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November 30, 2017

BY HAND DELIVERY

Luly E. Massaro, Commission Clerk
Rhode Island Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02888

Re: Docket 4764 – In Re: Review of PPAs under R.I.G.L. §39-26-1
Responses to Commission Data Requests – Set 1

Dear Ms. Massaro:

On behalf of National Grid,¹ please find National Grid's response to the Public Utilities Commission's (the Commission) First Set of Data Requests. Also enclosed is a Motion for Protective Treatment of certain requests; these requests will be provided only to the Commission and those parties that have executed a non-disclosure agreement.

Thank you for your attention to matter. If you have any questions, please contact me at (617) 951-1400, or Jennifer Brooks Hutchinson at 401-784-7685.

Very truly yours,



Jessica Buno Ralston

Enclosures

¹ The Narragansett Electric Company d/b/a National Grid.

**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
PUBLIC UTILITIES COMMISSION**

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Petition of Narragansett Electric Company)	
d/b/a National Grid for Approval of)	
Proposed Long-Term Contracts for)	Docket No. 4764
Renewable Resources Pursuant to)	
R.I. Gen. Laws § 39-26.1)	
<hr/>)	

**NATIONAL GRID’S PETITION
FOR PROTECTIVE TREATMENT OF CONFIDENTIAL INFORMATION**

National Grid¹ hereby requests that the Rhode Island Public Utilities Commission (PUC) provide confidential treatment and grant protection from public disclosure of certain confidential, competitively sensitive, and proprietary information submitted in this proceeding, as permitted by PUC Rule 1.2(g) and R.I.G.L. § 38-2-2(4)(B). National Grid also requests that, pending entry of findings pursuant to these provisions, the PUC preliminarily grant National Grid’s request for confidential treatment pursuant to Rule 1.2 (g)(2).

I. BACKGROUND

On November 1, 2017, National Grid filed with the PUC its request for approval eight 20-year Power Purchase Agreements entered into by National Grid for the purchase of energy and environmental attributes from eligible renewable energy generation facilities (the PPAs), pursuant to the New England Clean Energy Request for Proposals (RFP) issued on November 12, 2015. In support of its request for approval, National Grid submitted initial testimony and supporting exhibits including the Company’s analysis of all proposals submitted in response to the RFP, including proprietary modeling information and analysis provided by the Company’s third-party consultants. In response to the PUC’s First Set of Data Requests, the

¹ The Narragansett Electric Company d/b/a National Grid (National Grid or the Company).

Company is filing additional proprietary modeling and analysis regarding the PPAs as Attachments PUC 1-10, PUC 1-14, and PUC 1-22 (the “Confidential Information”).

The Company’s affiliates Massachusetts Electric Company and Nantucket Electric Company each d/b/a National Grid, together with the other Massachusetts soliciting parties, NSTAR Electric Company and Western Massachusetts Electric Company each d/b/a Eversource Energy, and Fitchburg Gas and Electric Light Company, d/b/a Unitil, have each filed a similar request for protective treatment of the Confidential Information with their respective petitions for approval of the PPAs with the Massachusetts Department of Public Utilities. The Connecticut Light & Power Company and The United Illuminating Company have similarly requested, and been granted, protective treatment of the PPAs and proprietary bid evaluation materials.

In this proceeding, the Company seeks protective treatment of the same information to ensure consistency across the jurisdictions of each soliciting state, and to ensure continued protection of the Confidential Information. As the PUC is aware, designation of information as confidential requires, in part, that such information not be available elsewhere in the public record. In the event that any one of the three jurisdictions reviewing the PPAs and related bid evaluation materials denies protective treatment, the information can no longer be protected in any other proceeding. To prevent the release of confidential information that has been granted protective treatment in Connecticut, and has to date been restricted in Massachusetts, the PUC should grant similar protective treatment here.

II. LEGAL STANDARD

The PUC's Rule 1.2(g) provides that access to public records shall be granted in accordance with the Access to Public Records Act (APRA), R.I.G.L. §38-2-1 *et seq.*

Under APRA, all documents and materials submitted in connection with the transaction of official business by an agency is deemed to be a "public record," unless the information contained in such documents and materials falls within one of the exceptions specifically identified in R.I.G.L. §38-2-2(4). Therefore, to the extent that information provided to the PUC falls within one of the designated exceptions to the public records law, the PUC has the authority under the terms of APRA to deem such information to be confidential and to protect that information from public disclosure.

In that regard, R.I.G.L. §38-2-2(4)(B) provides that the following types of records shall not be deemed public:

Trade secrets and commercial or financial information obtained from a person, firm, or corporation which is of a privileged or confidential nature.

The exception "protects persons who submit financial or commercial data to government agencies from the competitive disadvantages which would result from its publication." *Critical Mass Energy Project v. Nuclear Regulatory Commission*, 975 F.2d 871, 873 (D. D.C. Cir. 1992); see also *Providence Journal Company v. Convention Center Authority*, 774 A.2d 40 (R.I. 2001) (adopting *Critical Mass*). The Rhode Island Supreme Court has held that this confidential information exemption applies where disclosure of information would be likely to either: (1) impair the Government's ability to obtain necessary information in the future; or (2) cause substantial harm to the competitive position of the person from whom the information was obtained. *Providence Journal*, 774 A.2d at 47 (emphasis added).

