

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

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IN RE:

REVIEW OF THE PUERTO RICO ELECTRIC
POWER AUTHORITY INTEGRATED
RESOURCE PLAN

CASE NO.: CEPR-AP-2018-0001

**SUBJECT: DIRECT TESTIMONY
OF GERARDO COSME NÚÑEZ,
PE, CPI.**

INFORMATIVE MOTION FILING INTERVENOR'S WRITTEN TESTIMONY

COMES NOW, INDEPENDENT CONSUMER PROTECTION OFFICE (ICPO),
through the undersigned legal counsels, respectfully state:

1. The ICPO hereby submits the attached written testimony of Engineer Gerardo Cosme Núñez.

IT IS HEREBY CERTIFIED that the foregoing was sent to the Puerto Rico Energy Bureau via email to the following addresses: radicacion.energia.pr.gov; secretaria@energia.pr.gov; legal@energia.pr.gov; viacaron@energia.pr.gov.

CERTIFICATION

I also certify that on October 23, 2019 a copy of this Informative Motion was notified by electronic mail to: astrid.rodriguez@prepa.com, jorge.ruiz@prepa.com, nitzavazquez@aeepr.com, c-aquino@prepa.com, mvazquez@diazvaz.law, kbolanos@diazvaz.law, acarbo@edf.org, javier.ruajovet@sunrun.com, pedrosaade5@gmail.com, rmurthy@earthjustice.org, carlos.reyes@ecoelectrica.com, ccf@tcmrslaw.com, victorluisgonzalez@yahoo.com, aconer.pr@gmail.com, mgrpcorp@gmail.com, manuelgabrielfernandez@gmail.com, acasellas@amgprlaw.com, corey.brady@weil.com, maortiz@lvprlaw.com, rnegron@dnlawpr.com, axel.colon@aes.com, paul.demoudt@shell.com, escott@ferraiuoli.com, sproctor@huntonak.com, agraifte@agraitlawpr.com, castrodieppalaw@gmail.com, voxpopulix@gmail.com, cfl@mcvpr.com, sierra@arctas.com, tonytorres2366@gmail.com,

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Respectfully submitted in San Juan, Puerto Rico, on October 23, 2019.

OIPC

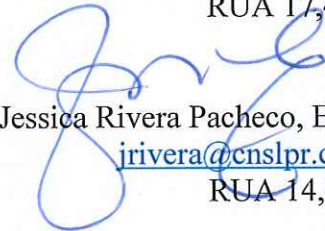
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**SUBJECT: DIRECT TESTIMONY
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PE, CPI.**

Direct Testimony of

GERARDO COSME NÚÑEZ, PE, CPI

Independent Consumer Protection Office ("ICPO")
October 23, 2019

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1 **I. INTRODUCTION**

2
3 **A. WITNESS IDENTIFICATION**

4
5 **Q. Please state your name, title, employer and business address.**

6
7 A. My name is Gerardo Cosme Núñez, professional engineer, and engineering
8 consultant. My business address is C-28 Marginal Street, Ext. Forest Hills,
9 Bayamón, Puerto Rico.

10
11 **Q. For the record, could you mention some of your educational and professional**
12 **qualifications, experience and certifications?**

13
14 A. I am a professional engineer with 25 years of experience in the energy industry. I
15 have provided services in regulatory, technical and practical matters, both locally
16 and internationally. I also worked as a consultant on energy matters for the Energy
17 Affairs Administration currently known as the Commonwealth Energy Public
18 Policy Office (CEPPO). I am an active member of various associations such as the
19 Puerto Rico Chamber of Commerce and the Puerto Rico Association of Engineers
20 and Land Surveyors. Currently, I offer technical consultant services on such
21 matters to the Independent Consumer Protection Office ("ICPO").

22
23 **Q. On whose behalf are you testifying before the Puerto Rico Energy Bureau**
24 **("PREB")?**

25
26 A. I appear and testify on behalf of the ICPO.

27
28 **Q. Have you previously provided testimony before the Energy Bureau?**

29
30 A. Yes.

