

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

**IN RE: THE UNBUNDLING OF THE ASSETS  
OF THE PUERTO RICO ELECTRIC POWER  
AUTHORITY**

**CASE NO.: NEPR-AP-2018-0004**

**SUBJECT: Final Resolution and Order  
Establishing Wheeling Tariffs and Further  
Process.**

**FINAL RESOLUTION AND ORDER**

**I. Introduction and Summary**

The Government of Puerto Rico has enacted a comprehensive public policy and regulatory framework that set the parameters and mandates for a resilient, reliable, and robust energy system. These mandates transform the energy system into an open one that allows competition creating an electric energy market promoting the well-being and economic development of the island.

As a key component for the full and transparent implementation of Puerto Rico energy public policy in 2014 by Act 57-2014<sup>1</sup> was created the Energy Bureau of the Puerto Rico Public Service Regulatory Board (“Energy Bureau”). The Energy Bureau is an independent administrative entity with specialized knowledge, broad powers, and the expertise in charge of regulating, overseeing, and ensuring compliance and implementation of Puerto Rico energy public policy and matter under its jurisdiction.

Puerto Rico Act 57-2014 delegates broad powers<sup>2</sup> to the Energy Bureau for the adoption of a wheeling regulation, wheeling rate, and the unbundling of rates of the Puerto Rico Electric Power Authority (“PREPA”). The adoption of wheeling<sup>3</sup> mechanism and the unbundle of the services are essential for the development of an efficient electric energy market. Pursuant Section 1.3 of Act 17-2019 the Puerto Rico Electric Power Authority (“PREPA”) shall not have exclusive rights to generate, transmit distribute and commercialize the electric supply. The wheeling mechanism will allow certain electric service customers in Puerto Rico to elect to receive their electricity supply on a competitive basis from retail electricity supplier.

Through this Resolution and Order, the Energy Bureau continues the process of establishing all of the necessary elements for certain electric service customers in Puerto Rico to elect to receive their electricity supply on a competitive basis from retail electricity suppliers through a mechanism known as “wheeling.” The wheeling mechanism is intended to drive new investments in cleaner electricity generation in Puerto Rico and provide customers with an economic alternative to traditional electricity supply, while protecting non-participating customers from adverse consequences.

The Energy Bureau has determined that it is in the public interest to proceed with the unbundling of the Puerto Rico Electric Power Authority (“PREPA”) rates to facilitate wheeling in a fair and efficient manner. This docket (“Unbundling Docket”) is a crucial part of establishing the overall wheeling mechanism. In coordination with other proceedings, notably docket CEPR-MI-2018-0010, *In re: Regulation on Retail Wheeling* (“Wheeling Regulation Docket”), the Energy Bureau is proceeding in a measured and deliberative manner on the issues that are important to ratepayers and the Puerto Rico economy. The formal adjudicative process, started in December of 2020, has provided a full and fair administrative process of the issues decided in this order.

<sup>1</sup> Puerto Rico Energy Transformation and RELIEF Act, Act 57-2014 as amended.

<sup>2</sup> Act 57-2014, Section 6.3, 6.4, 6.16 and 6.30.

<sup>3</sup> Act 57-2014, Section 1.3 (uu) define wheeling: the transmission of electricity from an independent power producer to the end consumer through Puerto Rico’s electric power grid and which does not constitute distribute generation through any net metering mechanism.



The Energy Bureau makes six key determinations in this order:

- Declines to endorse LUMA's and PREPA consultant Guidehouse marginal cost of service study ("Guidehouse MCOSS") and the specific analyses used as a part of the Guidehouse MCOSS;
- Establishes a simple unbundling framework for the current purposes of setting a tariff rider for wheeling customers;
- Defines the key elements of a tariff rider for wheeling customers, including the rate structure and formula for a wheeling credit as well as provisions for a customer to return to the provider of last resort and metering requirements;
- Determines the types of generation that will be eligible to participate in wheeling initially;
- Sets the high-level structures for hourly balancing charges and annual imbalance charges for retail electricity suppliers; and
- Lays out next steps to creating and approving a wheeling services agreement between retail electricity suppliers and LUMA<sup>4</sup>.

As laid out in Section II, the Unbundling Docket and the Wheeling Regulation Docket have both evolved substantially. The consistent theme throughout these proceedings is that the Energy Bureau is searching for the right path to fulfill its statutory mandate to implement electric energy wheeling, so it is consistent with proper regulatory practices, available data, and the public interest. The processes for hiring consultants in this Unbundling Docket, and the parallel processes necessary to ensure that the wheeling regulation is legally supportable, represents a suitably flexible overarching structure that can evolve over time and allows for the concrete and feasible policy implementation the Energy Bureau begins in this order.

In establishing the wheeling mechanism, the fundamental statutory requirement is that nonsubscribers to wheeling shall not be adversely impacted by wheeling, and it is this requirement that the Energy Bureau ultimately look to in the determinations in this order. It is also necessary to ensure that the rates and provisions adopted in this proceeding are fair and efficient for all parties that wish to participate in wheeling. Ultimately, the analysis the Energy Bureau relies upon for the determinations in this order is not a full unbundling of electricity rates, but rather a more modest set of modifications to existing rate structures, which is clearly permitted by the relevant statutes and Regulation 9351<sup>5</sup> on Electric Energy Wheeling.

## II. Procedural Background

The Unbundling Docket has lengthy procedural history, along with the Wheeling Regulation Docket. The Energy Bureau opened the Unbundling Docket on December 28, 2018<sup>6</sup>. This order required that PREPA file an unbundling plan, with several related studies by May 31, 2019. After PREPA submitted a motion explaining that they have prepared no relevant rate studies since the 2015 rate review<sup>7</sup>, on February 8, 2019, the Energy Bureau issued a Resolution and Order<sup>8</sup> which determined instead that the Energy Bureau would hire an independent consultant to perform the relevant studies based on discovery from PREPA. On July 3, 2019, the Energy Bureau announced that a consultant had been hired and that PREPA should expect discovery requests from Energy Bureau staff.<sup>9</sup>

<sup>4</sup> LUMA Energy ServCo, LLC ("LUMA").

<sup>5</sup> Regulation on Electric Energy Wheeling, Regulation 9351, December 22, 2021.

<sup>6</sup> Order, *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AP-2018-0004, December 28, 2018.

<sup>7</sup> *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AP-2018-0004, PREPA's Compliance Filing for Information Due January 25, 2019, filed on January 25, 2019.

<sup>8</sup> Resolution and Order, *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AP-2018-0004, February 8, 2019.

<sup>9</sup> *Id.*, July 3, 2019.



The Wheeling Regulation Docket, which was opened on August 7, 2018 through a Resolution and Order<sup>10</sup> requesting public comments has proceeded in parallel with the Unbundling Docket. On February 28, 2019 the Energy Bureau issued a Resolution and Order<sup>11</sup> and requested that any person interested in participating in the process may appear at the public hearing or may comment on the proposed regulation. This proposed rule included a broad framework for reforming the overall operation and regulatory structure of the Puerto Rico electric system. On April 11, 2019, Act 17-2019<sup>12</sup> was enacted, which included several provisions specific to wheeling. In light of Act 17-2019, on July 23, 2019, the Energy Bureau issued a Resolution<sup>13</sup> with a new proposed rule that aimed to implement wheeling for power producers to service industrial and large commercial customers once it enters into effect and request comments. The Energy Bureau provided until August 24, 2019 for the public to file written comments regarding the proposed draft. Also, provided until September 3, 2019, for the submittal of replies to comments filed within the general commenting period.

Following the comments received during the commenting period and the public hearing held on August 22, 2019, on October 18, 2019, the Energy Bureau issued a revised proposed draft of the Regulation on Electric Energy Wheeling<sup>14</sup>. After another round of comments, on December 12, 2019, the Energy Bureau adopted a final regulation<sup>15</sup>. This adopted regulation, Regulation 9138<sup>16</sup>, had a narrower scope than the original proposed rule and was focused on structures and procedures more specific to wheeling, without the broader restructuring of the electric system. Regulation 9138 did envision a full unbundling of all electric system costs and significant redesigns of cost allocation practices and rates.

Meanwhile, after discovery, a consultant report was filed in the Unbundling Docket on September 4, 2020<sup>17</sup>. The consultant report from Resource Insight ("Resource Insight Report")<sup>18</sup> noted that PREPA could not provide any more recent cost data than that used for the 2015 rate case. The Resource Insight Report used a 2016 cost-of-service study prepared by Navigant as its cost basis, which was based upon 2014 data. More recent customer load data was provided but has been impacted by the recent natural disasters, particularly Hurricane María in 2017. Given the limitations of the data, the Resource Insight Report proposed detailed methods for allocating costs among the customer classes and contained a chapter of recommendations to update the calculations, to improve data collection, and to account for ongoing policy developments.

The Order accompanying the Resource Insight Report included a general request for comments on that report from stakeholders, a list of specific questions for comment, and eighteen new information requests for PREPA. Comments and reply comments were filed by the National Public Finance Guarantee Corporation, the Puerto Rico Chamber of Commerce, the Local Environmental Organizations, and the Puerto Rico Institute for Competitiveness and Sustainable Economy (ICSE-PR). PREPA submitted partial responses to the information

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<sup>10</sup> Resolution and Order, *In re: Regulation on Wheeling*, Case No.: CEPR-MI-2018-0010, August 7, 2018.

<sup>11</sup>Resolution and Order, *In re: Regulation on Wheeling*, Case No.: CEPR-MI-2018-0010, February 28, 2019, notified on March 1, 2019.

<sup>12</sup> *Puerto Rico Energy Public Policy Act*, Act 17, 2019

<sup>13</sup> Resolution, *In re: Regulation on Wheeling*, Case No.: CEPR-MI-2018-0010, July 23, 2019.

<sup>14</sup> *Id.*, October 18, 2019.

<sup>15</sup> Resolution, *In re: Regulation on Wheeling*, Case No.: CEPR-MI-2018-0010, December 12, 2019.

<sup>16</sup> *Regulation on Electric Energy Wheeling*, September 16, 2019.

<sup>17</sup> Order, *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AP-2018-0004, September 4, 2020.

<sup>18</sup> Order, *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AP-2018-0004, September 4, 2020, Appendix A ("Resource Insight Report").



requests and on October 9, 2020, the Energy Bureau subsequently issued a second set of information requests.

