

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

NEPR

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IN RE: REVIEW OF THE PUERTO
RICO ELECTRIC POWER
AUTHORITY INTEGRATED
RESOURCES PLAN

Case No.: NEPR-AP-2023-0004

Subject: Informative Motion and Request
for Order to Incorporate Genera into the
IRP Process

**INFORMATIVE MOTION AND REQUEST FOR ORDER TO INCORPORATE
GENERA INTO THE IRP PROCESS**

TO THE ENERGY BUREAU:

COMES NOW, GENERA PR LLC (“Genera”), through its undersigned counsel and, very respectfully, states and prays as follows:

1. On July 12, 2023, the Puerto Rico Energy Bureau (“PREB”) issued a *Resolution and Order* initiating the present administrative proceeding for the review of the proposed Integrated Resource Plan (“IRP”) that is to be filed by LUMA Energy, LLC and LUMA Energy ServCo, LLC (jointly, “LUMA”) as agent of the Puerto Rico Electric Power Authority (“PREPA”) (“July 12 Resolution and Order”)

2. Section 1.3 (l) of Act No. 57-2014, 22 L.P.R.A § 1051a, the *Puerto Rico Energy Transformation and RELIEF Act* (“Act 57-2014”), defines the IRP as a “plan that considers all reasonable resources to satisfy the demand for electric power services during a period of twenty (20) years, including those related to the offering of electric power, whether existing, traditional, and/or new resources, and those related to energy demand, such as energy conservation and efficiency or demand response and localized energy

generation by the customer.” Section 1.3 (*ll*) further states that “[e]very integrated resource plan shall be subject to the rules established by PREB and approved by the same”, and that the plan “**shall be devised with broad participation from citizens and other interested groups.**” *Id.* (Emphasis added). The general process regulating the IRP is set forth in Section 6.23 of Act No. 57-2014, 22 L.P.R.A. § 1054v.

3. Furthermore, Section 1.9(1) of Act No. 17-2019, the *Puerto Rico Energy Public Policy Act* (“Act 17-2019”), provides as follows:

Section 1.9. — Long-term Electrical System Planning.

General. Long-term Electrical System planning is critical for implementing the Energy Public Policy set forth in this Act and furthering the sustainable development of the people of Puerto Rico through the Electrical System. Such planning shall consist of an Integrated Resource Plan consistent with the provisions of this Act, Act No. 57-2014, and Act No. 83. The Integrated Resource Plan shall be devised by the electric power company responsible for the operations of the Electrical System and shall be approved by the Bureau. **The IRP must be drafted with the input of the companies that operate the power plants.** Any amendment or modification to the Integrated Resource Plan shall be approved by the Bureau prior to its implementation. The Bureau shall evaluate and approve the Integrated Resource Plan and any amendments or modifications thereto in conformity with the legislative intent and the declaration of public policy adopted by the Legislative Assembly in Section 3 of Act No. 120-2018, Section 13 of Act No. 29-2009 with regards to the protections and considerations applicable to Partnership Contracts, and the public policy declared herein. The Bureau may grant dispensations to or waivers for the Integrated Resource Plan for just cause.

22 L.P.R.A. § 1141h. (Emphasis added).

4. In addition, Section 1.03 of the PREB’s *Regulation on Integrated Resource Plan for the Puerto Rico Electric Power Authority*, Regulation 9201 of April 24, 2018 (“Regulation 9201”) states, in relevant part, that:

Pursuant to this Regulation and resulting from a detailed planning process, the IRP will consider **all the reasonable resources to satisfy the demand for electricity**

services during a twenty (20)-year planning period, taking into account both supply and demand-side electric power resources. In broad terms, the IRP will include an assessment of the planning environment, a careful and detailed study of a **range of future load forecasts, present generation resources, present demand resources**, current investments in electricity conservation technologies, existing transmission and distribution facilities, and the relevant forecast and scenario analyses in support of PREPA's selected resource plan. It will also contain a discussion of all applicable laws and regulations to ensure that the proposed Action Plan for the implementation of the selected resource plan complies with all laws and regulations of the Federal government and the Commonwealth of Puerto Rico.

