

**GOVERNMENT OF PUERTO RICO
PUERTO RICO ENERGY COMMISSION**

**IN RE: ENERGY COMMISSION
INVESTIGATION REGARDING THE STATE
OF THE PUERTO RICO ELECTRIC SYSTEM
AFTER THE PASSING OF HURRICANE
MARÍA**

CASE NO.: CEPR-IN-2017-0002

**Subject: Resolution initiating
investigation.**

RESOLUTION

Through this Resolution, the Puerto Rico Energy Commission (“Commission”) begins a comprehensive investigative proceeding into the state of the electric system after Hurricane María’s landfall in Puerto Rico. The purpose of this proceedings is to identify the vulnerabilities in the electrical system that contributed to its collapse and to identify short, medium and long term strategies and regulatory actions in the that result in an electric system that is modern, flexible, resilient and capable of supplying electric service effectively and at just and reasonable prices.

I. Introduction and Background

On September 6, 2017, the eye of Hurricane Irma passed approximately 30 miles off the east coast of the Island of Puerto Rico, generating hurricane force winds over the eastern half of the Island of Puerto Rico and the municipal islands of Vieques and Culebra. Approximately one million Puerto Ricans were left without electric service as a result of the nearby passage of Hurricane Irma.¹ Two weeks later, on September 20, 2017, Hurricane María, a category 4 hurricane in the Saffir-Simpson Hurricane Scale, made landfall over Puerto Rico. Puerto Rico’s 78 municipalities were directly affected by the hurricane force winds generated by the powerful cyclone, causing levels of unprecedented devastation and disrupting, in some cases, permanently, the daily life of all Puerto Ricans.

In particular, Hurricane María severely impacted the electric grid of Puerto Rico. Preliminary reports given by the Puerto Rico Electric Power Authority (“PREPA”), the United States Army Corps of Engineers and the Federal Emergency Management Agency estimate that up to 80% of PREPA’s transmission and distribution grid was damaged. Consequently, immediately after the passing of Hurricane Maria, 100% of PREPA’s customers did not have

¹ El Nuevo Día, *Inician los trabajos para restablecer la electricidad en la isla*, September 7, 2017, www.elnuevodia.com/noticias/locales/nota/inicianlostrabajospararestablecerlaelectricidadenlaisla-2355345.

electric service.² One month after the passing of Hurricane María, PREPA informed that the demand for electric service, and therefore, the level of energy generated and dispatched, had increased to approximately 23% of its capacity, signifying that most of PREPA's customers are still without electric service.³

Various factors make the efforts of restoring electric service a difficult task. Some of these, such as, for example, the intensity of atmospheric phenomena, are outside of our immediate control (without taking into consideration the impact that human actions have on climate change). However, through the elaboration, approval, implementation and oversight of adequate strategies, plans and protocols, it is possible to reduce the effect of such atmospheric events in our electric system. PREPA's delicate economic and operational condition, and the absence of a proactive maintenance schedule—contrary to reactive maintenance in response to failures in the service, which has characterized the maintenance program in recent years—reduced the electric system's ability to resist the impacts of Hurricane María and limited PREPA's agility to respond and begin to restore the electric service.⁴

Given the essential role that access to electric service represent to Puerto Rico's socio-economic stability and security, the Commission determines to initiate an investigation into the extent of the damage caused by Hurricane María to the electric system of Puerto Rico and the short, medium and long term corrective measures required to strengthen it. The present investigation has a dual purpose. First, the Commission will identify the measures and regulatory actions necessary in the short term to facilitate the task of restoring the electric service.

Second, the Commission will determine the medium and long term measures and regulatory actions necessary to modernize and strengthen the electric system, reinforce its infrastructure to make it less susceptible to atmospheric events and develop a sustainable,

² El Nuevo Día, *Afectado el sistema de transmisión y distribución de la AEE*, September 27, 2017, www.elnuevodia.com/noticias/locales/nota/afectadoelsistemadetransmisionydistribuciondelaaee-2360964. See, also, Metro, *El 100% de Puerto Rico está sin luz*, September 20, 2017, www.metro.pr/pr/noticias/2017/09/20/puerto-rico-sin-luz-huracan-maria.html.