On October 14, 2020, the Energy Bureau issued a resolution and order<sup>19</sup>, which proposed to bifurcate this proceeding into two stages: (1) an “interim” unbundled rate to be implemented quickly and (2) an adjudicative proceeding to establish full unbundling. Comments on the proposal to bifurcate this proceeding were submitted by the National Public Finance Guarantee Corporation. Subsequent technical conferences were held on October 22, 2020 and November 4, 2020 to discuss both the submitted and outstanding information requests to PREPA and discuss the feasibility of implementing an “interim” wheeling rate.

On December 23, 2020, the Energy Bureau issued a Resolution and Order<sup>20</sup> (“December 23 Order”) beginning the formal adjudicative process in this docket and requiring PREPA to file analysis and one or more proposed tariffs that met high-level requirements. It was not deemed feasible to issue an interim wheeling rate because the establishment of such a rate required a full adjudicative process. Furthermore, it was determined that there was no need for an “interim” label because the Energy Bureau could establish a wheeling rate, along with the other necessary regulatory elements to establish wheeling and continue to evolve those structures over time. The Energy Bureau ordered PREPA to file the relevant studies and proposals by February 1, 2021. This order required petitions to intervene to be filed by January 25, 2021 and laid out simple discovery timelines. Timely petitions to intervene were received from the Independent Office of Consumer Protection<sup>21</sup> (“OIPC” in its Spanish acronym), La Cooperativa Hidroeléctrica de la Montaña<sup>22</sup>, EcoElectrica<sup>23</sup>, and the Puerto Rico Manufacturer’s Association<sup>24</sup>, which were each granted.<sup>25</sup>

Importantly, the December 23, Order required PREPA to submit a “default” tariff and structure, along with any other alternative proposals. This concept was not designed to favor one result over the other but to allow the Energy Bureau to compare options, with analysis ideally aiding the Energy Bureau in choosing between those options or designing another alternative based on the evidentiary record and regulatory principles.

On January 29, 2021, two days before the relevant deadline, PREPA filed an informative motion<sup>26</sup> stating that the February 1, 2021 deadline was not feasible because the consultant contracting process had been delayed and ultimately PREPA could not execute the contract with its chosen consultant, Guidehouse, until that day - January 29, 2021. On February 5, 2021, the Energy Bureau issued a resolution and order responding to PREPA’s informative motion, establishing a new procedural schedule for this docket, including a deadline of May 10, 2021 for PREPA to file the relevant studies and proposals, as well as monthly technical sessions and weekly progress reports to monitor progress and ensure that the new deadline

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<sup>19</sup> Resolution and Order, *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AP-2018-0004, October 14, 2020.

<sup>20</sup> *Id*, December 23, 2020.

<sup>21</sup> *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AP-2018-0004, Motion to Intervene, filed by OIPC on January 13, 2021.

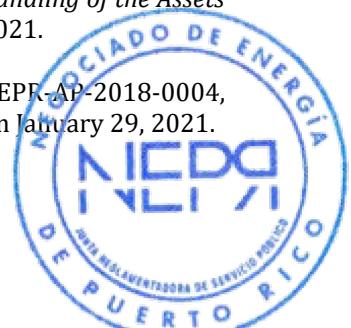
<sup>22</sup> *Id.*, Motion to Intervene, filed by Cooperativa Hidroeléctrica de la Montaña on January 25, 2021.

<sup>23</sup> *Id.*, *Petition for Intervention*, filed by Ecoeléctrica, on January 25, 2021.

<sup>24</sup> *Id.*, *Petition to Intervene*, filed by Puerto Rico Manufacturer’s Association Inc., on January 25, 2021.

<sup>25</sup> Resolution *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AP-2018-0004, January 21, 2021 and February 2, 2021, Resolution and Order, *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AP-2018-0004, February 25, 2021.

<sup>26</sup> *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AP-2018-0004, *Informative Motion in Compliance with the December 23, 2020 Resolution and Order*, filed on January 29, 2021.



would be met. In addition, the process for discovery was laid out and the deadline for intervenor testimony was set for June 24, 2021<sup>27</sup>.

On April 23, 2021, the Energy Bureau issued a Resolution in the Wheeling Regulation Docket stating that, given the developments of the Unbundling Docket, it would be reconsidering the finalized wheeling regulation<sup>28</sup>. That resolution included a proposed revision of Regulation 9138 and a request for comments. On May 3, 2021, PREPA submitted an informative motion in the Unbundling Docket stating that the substance of their analysis and reports could be influenced by changes to the Wheeling Regulation<sup>29</sup>. On May 10, 2021, the Energy Bureau issued a resolution<sup>30</sup> in the Unbundling Docket in response to the PREPA informative motion, informing all parties that the pending revisions to the Wheeling Regulation could be noted by all parties in the Unbundling Docket and that comments on the interaction between the two processes would be welcomed in the Wheeling Regulation Docket. In the Wheeling Regulation Docket, comments on the proposed revisions were received jointly from PREPA and LUMA on June 4, 2021, along with a separate set of comments solely from LUMA.

On May 17, 2021, PREPA filed direct testimony by Margot Everett of Guidehouse ("Everett Testimony"),<sup>31</sup> as consultant to PREPA, as well as reports by Guidehouse and draft tariffs.<sup>32</sup> On May 18, 2021, the Energy Bureau conducted an initial technical session to discuss this filing. On June 10, 2021, LUMA, having commenced operations pursuant to the *Puerto Rico Transmission and Distribution Operation and Maintenance Agreement* ("OMA") and the *Puerto Rico Transmission and Distribution Supplemental Terms Agreement* ("Supplemental Agreement")<sup>33</sup>, was ordered to appear as part of the instant case and to coordinate with PREPA.

On June 22, 2021, the Energy Bureau issued a Resolution and Order<sup>34</sup> updating several elements of the procedural calendar, including the relevant discovery deadlines, intervenor testimony deadlines, evidentiary hearing dates, briefing deadlines and public comment process. Ultimately, three sets of information requests were issued to PREPA and LUMA by the Energy Bureau and the OIPC issued one set of information requests. On July 9, 2021, timely intervenor testimony was filed by both the OIPC and the Puerto Rico Manufacturers Association.<sup>35</sup>

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<sup>27</sup>Resolution and Order, *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AP-2018-0004, February 5, 2021.

<sup>28</sup>Resolution, *In re: Regulation on Wheeling*, Case No.: CEPR-MI-2018-0010, April 23, 2021.

<sup>29</sup>In re: *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AP-2018-0004, *Informative Motion Regarding Proposed Amendments to Regulation 9138 and the May 10, 2021 Compliance Filing*, filed on May 3, 2021.

<sup>30</sup>Resolution, *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AP-2018-0004, May 3, 2021.

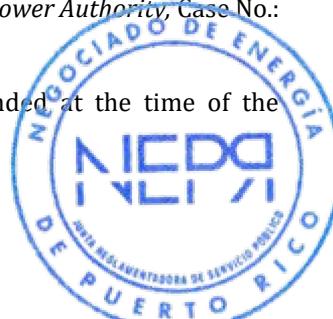
<sup>31</sup>Motion in Compliance with Resolution and Order Entered on May 13, 2021, *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AP-2018-0004, May 17, 2021 ("Everett Testimony").

<sup>32</sup>PREPA originally filed these reports on May 10th, 2021 but without the sworn testimony required for an adjudicative proceeding.

<sup>33</sup>On June 22, 2020, PREPA, the Puerto Rico Public-Private Partnerships Authority ("P3A"), and LUMA entered into an Operation and Maintenance Agreement ("OMA") and a Transmission and Distribution System Supplemental Terms Agreement ("Supplemental Agreement") under which PREPA transferred operational control of its transmission and distribution system ("T&D System") to LUMA. OMA retrieved from <https://www.p3.pr.gov/wp-content/uploads/2020/06/executed-consolidated-om-agreement-td.pdf>. (Accessed June 10, 2021).

<sup>34</sup>Resolution and Order, *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AP-2018-0004, June 22, 2021.

<sup>35</sup>The Puerto Rico Manufacturers Association testimony was subsequently amended at the time of the evidentiary hearings.



After discovery, evidentiary hearings were held on July 19 and 20, 2021. Briefs were submitted by LUMA<sup>36</sup> and OIPC<sup>37</sup> on August 10, 2021, and a reply brief was filed by LUMA<sup>38</sup> on August 20, 2021. Public comments were submitted by Unidos por Utuado and Colegio de Ingenieros y Agrimensores in late August and early September of 2021.

In the Wheeling Regulation Docket, a revised final rule was adopted by the Energy Bureau on December 7, 2021<sup>39</sup>. This revised rule was submitted to the Puerto Rico Secretary of State on December 22, 2021, and became legally effective on January 21, 2022, as Regulation 9351<sup>40</sup>. The period for a party to petition for judicial review of Regulation 9351 ended on February 20, 2022.

While much of the overall structure from the previous regulation was maintained, key revisions and improvements were included:

- Clearer distinctions between the types of entities that participate in wheeling, namely GridCo, the provider of last resort, retail electricity suppliers, independent power producers, and wheeling customers.
- Clearer delineation of the roles and responsibilities for all entities involved in the wheeling process;
- Additional flexibility on certain issues to allow for unbundling and wheeling to evolve as the capabilities of LUMA and the data and analysis available all improve over time; and
- Elimination of the requirement for a full unbundling of costs for the establishment of wheeling rates and credits.

On December 7, 2021, the Energy Bureau issued a Resolution and Order<sup>41</sup> pursuant to Section 7.02 of Regulation 9351 establishing that large commercial and industrial customers (250 kVA and over) shall be eligible to participate in wheeling and that small commercial (under 250 kVA) and residential customers shall not be eligible for wheeling until subsequently determined by the Energy Bureau, pursuant to a specific program that provides substantial benefits and consumer protections to those customers.

On January 5, 2022, the Energy Bureau issued a Resolution taking administrative notice of four categories of information<sup>42</sup>:

1. The rider factors approved for the Fuel Charge Adjustment (FCA) and Purchased Power Charge Adjustment (PPCA) in the twelve (12) orders issued by the Energy Bureau, as well as the associated reconciliation cost data in each order, as listed in Part III of that Resolution;
2. The contents of the final Integrated Resource Plan order (IRP Final Order) in Case No. CEPR-AP-2018-001;

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<sup>36</sup> *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AP-2018-0004, LUMA's Final Brief, filed on August 10, 2021.

