

PUBLIC/REDACTED

**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
ENERGY FACILITY SITING BOARD**

**IN RE: INVENERGY THERMAL DEVELOPMENT LLC's
APPLICATION TO CONSTRUCT THE
CLEAR RIVER ENERGY CENTER IN
BURRILLVILLE, RHODE ISLAND**

DOCKET No. SB-2015-06

**PRE-FILED SUPPLEMENTAL TESTIMONY
OF JOHN NILAND**

(NOVEMBER 20, 2017)

EXECUTIVE SUMMARY

This Supplemental Testimony updates John Niland's Pre-Filed Direct Testimony as a result of the ISO-NE's recent decision regarding the inability of the Clear River Energy Center ("CREC") Unit 2 from participating in the up-coming Forward Capacity Auction ("FCA") 12. Mr. Niland's Supplemental Testimony confirms that the ISO-NE's determination does not impact CREC Unit 2's ability to participate in future FCAs, does not prevent the Project from moving forward, and will not impact the Capacity Supply Obligation previously obtained for CREC's Unit 1 in FCA 10.

LIST OF EXHIBITS

- | | |
|----------------------------|---|
| JN SUPPLEMENTAL - 1 | John Niland Letter to the Rhode Island Energy Facility Siting Board, dated November 1, 2017, enclosing PA Consulting Group's Memorandum, dated October 26, 2017 |
| JN SUPPLEMENTAL - 2 | Qualification Determination Notice, from ISO-NE, dated September 29, 2017 (Confidential) |

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**INVENERGY THERMAL DEVELOPMENT LLC'S PRE-FILED
SUPPLEMENTAL DIRECT TESTIMONY OF JOHN NILAND**

1 **Q. PLEASE STATE YOUR NAME, BUSINESS TITLE AND BUSINESS ADDRESS.**

2 **A.** John Niland, Director of Business Development for Invenergy Thermal Development LLC,
3 One South Wacker Drive, Suite 1800, Chicago, IL 60606.

4 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING?**

5 **A.** My testimony is on behalf of the applicant, Invenergy Thermal Development LLC
6 (“Invenergy”), in support of the application for a license (the “Application”) from the Rhode Island
7 Energy Facility Siting Board (“EFSB” or “Board”) to construct the Clear River Energy Center
8 project in Burrillville, Rhode Island (“Clear River” or “CREC” or “Facility” or “Project”).

9 **Q. IN YOUR DIRECT TESTIMONY, YOU NOTE THAT YOU EXPECT A SECOND**
10 **CSO FOR UNIT 2, ASSUMING IT CLEARS FCA 12. ARE THERE ANY**
11 **UPDATES OR CHANGES THAT YOU WOULD LIKE TO EXPLAIN?**

12 **A.** Yes. As I explain in my informational letter filed with the Board on November 1, 2017,
13 the ISO-NE informed Invenergy that CREC Unit 2 is not qualified to participate in the next forward
14 capacity auction (“FCA”) 12. A copy of my informational letter to the Board is attached at **Exhibit**
15 **JN Supplemental - 1.**

16 **Q. GIVEN THAT ISO-NE HAS NOT QUALIFIED UNIT 2 TO PARTICIPATE IN**
17 **FCA 12, DOES THAT CHANGE YOUR TESTIMONY? PLEASE EXPLAIN.**

18 **A.** Yes. I noted that Invenergy expected a staggered schedule for the second unit assuming it
19 cleared FCA 12, with an on line date of June 1, 2021. Since Unit 2 will not participate in FCA 12,

1 this will result in staggered installation of the second train to meet the on-line date for the FCA 13
2 CSO of June 1, 2022.

