

**GOVERNMENT OF PUERTO RICO  
PUBLIC SERVICE REGULATORY BOARD  
ENERGY BUREAU  
SAN JUAN, PUERTO RICO**

**NEPR**

**Received:**

**Sep 13, 2020**

**5:04 PM**

<b>IN RE: REVIEW OF THE PUERTO RICO ELECTRIC POWER AUTHORITY INTEGRATED RESOURCE PLAN</b>	<b>CASE NO.: CEPR-AP-2018-0001</b>  <b>SUBJECT: Final Resolution and Order on the Puerto Rico Electric Power Authority's Integrated Resource Plan.</b>
---	--

**MOTION REQUESTING PARTIAL RECONSIDERATION OF FINAL RESOLUTION**

TO THE HONORABLE ENERGY BUREAU:

COMES NOW Empire Gas Company, Inc. ("Empire") by its undersigned counsel and respectfully states and prays:

1. On August 24, 2020, the Puerto Rico Energy Bureau issued its final Resolution and Order relating to the captioned case. ("Resolution")
2. The Resolution provided for, among other items, the following:
  - a. The Bureau did not approve, PREPA's proposed natural gas infrastructure (#943, page 242, #565 page 159)
  - b. The Bureau determined that PREPA has not supported its claim that additional natural gas infrastructure at Mayagüez and Yabucoa are needed, and DETERMINED that it is unreasonable in this IRP cycle to consider expenditures for such LNG infrastructure as part of this IRPs preferred resource plan. The Energy Bureau found that it is not reasonable to plan for such backup gas delivery locations. (#943, page 242, #109 page 17, #641 at page 197).
  - c. The Bureau DENIED the conversion of the Mayagüez 220 MW units to burn natural gas, however, the Energy Bureau ORDERED PREPA to retain the units since they are a recent

vintage (2009) generation resource, and there is no expectation that their economic or age-related retirement might occur during the Modified Action Plan period. (#109 page 17, #878 page 272).

2. Empire respectfully request a partial reconsideration of the Bureau's decisions to discard liquefied natural gas ("LNG") infrastructure at Mayagüez/Yabucoa sites as well as the conversion of the Mayagüez and other peaker's to LNG ; and request that such determination be amended, as well as its findings of facts, in order to approve: a) the construction of Synthetic Natural Gas ("SNG) and/or liquefied petroleum gas ("LPG" or "Propane") infrastructure at such sites at a fraction of the cost and construction time of natural gas infrastructure and; b) encouraging the immediate conversion of the Mayagüez and other PREPA peaker's running on diesel to SNG/LPG. Such request is based on the following uncontested adjudicative facts as stated in Mr. Ramón González Simounet's written testimony, hereby incorporated by reference:

a) LPG is a clean and environmentally friendly fuel. Contrary to natural gas, it is not classified as a greenhouse gas. In terms of Co<sub>2</sub> emissions, its impact is slightly more than LNG but substantially lower than fuel oils. LPG emits 0,23 KgCO<sub>2</sub>/KW<sub>r</sub> versus 0,2019 for natural gas. Diesel emissions are much higher, at 0,28 KgCO<sub>2</sub>/KW<sub>r</sub>. (Empire Gas Final Brief Section II, pages 1-6)

b) Synthetic Natural Gas ("SNG") is produced by mixing propane and air. It is fully interchangeable and compatible with natural gas. According to the most common specific method to mediate the exchange of combustible gases, the so-called "*Wobbe Index*", (an indicator of the interchangeability of gas fuels) LPG can easily be converted into SNG by a simple air dosing process; in which approximately 45% of atmospheric air is mixed with 55% LPG vapor. (Empire Gas Final Brief Section II, pages 1-6)

c) Propane prices have declined, not increased as shown in the IRP. Spot prices for propane

decreased from January 2018 at \$0.90 per gallon to October 2019 at \$0.46 per gallon. The IHS Market forecast of propane prices through 2030 confirm this finding. (#521-526, pages 146-147) (Empire Gas Final Brief Section II, pages 1-6)

d) At current prices, a unit running on LPG/SNG, considering a Mount Belview cost per gallon of \$0.46, (EIA Mont Belview Spot) based on an energy contents of 91,333 BTU; the current delivered cost to PREPA per million BTU's would be close to 9-10\$ MM/BTU. According to the IRP, Exhibit 4-1, Summary of Existing Plant Characteristics and Performance, the \$MM/BTU of existing plants running on diesel like Mayagüez and Cambalache show \$MM/BTU'S rates of \$17.20 and \$16.40. (Empire Gas Final Brief Section II, pages 1-6) This spread indicates a difference in excess of 30%.