<sup>37</sup> *Id.*, *Independent Consumer Protection Office's Legal Brief*, filed on August 10, 2021.

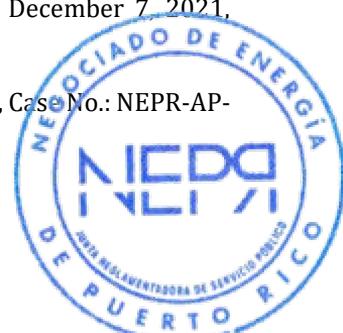
<sup>38</sup> *Id.*, *LUMA's Reply Brief*, filed on August 20, 2021.

<sup>39</sup> Resolution, *In re: Regulation on Wheeling*, Case No.: CEPR-MI-2018-0010, December 7, 2021, notified on December 21, 2021.

<sup>40</sup> *Regulation on Electric Energy Wheeling*, Regulation 9351, December 22, 2021.

<sup>41</sup> Resolution and Order, *In re: Regulation on Wheeling*, Case No.: CEPR-MI-2018-0010, December 7, 2021, notified on January 11, 2022.

<sup>42</sup> Resolution, *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AP-2018-0004, January 5, 2022.



3. The data within the two-page excerpt titled "Attachment 3 - Projected Fuel and Purchased Power Expenses" of the March 16, 2021 motion by PREPA regarding FCA and PPCA factors ("Projected Expenses Data Summary"); and
4. The historic wholesale fuel price data on residual fuel oil and No. 2 fuel oil published by the United States Energy Information Administration.

On January 25, 2022, LUMA submitted a motion in response and opposition to the Energy Bureau's administrative notice resolution, with a general objection along with certain requests for clarification.<sup>43</sup> On February 25, 2022, the Energy Bureau issued a resolution and order<sup>44</sup> reaffirming the administrative notice of (1) the FCA<sup>45</sup> and PPCA<sup>46</sup> resolutions, (2) the Projected Expenses Data Summary, and (3) the EIA Historic Fuel Price Data ("February 25 Resolution"). It was further determined that the Energy Bureau did not have to take administrative notice of the policy framework in the IRP Final Order. In addition, the Energy Bureau included Attachment A that specified the numbers and figures that the Energy Bureau would take administrative notice of from the twelve FCA and PPCA resolutions. Last, the Energy Bureau provided to the parties a 10-day period from the notification date of that resolution and order for parties to file positions or materials relevant to taking administrative notice. No further filings or objection were received by the Energy Bureau within that 10-day period.

On February 25, 2022, the Energy Bureau issued an order regarding the transcript for the evidentiary hearings submitted by LUMA on August 10, 2021. In that order, the Energy Bureau allowed seven days for parties to provide any comments on or objections to the LUMA transcripts and received no responsive filings in those seven days.<sup>47</sup>

The Energy Bureau therefore **RECEIVES** Exhibits 1<sup>48</sup> and Exhibit 2<sup>49</sup> of the August 10 Motion<sup>50</sup> as a correct and faithful transcript of the July 19 and July 20, 2021, evidentiary hearing.

### III. Unbundling Framework and Marginal Cost of Service Study

#### 1. Unbundling Framework

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<sup>43</sup> On January 28, 2022, LUMA submitted a new motion and filing regarding the administrative notice issues, stating that confidential information had been included in the January 25 version. The January 28 filing included the appropriate public and non-public versions of the underlying filing, and the Energy Bureau granted LUMA's motion to remove the original version from the public record and replace it with an appropriately redacted version.

<sup>44</sup> Resolution and Order, *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AP-2018-0004, February 25, 2022.

<sup>45</sup> Fuel Cost Adjustment ("FCA").

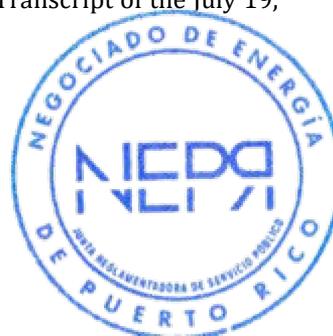
<sup>46</sup> Power Purchase Cost Adjustment ("PPCA").

<sup>47</sup> Resolution and Order, *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AP-2018-0004, February 25, 2022.

<sup>48</sup> Motion Submitting Transcripts of Evidentiary Hearing, *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AP-2018-0004, August 10, 2021, Exhibit 1 Transcript of the July 19, 2021, evidentiary hearing.

<sup>49</sup> *Id.*, Exhibit 2 Transcript of the July 20, 2021, evidentiary hearing.

<sup>50</sup> *Id.*



On behalf of PREPA and LUMA, Guidehouse proposed a framework for unbundling costs in Mrs. Everett's direct testimony<sup>51</sup>, which was proposed for adoption in LUMA's Final Brief.<sup>52</sup> This unbundling framework included functionalization of costs (a technical term for "categorization by purpose") into supply, transmission, distribution, and billing, along with subcategorizations between energy and capacity for supply, capacity costs, and connection costs for transmission and distribution (See Figure 2.3 on p. 13 of LUMA Final Brief). After the functionalization step, Guidehouse proposed to use marginal cost techniques to separate the marginal costs for each category from the residual costs that make up the remainder of the revenue requirement.<sup>53</sup> At a high level, these are standard concepts used in marginal-cost-based ratemaking, which could appropriately support reforms in Puerto Rico. Forward-looking marginal cost concepts are relevant for several regulatory purposes and not solely unbundling or wheeling. For example, the same concepts are used to develop avoided costs used as inputs to benefit-cost analyses.

While the unbundling framework proposed in Everett's Direct Testimony can serve as a starting point for some purposes, several refinements may be desirable and apparent on the current record. First, the proposed unbundling framework does not explicitly address how to handle administrative and general costs (sometimes called overhead costs) such as management, finance, legal and regulatory expenses, and office buildings. Second, marginal generation capacity costs could be refined to distinguish between different kinds of system needs – such as overall peaks and year-round reliability. However, only certain portions of the unbundling framework are directly pertinent to the Energy Bureau's decision, primarily because of data limitations. Most importantly, the concept of marginal energy costs is well established and as discussed below, is central to the determinations regarding wheeling rates and credits. Because of the limited relevance of the remainder of the proposed unbundling framework to the decision, the Energy Bureau need not further address it.

## 2. Marginal Cost of Service Study

The Energy Bureau declines to adopt the Marginal Cost of Service study (MCOSS) prepared by Guidehouse. There are several conceptual and implementation problems with this MCOSS which doesn't allow the Energy Bureau to rely on in this proceeding. The sole non-zero marginal cost number identified by Guidehouse in their final table<sup>54</sup> (presented below,), which is for marginal energy costs, is not based on a forward-looking marginal cost technique<sup>55</sup> but rather a weighted average of the FCA and PPCA riders based on generation capacity. This technique for estimating marginal energy costs is discussed further below in Section IV.1 because of its relevance for the Energy Bureau's determination regarding a credit for wheeling customers.

<sup>51</sup> *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AO-2018-0004, Motion in Compliance with Resolution and Order Entered on May 13, 2021, filed on May 17, 2021, Exhibit A, Direct Testimony of Mrs. Margot Everett, page 6, lines 112-120, and Exhibit C, pp 6-10.

<sup>52</sup> *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AP-2018-0004, LUMA's Final Brief, August 10, 2021 ("LUMA Final Brief"), pp. 12-14.

<sup>53</sup> It is worth noting that residual costs only exist if the revenue from the calculated marginal cost components are less than the relevant portion of the revenue requirement. That may be the case in most situations, but not in every situation.

<sup>54</sup> LUMA's Final Brief, p. 14.

<sup>55</sup>Indeed, Guidehouse rejected as unreliable the only forward-looking marginal energy cost projections submitted in this proceeding, namely the Aurora production cost modeling from the Integrated Resource Plan proceeding. This is further discussed in Subsection IV.1.



**Table E-2. Cost-Reflective Rates**

	Generation Capacity	Energy*	Transmission Capacity	Distribution Capacity
	(\$/kW of CP)	(\$/kWh)	(\$/kW of CP)	(\$/kW of NCP)
Marginal Cost Rate	0	0.07984	0	0
Residual Rate	206.46	0.03234	96.26	207.06

\*Based on 2017 rates

As discussed further below, the Energy Bureau establishes no credit related to capacity costs for generation, transmission, or distribution in the tariffs for wheeling customers because there is not sufficient evidence in the record to support a non-zero value. However, because of the importance of these marginal capacity cost issues to potential further improvements to unbundling, as well as other proceedings, high-level guidance from the Energy Bureau on these topics is necessary and helpful.

First, the Energy Bureau understands that neither the LUMA's Final Brief<sup>56</sup> nor the supporting evidence from Guidehouse have reasonably characterized marginal capacity costs as only existing when load is growing. In the presence of load growth, the savings from load reductions may be estimated in the manner that Guidehouse described. However, focusing only on load growth is incorrect. Capacity costs can be incurred to maintain the ability to serve existing load, so less capacity may be needed if load is shrinking. During cross-examination, Everett admitted during cross-examination that retirement of generating units can save some costs ("selling land and some O&M costs would be saved" July 19, 2021 transcript at p. 17, lines 6-7). ).<sup>57</sup> The magnitude and nature of the marginal costs may depend on whether load is growing or shrinking and may not always be easy to estimate. There can be a difference between a decline in load and the addition of a new generation unit by an independent power producer. There are uncertainties associated with both of those circumstances, but the uncertainties are different.

Second, in defense of their position on marginal costs and load growth, LUMA and Guidehouse refer to the PREPA Integrated Resource Plan (IRP).<sup>58</sup> The essence of this argument, as attributed by LUMA to Witness Everett, is that "the IRP is a separate process and an input into the COSS, not part of the COSS."<sup>59</sup> In discovery, when asked to "[i]dentify any units that could be left out of service or allowed to shut down, if PREPA peak load were lower" and "[p]rovide the portion of the repair costs that would be avoided if the units ... were not brought back into service," LUMA responded that "[t]he details requested are part of the upstream processes to the COS study and not relevant to the COS study, which, as noted above, is designed to allocate expected costs rather than determine the level of cost to be recovered."<sup>60</sup> LUMA's argument appears to be that it cannot recognize costs reduced by load reduction that avoid rehabilitation or repair, because those actions were assumed in the IRP.