3 **Q. DOES UNIT 2'S INABILITY TO PARTICIPATE IN FCA 12 IMPACT UNIT 2'S**
4 **ABILITY TO PARTICIPATE IN FUTURE AUCTIONS?**

5
6 **A.** No. Unit 2 will be able to submit a new "Show of Interest." expressing Invenergy's desire
7 to qualify it for FCA 13 in basically the same fashion it has done for the past two years. There is
8 one difference, however, in that because the on-line date for FCA 13 is June 1, 2022, which is
9 seven years after our initial interconnection application date to ISO-NE, Unit 2 will have to submit
10 a new capacity interconnection request to ISO-NE, pursuant to Section 4.4 of Schedule 22 of
11 Section II of the ISO Tariff.

12 **Q. WHAT IMPACTS DOES UNIT 2'S INABILITY TO PARTICIPATE IN FCA 12**
13 **HAVE ON THE FUTURE OF THE PROJECT?**

14
15 **A.** Nothing that would prevent the full Project from moving forward. As mentioned above,
16 Unit 2 will have to file for a new Interconnection Request ("IR") for Capacity Network Resource
17 Interconnection Service ("CNRIS") to participate in subsequent FCAs. Unit 2 would also have
18 to submit a Show of Interest and meet all of the other qualification requirements in order to
19 participate in any subsequent FCA. Both units continue to pursue, most currently through the
20 development process of the Interconnection Agreement, Network Resource Interconnection
21 Service (NRIS: energy-only service) under the existing Queue Position 489. No additional
22 queue position is required for NRIS at this time. In addition, the CNRIS associated with the
23 clearing of Unit 1 in FCA-10 is captured as part of that IA – and no additional queue position is
24 required for the Unit 1 CNRIS at this time.

25 The new CNRIS application means that the overlapping system impact study that is done
26 as part of the qualification process could yield different results than it has in the past. The new

1 queue position that results from the new application could place Unit 2 behind other generators,
2 who were formerly behind Unit 2. This could lead to added system impacts, which may result in
3 higher costs for CREC. Since it is not known what other generators might be in this position,
4 Invenergy does not know if this will have any impact on Unit 2.

5 **Q. YOU INDICATED IN PRIOR TESTIMONY THAT INVENERGY WAS**
6 **TARGETING A JUNE 2020 COMMERCIAL OPERATION DATE FOR UNIT 1, IS**
7 **THIS STILL THE CASE FOR UNIT 1?**

8
9 **A.** No. Invenergy will need to adjust the anticipated commercial operation date for Unit 1 as
10 a result of scheduling and coordination with National Grid’s transmission upgrades. As part of the
11 negotiations on the generator interconnection agreement, ISO-NE and National Grid recently
12 informed CREC that they are not be able to meet the June 2020 “In-Service Date.” The delay in
13 meeting the date is due to delays in permitting. The “In-Service Date” that they are targeting for
14 the completion of the transmission line is December 1, 2020. Invenergy remains committed to
15 working towards an earlier “In-Service Date,” but should that not be possible, Invenergy will work
16 toward the new date for commercial operation by June 1, 2021.

17 **Q. IF THE ISO-NE DOES NOT BELIEVE UNIT 2 COULD QUALIFY FOR FCA 12,**
18 **SO AS TO BE CONSTRUCTED BY 2022, HOW CAN UNIT 1 BE BUILT BY 2021?**

19
20 **A.** It was on this point that Invenergy did not agree with ISO-NE’s position on the schedule.
21 As stated in its November 1, 2017 letter to the Board, Invenergy has adjusted the major equipment
22 order dates. Invenergy has also confirmed with its supplier, GE, that pending EFSB approval of
23 the Project by the second quarter in 2018, CREC would be able to issue a limited notice to proceed
24 for that equipment, so it can be designed, fabricated and delivered consistent with the schedule
25 associated with the revised commercial operation date for Unit 1 of June 1, 2021, and adjust
26 CREC’s CSO date within the rules as allowed by the ISO-NE Tariff.

