaria@energia.pr.gov or a physical copy filed with the Commission's Clerk, no later than May 19, 2017. The commenters are strongly encouraged to follow the format of the questions above when responding to these questions. If a commenter has no comment on a particular question, the Commenter should so indicate.

The Commission issues this Resolution in the English language. A Spanish translation will be published once available. Should any discrepancy between the English and Spanish version arise, the English version shall prevail.

Be it notified and published.



Agustín Carbó Lugo
Chairman



Ángel R. Rivera de la Cruz
Associate Commissioner



José H. Román Morales
Associate Commissioner

CERTIFICATION

I hereby certify that the Puerto Rico Energy Commission has so agreed on April 27, 2017. I also certify that a copy of this Resolution regarding Case No. CEPR-IN-2016-0002 was notified by electronic mail to the following: j-morales@aeep.com, n-vazquez@aeep.com and c-aquino@aeep.com. I further certify that on April 27, 2017, I have proceeded with the filing of this Resolution and have sent a copy thereof to:

Autoridad de Energía Eléctrica de Puerto Rico
Attn.: Lcdo. Javier Morales Tañón
Lcdo. Carlos M. Aquino Ramos
P.O. Box 363928
Correo General
San Juan, PR 00936-3928

For the record, I sign this in San Juan, Puerto Rico, today, April 27, 2017.



María del Mar Cintrón Alvarado
Clerk

Attachment 1: PREPA's KPIs and CEPR Draft Performance Metrics by Area

Area	Metric	Unit of Measure	PREPA/ CEPR	Target
Overall System				
	Safety - recordables	Percentage	PREPA	11%
	Absenteeism	Percentage	PREPA	2%
	CAIDI (Customer average interruption duration index)	Minutes	PREPA	146
	Operational expenses vs. budget (excluding fuel) (system)	Percentage	PREPA	2.50%
	Capital expenses vs. budget (system)	Percentage	PREPA	7%
	Operational expenses vs. budget (excluding fuel) (by directorate)	Percentage	CEPR	
	Capital expenses vs. budget (by directorate)	Percentage	CEPR	
	Number of customer by customer class	Number of customers	CEPR	
	Monthly system sales	GWh	CEPR	
	Monthly sales by customer class	GWh	CEPR	
	Monthly sales by district	GWh	CEPR	
	Monthly system peak	MW	CEPR	
	Monthly peak by customer class	MW	CEPR	
	Monthly peak by district	MW	CEPR	
	Cost of generation per customer (system)	\$/customer	CEPR	
	Average revenue per kilowatt-hour sold	\$/kWh	CEPR	
Generation				
	Plant availability (system)	Percentage	PREPA	76%
	Forced outages (system)	Percentage	PREPA	7%
	Cost of generation (system; total)	\$/MWh	PREPA	\$89/MWh
	Cost of generation (system; fuel and O&M separately)	\$/MWh	CEPR	
	Cost of generation (by unit; fuel, O&M, and total separately)	\$/MWh	CEPR	
	Monthly thermal generation (system)	MWh	CEPR	
	Monthly thermal generation (by unit)	MWh	CEPR	
	Average heat rate (system)	MWh/MMBTU	CEPR	
	Average heat rate (by unit)	MWh/MMBTU	CEPR	
	Plant availability (by unit)	Percentage	CEPR	
	Forced outages (by unit)	Percentage	CEPR	
	Purchased energy from thermal PPOAs (by unit)	MWh	CEPR	
	Cost of capacity purchased from thermal PPOAs (by unit)	\$/kW-month	CEPR	
	Cost of energy (base + excess) purchased from thermal PPOAs (by unit)	\$/MWh	CEPR	