<sup>56</sup> LUMA's Final Brief, pp. 18-20.

<sup>57</sup> The further rationale offered in LUMA's Brief at page 20 regarding write offs for remaining book value and decommissioning costs do not redeem this argument, for four reasons. First, PREPA's rates are not currently constructed based on the book value of generation units, so write offs are meaningless in this context. Second, the relevant plants are quite old, so their net book value should be small. Third, the remaining book value (or outstanding debt) must be recovered regardless of whether a particular unit operates or not and should not be a consideration in the retirement decision. Fourth, while earlier retirement will likely accelerate decommissioning, PREPA, LUMA, and the Energy Bureau have recognized that many fossil units will be retired in the foreseeable future, so the timing of the decommissioning costs may not change much. Indeed, decommissioning may be delayed by lower load if the retired fossil sites need not be reused immediately.

<sup>58</sup> LUMA's Final Brief, p. 19.

<sup>59</sup> *Id.*

<sup>60</sup> LUMA Response: Requirement of Information Set #3 (#2 from PREB), NEPR-AP-2018-0004, Response AP-2018-0004-PREB-LUMA-ROI-SET03-2021-06-24-19, p. 26.



This argument mischaracterizes the general philosophy of the IRP Order<sup>61</sup> issued by the Energy Bureau on August 24, 2020, as well as many specifics. The IRP Order is a framework for decision-making going forward. While some scenarios are viewed as more likely and some elements of the IRP Order are considered “fixed”, there are many areas where PREPA (and now LUMA) are explicitly required to adjust to updated circumstances as warranted in the more specific proceedings coming out of the IRP Order. Nowhere is this more apparent than the discussion of retirement schedules for older oil-fired generating units, an issue directly relevant to the possibility of marginal cost savings from declining load. On p. 262 of the IRP Order, the retirement schedule for older oil-fired generating units depends on “specific reliability milestones: completion of new battery energy storage capacity, potential additional other peaking capacity, and obtaining DR<sup>62</sup> resources and peak load reduction through EE<sup>63</sup> provision.” This is further detailed on pages 271-72 of the IRP Order, where the Energy Bureau details several contingencies and updates required to rationally make these retirement decisions. Future work on marginal cost or avoided cost analysis should take these realities into account and should not hold the IRP Order as an independent and fixed input.

Third, while the discounted total investment method (DTIM) can be a reasonable way to estimate marginal capacity costs, an important element of DTIM is essentially a labeling exercise, where the utility is determining whether a particular investment is properly categorized as either marginal or non-marginal. While Guidehouse, and ultimately the information submitted by PREPA underlying the Guidehouse analysis, adopts more category labels<sup>64</sup>, the marginal capacity cost valuations are determined to be zero because none of the planned capacity investments are labeled as “marginal”. These labels were not litigated in this proceeding, but the Energy Bureau declines to endorse how they were used in the marginal cost analysis and does not consider them sufficiently informative to be useful in other contexts without additional consideration. The Energy Bureau is also open to other methods for determining marginal capacity costs.

#### **IV. Substantive Elements of Wheeling Tariff and Related Issues for Wheeling Customers and Retail Electricity Suppliers**

##### **1. PREPA/LUMA Tariff Rider for Wheeling Customers**

In this section, the Energy Bureau determines the elements of a tariff rider for wheeling customers. The key elements are:

- The structure of the wheeling rate –
  - A wheeling customer’s rate will be set at the existing rate minus a wheeling credit based on a reasonable estimate of marginal energy costs.
- The formula for the wheeling credit –
  - The credit will be set at the full fuel cost adjustment rider and full purchased power cost adjustment rider, which equals removing those portions of the rate from a customer’s bill.

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<sup>61</sup> Final Resolution and Order on the Puerto Rico Electric Power Authority’s Integrated Resource Plan, *In re. Review of the Puerto Rico Electric Power Authority Integrated Resource Plan*, Case No.: CEPR-AP-2018-0001, August 24, 2020. (“IRP Order”).

<sup>62</sup> Demand Response (“DR”).

<sup>63</sup> Energy Efficiency (“EE”).

<sup>64</sup> The labels of “Restoration,” “Resilience,” “Lifecycle Replacement,” or “Policy” are all determined to be non-marginal capacity investments under Guidehouse framework.



- Provisions around customer return to the provider of last resort –
  - The change of service date will either be the end of the customer's current billing period, or the day of default by the retail electricity supplier.
  - If the customer elects to return to the provider of last resort, the customer may not elect a new retail electricity supplier for 12 months. In other circumstances, the customer may not elect a new retail electricity supplier for 30 days.
- Wheeling customer metering requirements –
  - A wheeling customer must have hourly interval metering unless specific approval is received from the Energy Bureau for application of an appropriate load shape.
- Customer eligibility –
  - Only larger commercial and industrial customers will be eligible, as established in the Wheeling Regulation Docket<sup>65</sup>.

The Energy Bureau **FINDS** these provisions for a wheeling tariff rider, in conjunction with elements of a wheeling services agreement between LUMA and retail electricity suppliers determined in part below in this order and in part in future deliberations in this unbundling docket, provide a just and reasonable rate for wheeling customers, protect non-participating ratepayers as required by statute, and provide efficient incentives for retail electricity suppliers and independent power producers to serve their wheeling customers. This structure for a wheeling tariff rider is reasonably simple to understand, feasible to implement, and provides a starting point for future progress as data availability, analytical capabilities, planning approaches, and operational capabilities improve.

As detailed in the Resource Insight Report, a full unbundling study for Puerto Rico would separate PREPA's costs into several functional bundles: customer service (including metering and billing), distribution, transmission, and two types of generation costs—those that are avoidable if customers select different non-utility generation suppliers and those that are stranded costs. All costs not accounted for in any of those functions (such as management, legal, finance, regulatory, employee benefits and overheads) must be allocated among the functions. Adequate load and system data are necessary to then take that cost information and transform it into usable analysis.

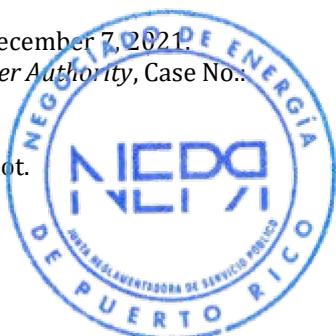
Unfortunately, a full granular unbundling of rates does not appear to be possible with the available data. The Resource Insight Report detailed the challenges to accomplishing a full unbundling study using embedded cost allocation methods. There are significant issues with the cost data, particularly given the ongoing bankruptcy proceedings, and the load and system data have substantial issues, particularly given the impacts of recent natural disasters on the Puerto Rico electric system. Guidehouse, as the consultant to first PREPA and now LUMA, attempted to do an unbundling cost study using marginal cost methods instead and had no more success. Guidehouse had similar difficulties accessing the required data and had some of the exact same difficulties due to recent natural disasters. The methodologies used by Guidehouse were not found to be sufficiently reliable by the Energy Bureau, and the results of the analyses were all either zero or essentially a request for placeholders for further analysis.

However, as originally detailed in the Energy Bureau orders<sup>66</sup>, the Energy Bureau chose to use a simpler approach to establish wheeling tariffs and other supporting regulatory requirements and programs.<sup>67</sup> Existing electricity rates, having been the subject of previous

<sup>65</sup> Resolution and Order, *In re: Regulation on Wheeling*, Case No.: CEPR-MI-2018-0010, December 7, 2021.

<sup>66</sup> Resolution and Order, *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AP-2018-0004, October 14, 2020 and December 23, 2020.

<sup>67</sup> While Regulation 9138 required a full unbundling, the revised Regulation 9351 does not.



adjudicatory proceedings, are just and reasonable and, by their nature and design, recover the relevant costs for PREPA and now LUMA.

The “default” tariff and structures laid out by the Energy Bureau in year 2020 started with existing rates for these reasons. While the alternative proposal put forward by PREPA, LUMA, and their consultant differed in a number of key respects, it also built upon the existing rate structures and did not propose a full redesign of rates. The Energy Bureau **DETERMINES** that the basic rate structure of the tariff rider for wheeling customers shall be a credit that reduces the otherwise applicable kWh charge for a given customer. In all other respects, a wheeling customer shall remain in the same customer class and continue paying their bills to PREPA and LUMA under the applicable rates. This means that a wheeling customer’s contributions to the costs covered by the remainder of their bill will be exactly the same as current practices and will not financially disadvantage customers that do not participate in wheeling.

However, the components and size of that credit was the primary substantive issue addressed in this proceeding. The default tariff laid out by the Energy Bureau in year 2020 would set the credit at the sum of the FCA and PPCA as a reasonable estimate of marginal energy supply costs and contemplated an additional generation capacity value credit as well. In response, Guidehouse advanced a different method for calculating the size of the credit for marginal energy supply, proposed that no credit would be included for marginal generation capacity value, and further proposed that a placeholder should be put into the tariff to cover ancillary services costs. Specifically, with respect to the credit of marginal energy supply, Guidehouse proposed that only a portion of the FCA and PPCA should be used to define credit, and prior period adjustments, also known as reconciliations, should be excluded.<sup>68</sup>

LUMA and Guidehouse state that the portions of the FCA and PPCA included in the relevant credit should be defined by the ratio of the capacity of the relevant units identified as “dispatchable” divided by the sum of all capacity.<sup>69</sup> As detailed in corrected tables submitted by LUMA and Guidehouse, the proposed percentage for the FCA is 96% and for the PPCA it is 38%.<sup>70</sup> Determining whether a particular unit or contract was considered “dispatchable” was defined by whether Guidehouse labeled it as either “thermal” or “peaking”. Other classifications, namely “baseload” and “renewable”, were determined to be non-dispatchable and thus not part of the percentage capacity calculation for the credit.

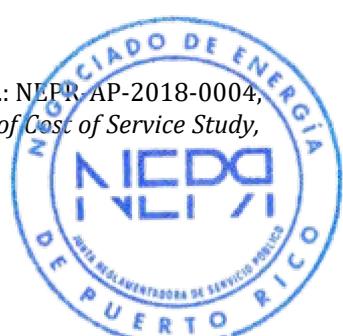
To be transparent, the Energy Bureau wishes to first provide a brief discussion of all the relevant costs that are covered by rates and could be subject to change due to the introduction of wheeling. The seven major categories are:

- Retail service costs (e.g., metering, billing, customer service) will not be avoided by wheeling, particularly if PREPA/LUMA is still responsible for providing those services. Any increase in complexity of these activities could be recovered from the retail electricity supplier, and not necessarily the wheeling customers.
- Distribution costs are unlikely to be affected by wheeling if a generation source is connected to the transmission system. If the generation source is connected to the distribution system, there are potential system impacts. Such impacts would likely not be exclusively due to generation participating in wheeling but could also be caused by other distribution-connected generation, such as generation eligible for net metering. Some, but not necessarily all, of these issues could be addressed in interconnection processes.