27 **Q. CLF RECENTLY FILED A MOTION AND A REPLY TO THE EFSB**

1 **REQUESTING ADDITIONAL DISCOVERY ON ISSUES PERTAINING TO THE**
2 **ISO-NE’S CRITICAL PATH SCHEDULE (“CPS”) AND MONITORING**
3 **PROCESS; DO YOU HAVE ANY COMMENTS ON THIS?**
4

5 A. Projects, such as Clear River, on CPS monitoring are required to submit a CPS report to
6 the ISO via the Forward Capacity Tracking System (“FCTS”). Within the FCTS system, the
7 Monitored CPS tab displays the CPS key milestone date information for the resource. The key
8 milestones are:

- 9 • Dates Major Permits were filed, and when they are expected to be received;
- 10 • Major Equipment order dates;
- 11 • Date Project Financing is secured;
- 12 • Major Equipment delivery dates;
- 13 • Substantial Site Construction Date;
- 14 • Commission Completion Date; and
- 15 • Commercial Operation Date.

16 Invenergy and the Clear River Project elected to have CPS monitoring and has been updating the
17 CPS to ISO-NE on a monthly basis with regard to changes that have occurred to the Project
18 schedule, from that we originally proposed. The updates are done using ISO-NE FCTS tool and
19 reflect changes that have occurred. The only changes that have occurred are the dates Invenergy
20 expects to obtain permits which were updated as a result of the on-going permitting process, the
21 change in the major equipment order date that resulted from the permit schedule change and the
22 schedule delay for the interconnect as described above, which the ISO-NE was aware of since ISO-
23 NE was part of the Interconnect Agreement process. For the CPS Report Submittal,
24 documentation for proof of completion of milestone(s) and reason(s) for the modification(s) to the
25 milestone(s) is submitted. Optionally, additional information along with supporting
26 documentation related to the status of the Project can be submitted. No separate free-form written
27 reports are supplied by Invenergy to ISO-NE for resources as part of the CPS monitoring.

28 **Q. ADDITIONALLY, IN CLF’S RECENT MOTION AND REPLY TO THE EFSB, IT**
29 **REQUESTED ADDITIONAL DISCOVERY ON ISSUES PERTAINING TO THE**

1 **UNDERLYING CORRESPONDENCE AND DOCUMENTS ASSOCIATED WITH**
2 **THE ISO-NE’S DISQUALIFICATION NOTICE, DO YOU HAVE ANY**
3 **COMMENTS ON THIS?**
4

5 **A.** There is no documentation beyond the ISO-NE’s Qualification Determination Notice
6 (“QDN”), which Clear River received on September 29, 2017. Invenenergy’s attempt to dissuade
7 ISO-NE was done as part of a phone conversation, initiated by ISO-NE, with members of the
8 Invenenergy team that occurred approximately a week prior the QDN being issued. During this call,
9 ISO-NE had questions on the Project schedule that Clear River submitted to ISO-NE in June 2017,
10 as part of the qualification process and indicated, but did not confirm, that Unit 2 may be
11 disqualified due to permitting schedule concerns. ISO-NE opinion was that permit delays have
12 pushed out the major equipment order date and that the delays in permitting and equipment
13 ordering would push out the completion schedule. Invenenergy’s verbal response to these concerns
14 was that it had received new order dates from our major equipment supplier (GE) that could still
15 allow the unit to meet the in service dates; however, Invenenergy also said that it shared ISO-NE’s
16 concern on the delays in the EFSB schedule and the RIDEM permit review schedule. That was
17 the extent of the discussion and ISO-NE did not state what their qualification determination was
18 on the call. The QDN is attached as **Exhibit JN SUPPLEMENTAL-2 (Confidential)**.