Area	Metric	Unit of Measure	PREPA/ CEPR	Target
T&D				
	SAIDI (System average interruption duration index) (system)	Minutes	PREPA	48
	SAIFI (System average interruption frequency index) (system)	Percentage	PREPA	0.328%
	Monthly net work order balance	Number of work orders	PREPA	-1500
	MAIFI (Momentary average interruption frequency index) (system)	Percentage	CEPR	
	SAIDI (System average interruption duration index) (by district)	Minutes	CEPR	
	SAIFI (System average interruption frequency index) (by district)	Percentage	CEPR	
Customer Service				
	DSO (Days Sales Outstanding) - government customers	Days	PREPA	60
	DSO (Day Sales Outstanding) - general customers	Days	PREPA	45
	Cash recovered on theft	Million dollars	PREPA	\$2 million
	NTL reduction as a % of net generation	Percentage	PREPA	4.5%
	Average speed to answer	Minutes	PREPA	5
	Wait time in commercial offices	Minutes	PREPA	15
Active				
	Number of customers on AMI (system and by district)	Number of customers	CEPR	
	Percent of customers on AMI (system and by district)	Percentage	CEPR	
	Number of formal customer complaints	Number of complaints	CEPR	
	Number of informal customer complaints	Number of complaints	CEPR	
	Number of customer calls answered	Number of calls	CEPR	
	Average time to resolve billing disputes	Days	CEPR	
	Percent of billing disputes not resolved in 120 days	Percentage	CEPR	
	Percent of customers billed	Percentage	CEPR	
	Percent of bills estimated vs. read	Percentage	CEPR	
	Percent of automatically-generated NTL leads found to be occurrences of theft	Percentage	CEPR	
	Average time to respond to service and outage complaints	Hours	CEPR	
	Customer satisfaction with complaint resolution by customer class	TBD	CEPR	
	Customer satisfaction with service quality by customer class	TBD	CEPR	
	Number of disconnections by customer class	Number of disconnections	CEPR	

Area	Metric	Unit of Measure	PREPA/ CEPR	Target
Customer service				
<i>Active</i>				
	Number of customers enrolled in extended payment plans by class	Number of customers	CEPR	
	Number of customer defaulting on extended payment plans by class	Number of customers	CEPR	
	Number of customers completing extended payment plans by class	Number of customers	CEPR	
<i>Anticipated</i>				
	Additional metrics regarding contested bills, claim resolution, customers facing disconnection for non-payment, and use of payment plans or other mechanisms for collection of arrearages		CEPR	
Finance				
	Timely submission of Monthly Operating Report	Days	PREPA	22
	Accounts Payable days outstanding	Days	PREPA	35
<i>Anticipated</i>				
	Additional metrics regarding fund balances, credit balances, and debt service		CEPR	
Planning, Environmental				
	Timeliness of response to regulatory requests	Percentage	PREPA	95%
	Timeliness of permitting - new and renewals	Percentage	PREPA	95%
	Emissions of SO ₂ , NO _x , CO ₂ , PM, Hg, and other regulated pollutants (system)	tons	CEPR	
	Emission rates of SO ₂ , NO _x , CO ₂ , PM, Hg, and other regulated pollutants (system)	lb/MMBTU	CEPR	
	Carbon intensity of fossil generation	tons/MWh	CEPR	
Operations				
<i>Purchasing</i>				
	Purchase order cycle time	Days	PREPA	35
	Requisition cycle time	Days	PREPA	20
	Contracts as percent of spending	Percentage	PREPA	80%
<i>Warehousing</i>				
	Inventory turns (annualized percent of value)	Percentage	PREPA	1%
	Inventory value	Million dollars	PREPA	120
<i>Fleet</i>				
	Fleet out of service (system)	%	PREPA	20.5%
	Total available vehicles in service (system)	Number of vehicles	PREPA	2550
	Fleet out of service (system)	%	PREPA	20.5%
	Total available vehicles in service (system)	Number of vehicles	PREPA	2550