<sup>68</sup> LUMA’s Brief, pp. 27-30.

<sup>69</sup> *Id.*, p. 29.

<sup>70</sup> *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AP-2018-0004, Motion Submitting Exhibits Admitted into Evidence on July 19, 2021 and Revised Tables of Cost of Service Study, filed on July 21, 2021, Exhibit 1, Updated Table 2-12, p.6.



- Transmission costs might be affected by wheeling, depending on a wide range of circumstances. On one hand, the injection of power at a load center may reduce losses and capital requirements. On the other hand, if generation facilities are far from load centers, that could increase transmission congestion and line losses. Once again, these issues need not be specific to generation participating in wheeling but could also be caused by other transmission-connected generation, such as generation under new PPOAs<sup>71</sup>.
- Generation capacity costs are more likely to be reduced by introducing wheeling, but that depends on the nature of the generation. Since the Puerto Rico peak load occurs after dark and additional solar capacity will further reduce risk of insufficient daytime capacity, wheeling served by photovoltaic resources may be unlikely to reduce generation capacity costs. However, other types of resources (*e.g.*, thermal, storage) may be utilized so it does meaningfully contribute to resource adequacy requirements and thus lower overall capacity costs.
- Generation energy costs (*e.g.*, fuel and purchased power) will be avoided by wheeling, by reducing the dispatch of the most expensive power plants. Energy is supplied by operation of PREPA-owned generation facilities, whose fuel costs are recovered through the FCA, and purchased power, whose costs are recovered through the PPCA. In the near term, new generation for wheeling customers is likely to primarily allow PREPA to reduce its generation from existing fossil-fueled plants, and some purchased power costs may be reduced depending on the contract details.
- Ancillary services include several system operation practices necessary for the reliability and stability of the electric system (*e.g.*, frequency regulation, reactive power, and voltage control). Utilities have long provided ancillary services for all customers so it was bundled into electricity rates, but in some jurisdictions ancillary services have been turned into competitive market products. The impact of new generation for wheeling may not directly affect the need for ancillary services, however overall changes (such as more significant levels of intermittent resources) can indirectly impact the overall need for different types of ancillary services.
- The costs of complying with the renewable portfolio standard for the wheeling load will be transferred to the retail electricity supplier. The older version of the wheeling regulation did not specify how the renewable portfolio standard would apply. However, the new version of the wheeling regulation, specifies that, as required by statute, all retail electricity suppliers over the size threshold will be subject to the renewable portfolio standard, just like LUMA and PREPA.

The Energy Bureau **FINDS** there is not sufficient evidence in the record to establish specific charges or credits to wheeling customers for anything related to transmission costs, distribution costs, generation capacity costs, or ancillary services. These costs are all recovered from customers through existing rates, and since wheeling customers will continue to pay according to their existing rate structure, with the exception of a credit for fuel and purchased power, wheeling customers will contribute to these costs in the same manner they do right now.<sup>72</sup> As the data and structures for these categories of costs improve over time, the Energy Bureau is open to a variety of methods to improve generally applicable regulatory structures in these areas as well as charges and credits specific to wheeling. For example, a resource adequacy requirement could define the conditions under which new generation for wheeling lowers generation capacity costs. In addition, for several of these categories of costs, any new issues would not necessarily be caused solely by the addition of new generation for wheeling but could also be caused by new generation with direct contracts with PREPA and LUMA. Charges, like those associated with the interconnection

<sup>71</sup> Power Purchase and Operating Agreements ("PPOA").

<sup>72</sup>The exception to this, as discussed further below is the capacity elements of PPOAs that are recovered through the PPCA.



process, should be equally applicable to new generation facilities regardless of whether they are used for wheeling.

While there could be different ways to handle changes in retail service costs, the Energy Bureau **FINDS** that the best way is to incorporate any charges into the wheeling services agreement between LUMA and the retail electricity supplier. Any issues around the renewable portfolio standard have been addressed since, as required by statute, any significant retail electricity suppliers will be subject to the RPS and PREPA and LUMA will not be obligated to fulfill the RPS for wheeling customers.

The Energy Bureau **FINDS** that there is substantial evidence in the record to justify a credit to wheeling customers based on the FCA and PPCA and justified by marginal generation energy supply costs. The Guidehouse proposal to decompose the FCA and PPCA based on a capacity weighting for their preferred labeling of each generation unit is not any more based on marginal costs than the default option laid out by the Energy Bureau. Both are based on the FCA and PPCA, which are average costs computed using the projected costs for a given quarter as well as the reconciliation of the previous quarter's costs.

The most sophisticated marginal energy cost analysis discussed in the Unbundling Docket is the Aurora production cost modeling from the integrated resource plan proceeding. Guidehouse states they examined this Aurora modeling and do not trust its reliability. While the Energy Bureau does not necessarily agree with the stated reasons for distrusting this Aurora modeling, those projections are now several years old and do not get automatically updated based on current conditions. The Energy Bureau agrees those projections are not the best basis for determining a credit based on marginal generation energy costs.

However, the FCA and PPCA are substantially based on a three-month forward-looking projection of costs that is done for each quarterly filing by PREPA, and now LUMA. As shown in Attachment 3<sup>73</sup> to each of these filings, PREPA estimates the generation levels (in GWh) for each major unit, along with the relevant fuel and purchased power costs, defined in a variety of different units – both aggregate costs and cost per unit of energy (e.g., \$/MMBtu of fuel input or \$/MWh of purchased power). Examining this data illustrates several key points about the nature of average and marginal costs as well as the operation of the Puerto Rico electric system.

Table 1: Performance Data by Plant, 1Q2021

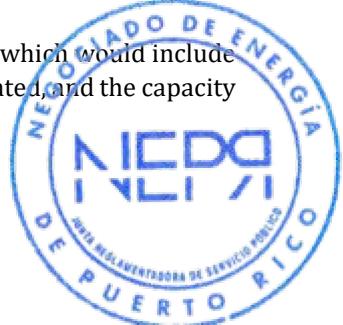
Plant	Fuel Type	Fuel and Haulage		Output GWh	Capacity Nameplate MW	Heat Rate Mbtu/MWh	\$/MWh	Capacity Factor
		MBtu	\$000					
Aguirre Steam	Residual	5,384	71,784	541	900	9.9	\$132.7	27.5%
Costa Sur	Gas	10,360	91,855	1,055	990	9.8	\$87.0	48.8%
Palo Seco	Residual	6,677	86,752	659	602	10.1	\$131.6	50.2%
San Juan Steam	Residual	1,447	18,799	137	400	10.6	\$137.6	15.6%
Aguirre CC	Diesel	197	3,121	17	610.7	11.7	\$184.9	1.3%
CTs & Mayaguez	Diesel	343	5,432	33	573.2	10.5	\$167.0	2.6%
Cambalache	Diesel	20	309	1	247.5	13.5	\$213.4	0.3%
San Juan 5&6	Gas	3,402	36,307	495	440	6.9	\$73.3	51.6%
EcoElectrica	Gas	7,485	66,32	957	534	7.8	\$69.3	82.1%
		0						

Sources: Attachment 3 from administrative notice filing, IN\_Dispatch Stack tab of Exhibit D<sup>74</sup>

As the above Table 1 shows, the diesel-fueled units have the highest fuel costs per MWh of generation and the lowest capacity factors, under 3%. The residual-fired units have intermediate fuel costs per MWh and intermediate capacity factors, from 16% to 50%. The

<sup>73</sup> *In re: The Unbundling of the Assets of the Puerto Rico Electric Power Authority*, Case No.: NEPR-AP-2018-0004, *Solicitud de Aprobación de Reconciliación de Diciembre 2020, Enero y Febrero 2021; Presentación de Factores para el Periodo de Abril a Junio 2021; Solicitud de Determinación de Confidencialidad*, March 16, 2021 ("March 16 Motion"), Attachment 3, pp. 256-257.

<sup>74</sup> The capacity values include all the units listed in the IN Dispatch Stack tab of Exhibit D, which would include some units that were out of service in April–June 2021. Hence, some capacities are overstated, and the capacity factors are lower than would be computed for the operable units in that quarter.



gas-fired resources have the lowest fuel costs per MWh and the highest capacity factors, from 50% to 80%.

This means that in some hours of this quarter, the availability of another generation source on the margin would allow the system operator to back down the most expensive diesel-fueled units. In those hours, the new generation facility saves much more than the average fuel cost. In other hours, where the most expensive generation facilities are not dispatched, new generation facilities only allow the system operator to save a lesser amount of money on the margin, allowing them to back down intermediate cost units. In some hours, even the intermediate cost generation may not be operating, and the system operator would back down the low-cost gas generation. But under these projections, at least half of the time and possibly far more, the marginal generation source will be one of the residual-fired units, whose cost per MWh ranges from \$131.6 to \$137.6 per MWh. That is higher than the sum of the PPCA and FCA (which include the average fuel cost and some capacity charges) in this quarter, namely \$125.06 per MWh.

This illustrates the key mathematical principle of how looking solely at the average costs represents an underestimate of the relevant marginal costs. At any hour, the marginal cost will be more expensive than the average of all units generating. However, the analysis by Guidehouse did not consider these basic principles in constructing their proposal for a wheeling credit. Instead, Guidehouse proposed to discount the FCA and PPCA adjustment factors using a capacity-weighting method. Under that method, for the FCA, Guidehouse determined whether each PREPA-owned unit should be classified as either "thermal" or "peaking" and thus be treated as dispatchable. The total of the PREPA-owned capacity (in MW) labeled as "dispatchable" is divided by all PREPA-owned capacity (in MW). That percentage is then multiplied by the FCA rate (in cents per kWh) to determine the FCA component of the credit. Similarly, for the PPCA, Guidehouse determined whether each PPOA unit should be classified as either "thermal" or "peaking" and thus be treated as dispatchable. The total of the PPOA capacity (in MW) labeled as "dispatchable" is divided by all PPOA capacity (in MW). That percentage is then multiplied by the PPCA rate (in cents per kWh) to determine the PPCA component of the credit.