19 **Q.** **CLF’S RECENT MOTION AND REPLY TO THE EFSB, STATES THAT “IT**
20 **APPEARS THAT SECTION III.12.2.4 (S) ALLOWS THE ISO-NE TO**
21 **TERMINATE UNIT 1’S CSO...IF UNIT 1 IS FORCED TO SELL ITS CSO...AND**
22 **THIS EVENTUALITY IS A VIRTUAL CERTAINTY”; DO YOU AGREE WITH**
23 **THIS STATEMENT?**
24

25 **A.** No, the quoted section is copied below and as you can see, ISO-NE has the right to
26 terminate, but not the obligation to terminate, so it is not a “virtual certainty.” Additionally, as
27 long as Invenenergy continues to make progress on the Project, which ISO-NE will monitor very
28 closely, Invenenergy anticipates that the Unit 1 CSO will remain with Invenenergy.

1 The ISO-NE Tariff language is included in Section III.13.3.4. entitled “**Covering Capacity**
2 **Supply Obligation where Resource will Not Achieve Commercial Operation by the Start of**
3 **the Capacity Commitment Period,”** can be found on page 125 at [https://www.iso-ne.com/static-](https://www.iso-ne.com/static-assets/documents/regulatory/tariff/sect_3/mr1_sec_13_14.pdf)
4 [assets/documents/regulatory/tariff/sect_3/mr1_sec_13_14.pdf](https://www.iso-ne.com/static-assets/documents/regulatory/tariff/sect_3/mr1_sec_13_14.pdf) and is as follows:

5 “(c) If the Project Sponsor fails to comply with the requirements of Sections III.13.3.2 or
6 III.13.3.3, or if the Capacity Supply Obligation is not covered as described in Sections
7 III.13.3.4(a) and III.13.3.4(b), or if the Project Sponsor covers the Capacity Supply
8 Obligation for two Capacity Commitment Periods, then the ISO, after consultation with
9 the Project Sponsor, *shall have the right*, (emphasis added) through a filing with the
10 Commission, to terminate the resource’s Capacity Supply Obligation for any future
11 Capacity Commitment Periods.” (Emphasis added.)

12 **Q. DOES THIS CONCLUDE YOUR SUPPLEMENTAL DIRECT TESTIMONY?**

13 **A.** Yes.

JN SUPPLEMENTAL - 1



November 1, 2017

Via Federal Express

RI Energy Facility Siting Board
89 Jefferson Boulevard
Warwick, RI 02888

Re: *Invenergy Thermal Development LLC's Application to Construct and Operate the Clear River Energy Center in Burrillville, Rhode Island*
Docket No. SB-2015-16

Dear Members of the Rhode Island Energy Facility Siting Board:

Invenergy Thermal Development LLC and the Clear River Energy Center Project ("Invenergy") has been informed by ISO New England ("ISO-NE") that Clear River Unit 2 is **not qualified** to participate in the upcoming FCA 12. ISO-NE's rationale for this decision was due to delays in the permitting process and deferrals in the ordering of major equipment that have resulted from those delays.

Invenergy does not agree with ISO-NE's assessment of the Clear River Energy Center Project's ("Project's" or "CREC's") current schedule and attempted to dissuade their determination, prior to it being issued. In particular, Invenergy noted that CREC Unit 2 had qualified previously to participate in FCA 10 and 11, the permitting process is ongoing and major equipment order dates have changed, however they are still consistent with the schedule associated with FCA 12. Although Invenergy considered appealing this decision to the Federal Energy Regulatory Commission ("the FERC"), Invenergy could not dispute that there have been permitting delays, and as such, the likelihood that the FERC would overturn ISO-NE's FCA qualification decision was determined to be remote. Invenergy elected to evaluate this change and advise the EFSB accordingly, which is the purpose of this letter.