The purpose of this Regulation is to ensure that the IRP serves as an adequate and useful tool to guarantee the orderly and integrated development of Puerto Rico's electric power system, and to improve the system's reliability, resiliency, efficiency, and transparency, as well as the provision of electric power services at reasonable prices. The provisions established herein will guide the IRP process along lines that are consistent with the mandates of Act 57-2014 and Act No. 83 of May 2, 1941, and following the electric power industry's best practices in integrated resource planning. This Regulation, moreover, defines the terms related to the information required in the IRP, the procedures before the Commission, and the performance metrics guideline and inducements that PREPA will follow after the Commission has evaluated and reviewed the IRP. The Commission will evaluate the IRP as well as PREPA's performance thereafter in accordance with the provisions set forth in this Regulation.

5. Pursuant to the *Puerto Rico Thermal Generation Facilities Operation and Maintenance Agreement* ("OMA"), dated January 24, 2023, executed by and among PREPA, Genera, and the Puerto Rico Public-Private Partnerships Authority ("P3A"), Genera is the sole operator and administrator of the Legacy Generation Assets (as defined in the OMA) and the sole entity authorized to represent PREPA before the PREB with respect to any matter related to the performance of any of the Operation & Maintenance ("O&M") Services provided by Genera under the OMA.

6. In sum, under Act No. 57-2014, Act No. 17-2019, and the T&D OMA, LUMA is responsible for preparing, presenting, defending current or future IRPs to the

PREB. The current IRP, approved in August 2020, guides actions until the updated version is approved. Key elements include increasing renewable generation, enhancing grid resilience, and enabling customer choice.

7. LUMA is scheduled to file a new proposed IRP with the PREB by May 16, 2025; that is, in approximately six (6) weeks. This will be LUMA's first IRP since it began operations in Puerto Rico in June 2021. It is clear from the above-referenced statutory and contractual provisions that Genera, as the sole operator of the Legacy Generation Assets, is a key stakeholder in Puerto Rico's energy industry and, as such, its input is crucial in the preparation and execution of the IRP. However, two recent events have caused concerns regarding the breadth of information sought by LUMA in preparing the IRP, particularly the lack of input and participation from Genera in this process.

8. *First*, the February 2025 Fiscal Plan for the Puerto Rico Electric Power Authority ("Fiscal Plan"), published on February 11, 2025, describes on pages 57-58, the steps taken so far by LUMA in developing the IRP. Specifically, the Fiscal Plan states, in relevant part, that:

PREB held three public and one confidential Technical Conferences with LUMA regarding the pre-filing information of the 2025 IRP. The Technical Conferences were held on August 8, 2023, October 31, 2023, January 30, 2024, and September 18, 2024. During these Technical Conferences, LUMA has described to PREB, and the public, its planned analyses and progress in the development of the 2025 IRP, including modeling plans, preliminary data sources, tasks with which consultants would be assisting LUMA, and its stakeholder engagement process and progress.

LUMA designed the stakeholder engagement process, which it has named "Solutions for the Energy Transformation for Puerto Rico" ("SETPR"), to gather input from stakeholders via in-person meetings, virtual meetings, and a public website. As of November 2024, LUMA has held 21 SETPR

meetings attended by 173 stakeholders, including: residential and commercial customers, government officials, commercial and professional organizations and generation partners. LUMA presented its findings from these meetings to the PREB to keep it updated on LUMA's progress. Additionally, LUMA has held seven one-on-one meetings with stakeholders, like the Puerto Rico Chamber of Commerce, the Association of Commercial Centers of Puerto Rico, the Association of Restaurants of Puerto Rico, Justicia Energética, General Electric, Coopervision and EcoEléctrica.

See Fiscal Plan, Section 4.4.2 IRP, at 57-58.

9. *Second*, on March 27, 2025, LUMA filed a *Motion Submitting 2025 IRP Second Interim Filing*. This filing was made without LUMA requesting any information or comments from Genera.

10. The foregoing shows, and we hereby confirm, that LUMA has not sought Genera's input during the development of the IRP. Genera further submits that, on February 20, 2025, it sent a letter to LUMA requesting information and participation in the IRP process. *See Exhibit A* attached to this motion. Genera followed up on that communication, but no meaningful response was received.