The Energy Bureau believes this approach is not tied to marginal costs that is an improvement over the default approach for determining the credit. The capacity weighting method is based on several assumptions that are not well-justified. It does not account for the fact that different generators will have different marginal energy costs. It also does not account for the fact that each unit has different capacity factors and will be on the margin for differing amounts of time. Thus, the Energy Bureau **FINDS** that Guidehouse's capacity-weighting proposal does not represent an appropriate marginal energy cost estimate to define the credit for wheeling customers.

The basic function of the Guidehouse capacity-weighting approach appears to be an arbitrary discount to the value of the wheeling credit. Figure 1 below displays how the two proposals for a wheeling credit would have been valued for past FCA and PPCA values.<sup>75</sup>



<sup>75</sup> The default line on the chart is taken from the FCA and PPCA rates assembled in Attachment A of the February 25, 2022 Order regarding administrative notice. The Guidehouse line on the chart represents the application of the capacity weighting factors proposed by Guidehouse to the FCA and PPCA rates.

Figure 1



The average difference between the default approach and the original Guidehouse proposal is about 2.9 cents per kWh, and the difference ranges from 2 cents to 3.6 cents. Such a difference is significant, but not well justified based on the analysis presented by Guidehouse.

The Energy Bureau **FINDS** that establishing the formula for the wheeling credit as the sum of the full FCA and full PPCA is just and reasonable, and combined with the balancing charges and other provisions described below, will protect ratepayers who do not participate in wheeling from adverse financial impacts. Marginal energy costs are higher than average energy costs, this means that setting the credit based on an average cost calculation, as represented by the FCA and PPCA, will tend to be conservative, reducing the risk that non-participating customers could be impacted by wheeling. The PPCA does include some fixed costs, which do not vary with energy use and reduce the difference between marginal energy cost and the sum of FCA and PPCA. The reasonableness of the sum of FCA and PPCA as a proxy for marginal energy cost is an empirical matter, which the Energy Bureau has confirmed, as discussed above.

Besides the definition of the basic formula for the wheeling credit, LUMA and Guidehouse proposed that reconciliation adjustments should be removed from the calculation of the wheeling credit. As LUMA correctly notes in their LUMA Final Brief,<sup>76</sup> reconciliation adjustments concern costs previously incurred and are not forward-looking. However, one reason that reconciliation is necessary is that fuel and purchased power costs were underestimated in the previous period. But that may also mean that the previous wheeling credit provided was also an underestimate, which would be the case if marginal fuel costs was more expensive than projected. Including reconciliation costs in the credit could also correct for under compensation in the previous period, or sometimes, including a reconciliation credit in the wheeling credit could correct for overcompensation in the previous period. It is possible that including reconciliation adjustments in the wheeling credit would even out.

As a practical matter, the reconciliation adjustments for the PPCA have been relatively modest to date and have nearly evenly been an upward adjustment (5 times) and a decrease (6 times). In the December 31, 2020 resolution and order, covering January to March of

<sup>76</sup> LUMA's Final Brief, p. 30.



2021<sup>77</sup>, the PPCA reconciliation was a credit of nearly 1 cent. But in all other cases, the PPCA adjustment was less than half a cent in either direction.

For the FCA, the story is different. For the three quarters running from October 2019 to June 2020, the FCA reconciliation factor was substantial, ranging from 2.1 cents to 2.9 cents. Furthermore, 8 of the 11 reconciliation adjustments have been positive, and only three have been small credits. This could either reflect a systematic issue in the estimation of fuel costs or may reflect the specific circumstances that the current FCA mechanism has been in place.

The Energy Bureau believes that it is unnecessary to adjust the wheeling credit for reconciliations. Wheeling arrangements are likely to be long-term, to allow the RES<sup>78</sup> to acquire long-term power supply contracts with IPPs<sup>79</sup>. Over- and under-estimates of fuel and purchased-power costs are recovered from full-service customers over a period of months through the reconciliation mechanism. The same reconciliations would be applicable to the wheeling credit. The reconciliations are unlikely to distort incentives or allow gaming, since neither customers nor retail electricity suppliers will be able to time the adoption of wheeling to take advantage of reconciliations.

Besides the rate structure and formula for the credit decided above, two other elements of a tariff rider for wheeling customers must be decided in this proceeding, namely wheeling customer metering requirements and the issues around a wheeling customer's return to the provider of last resort. General customer eligibility for adopting the wheeling rider has been decided in the January 11, 2021 order in the Wheeling Regulation Docket.

Given the balancing charges discussed below, an additional customer eligibility requirement will be appropriate interval metering, with at a minimum hourly data recording, for the wheeling customer. Usually given that solely larger commercial and industrial customers will be initially eligible for wheeling, this should not be a significant barrier. However, if the otherwise eligible customers do not meet this requirement, a provision should be included for that customer to pay for the appropriate metering or petition the Energy Bureau with a recommendation for estimating an appropriate load shape.

Regarding a wheeling customer's return to the provider of last resort, the Energy Bureau believes that the LUMA and Guidehouse proposals are reasonable with respect to (1) the change of service date and (2) restrictions on a customer adopting a retail electricity supplier again after returning to the provider of last resort. While Exhibit D of the Everett's Testimony discussed these issues in the context of the wheeling services agreement for a retail electricity supplier, the issues are of sufficient direct importance to wheeling customers they should be stated in the tariff rider.

Regarding the change of service date, the Energy Bureau **DETERMINES** that it will be at the end of the customer's current billing period, except in case of a default by the retail electricity supplier. If a default occurs, the change of service date will be the day of default.<sup>80</sup> Regarding restrictions after a customer return to the provider of last resort, the proposal for a 12-month restriction on choosing a new retail electricity supplier if the customer chooses to return is appropriate. If the customer returns to the provider of last resort due to the action of the retail electricity supplier, because of the choice of the RES or default, a 30-day restriction is appropriate with the condition that the wheeling customer may not return to that specific RES.

Given the decision with respect to the structure of a wheeling customer's rate under the tariff rider, the credit formula, and the restriction after returning to the provider of last resort, the Energy Bureau **DETERMINES** that no special provisions need be made for a new rate upon

<sup>77</sup> Resolución y Orden, *In re: Tarifa Permanente de la Autoridad de Energía Eléctrica de Puerto Rico, Caso Núm.: NEPR-MI-2020-0001*, December 31, 2020.

<sup>78</sup> Retail Electricity Supplier ("RES").

<sup>79</sup> Independent Power Purchasers ("IPP").

<sup>80</sup> Everett Testimony, Exhibit D, p.23, Table 2-5.



return to the provider of last resort. Returning customers shall continue to be in the appropriate rate class and will again pay the full rate for that class with no credit applied. The restrictions on switching back and forth, including the 12-month restriction for any customer going back to the provider of last resort, should prevent any gaming issues. The Energy Bureau **DECLINES** to include any charges on wheeling customers in the tariff rider for switching back to the provider of last resort. The appropriate charges to retail electricity suppliers for customer switches can be one of the subjects for further discussion in the next stage of this proceeding, as well as any necessary provisions for notifications to the wheeling customers and retail electricity suppliers and provisions for settlement between LUMA and the retail electricity suppliers.

The Energy Bureau has provided a draft wheeling customer rider as Attachment A to this resolution and order. The Energy Bureau **ORDERS** LUMA to file a formal version of the wheeling customer rider as a compliance item by seven (7) days after the notification of this order with a description of and rationale for any changes proposed from this draft version. In addition, LUMA and PREPA will need to adjust the formulas for calculation of the FCA and PPCA, and other conforming changes in other parts of the tariff. The kWh sales used to calculate the FCA and PPCA should be the sum of the kWh sales to all non-wheeling customers, thus excluding sales to wheeling customers. Any net balancing charges paid by or to retail electricity suppliers should be considered in the PPCA in the subsequent quarterly filing, and any annual imbalance charges paid by retail electricity suppliers should be credited to the PPCA in the subsequent quarterly filing.

## *2. Generation Eligibility*

The Energy Bureau agrees with LUMA that implementing wheeling regarding any generation located behind the meter with customer load (also called self-supply) is too complex for this stage of the current proceeding. (LUMA Final Brief at p. 23). As discussed in the December 21, 2021 Resolution,<sup>81</sup> it is important to avoid confusion between wheeling arrangements and net metering arrangements.<sup>82</sup>

However, the Energy Bureau **FINDS** that any generating facility that satisfies the requirements to interconnect to either the transmission or distribution system should be able to participate in wheeling as an independent power producer, subject to the other conditions and requirements of the wheeling regulation and Energy Bureau orders.

This determination also simplifies the considerations regarding the rate structure and wheeling credit formula discussed above. Wheeling customers will continue to pay their full charges for all the elements of their rates, aside from the credit, just like every other customer in their rate class.

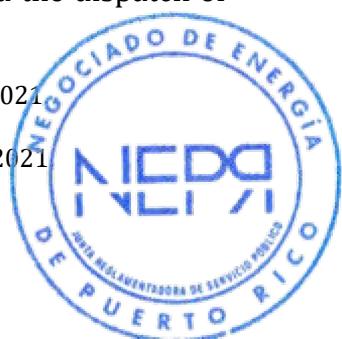
Last, to meet the needs of the balancing charges, every generation facility participating in wheeling must have interval metering, at a minimum hourly data recording.

## *3. Balancing Charges for Wheeling Services Agreement*

The wheeling credit formula, set at the full FCA and PPCA, removes a reasonable aggregate estimate of marginal energy costs from the retail rates of wheeling customers. However, a retail electricity supplier is unlikely to be able to perfectly match the energy required by its wheeling customers, likely providing less than customer load and losses at sometimes and more at others. A basic issue with the operation of the electric system and the dispatch of

<sup>81</sup>Resolution, *In re. Regulation on Wheeling*, Case No. CEPR-MI-2018-0010, December 21, 2021

<sup>82</sup> Resolution, *In re. Regulation on Wheeling*, Case No. CEPR-MI-2018-0010, December 21, 2021  
p. 4.



generation units is that the cost of the energy supplied by PREPA, and the value of energy supplied to PREPA, vary hourly, depending on PREPA load, the output of renewable generation and the availability of fossil generation, among other factors. The change in PREPA costs will be determined by the marginal unit, which would be turned up if PREPA's load were higher or turned down if PREPA's load were lower.