Invenergy's inability to participate in FCA 12 does not have an impact on CREC's ability to participate in future FCA's (e.g. FCA 13 or beyond). Invenergy's future participation was confirmed by ISO-NE. This determination does not change Invenergy's position as to the need for CREC; however, it does change certain testimony and data CREC has provided to the EFSB. Once Invenergy received the final notice from ISO-NE that the Project would not be able to participate in FCA 12, Invenergy requested PA Consulting Group ("PA") to update the analysis previously provided to the EFSB, the Statewide Division of Planning and the Office of Energy Resources. Invenergy wanted to have this updated information available to be submitted along with this notice. Invenergy has updated its estimates as to Rhode Island ratepayer savings, emissions reductions and economic impacts to the State of Rhode Island. The changes to these analyses are outlined in the attached report prepared by PA, concluding the following:

- CREC is needed in the ISO-NE market; the postponement of CREC Unit 2's participation in FCA 12 has no bearing on any of the four findings made by the Rhode Island Public Utilities Commission. These four major findings, that indicate a reliability need for the full CREC facility, were:
 - CREC Unit 1 cleared an FCA;
 - There is a significant amount of capacity at-risk for retirement;
 - Rhode Island is within an import constrained zone; and
 - That capacity above the net Installed Capacity Requirement ("NICR") is needed.
- CREC will provide Rhode Island ratepayers with material energy and capacity price savings.
- CREC will lead to significant CO₂, NO_x and SO₂ emissions reductions, including compliance with state and regional goals; and
- CREC will have several positive economic impacts on the Rhode Island economy.
- The postponement in participation of CREC Unit 2 from FCA 12 to FCA 13 has minor reduction on ratepayer savings compared with the values provided in Ryan Hardy's Pre-Filed Direct Testimony.

Invenenergy has made every effort to provide this update in a timely manner and have confirmed with the ISO-NE that the public release of the FCA qualification decision is acceptable to the ISO-NE.

Very truly yours,



John Niland
Director Business Development

Enclosures

cc: Alan M. Shoer, Esq. (*e-mail only*)



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October 26, 2017

Update to CREC Market Analysis

Introduction

With the announcement that Invenergy's Clear River Energy Center ("CREC") Unit 2 will not be able to participate in the Forward Capacity Auction ("FCA") for the 2021-2022 capability year, also referred to as FCA 12, due to permitting delays, we have updated our analysis assuming a one-year postponement in CREC Unit 2's online date. This assumed change shifts CREC Unit 2's participation from FCA 12 to FCA 13 with a new online date of June 1, 2022. There were no other assumption changes made to the analysis presented in Ryan Hardy's Pre-Filed Direct Testimony submitted to the Energy Facilities Siting Board ("EFSB") on June 30, 2017. This memo outlines the impact of the postponement in participation of CREC Unit 2 from FCA 12 to FCA 13.

Overall, the impact of assuming a one-year delay in CREC Unit 2's participation in the FCA is relatively minor. It is important to note that while Ryan Hardy's Pre-Filed Direct Testimony only considered the impact and related benefits of the 980 MW CREC facility over a 5-year period, there is the expectation that benefits, particularly environmental, will continue for several years thereafter as will the permanent jobs that are created. Therefore, a 12-month delay for 485 MW of the facility does not significantly alter the analysis and related findings.

This updated analysis confirms the conclusions presented in Ryan Hardy's Pre-Filed Direct Testimony.

- CREC is needed in the ISO-NE market;
- CREC will provide Rhode Island ratepayers with material energy and capacity price savings;
- CREC will lead to significant CO₂, NO_x and SO₂ emissions reductions, including compliance with state and regional goals; and
- CREC will have several positive economic impacts on the Rhode Island economy.

The updated analysis is presented below in four sections: (i) impact on need, (ii) impact on ratepayer savings, (iii) impact on emissions reductions, and (iv) impact on economic benefits.

Impact on need

The postponement in participation of CREC Unit 2 from FCA 12 to FCA 13 **does not impact previous conclusions on the assessment of need**. CREC Unit 1 has previously obtained a Capacity Supply Obligation, and within the updated analysis CREC Unit 2 is expected to clear FCA 13.