³ See, www.status.pr, accessed on October 24, 2017. Even though the percentage of generation serves as an indicator to determine the total energy demand served by PREPA, it is not a definitive indicator of the total number of clients with electric service, since a small number of clients with high levels of demand (such as hospitals, shopping centers and other higher scale industrial and commercial clients) could represent a significant percentage of the total demand served by PREPA. Nevertheless, an increase in the demand percentage allows, to some extent, to measure the progress of the efforts to restore electric service.

⁴ For a more detailed discussion about the state of the electrical infrastructure and the limitations on PREPA's operational culture, see the Final Resolution and Order issued by the Commission on January 10, 2017 in Case No. CEPR-AP-2015-0001, in specific, Part ONE; and the Report presented by Synapse Energy Economics, Inc., which were contracted by the Commission to provide an expert report on the status of PREPA's electric system.

cost effective energy model that results in a reliable electric service at just and reasonable prices.

II. Legal Basis

The Commission was created with the purpose of serving as an independent regulatory entity of Puerto Rico's energy sector⁵ and as the appropriated forum for, along with market actors and other governmental entities, develop and implement an energy policy based scientific and technical concepts and through a transparent and open planning processes.

Adopting the prevailing models in most jurisdictions in the United States, the Legislative Assembly granted to the Commission broad powers and authority, among which is the duty of “[e]stablish and implement [...] the necessary regulatory actions to guarantee the reliability, safety, efficiency and reasonability of electricity rates in Puerto Rico” and “[o]versee the quality and reliability of the electric power services provided by PREPA and any other electric power company certified in Puerto Rico.”⁶ To fulfill said mandated, the Commission is authorized to “[h]old public hearings, require and gather any pertinent or necessary information” and “[c]onduct inspections, investigations, and audits.”⁷

In accordance with the above, and pursuant Chapter V of Regulation No. 8543,⁸ the Commission initiates the present investigation with the purpose of identifying the measures and regulatory actions required to respond to the present emergency, reinforce the electric system and adopt a new energy model which guarantees the availability of a quality electric service at just and reasonable prices.

III. Scope of the Investigation

The present investigation is based on four pillars: (i) the state of the electric system after the passing of Hurricane María; (ii) implementation of regulatory actions to facilitate the task of restoring the electric service and encourage the deployment of new technologies, including distributed generation and microgrids; (iii) a new energy model; and (iv) analysis

⁵ See Statement of Motives, Act 57-2014, Puerto Rico Energy Transformation and RELIEF Act, as amended (“Act 57-2014”).

⁶ *Id.* Section 6.3, sub-section (c) y (d).

⁷ *Id.* sub-section (y) y (z).

⁸ Regulation on Adjudicative, Notice of Noncompliance, Rate Review and Investigation Proceedings.

regarding the effect on PREPA's Integrated Resource Plan approved by the Commission on September 26, 2016.⁹

A. State of the electric system after the passing of Hurricane María

Puerto Rico's electric infrastructure suffered significant damage as a result of the direct passing of Hurricane María over Puerto Rico. The extent of the damages and the difficulties experienced in restoring electric service make it necessary to evaluate the reasons why Puerto Rico's electric system was particularly vulnerable to atmospheric events. Similarly, it is necessary to identify the measures, strategies and corrective actions in the short term to strengthen the electric system, reduce its vulnerability to future natural phenomena and ensure an adequate and coordinated response from certified companies.

The Commission will evaluate the state of the electric system, including the distributed generation systems and the facilities and electric installations of independent power producers, cogenerators and certified electric service providers. Also, the Commission will evaluate the emergency protocols and existing contingency plans of the certified electric service providers and its response actions and performance after the passing of Hurricane María.