11. As the sole operator and administrator of the Legacy Generation Assets, and the sole entity authorized to represent PREPA before the PREB with respect to any matter related to the performance of any of the LGA O&M services, Genera is clearly a key stakeholder in the IRP process. In fact, many of the projects that are currently being performed by Genera could be affected by the IRP that will be approved this year. For instance, in the *Resolution and Order* of September 27, 2023, Attachment A ("*Resolution and Order* of September 27"), the PREB scheduled a technical hearing in which an item on the agenda was clearly within the realm of Genera's interests:

- d. Resources under procurement or implementation—role in modeling— how they are accounted for in the IRP
 - i. Tranches-solar PV and battery storage
 - ii. **New Genera resources peakers, black start**
 - iii. Emergency demand response procurements
 - iv. DOE solar and battery storage for low-income participants.

Resolution and Order of September 27, Exhibit B, page 4. (Emphasis added).

12. In short, although Genera has received notice of the filings and ruling in this case, its participation has been very limited. LUMA has not reached out to Genera to obtain relevant and critical information regarding the IRP; and the PREB’s rulings have been directed to LUMA.

13. In order to address the above-referenced concerns, we respectfully request the PREB that Genera be immediately incorporated into the IRP process, in a more direct role, and that LUMA be instructed that it must secure Genera’s input and feedback, on matters pertaining to energy generation and O&M services, prior to presenting a final version of the IRP.

WHEREFORE, Genera respectfully requests that the PREB takes notice of the foregoing, and that it orders that: (i) Genera be immediately incorporated into the IRP process; and (ii) that LUMA be instructed that it must secure Genera’s input and feedback, on matters pertaining to energy generation and O&M services, prior to presenting a final version of the IRP.

RESPECTFULLY SUBMITTED.

In San Juan, Puerto Rico, this April 2st, 2025.

It is hereby certified that this motion was filed using the electronic filing system of this Energy Bureau, and that electronic copies of this Motion will be notified to the following attorneys

who have filed a notice of appearance in this case: **Lcdo. Alexis Rivera**, arivera@gmlex.net; **Lcda. Mirelis Valle Cancel**, mvalle@gmlex.net; **Lcda. Margarita Mercado Echegaray**, margarita.mercado@us.dlapiper.com; **Lcda. Yahaira De la Rosa Algarín**, yahaira.delarosa@us.dlapiper.com.

ROMAN NEGRÓN LAW, PSC
Attorneys for Genera PR, LLC
P.O. Box 360758
San Juan, PR 00936
Tel. (787) 979-2007

s/Luis R. Román Negrón
Luis R. Román Negrón
RUA 14,265
lrn@roman-negron.com

Exhibit A – Letter February 20, 2025

February 20, 2025

Via email

Mr. Alejandro Figueroa
Chief Regulatory Officer
LUMA Energy, LLC
Email: alejandro.figueroara@lumapr.com

**Re: Inclusion of Genera PR LLC in the Integrated Resource Plan Process
Case No. NEPR-AP-2023-0004**

Dear Mr. Figueroa,

On January 24, 2023, the Puerto Rico Public-Private Partnership Authority ("P3 Authority"), the Puerto Rico Electric Power Authority ("PREPA"), and Genera PR LLC ("Genera"), entered into the Puerto Rico Thermal Generation Facilities Operation and Maintenance Agreement ("LGA OMA" or "OMA"). Under the LGA OMA, Genera assumed full responsibility for the operation and maintenance of all "Legacy Generation Assets," encompassing baseload steam plants and peakers.

As you are aware, on July 12, 2023, the Puerto Rico Energy Bureau ("PREB") issued a Resolution and Order initiating the administrative proceeding for the review of the Integrated Resource Plan ("IRP") to be filed by LUMA. Pursuant to Section 1.3 (II) of Act No. 57-2014¹ and Section 1.9(1) of Act No. 17-2019, it is explicitly required that the IRP be developed with broad participation from stakeholders

¹ Section 1.3 (II) of Act 57-2014 states that "[e]very integrated resource plan shall be subject to the rules established by PREB and approved by the same", and that the plan "**shall be devised with broad participation from citizens and other interested groups.**" *Id.* (Emphasis added). The general process regulating the IRP is set forth in Section 6.23 of Act No. 57-2014, 22 L.P.R.A. § 1054v.

and establish that “the IRP must be drafted with the input of the companies that operate the power plants”².