As confirmed by the Rhode Island PUC in its Advisory Opinion, there are several forms of need within ISO-NE and Rhode Island. The Rhode Island PUC's four major findings that indicate a reliability need for the full CREC facility were that:

- (1) CREC Unit 1 cleared an FCA,
- (2) That there is a significant amount of capacity at-risk for retirement,



- (3) Rhode Island is within an import constrained zone; and
- (4) That capacity above the net Installed Capacity Requirement (“NICR”) is needed.

The postponement of CREC Unit 2’s participation to FCA 13 has no bearing on any of these four findings by the Rhode Island PUC. Moreover there are several other forms of need for CREC that are not impacted by the potential one-year postponement. These include CREC being a dual fuel facility that will use natural gas as its primary fuel and fuel oil as a backup, and CREC’s ability to help integrate renewable generation. The dual fuel capability of CREC improves the winter reliability of the ISO-NE system, which ISO-NE has indicated is a major system challenge. Similarly, as a flexible and efficient generator, CREC will help support the integration of renewable generation on the ISO-NE grid by providing an effective resource to balance the variable nature of wind and solar.

Impact on ratepayer savings

The assumed postponement in participation of CREC Unit 2 from FCA 12 to FCA 13 has **minor impact on ratepayer savings compared with the analysis in Ryan Hardy’s Pre-Filed Direct Testimony.**

CREC will provide capacity and energy at the least possible cost to the customer. All capacity that clears the FCA is part of the overall ‘package’ of capacity that provides the greatest economic benefit to the ratepayers, and the CREC facility will only be dispatched when it can generate electricity more cost effectively than other thermal generation options.

In the analysis presented in Ryan Hardy’s Pre-Filed Direct Testimony, CREC was projected to save Rhode Island ratepayers between \$122 million and \$429 million between 2019 and 2024, depending on future retirements in New England. This range represents the difference in total capacity and energy costs to Rhode Island-only load resulting from the CREC capacity addition, as measured by comparing cost results from capacity and energy modeling cases (a) with CREC coming online in two stages: June 2020 (485 MW) and June 2021 (an additional 485 MW); and (b) without CREC. The capacity and energy cost differences between these two cases represented the savings to the ratepayers. Capacity cost savings to Rhode Island ratepayers were calculated to be \$72 million to \$379 million from 2019-2024, or \$12 million to \$63 million annually on average. Energy cost savings to Rhode Island ratepayers were calculated to be \$50 million for 2020-2024, or approximately \$10 million annually.

Using this same methodology and assumptions, but with the second stage of CREC coming online in June 2022 (versus 2021), the savings to Rhode Island ratepayers are projected to be between \$119 million and \$365 million between 2019 and 2024, depending on future retirements. This is less than a 3% difference on the low end of the range and a 15% difference on the high end of the range. Capacity cost savings to Rhode Island ratepayers are projected to be \$71 million to \$317 million from 2019-2024, or \$12 million to \$53 million annually on average. Energy cost savings to Rhode Island ratepayers are projected to be \$48 million for 2020-2024, or approximately \$10 million annually.

Impact on emissions reductions

The assumed postponement in participation of CREC Unit 2 from FCA 12 to FCA 13 has **minor impact on emissions reductions compared with the analysis in Ryan Hardy’s Pre-Filed Direct Testimony.**

In the analysis presented in Ryan Hardy’s Pre-Filed Direct Testimony, CREC was projected to lead to significant CO₂, NO_x and SO₂ emissions reductions in the region, and specifically annual average reductions of 0.95% for CO₂, 0.99% for NO_x and 2.88% for SO₂ in the New England and New York region in the 2020-2025 timeframe. This is due to CREC being the most efficient and cleanest natural gas combined cycle generator in New England upon commercial operation, displacing generation from dirtier sources of energy. These emission reductions will help Rhode Island meet its emission targets under both the Resilient Rhode Island Act and the Regional Greenhouse Gas Initiative (“RGGI”).



Using this same methodology and assumptions, but with the second stage of CREC coming online in June 2022 (versus 2021), CREC's inclusion in the New England generation fleet is projected to lead to annual average reductions in CO₂, NO_x and SO₂ emissions of 0.89% for CO₂, 0.89% for NO_x and 2.58% for SO₂ in the 2020-2025 timeframe.