e) construction cost and time of completion of a LPG/SNG storage facility is substantially less than for a natural gas facility. Storage and port facilities would be available in much shorter periods of time than natural gas. Having a permanent storage facility onsite would eliminate the risk of depending on self contained LNG tank trucks; entirely dependent on maritime transport. (Empire Gas Final Brief Section II, pages 1-6)

f). LPG/SNG is immediately available and there are enough ports and storage facilities to handle any prospective increase in demand. (Empire Gas Final Brief Section II, pages 1-6)

g) SNG/LPG is a more appropriate fuel for use in peaking units because of Puerto Rico's limited natural gas infrastructure, the relatively advanced state of LPG infrastructure and markets on the Island (relative to natural gas), and the logistical challenges of delivering LNG gas to locations around the Island by truck. (#797 page 245-46)

3. Empire further requests that the IRP, as well as the findings of facts, shall be amended (including but not limited to, sections 7.1.2.13, Alternative Fuels and 7.1.2.14 of the IRP, No New Natural Gas Infrastructure) to conclude that LPG/SNG is a viable and practical fuel for PREPA'S need for a clean, affordable fuel in order to fulfill the IRP's policy objective. Section

7.1.2.14 states that: “If additional natural gas infrastructure and supplies cannot be developed, one option is to maintain the status quo.” This is not a correct conclusion; since SNG/LPG provides for a least costly and more readily available alternative to new costly natural gas infrastructure. Its adoption would facilitate PREPA’s compliance with MATS requirements; while at the same time reducing electricity generation costs and fostering our economic growth by using a local industry to supply a required fuel to PREPA or its successor. The following factual reasons support such amendment:

a) The LPG market operates on a supply side, with a low cost forecast for the next 10-15 years; it is available and ready to immediately serve Puerto Rico’s immediate needs for a safe, economic and environmental friendly fuel as a replacement for fuel oils, particularly diesel fuel.

b) LPG/SNG is a safe and clean fuel, and it is NOT classified as a greenhouse gas. Natural gas, mainly composed of methane, is.

c) LPG/SNG storage cost and development time are a fraction of those required by LNG.

d) LPG/SNG infrastructure and market have been developed in Puerto Rico for decades, and the local LPG industry is ready to serve PREPA’s needs; and at the same time, helping our local economy’s growth. (Empire Gas Final Brief)

4. Each and every adjudicative fact presented by Empire in its testimony has not been objected nor has any opposing evidence been presented to dispute such facts. Therefore, we strongly believe that the Bureau should incorporate in its findings of fact and in its conclusions in the IRP, the concept that SNG/LPG is a viable alternative fuel to both diesel (at a higher cost and with a heavy environmental impact) and LNG (not immediately available and requiring a large investment with an uncertain future). The proposed fuel, LPG/SNG has been available in Puerto Rico for almost at least 7 decades and it is well known by the local population.

5. If the Mayagüez, Yabucoa and other peak units continue to burn diesel fuel; such decision would have an adverse effect on the Puerto Rico energy consumer; in terms of higher energy prices and environmental contamination. It will also place a burden for PREPA's compliance with Federal MATS emission standards. Thus, if the existing Mayagüez units are able to run on LNG, converting them to SNG would be easy simply by adding the air mixing machinery in site and installing an LPG tank. Other units could be converted to LPG or natural gas (enabling them to run on SNG) at a reasonable cost.