In many other jurisdictions with wheeling or similar retail supply access, a retail electricity supplier is able to buy or sell energy on an organized wholesale energy spot market. Since there is no such market available in Puerto Rico, an administrative system must serve a similar function. The Energy Bureau **AGREES** with LUMA that the purpose of the wheeling mechanism should be limited, and not a substitute for a wholesale market for independent power producers. However, those guardrails must provide a workable wheeling mechanism not unduly restrictive, punitive, or unpredictable for retail electricity suppliers. In this section, the Energy Bureau lays out two key determinations, namely the structure of monthly balancing charges and annual imbalance charges for wheeling services agreement, that will serve as the basis for future deliberations and stakeholder work in this Unbundling Docket.

The Energy Bureau **FINDS** that the Guidehouse proposal for monthly balancing charges and an annual true-up is unworkable for two related reasons. The monthly balancing charges using marginal energy costs from the Aurora production cost modeling is likely not sufficiently accurate<sup>83</sup>, and thus has too high a probability of high bills or credits for annual true ups for retail electricity suppliers. This combination appears to be both inefficient and inequitable and may prevent any retail electricity suppliers from entering the market. Instead, the Energy Bureau **DETERMINES** that a key goal of the next phase of this proceeding will be to create a feasible method for determining hourly marginal energy costs for the monthly balancing charges.

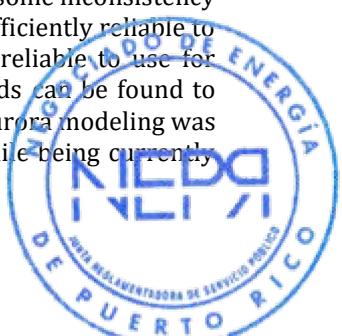
The Energy Bureau believes that it is LUMA's responsibility as the system operator to identify the marginal generation unit(s) in each hour and record the marginal energy cost based on fuel and variable O&M costs per MWh. LUMA may develop these marginal costs for period of less than one hour if its information systems support those computations. This actual marginal cost information should then be used to set the balancing charges.

In the absence of actual marginal cost information, LUMA could approximate hourly marginal energy costs. One possible method would be to use the average cost per MWh of fuel and variable O&M for the most expensive category of fossil generation plants operating at that hour, in the following order:

- the average cost per MWh for diesel-fueled plants, if any are generating in that hour,
- the average for residual-fueled plants, if any such units are generating and no diesel-fueled plants are operating in that hour, and
- the average cost per MWh for natural-gas-fired plants, including EcoElectrica, if no oil plants are generating.

The Energy Bureau **DETERMINES**, whichever method is used to determine marginal costs, if the hourly metered load and line losses of a RES's wheeling customers exceeds the output of its generation sources, LUMA shall charge the RES for excess load at the marginal hourly generation cost. If the hourly output of an RES's generation sources exceeds the metered load and line losses of its wheeling customers, LUMA shall credit the RES for excess generation at 95% of the marginal hourly generation cost as computed above. This 5% discount from the

<sup>83</sup> While different methods can often be used for different elements of a given issue, there is some inconsistency on the position of LUMA and Guidehouse that the Aurora production cost modeling is insufficiently reliable to use for estimation of marginal energy costs for the wheeling credit but is sufficiently reliable to use for balancing charges. In any case, the Energy Bureau believes that other reasonable methods can be found to determine both the wheeling credit and the balancing charges. It is also the case that the Aurora modeling was the best available estimate in the time and context that the modeling was performed, while being currently unsuited for the needs of the wheeling context.



marginal energy cost will provide another level of assurance that the non-participating customers are not burdened by the wheeling arrangements.

This hourly balancing process should allow development of retail wheeling, while protecting bundled customers. However, by itself this would also allow an independent power producer, through a retail electricity supplier, to sell most of its output to LUMA at 95% of hourly marginal energy costs, while providing only a token amount of energy to wheeling customers. It would also allow an RES to purchase all of its energy supply from LUMA on a spot basis. The Energy Bureau has not determined whether either arrangement would be in the public interest, and such an arrangement is beyond the reasonable scope of wheeling services. The wheeling regulations are intended to allow RESs to procure power from IPPs and serve wheeling customers, not to primarily sell to LUMA or purchase from LUMA.

Thus, in addition, the Energy Bureau **FINDS** there should be an additional mechanism to encourage retail electricity suppliers to match annual energy supply to their customers' annual energy load and losses, namely an annual imbalance charge. The Energy Bureau recognizes that the supply for an RES may vary from year to year, depending on the performance of renewables and the availability of equipment. As a RES builds its client base and supply portfolio, it will inevitably have more or less energy supply than it needs in some years. These practicalities should be recognized as wheeling develops over time in Puerto Rico, and the basic structures of the wheeling credit and hourly balancing charges are appropriately protective of non-participating customers. But the annual imbalance charge will serve an important purpose over time as guardrails on the overall program.

There is a major distinction between the default proposal for an annual imbalance charge and the version put forward by Guidehouse and LUMA. The default proposal would compute the annual imbalance as the sum of all over- and under-deliveries over the course of the year. To the extent that the retail electricity supplier over-provided energy in one hour and then under-provided energy in the next hour, those hourly imbalances would cancel one another out for the purposes of this computation. (The differences in the value of energy received from the RES and the value of energy delivered to the wheeling customers would be captured in the hourly balancing charges billed monthly.) The Guidehouse proposal would not allow hourly over- and under-deliveries to cancel out, instead taking the sum of the absolute value of each hour's difference between supply and load plus losses. A RES that supplied energy in a pattern different from its customers usage would be penalized, even if the RES provided more energy to LUMA at high-value times and its customers took more energy at low-cost times. In a mathematical formula, this change appears quite subtle, but the practical importance is quite large. The Energy Bureau finds that the Guidehouse proposal for annual imbalance charges would not be cost-based, would punish suppliers for appropriate performance and thus would be unreasonably restrictive for the development of wheeling in Puerto Rico. Thus, the Energy Bureau **ADOPTS** the structure of the default proposal for the annual imbalance charge.

While the Energy Bureau is determining the basic structure of this annual imbalance charge in this order, other important details can be deliberated in the next phase of this proceeding. That includes the formulas for an imbalance dead zone, where there would be no annual charge, and how that evolves over time, as well as the specific charge level. These will be an important provision of the wheeling services agreement to be created in the processes discussed below.

Last, given the development of an appropriate method for determination of hourly marginal energy costs monthly and the structure of the annual imbalance charges, the Energy Bureau finds there is no need for any additional annual true-up charges as proposed by LUMA and Guidehouse. Such an annual true-up can be an unreasonable surprise bill for retail electricity suppliers and should be avoided as a policy matter. As additional refinements are made to Puerto Rico's overall electricity regulatory framework and new considerations are built into planning, system operation, and pricing, these overall mechanisms for wheeling can and should evolve. However, the Energy Bureau takes an important step in implementing reasonably simple, fair, and accurate wheeling mechanisms in this resolution and order.



## V. Further Processes to Establish Wheeling Services Agreements and Retail Supply Agreements

### 1. *Wheeling Services Agreements*

Section 6.02 of Regulation 9351 requires a stakeholder input process to ensure that a standard Wheeling Services Agreement is developed, along with the subject matter for such an agreement as well as the application form for a wheeling services agreement. As a wheeling services agreement is an important part of the overall public policy framework and has important implications for nonparticipating customers, the Energy Bureau intends to proceed expeditiously to determine the major policy elements of the standard wheeling services agreement and set a timeline for LUMA to file a draft wheeling services agreement and draft wheeling services agreement application form for review by the Energy Bureau. As a next step in this process, the Energy Bureau is requesting stakeholder comments by April 25, 2022 on the relevant issues for a wheeling services agreement as laid out in Attachment B to this resolution and order. In addition, the Energy Bureau is scheduling a technical conference to discuss these issues on May 17, 2022. As a part of the technical conference, the Energy Bureau **ORDERS** LUMA to provide a briefing on methods used for dispatching generation and the availability of the relevant hourly data on actual generation dispatch. Further topics and presentations for that technical conference may be requested later.

### 2. *Retail Supply Agreements*

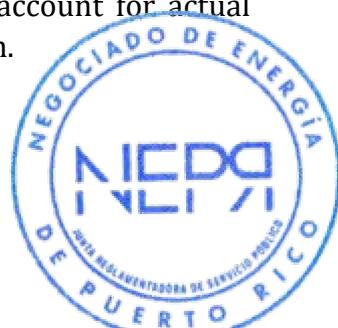
In contrast to the wheeling services agreement, the retail supply agreement between a wheeling customer and a retail electricity supplier does not necessarily entail the same high level of public policy concerns as the wheeling services agreement, particularly because eligibility for wheeling is limited to large commercial and industrial customers. Retail supply agreements are a private contract between the wheeling customer and the retail electricity supplier with a limited impact on non-participating customers. The Energy Bureau is considering opening a new non adjudicative procedure to develop any standard retail supply agreements, subject to stakeholder comments. Until further directives from the Energy Bureau, all documents required by this Final Resolution and Order shall be filed in this proceeding.

## VI. Findings of Fact and Conclusions of Law

### Findings of Fact:

1. The marginal cost of service study put forward by Guidehouse has significant flaws, including a failure to consider cost reductions due to reduced demand.
2. Marginal energy generation costs tend to be higher than average fuel and purchased power costs, as demonstrated by the relationship between projected fuel and purchased power costs per MWh for individual units and the actual FCA and PPCA rates based on average costs.

The capacity-weighting method proposed by Guidehouse is not a reasonable way to analyze marginal energy generation costs, because it does not account for actual marginal generation costs and other realities of the electric system.



3. There is not sufficient evidence in the administrative record to establish specific charges or credits related to generation capacity costs, transmission costs, distribution costs or ancillary services.
4. Limiting generation eligibility to facilities directly connected to the transmission and distribution system makes it unnecessary to consider issues related to behind-the-meter generation, such as standby rates and partial requirements tariffs.