Impact on economic benefits

The assumed postponement in participation of CREC Unit 2 from FCA 12 to FCA 13 has **minor impact on economic benefits compared with the analysis in Ryan Hardy's Pre-Filed Direct Testimony.**

In the analysis presented in Ryan Hardy's Pre-Filed Direct Testimony, the construction and ongoing operation of CREC was projected to create hundreds of jobs and drive well over \$1 billion in economic development in Rhode Island from 2018-2036. In particular, CREC was projected to result in the following benefits:

Rhode Island jobs. From 2018-2021, which includes the construction period, the first 1.5 years of operation of CREC Unit 1, and the first partial year of operation of CREC Unit 2, CREC will support the creation of 683 full-time jobs per year, on average. The construction and operation of CREC alone – i.e., not including the electricity cost savings to the customer – will create an average of more than 605 full-time jobs per year from 2018-2021 and 129 full-time jobs per year from 2022 to 2036 in Rhode Island.

Rhode Island earnings. From 2018-2021, CREC will support the creation of nearly \$310 million in earnings to Rhode Island workers, or more than \$75 million per year, on average. Earnings to Rhode Island employees as a result of CREC will total more than \$520 million from 2018-2036.

Rhode Island economic output. From 2018-2021, the total economic impact on Rhode Island is projected to be more than \$530 million, or approximately \$133 million per year. The overall impact of CREC on the Rhode Island economy will total more than \$1 billion from 2018-2036, or an average of over \$60 million annually.

Using this same methodology and assumptions, but with the second stage of CREC coming online in June 2022 (versus 2021), CREC is still projected to create hundreds of jobs and drive well over \$1 billion in economic development in Rhode Island from 2018-2036. In the updated analysis, CREC is projected to result in the following benefits (in many cases very similar to the previous analysis):

Rhode Island jobs. The job creation, both short and long term, is virtually unchanged from the previous analysis. From 2018-2021, which includes the construction period and the first 1.5 years of operation of CREC Unit 1, CREC will support the creation of 680 full-time jobs per year, on average. The construction and operation of CREC alone – i.e., not including the electricity cost savings to the customer – will create an average of more than 605 full-time jobs per year from 2018-2021 and 129 full-time jobs per year from 2022 to 2036 in Rhode Island.

Rhode Island earnings. The projected earnings for Rhode Island workers is virtually unchanged from the previous analysis. From 2018-2021, CREC will support the creation of nearly \$310 million in earnings to Rhode Island workers, or more than \$75 million per year, on average. Earnings to Rhode Island employees as a result of CREC will total more than \$520 million from 2018-2036.

Rhode Island economic output. The total economic output for Rhode Island as a result of Clear River is virtually unchanged from the previous analysis. From 2018-2021, the total economic impact on Rhode Island is projected to be more than \$530 million, or approximately \$133 million per year. The overall impact of CREC on the Rhode Island economy will total more than \$1 billion from 2018-2036, or an average of over \$60 million annually.



Conclusion

The update of our market analysis described in this memo—which assumes CREC Unit 2’s participation in FCA 12 is postponed to FCA 13—confirms that the foundational conclusions on Page 46 of Ryan Hardy’s Pre-Filed Direct Testimony remain unchanged.

- ***CREC is needed to meet the energy needs of both Rhode Island and the broader New England region.***
- ***CREC will provide material ratepayer savings, is cost-justified, and can be expected to produce energy at the lowest reasonable cost to the consumer.***
- ***CREC will allow the state to meet its emission objectives under the Resilient Rhode Island Act and RGGI.***
- ***CREC will enhance the socioeconomic fabric of Rhode Island by creating hundreds of new jobs through both the construction and operation of the facility.***

For any questions, please contact:

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JN SUPPLEMENTAL – 2

(REDACTED)