31
32 **Q. What is the objective of your testimony?**

33
34 A. As established in Act 57-2014, known as Puerto Rico Energy Transformation and
35 RELIEF Act, as amended, the ICPO has the duty, among others, to defend and
36 advocate for the interests of customers in all matters brought before the Energy
37 Bureau, with regard to the quality of the electric power service, resource planning,
38 public policy, and any other matter of interest for customers.

39
40 **Q. What documents or references were used to prepare your testimony?**

41
42 A. PREPA's Puerto Rico Integrated Resource Plan 2018-2019, Revised Version on
43 June 7, 2019, and its corresponding appendices. I also used the written testimony

1 of Efran Paredes Maisonet dated June 14, 2019. Finally, the testimonies given by
2 some witnesses during the initial IRP hearing.

3
4 **Q. On what issue or subject would you be testifying?**

5
6 A. Generally speaking, my testimony addresses the possible scenarios that can be
7 triggered from developing an action plan based on uncertain load forecast.

8
9 **B. SUMMARY OF DIRECT TESTIMONY**

10
11 **Q. From the IRPs Main Report which element you consider is the most relevant?**

12
13 A. One of the most important elements of the IRP, if not the most, is the Load Forecast.
14 In synthesis, the IRP is the reaction or action plan to the forecasted load in a fixed
15 time frame.

16
17 **Q. Why do you think the Load Forecast is so important in the IRP?**

18
19 A. Load forecast is crucial for a realistic IRP document, and at the present time it has
20 a lot of uncertainty due to Puerto Rico's economic situation, combined with rapid
21 technological changes and price reduction in renewable distributed energy
22 resources, energy storage systems, energy efficient appliances and demand
23 response devices as well.

24
25 **Q. In general terms, which do you consider to be the greatest weakness of the IRP**
26 **as presented by PREPA?**

27
28 A. In my opinion, one of the weaknesses of this IRP is the lack of endemic data on
29 consumer's energy behavior and preferences, making accurate load forecasting
30 more difficult. A more rigorous or enhanced approach should be done in this
31 fundamental IRP step.

32
33 **Q. Beside an enhanced approach of consumer behavior and preferences data, what**
34 **else do you recommend can help generate a more realistic forecast?**

35
36 A. Climate change, although an external factor, must be considered in the IRP
37 because it can impact the load forecast and location of existing and new energy
38 facilities. Also, the distribution system, which is the base or host for distributed
39 renewable energy resources, must be included as part of the IRP scope.

40
41 **Q. Do you think that the Action Plan adequately addresses the possible scenarios**
42 **that may arise from inaccurate forecasts?**

43

1 A. I recognize that flexibility provides a good balance for an IRP that is being
2 developed with many uncertainties and constraints. However, I have certain
3 concerns regarding the actions that may lead to the construction of unnecessary
4 fossil fuel facilities due to the conditions or thresholds summarized by Eng. Efran
5 Paredes Maisonet, Director of the Planning and Environmental Protection
6 Division of the Puerto Rico Electric Power Authority on June 14, 2019.

7
8 **Q. What are those conditions or thresholds mentioned by Eng. Efran Paredes**
9 **Maisonet that you are concerned with?**

10
11 A. My concerns are related to the following thresholds: (1) accelerated load growth
12 in comparison to the forecasted growth; (2) higher cost of the battery energy storage
13 system (BESS) and renewable generation resources than projected; and (3) that the
14 generation resource or storage additions did not occur at the projected pace.

15
16 **Q. Explain your concerns regarding a possible accelerated load growth in**
17 **comparison to the forecasted growth?**

18
19 A. It was clearly stated by Siemens during the initial hearing that the IRP, besides
20 tacking the mandated goal to reduce load demand at 2% per year, had no detailed
21 analysis done on selection and potential outcome results of EE & DR measures.
22 Therefore, the real load reduction is uncertain through EE & DR measures that will
23 counterbalance, for example in a healthy, growing economy scenario.