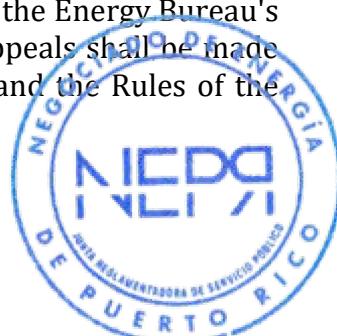
Conclusions of Law:

1. Using existing rates as the basis for unbundling and wheeling tariffs is a simple and feasible method that can evolve in the future.
2. Establishing a wheeling credit defined by the sum of the fuel cost adjustment and purchased power cost adjustment is just and reasonable and satisfies the requirements of Article 9 of Regulation 9351.
3. This definition of a wheeling credit, in conjunction with hourly balancing charges and annual imbalance charges, will protect non-participating ratepayers from adverse financial consequences as required by Act 17-2019, § 5.26.
4. Further terms and conditions around metering requirements and return to the provider of last resort pursuant to Section 3.03 of Regulation 9351, as described above, are reasonable and necessary to establish a fair and efficient framework for a wheeling customer rider.

Any party adversely affected by this Final Resolution and Order may file a motion for reconsideration before the Energy Bureau, pursuant to Section 11.01 of Regulation 8543 and the applicable provisions of Act 38-2017, as amended, known as the Uniform Administrative Procedure Act of the Government of Puerto Rico ("LPAU", for its Spanish acronym). Said motion must be filed within twenty (20) days from the date in which copy of this Final Resolution and Order is notified and such notice is filed in the case docket by the Energy Bureau's Clerk. Any motion for reconsideration must be filed at the Energy Bureau Clerk's Office, located at the Seaborne Building, 268 Muñoz Rivera Ave., San Juan, PR 00918. Copy of the motion as filed must be sent by email to all the parties notified of this Final Resolution and Order within the twenty (20) days established herein.

The Energy Bureau shall have fifteen (15) days from the date in which such motion is filed to consider it. If the Energy Bureau rejects it forthright or fails to consider it within said period of fifteen (15) days, the term to seek judicial review shall begin on the date in which the Energy Bureau notifies its rejection or the date in which said fifteen (15) days expire, whichever occurs first. If the Energy Bureau considers the motion, the term to seek judicial review shall commence from the date a copy of the notice of the Energy Bureau's resolution definitively resolving the motion for reconsideration is notified and copy of such notice is filed by the Energy Bureau Clerk. The Energy Bureau shall have ninety (90) days from the date the motion for reconsideration was filed to issue a final determination. If the Energy Bureau considers the motion for reconsideration but fails to take any action with respect to such motion within ninety (90) days of its filing, it shall lose jurisdiction and the term to seek judicial review shall commence upon the expiration of said ninety (90) day term, unless the Energy Bureau, for just cause and within those ninety (90) days, extends the term to resolve for a period that shall not exceed thirty (30) days.

In the alternative, any affected party may file a petition for review before the Court of Appeals within a term of thirty (30) days from the date a copy of the notice of this Final Resolution and Order was notified and copy of such notice was filed by the Energy Bureau's Clerk. Filing and notice of a petition for review before the Court of Appeals shall be made pursuant to the applicable provisions of Regulation 8543, the LPAU and the Rules of the Puerto Rico Court of Appeals.



Be it notified and published.

Edison Avilés Deliz  
Chairman

Ferdinand A. Ramos Soegaard  
Associate Commissioner

Lillian Mateo Santos  
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 March 24, 2022. Associate Commissioner Ángel R. Rivera de la Cruz did not intervene. I also certify that on March 24, 2022 a copy of this Final Resolution and Order was notified by electronic mail to the following: astrid.rodriguez@prepa.com, jorge.ruiz@prepa.com, margarita.mercado@us.dlapiper.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; meghan.semiao@longroadenergy.com; tracy.deguise@everstreamcapital.com; agraitfe@agraitlawpr.com; h.bobea@fonrochepr.com; ramonluisnieves@rlnlegal.com; hrivera@jrsp.pr.gov; info@sesapr.org; yan.oquendo@ddec.pr.gov; acarbo@edf.org; pjcleanenergy@gmail.com; nicolas@dexgrid.io; javrúa@gmail.com; JavRua@sesapr.org; lmartinez@nrdc.org; thomas.quasius@aptim.com; rtorbert@rmi.org; 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; jmenen666@gmail.com; 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; eduardo.rivera@afi.pr.gov; leonardo.torres@afi.pr.gov; carsantini@gmail.com; directoralcaldes@gmail.com; imolina@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; Eric.Britton@hq.doe.gov; energiaverdepr@gmail.com; Arnaldo.serrano@aes.com; gustavo.giraldo@aes.com; accounting@everstreamcapital.com; mgrpcorp@gmail.com; jczayas@landfillpr.com; Jeanna.steele@sunrun.com; mildred@liga.coop; rodrigomasses@gmail.com; presidencia-secretarias@seguros有多重签名重叠，无法一一列出所有电子邮件地址。



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ialicea@sanjuanciudadpatria.com; alescudero@sanjuanciudadpatria.com;  
oabayamon@yahoo.com; quinonesporrata@qaclaw.com; equinones@qaclaw.com;  
vcandelario@qaclaw.com

I also certify that today, March 24, 2022, I have proceeded with the filing of the Final Resolution and Order issued by the Puerto Rico Energy Bureau.

For the record, I sign this in San Juan, Puerto Rico, today March 24, 2022.



Sonia Seda Gatztambide  
Clerk



**Attachment A**

**WHEELING CUSTOMER RIDER**

**DESIGNATION:**

WCR

**AVAILABLE:**

Everywhere in Puerto Rico

**CUSTOMER ELIGIBILITY:**

Large commercial and industrial customers (both, 250 kVA and over) with appropriate interval metering registering usage on an hourly basis at a minimum who have elected to receive supply from an eligible retail electricity supplier. If an otherwise eligible customer does not currently satisfy the metering requirement, that customer may pay for such metering or petition the Energy Bureau for specific approval of an estimated customer load shape as an alternative means of satisfying the metering requirement.

**WHEELING CUSTOMER RATES:**

The rates for an eligible wheeling customer pursuant to this rider are the same as the otherwise applicable rates for that customer with the exception that the FCA and PPCA shall no longer be charged to that customer. All other charges will continue to apply, and the wheeling customer will be billed normally for those charges.

**PROVISIONS FOR RETURN TO THE PROVIDER OF LAST RESORT:**

When a wheeling customer returns to the provider of last resort, the change of service date shall be the end of the customer's current billing period, except in case of a default by the retail electricity supplier. With such a default, the change of service date shall be the day of default.

A wheeling customer electing to return to the provider of last resort shall not be eligible to elect a new retail electricity supplier for a 12-month period after the change of service date. A wheeling customer shall be eligible to transfer from one retail electricity supplier to another without penalty provided there is no interim period where the wheeling customer has no supplier.

A wheeling customer that returns to the provider of last resort due to the action of the retail electricity supplier, either the choice of the supplier or default, shall not be eligible to elect a new retail electricity supplier for 30 days after the change of service date. However, at the end of the 30-day restriction, that wheeling customer may not return to the same retail electricity supplier or any affiliate of that same supplier.



## Attachment B

### Questions for Stakeholder Comment

#### Wheeling Services Agreement and Application Form

Subsection 6.03(A) of Regulation 9351 requires that a wheeling services agreement address at least the following:

- Terms, conditions, and charges for wheeling service.
- A description of the pricing and settlement process for under- and over-deliveries.
- Conditions for ensuring that a Retail Electricity Supplier has sufficient generation [...].
- The arrangements for metering, data exchange and billing, and charges thereof.
- The process for addressing any default in the provision of energy to a Wheeling Customer; and
- Any other parameter established by the Energy Bureau through order.

Several of the relevant issues for the wheeling services agreement have been established by today's resolution and order, including the general structure of pricing for under- and over-deliveries (namely hourly balancing charges and annual imbalance charges) as well as metering requirements for wheeling customers and independent power producers participating in wheeling. Other issues were raised in this proceeding to date but were not decided in today's resolution and order, such as:

- Administrative charges to be paid by the retail electricity supplier;
- Credit requirements, payment terms, and late payment penalties for retail electricity suppliers;
- Customer enrollment and departure processes;
- Line losses adders; and
- The need for generation scheduling.

Subsection 6.04 of Regulation 9351 requires that a wheeling services agreement application form requires at least the following:

- Geographic location and interconnection point of the independent power producer facilities participating in wheeling;
- Estimated quantity of power to be wheeled;
- Anticipated wheeling customer locations to the extent available; and
- Proposed commencement date and anticipated duration of the wheeling arrangement.

1. Please provide any general comments on the list of requirements for a wheeling services agreement contained in Regulation 9351 and the additional issues raised specifically in this docket.
2. Please provide any comments on the potential methods for establishing hourly balancing charges to be billed to retail electricity suppliers on a monthly basis as discussed in today's resolution and order on pages [insert].
3. Please comment on the design of annual imbalance charges for retail electricity suppliers.
  - a. How should the imbalance charge vary with the annual difference between energy a supplier delivers to the LUMA system, and the energy required by its customers?
  - b. What is the amount of imbalance ("dead zone") should be allowed before the imbalance charge is triggered?
  - c. Should the phase-in for an imbalance "dead zone" be by calendar year or should the phase-in be separate for each retail electricity supplier?



4. See pages 20-21 of Exhibit D (Proposal for Uniform Services Agreement Report by Guidehouse) to the Motion in Compliance with Resolution and Order entered on May 13, 2021. Is the proposal for different collateral requirements depending on a retail electricity supplier's credit rating appropriate? What are the appropriate percentages of collateral that should be required depending on the entity's credit rating?
5. Please describe any factors or information that should be considered in establishing cost-based administrative charges to retail electricity suppliers (e.g., per month for each retail electricity suppliers and per-month for each wheeling customer account).
6. Please describe any other issues that the Energy Bureau should consider in the creation of a wheeling services agreement.
7. Please provide any general comments that the Energy Bureau should consider in establishing a wheeling services agreement application form.
8. Please provide any comments on the establishment of a nonrefundable fee to be paid with the wheeling services agreement application form.

### **Retail Supply Agreement**

1. Are there any compelling reasons to establish a standard retail supply agreement at the current stage of this process?
2. If the Energy Bureau waits to establish a standard retail supply agreement, should there be a filing requirement for retail supply agreements entered into between wheeling customers and retail electricity suppliers?
3. Should any preliminary requirements for retail supply agreements be determined before the Energy Bureau establishes a standard retail supply agreement? If so, what should those preliminary requirements be?