B. Implementation of regulatory actions to facilitate the tasks of restoring electric service and encourage the deployment of new technologies

The difficulties faced in the restoration of electric service and the preliminary estimates of time it will take to restore it have required the Government of Puerto Rico to identify new alternatives and technologies to supply electric service. As an example, on October 16, 2017, the Governor of Puerto Rico, Hon. Ricardo A. Rosselló Nevares, signed Executive Order No. OE-2017-064, through which, by virtue of the authority granted upon him by Act 20-2017, waived certain distributed generation systems from complying with the interconnection requirements established in PREPA's Regulation No. 8915.¹⁰ According to the Executive Order, said measures were taken with the purpose of encouraging the deployment and operation of distributed generation systems combined with energy storage systems (batteries).

In accordance with the statutory mandates of Act 57-2014, the Commission will continue with the efforts of identifying technological alternatives to accelerate the energization of critical areas and facilities (such as hospitals, aqueduct and sewer installations, economic centers, among others), residential areas and other remote, more difficult to access areas.

⁹ Final Resolution and Order on the First Integrated Resource Plan of the Puerto Rico Electric Power Authority, Case No. CEPR-AP-2015-0002, September 26, 2016.

¹⁰ *Reglamento para Interconectar Generadores con el Sistema de Distribución Eléctrica de la Autoridad de Energía Eléctrica y Participar en los Programas de Medición Neta.*

Accordingly, the Commission will evaluate the degree to which services and technologies such as, but not limited to, distributed generation and microgrids, can contribute to the restoration of electric service and to Puerto Rico's the energy stability. As such, the Commission will identify the necessary regulatory actions to expedite the restoration of electric service and encourage the deployment of new technologies. Similarly, the Commission will initiate the necessary procedures for implementing such actions, including the approval of rules and regulations, the issuance of orders, or any other action that facilitates the recovery efforts and provides a stable and certain investment climate.

C. New Energy Model: Analysis of the available market structure alternatives and the necessary regulatory actions to implement a new energy model in Puerto Rico

Hurricane María's landfall over Puerto Rico has put into perspective the need to perform a thorough evaluation of our actual energy model and to develop the vision and the roadmap to evolve our energy market into a modern, flexible and cost effective one. The development of a balanced market structure, which encourages investment and economic development, guarantees quality services at just and reasonable prices, ensures equitable access to energy services and promotes innovation in the energy services industry requires a process of introspection to define our expectations and frame our energy aspirations.

Through this proceeding, the Commission responds to the need to rethink our energy model. As part of this proceeding, the Commission will identify the correct combination of products and services,¹¹ as well as the adequate market structures¹² to deliver them. Similarly, it will analyze their feasibility in Puerto Rico and identify the regulatory actions, as well as recommend those that correspond to the Legislative Assembly or the Executive Branch, necessary in order to achieve an orderly transition into a self-sustaining energy model suited to our expectations and aspirations.

D. Effect over PREPA's Integrated Resource Plan

PREPA's Integrated Resource Plan ("IRP"), approved by the Commission on September 26, 2016, identifies the operational, maintenance and capital investment actions that PREPA must carry out in the short, medium and long term to supply the electric service through a twenty-year planning horizon. To elaborate the IRP, the Commission performed a technical analysis of different projections of the socio-economic outlook that PREPA will face in the short, medium and long term, including assumptions on the price of fuel, cost of capital, behavioral patterns, demographic changes, economic growth and energy demand. The result is a detailed outline of the maintenance and modernization actions that PREPA must perform in the next twenty years to achieve a robust, modern, flexible and cost effective electric system. Nevertheless, because of its nature, an integrated resource plan is not a static

¹¹ The products and services to be explored include, but are not limited to, the following: centralized generation, distributed generation (thermal or renewable), energy efficiency programs, demand response programs, energy storage services, microgrids, etc.