6. Our next door neighbors at the U.S. Virgin Islands are using LPG precisely to reduce fuel costs at small plants and to improve the environment. As recently stated by the U.S. Energy Information Administration: "The U.S. Virgin Islands Water and Power Authority is increasing propane use at its electric generating facilities to reduce its imported fuel costs and carbon dioxide emissions." (see <https://www.eia.gov/state/?sid=VQ>) See also the 2016 article published by John Needham in Butane-Propane News: "*CLEAN, AFFORDABLE POWER ARRIVES ON U.S. VIRGIN ISLANDS*".

(<https://bpnews.com/index.php/publications/magazine/17-feature-articles/870-clean-affordable-power-arrives-on-u-s-virgin-islands>)

7. For some reason we have failed to grasp the potential of the LPG/SNG alternative as an immediate substitute for higher cost and environmentally unfriendly diesel fuel-oil and for natural gas given the uncertainty of new natural gas infrastructure. This alternative is here, available and ready to be used. A local industry would be sponsored by PREPA; boosting our economy and social development. More jobs would be immediately created while immediately benefiting our energy consumers both in economic and environmental terms. The IRP should clearly articulate, provide for the adoption of LPG/SNG as an alternative fuel to diesel/natural gas.

THEREFORE, Empire respectfully requests the Bureau to partially reconsider its

resolution as hereby requested.

Respectfully submitted

In San Juan, PR this 13 of September 2020.

CERTIFICATION I hereby certify that this motion was electronically filed at [www.radicacion.energia.pr.gov](http://www.radicacion.energia.pr.gov) and a copy was notified by electronic mail to:

astrid.rodriguez@prepa.com; jorge.ruiz@prepa.com; n-vazquez@aeepr.com;  
caquino@prepa.com; mvazquez@diazvaz.law; axel.colon@aes.com;  
kbolanos@diazvaz.law; acarbo@edf.org; javier.ruajovet@sunrun.com;  
mgrpcorp@gmail.com; pedrosaade5@gmail.com; rmurthy@earthjustice.org;  
carlos.reyes@ecoelectrica.com; ccf@tcmrslaw.com; victorluisgonzalez@yahoo.com;  
hrivera@oipc.pr.gov; jrivera@cnslpr.com; acasellas@amgprlaw.com;  
corey.brady@weil.com; paul.demoudt@shell.com; escott@ferraiuoli.com;  
sproctor@huntonak.com; agraitfe@agraitlawpr.com; cfl@mcvpr.com;  
sierra@arctas.com; tonytorres2366@gmail.com; apagan@mpmlawpr.com;  
info@liga.coop; amaneser2020@gmail.com; sboxerman@sidley.com;  
bmundel@sidley.com; gnr@mcvpr.com; rstgo2@gmail.com; larroyo@earthjustice.org;  
jluebkmann@earthjustice.org; loliver@amgprlaw.com; epo@amgprlaw.com;  
robert.berezin@weil.com; marcia.goldstein@weil.com; jonathan.polkes@weil.com;  
gregory.silbert@weil.com; maortiz@lvprlaw.com; rnegrone@dnlawpr.com;  
castrodieppalaw@gmail.com; voxpopulix@gmail.com; paul.demoudt@shell.com;  
GiaCribbs@huntonak.com; aconer.pr@gmail.com; rtorbert@rmi.org;  
apagan@mpmlawpr.com; sboxerman@sidley.com; bmundel@sidley.com;  
legal@energia.pr.gov; sseda@jrtpr.pr.gov; wcordero@energia.pr.gov;  
secretaria@energia.pr.gov; sugarte@energia.pr.gov; viacaron@energia.pr.gov;  
ireyes@energia.pr.gov; bmulero@energia.pr.gov; nnunez@energia.pr.gov;  
gmaldonado@energia.pr.gov; asanz@energia.pr.gov; csanchez@energia.pr.gov;  
electricity-contact@rmi.org, outreach@rmi.org, mpietrantoni@mpmlawpr.com,

s/MANUEL FERNANDEZ MEJIAS  
TSPR #8170  
PO BOX 725  
Guaynabo, PR 00970-0725  
Tel. 787 462-3502  
[manuelgabrielfernandez@gmail.com](mailto:manuelgabrielfernandez@gmail.com)