24
25 **Q. As for a higher than projected cost of the BESS and renewable generation**
26 **resources, please explain your concerns?**

27
28 A. Cost and Levelized Cost of Energy (LCOE) values for solar, wind and BESS utility
29 scale projects stated on IRP must be clear whether they are only for the generation
30 equipment or combined with BESS systems. If they are combined, I then consider
31 that the capacity factor will be different under 2, 4, and 6 hours of MW reserve,
32 and, therefore, costs and LCOE will be different. The same applies to distributed
33 solar, wind, and BESS discussed in the IRP.

34
35 **Q. Finally, about the generation resource or storage additions not happening at the**
36 **projected pace, what are your concerns?**

37
38 A. My concern is that potential delay or high costs of renewable energy and battery
39 energy storage systems at utility and distribution scale may induced by
40 unreasonable or not authorized, or "improvised" requirements or processes from
41 PREPA, its successor, any other energy company or government agency, rather
42 than global free market trend.

43
44 **Q. How can these concerns be addressed?**

1
2 A. The Energy Bureau has to know and monitor these threshold number values and
3 conditions over time in order to authorize the plans for new construction of fossil
4 fuel facilities. If the times arrives to make a decision regarding the construction of
5 new fossil fired generation or fuel delivery or storage facilities, the Energy Bureau
6 should request a re-evaluation of the proposed plan based on the new conditions.
7 There could be the possibility to substitute or delay the new fossil related
8 construction in order to allow renewable energy capacity to be increased and fossil
9 capacity be decreased accordingly, as demanded by Law 17. For example, one
10 possible feasible alternative to avoid building new generation and gas delivery
11 and storage facilities at Mayaguez and Yabucoa, is to delay the retirement of
12 Mercury and Air Toxic Standards (MATS) compliant generators. As an example,
13 the retirement of the Costa Sur generating facility, which already has a natural gas
14 delivery facility, can be delayed or a new Class F Combined Gas Turbine (CCGT)
15 can be installed.
16

17 **Q. Is this report firm and final?**
18

19 A. This testimony is neither firm nor final and it is noted that it is subject to change
20 once the information requested from PREPA through our first set of ROIs is
21 produced. We reserve the right to complement this testimony through a
22 supplemental written testimony on or before the designated date for such
23 purposes.
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II. SWORN STATEMENT

I GERARDO COSME NÚÑEZ of legal age, married and resident of Dorado, PR, affirm that the information here-transcribed represents my direct testimony as deponent in the subject case. I affirm that I will provide the responses described in the direct testimony if the questions are posed at the time of submission, and, that to my best knowledge and belief, these expressions are true and correct.


Gerardo Cosme Núñez, PE, CPI

Affidavit Number: 10,071

SWORN AND SUBSCRIBED before me by Gerardo Cosme Núñez, of the
aforementioned personal circumstances, identified by
Puerto Rico Driver License 1417908. In San Juan, Puerto Rico, this 23 of October 2019.





III. CERTIFICATION OF FILING AND SERVICE

I ALSO CERTIFY that on October 23, 2019 a copy of this Written Testimony was notified by electronic mail to: astrid.rodriguez@prepa.com; jorge.ruiz@prepa.com; n-vazquez@aeep.com; c-aquino@prepa.com; mvazquez@diazvaz.law; kbolanos@diazvaz.law; acarbo@edf.org; javier.ruajovet@sunrun.com; pedrosaade5@gmail.com; rmurthy@earthjustice.org; carlos.reyes@ecoelectrica.com; ccf@tcmrslaw.com; victorluisgonzalez@yahoo.com; mgrpcorp@gmail.com; manuelgabrielfernandez@gmail.com; acasellas@amgprlaw.com; corey.brady@weil.com; maortiz@lvprlaw.com; rnegron@dnlawpr.com; paul.demoudt@shell.com; escott@ferraiuoli.com; sproctor@huntonak.com; agraitfe@agraitlawpr.com; castrodieppalaw@gmail.com; voxpathulix@gmail.com; cfl@mcvpr.com; sierra@arctas.com; tonytorres2366@gmail.com; info@liga.coop; amaneser2020@gmail.com; mpietrantoni@mpmlawpr.com; apagan@mpmlawpr.com.

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