¹² Multiple market structures exist, such as monopoly, oligopoly, monopolistic competition, perfect competition, monopsony, etc.

document, unrelated to socio-economic and technological changes that arise with the passing of time. Ordinarily, an integrated resource plan is updated periodically, to incorporate changes in projections and assumptions that were not previously evaluated and therefore maximizing the appropriate use of resources in a cost-effective manner.

Pursuant to Section 6B of Act 83,¹³ the IRP must be updated every three years. Said term can be reduced when substantial changes occur within the market that require a revision of the IRP. One of the elements of major discussion and analysis during the evaluation of the IRP presented by PREPA revolved around PREPA's ability to integrate distributed generation and energy storage resources to the electric system, particularly within the context of PREPA's compliance with the Renewable Portfolio Standard.¹⁴

Due to the critical nature of ensuring PREPA counted with a detailed maintenance and capital improvements for the transformation of the electric system, and due to the absence of reliable studies and information regarding the integration of renewable energy sources, the modified IRP approved by the Commission postponed the determination with respect to the integration of renewable distributed generation and energy storage. However, the Commission noted that both elements would be analyzed in depth in the next IRP proceeding.

As mentioned in part C above, one of the objectives of the present investigation is to identify our aspirations with regards to Puerto Rico's future energy model and the market structure components necessary to obtain a modern, flexible and cost-effective market. The conclusions from this investigation will, to great extent, inform the assumptions and projections that must be prospectively incorporated in the evaluation and approval of an IRP for PREPA. In light of the information gathered herein, and consistent with the goals and objectives identified for a future energy model, the Commission will determine the technical, regulatory and public policy parameters that will frame any future revision of PREPA's IRP. Notwithstanding, and until the Commission does not rule otherwise, the IRP as approved by the Commission continues in effect.

IV. Requirements of Information, Conferences, Meetings, Comments and Public Hearings

Pursuant to Section 15.03 of Regulation 8543, during the course of the present investigation, the Commission will issue one or more requirements of information. Said requirements of information will be addressed to people or particular entities from which the Commission has the interest of receiving more information. Each requirement of information will identify the specific information that the Commission wishes to obtain and the specific instructions for the presentation of the information and the claim of any evidentiary privilege, if applicable. The requirements of information may be issued by the

¹³ Act No. 83 of May 2, 1941, as amended, known as the Puerto Rico Electric Power Authority Act.

¹⁴ See Act 82-2010, Public Policy on Energy Diversification by Means of Sustainable and Alternative Renewable Energy in Puerto Rico Act, as amended.

Commission, through resolution or order, or may be issued by the Commission's staff through written communication.

Similarly, the Commission, from time to time, may request public comments regarding diverse topics related to the present investigation. Any request for public comments will be notified through resolution or order issued by the Commission and will be notified to the general public through public notice published in at least one (1) newspaper of general circulation in Puerto Rico. The Commission will notify the deadlines for the presentation of public comments and the corresponding instructions for their presentation before the Commission. Nevertheless, the fact that the Commission has not requested public comments on any specific issue contemplated in the present proceeding will not prevent any person with an interest in submitting their written comments to the Commission. For this purpose, the Commission will accept the presentation of public comments via email (comentarios@energia.pr.gov), through regular mail addressed to the Puerto Rico Energy Commission Clerk's Office, 268 Ave. Muñoz Rivera, Suite 202, San Juan, PR 00918, or by personal delivery to the Clerk's Office.

The Commission, also, may perform and/or convene meetings, conferences, public hearings, eye inspections or any other type of action deemed necessary or convenient in pursuit of the purposes set forth herein.

Be notified and published.

Signed: Ángel R. Rivera de la Cruz
Associate Commissioner

Signed: José H. Román Morales
Associate Commissioner
Interim Chairman

CERTIFICATION

I hereby certify that the Puerto Rico Energy Commission has so agreed on October 27, 2017 and that on this date I have proceeded with the filing of copy of this Resolution.

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

Signed: María del Mar Cintrón Alvarado
Clerk