Area	Metric	Unit of Measure	PREPA/ CEPR	Target
Operations				
<i>Fuel</i>				
	Fuel dispatch accuracy - Diesel #2	Percentage	PREPA	25%
	Fuel dispatch accuracy - #6	Percentage	PREPA	15%
	Inventory control - Diesel #2	Percentage	PREPA	0.5%
	Inventory control - #6	Percentage	PREPA	2%
	MMBTU consumed - Diesel #2	MMBTU	CEPR	
	MMBTU consumed - #6	MMBTU	CEPR	
	MMBTU consumed - NG	MMBTU	CEPR	
	MMBTU consumed vs. forecast - Diesel #2	Percentage	CEPR	
	MMBTU consumed vs. forecast - #6	Percentage	CEPR	
	MMBTU consumed vs. forecast - NG	Percentage	CEPR	
	Average price - #6	\$/MMBTU	CEPR	
	Average price - NG	\$/MMBTU	CEPR	
	Average price vs. forecast price - Diesel #2	Percentage	CEPR	
	Average price vs. forecast price - #6	Percentage	CEPR	
	Average price vs. forecast price - NG	Percentage	CEPR	
IT				
	On-time IT projects	Percentage	PREPA	75%
	System uptime	Percentage	PREPA	98%
	Average time to resolve a ticket	Days	PREPA	7
	Unresolved tickets after 30 days	Percentage	PREPA	20%
HR				
	Jobs with current job description	Percentage	PREPA	70%
	Average time to fill vacancies	Days	PREPA	45
Legal				
	Time to respond to opinions	Days	PREPA	25
	Time to respond to contracts	Days	PREPA	30
	Time to respond to claims	Days	PREPA	30
Renewable Energy and Demand-Side Management				
<i>Active</i>				
	Operational RPS-eligible capacity	MW	CEPR	
	Contracted but not operational RPS-eligible capacity	MW	CEPR	
	Average delay in anticipated online date of RPS-eligible projects	Days	CEPR	
	Mean time to interconnect utility-scale RPS-eligible projects	Days	CEPR	
	Average capacity factor of RPS-eligible capacity (by unit)	Percentage	CEPR	

Area	Metric	Unit of Measure	PREPA/ CEPR	Target
Renewable Energy and Demand-Side Management				
<i>Active</i>				
	Average actual vs. anticipated capacity factor of RPS-eligible capacity	Percentage	CEPR	
	Generation from RPS-eligible PPOAs (percent of sales)	Percentage	CEPR	RPS Target
	Generation from RPS-eligible PPOAs (by unit)	MWh	CEPR	
	Annual savings from government energy efficiency program (by branch)	MWh	CEPR	
	Total installed distributed generation capacity by type (system and per district)	MW	CEPR	
	Incremental installed distributed generation capacity per year by type (system and per district)	MW	CEPR	
	Total number of distributed generation installations by type (system and per district)	Number of facilities	CEPR	
	Incremental number of distributed generation installations per year by type (system and per district)	Number of facilities	CEPR	
	Total installed energy storage capacity by type (system and per district)	MW	CEPR	
	Incremental installed energy storage capacity per year by type (system and per district)	MW	CEPR	
	Total number of energy storage installations by type (system and per district)	Number of facilities	CEPR	
	Incremental number of energy storage installations per year by type (system and per district)	Number of facilities	CEPR	
<i>Anticipated</i>				
	Number of customers served by energy efficiency programs (by class)	Number of customers	CEPR	
	Percent of customers served by energy efficiency programs (by class)	Percentage	CEPR	
	Number of customers served by demand response programs (by class)	Number of customers	CEPR	
	Percent of customers served by demand response programs (by class)	Percentage	CEPR	
	Lifetime energy savings (by efficiency program)	MWh	CEPR	
	Annual energy savings (by efficiency program)	MWh	CEPR	
	Lifetime demand savings (by demand response program)	MW	CEPR	
	Annual demand savings (by demand response program)	MW	CEPR	

Area	Metric	Unit of Measure	PREPA/ CEPR	Target
Renewable Energy and Demand-Side Management				
<i>Anticipated</i>				
	Levelized program costs (by efficiency program)	\$/MWh	CEPR	
	Levelized program costs (by demand response program)	\$/MW	CEPR	
	Total number of electric vehicles	Number of vehicles	CEPR	
	Incremental number of electric vehicles	Number of vehicles	CEPR	
	Number of customers using time-varying rates	Number of customers	CEPR	
	Number of customers able to access hourly usage data	Number of customers	CEPR	
	Number of customer accessing hourly usage data per month	Number of customers	CEPR	