In addition, Section 1.03 of the PREB’s *Regulation on Integrated Resource Plan for the Puerto Rico Electric Power Authority*, Regulation 9201 of April 24, 2018 (“Regulation 9201”) states, in relevant part, that:

Pursuant to this Regulation and resulting from a detailed planning process, the IRP will consider **all the reasonable resources to satisfy the demand for electricity** services during a twenty (20)-year planning period, taking into account both supply and demand-side electric power resources. In broad terms, the IRP will include an assessment of the planning environment, a careful and detailed study of a **range of future load forecasts, present generation resources, present demand resources, current investments in electricity conservation technologies**, existing transmission and distribution facilities, and the relevant forecast and scenario analyses in support of PREPA’s selected resource plan. It will also contain a discussion of all applicable laws and regulations to ensure that the proposed Action Plan for the implementation of the selected resource plan complies with all laws and regulations of the Federal government and the Commonwealth of Puerto Rico. (Emphasis added).

Genera, as the sole operator and administrator of the Legacy Generation Assets is a key stakeholder in Puerto Rico’s electric power system. The statutory and contractual framework governing the IRP process mandates that Genera’s

² Section 1.9(1) of Act 17-2019: Long-term Electrical System planning is critical for implementing the Energy Public Policy set forth in this Act and furthering the sustainable development of the people of Puerto Rico through the Electrical System. Such planning shall consist of an Integrated Resource Plan consistent with the provisions of this Act, Act No. 57-2014, and Act No. 83. The Integrated Resource Plan shall be devised by the electric power company responsible for the operations of the Electrical System and shall be approved by the Bureau. **The IRP must be drafted with the input of the companies that operate the power plants.**

input be secured in matters pertaining to energy generation and Operation & Maintenance ("O&M") services.

As of this date, LUMA has not formally shared any relevant information with Genera regarding the proposed IRP, nor has requested Genera's input for the development of the proposed IRP. Genera requires access to all relevant IRP-related information to ensure that its role and contributions are accurately reflected in the IRP process.

Accordingly, Genera hereby requests that LUMA provide Genera with all relevant information concerning the IRP discussions and planning, including but not limited to any data, reports, models, and analyses related to energy generation and O&M services. Furthermore, Genera reiterates our request that Genera be formally included in the IRP process to actively contribute to its development.

Recognizing the importance of the IRP process and the upcoming May 16, 2025, deadline, Genera kindly requests LUMA's cooperation in addressing these matters in a timely manner. Genera would greatly appreciate receiving LUMA's response and the requested information **on or before February 28, 2025**, to ensure a collaborative and efficient approach moving forward.

Genera appreciates your prompt attention to this matter and looks forward to your response. Please direct all correspondence related to this matter to the undersigned.

Sincerely,

A handwritten signature in blue ink, appearing to read "R. B. B.", written over a horizontal line.

Ricardo Palléns Cruz, Esq.
VP EEHS & Regulatory
Genera PR, LLC.

Exhibit B – Resolution and Order of September 27, 2023

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

IN RE: REVIEW OF THE PUERTO RICO
ELECTRIC POWER AUTHORITY
INTEGRATED RESOURCE PLAN

CASE NO.: NEPR-AP-2023-0004

SUBJECT: Agenda for the October 31, 2023
Technical Conference – IRP Prefiling Process
(Phase 1).

RESOLUTION AND ORDER

On August 24, 2020, the Energy Bureau of the Puerto Rico Public Service Regulatory Board (“Energy Bureau”) issued the IRP Order¹, regarding the Puerto Rico Electric Power Authority’s (“PREPA”) Integrated Resource Plan (“IRP”). The IRP Order included a Section titled “Preparing for the Next IRP Cycle”, containing action items and internal process improvements to be implemented by the for the next IRP.² The action items included specific technical elements about how the IRP considered energy efficiency, distributed generation and storage, load forecasting, wind resources, resource need assessment, transmission and distribution and a Modified Action Plan.³

On July 1, 2023, Genera PR, a subsidiary of New Fortress Energy Inc., began operations and maintenance of the Puerto Rico Electric Power Authority’s aging power-generation assets, also known as the “legacy” power plants, formerly operated by PREPA.

On August 8, 2023, the Energy Bureau held an initiating technical conference for the 2024 IRP. The technical conference included a presentation by LUMA on some of the agenda items about the technical aspects of the IRP (“August 8 Presentation”). LUMA filed the materials it used during the August 8 Presentation. Presentation and discussion of other technical items from the agenda were postponed pending the availability of LUMA’s selected technical contractor.

On September 7, 2023, the Energy Bureau approved the revised technical contract between LUMA and its selected technical contractor. The Energy Bureau has scheduled a second pre-IRP filing period technical conference for October 31, 2023 from 10:00 AM to 5:00 PM. The focus of the October 31, 2023 technical conference is to address the technical elements excluded from discussion during the first technical conference.

The purpose of the technical conferences during the IRP Prefiling period is for the Energy Bureau to make sure LUMA reasonably complies with Regulation 9021,⁴ to ensure that LUMA’s analysis will be sufficiently robust to comply with Puerto Rico public policy goals and to meet Energy Bureau expectations as to the quality of the analysis and the information provided. The purpose of the Prefiling period technical conferences is also to provide an opportunity for LUMA to seek clarifications from the Energy Bureau about compliance with Regulation 9021.

The Energy Bureau **ORDERS** LUMA’s personnel to attend the second pre-IRP filing period technical conference scheduled for **October 31, 2023 from 10:00 AM to 5:00 PM**, together with its technical contractor. The Energy Bureau **EXPECTS** both, LUMA’s personnel and its

¹ Final Resolution and Order on the Puerto Rico Electric Power Authority’s Integrated Resource Plan, *In re: Review of the Integrated Resource Plan of the Puerto Rico Electric Power Authority*, Case No. CEPR-AP-2018-0001, August 24, 2020 (“IRP Order”).

² IRP Order, pp. 285-289, ¶ 912-922.

³ IRP Order, pp. 285-287, ¶ 913-919.

⁴ *Regulation on Integrated Resource Plan for the Puerto Rico Electric Power Authority*, April 24, 2018 (“Regulation 9021”).




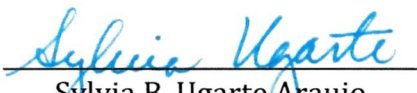



technical consultant, to be prepared to answer questions from the Energy Bureau's and its consultants.

Attachment A to this Resolution and Order has a detailed agenda for the **October 31, 2023** second pre-IRP filing period technical conference. The Energy Bureau **ORDERS** LUMA to prepare presentation materials in accordance with the agenda and submit the presentation materials by **Tuesday, October 25, 2023**.

Attachment B to this Resolution and Order has the first set of pre-IRP filing period Requests of Information ("ROI") to LUMA. The Energy Bureau **ORDERS** LUMA to respond to these ROIs by **Tuesday, October 24, 2023**.


Be it notified and published.

	
Edison Avilés Deliz Chairman	
	
Lillian Mateo Santos Associate Commissioner	Ferdinand A. Ramos Soegaard Associate Commissioner
	
Sylvia B. Ugarte Araujo Associate Commissioner	Antonio Torres Miranda Associate Commissioner

CERTIFICATION

I certify that the majority of the members of the Puerto Rico Energy Bureau agreed on September 27, 2023. Associate Commissioner Ferdinand A. Ramos Soegaard did not intervene. Also certify that on September 27, 2023, I have proceeded with the filing of this Resolution and Order and was notified by email to laura.rozas@us.dlapiper.com; margarita.mercado@us.dlapiper.com, mvazquez@diazvaz.law; ana.rodriguezrivera@us.dlapiper.com; jmarrero@diazvaz.law; brannen@genera-services.com; kbolanos@genera-pr.com; regulatory@genera-pr.com. I also certify that on September 27, 2023, I have moved forward with filing the Resolution and Order issued by the Puerto Rico Energy Bureau.

For the record, I sign in San Juan, Puerto Rico, today, September 27, 2023.


Sonia Seda Gaztambide
Clerk



Attachment A

Agenda for 2024 IRP Second Technical Conference, October 31, 2023

1. Introduction – Energy Bureau
 - a. Purpose and scope of pre-IRP period technical conferences
 - i. Information dissemination
 - ii. Discussion of assumptions and approaches
 - b. Expectations of the Energy Bureau for LUMA and its technical contractor during the pre-IRP period
 - c. Role of Requests of Information (ROI) during the pre-IRP filing period
 - i. Advance dissemination of critical input assumptions and planned methodologies
 - d. Optimization Proceeding intentions / purposes folded into this IRP exercise
 - i. Distributed scale vs. utility scale resource decisions and determinations
2. LUMA presentation or discussion on PR100 / DOE information to inform assumptions in the IRP:
 - a. Solar potential and performance
 - b. Wind potential and performance
 - c. Distributed scale vs. Utility scale resource scenarios
 - d. Transmission and/or distribution analysis
3. LUMA presentation(s) on core Modeling Assumptions –quantitative information presentation and explanation expected across the following areas:
 - a. Load forecast - components for IRP modeling
 - i. Base forecast (peak load and annual energy)
 - ii. Energy efficiency effects on base forecast (energy and peak load modification)
 - iii. Distributed generation (solar PV) behind-the-meter (BTM) effects on base forecast (energy load modification)
 - iv. Distributed battery storage BTM effects on base forecast, if any (energy and peak load modification)
 - b. New resource options – attributes, cost trajectories and implementation constraints for IRP modeling
 - i. Utility scale solar PV
 - ii. Utility scale wind - onshore
 - iii. Utility scale wind – offshore
 - iv. Utility scale battery resources
 - v. Distributed scale solar PV
 - vi. Distributed scale battery resources
 - vii. Demand response resources including BTM battery resources
 - viii. Combustion turbines
 - ix. Reciprocating engines
 - x. Combined cycle units



- c. Existing supply side resources – characterization
 - i. Overview – fossil and hydro
 - ii. Operating metrics
 - iii. Availability metrics
 - iv. Retirement trajectories – fossil
 - v. Hydro incremental capacity and improved performance
 - d. Resources under procurement or implementation – role in modeling – how are they accounted for in the IRP
 - i. Tranches – solar PV and battery storage
 - ii. New Genera resources – peakers, black start
 - iii. Emergency demand response procurements
 - iv. DOE solar and battery storage for low-income participants
4. LUMA presentation(s) on Modeling Scenarios / Analysis Structure / Approach
- a. Scenarios
 - b. Methodologies
 - c. How to evaluate and value distributed energy resources compared to utility scale resources in the IRP modeling – characterization of DER beyond load modifier context
 - i. Optimization of distributed scale vs. utility scale – inclusive of on-site resiliency
5. Topics and Schedule for Next Technical Conferences – LUMA and Energy Bureau
- a. Transmission analysis
 - b. Distribution analysis
 - c. Other – Regulation 9021 elements as necessary
 - d. Two additional technical conferences: Mid-December and Late January



Attachment B

First Set of pre-IRP filing period ROIs – Load Forecast, Resource Adequacy, and New Resource Cost Parameters

1. Provide the 2023 Resource Adequacy Analysis Report; and any associated analytical workpapers in Excel file format.
2. Provide Puerto Rico historical total hourly load for all hours for 2020 to the present, including consistent estimates of the hourly consumption and the hourly system losses on the transmission and distribution system. As available, provide this information by Puerto Rico district and by major sector (residential, commercial, industrial) as categorized. Provide in Excel file format.
3. Provide LUMA's projected load forecast to be used in IRP modeling, with annual energy, annual peak load, and 8,760 hourly load projections for the 2024-2044 period. Provide in Excel file format.
4. Provide LUMA's breakdown of the load forecast (2024-2044) to be used in IRP modeling by Puerto Rico district and by major sector (residential, commercial, industrial) as categorized, in Excel file format.
5. Clearly describe how energy efficiency and distributed resources (solar PV and battery energy storage) affect the load forecast provided in the above ROIs. If energy efficiency and distributed resources are explicitly factored into the load forecast, provide the hourly component values for each of energy efficiency and distributed resources. Provide in Excel file format.
6. Provide current planned capital costs and fixed O&M cost trajectories for all years across the planning horizon of 2025-2044 for supply resources to be used as options in the IRP modeling. These cost trajectories should capture any changes in capital and O&M costs across the planning horizon. Provide estimated cost trajectories for resources including (but not limited to) the following:
 - a. Wind – onshore.
 - b. Wind – offshore.
 - c. Solar PV utility scale.
 - d. Solar PV distributed scale.
 - e. Battery energy storage utility scale – 4-hour duration
 - f. Battery energy storage utility scale – 2-hour duration
 - g. Battery energy storage utility scale – 6-hour duration
 - h. Battery energy storage – distributed scale.
 - i. Small combustion turbines or gas turbines.
 - j. Small reciprocating engines (RICE units).
 - k. Other size CT, GT, or RICE units.
 - l. Combined cycle units.

For all cost estimates including sources and the vintage of the estimate. Where feasible provide in Excel file format.

7. Provide planned availability for first “new” resource in-service year, and planned allowed pace of installation (e.g., MW/year, for each year of the planning horizon) for each of the resource types considered as options in the IRP modeling.