The second prong of the Providence Journal test has been interpreted to not require “a sophisticated economic analysis of the likely effects of disclosure.” New Hampshire Right to Life v. US Dep’t of Health and Human Services, 778 F. 3d 43, 50 (1st. Cir. 2015 (quoting Pub. Citizen Health Research Grp., 704 F. 2d 1280, 1291 (1983))). The party opposing disclosure must establish “actual competition and a likelihood of substantial competitive injury” to bring the information under the confidential exemption. Id. In determining whether information is confidential the court should not limit its assessment of bidding information in a singular ad-hoc manner, but rather should acknowledge the likelihood of additional bids in the future. Id. at 51. As discussed further below, the Confidential Information here should be protected because it is commercial or financial information that, if disclosed, would be likely to cause substantial harm to the competitive position of the persons from whom the information was obtained.

III. BASIS FOR CONFIDENTIALITY

The information contained in the un-redacted versions of the Confidential Information contains confidential and proprietary bidder information, including pricing information and bid-evaluation information. Specifically, the Confidential Information contains references to proprietary reports provided to the Company by consultants for evaluation of the bids including supporting calculations. .

Release of the Confidential Information would compromise the ability of the Company to negotiate future purchase-power contracts because those exhibits contain proprietary and confidential information about the Company’s market forecast and quantitative and qualitative evaluation of bids. The exhibits were used by the Company in the evaluation of bids received and are considered proprietary by the consultants that produced them. More importantly, however, these projections must be protected from public disclosure because the Company has

used this information to evaluate bids associated with the RFP process described herein, and may continue to use this forecast, or similar forecasts, to evaluate future bids for renewable generation services. If other parties gain access to the details set forth in the Confidential Information, the Company's ability to negotiate the best deals possible on behalf of customers would be compromised. Accordingly, the PUC should protect the energy forecast and PPA cost information in those documents from the public record.

IV. CONCLUSION

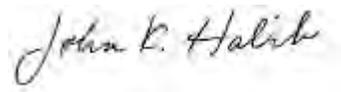
Accordingly, the Company requests that the PUC grant protective treatment above-listed Confidential Information.

WHEREFORE, the Company respectfully requests that the PUC grant its Motion for Protective Treatment as stated herein.

Respectfully submitted,

NATIONAL GRID

By its attorneys,




John K. Habib, Esq. (RI Bar #7431)
Jessica Buno Ralston, Esq. (RI Bar # 9644)
Keegan Werlin LLP
265 Franklin Street
Boston, Massachusetts 02110
(617) 951-1400

Dated: November 30, 2017

In Re: Request for Approval of Eight Long-Term Renewable Energy Contracts
Responses to Commission's First Set of Data Requests
Issued on November 9, 2017

PUC 1-1

Request:

At what point were bidders notified that the Company, Division of Public Utilities and Carriers (Division) and Office of Energy Resources (OER) would be considering Power Purchase Agreements (PPAs) as part of the Clean Energy RFP approved in Docket No. 4570 for a Delivery Commitment Model with no PPAs?

Response:

The Narragansett Electric Company d/b/a National Grid (National Grid or the Company) submitted the draft Clean Energy RFP for review in Docket No. 4570 on June 26, 2015. The RFP noted in Section 1.2.2.1 that the Company did not intend to procure any energy or RECS under a PPA pursuant to Chapter 39-31 and was only seeking bids for Qualified Clean Energy via Transmission Project Under a Performance-Based Tariff Containing a Qualified Clean Energy Delivery Commitment (DCM). Section 1.1 of the RFP also stated that National Grid would select projects in consultation and coordination with the Division and OER, and subject to review and approval by the Rhode Island Public Utilities Commission. The RFP was approved by the Commission at an open meeting on September 22, 2015. The RFP was issued to bidders on November 12, 2015.

Although the RFP noted the Company's intent to procure qualified clean energy with transmission pursuant to the DCM, Sections 1.2.2.1 through 1.2.2.3 of the RFP described three categories of eligible bids (including the DCM) that were eligible for overall review by the CERFP Soliciting Parties, including PPA-only bids. Also, the RFP allowed bids to include multiple categories in a single bid.

Ultimately, the evaluation demonstrated that, in this solicitation, PPAs presented a more cost-effective option, and no DCM bids were selected for contract negotiation. At the end of the bid evaluation process, the Company consulted with the Division and the OER about the option of executing PPAs from the solicitation for the benefit of Rhode Island customers, and based in part of these consultation (and in part on the Company's obligation to fulfill its requirements under the Long Term Contracting statute), the Company identified bids with terms that were consistent with the Rhode Island standard of review under the Long Term Contracting statute, and proceeding to negotiate contracts accordingly.

At no point were bidders informed as to the intent of the Company, the Division, or the OER to choose the PPAs over the DCM. Instead, both types of proposals, as well as a combination of the two, possibly with multiple categories in the same bid, were invited, evaluated, and ranked by the three-state soliciting parties. Selected bidders were notified on October 24, 2016.

The Narragansett Electric Company

d/b/a National Grid

RIPUC Docket No. 4764

In Re: Request for Approval of Eight Long-Term Renewable Energy Contracts

Responses to Commission's First Set of Data Requests

Issued on November 9, 2017

PUC 1-2

Request:

When was the Company first aware that the Bowers Wind Project was no longer viable? Was it prior to October 2016?

Response:

On December 30, 2015, Bowers Wind (a.k.a. Champlain Wind) provided notice to the Company that it elected to extend the critical milestone dates under the Power Purchase Agreement by one year, thereby changing the deadline for its Commercial Operation Date to March 31, 2018. The Company was aware prior to October 2016 that Bowers Wind lost their appeal on the Maine DEP permit and was it very likely the project would not be able to meet the deadline for its Commercial Operation Date of March 31, 2018.

In Re: Request for Approval of Eight Long-Term Renewable Energy Contracts
Responses to Commission's First Set of Data Requests
Issued on November 9, 2017

PUC 1-3

Request:

Has the Company considered whether bid submissions, either in quantity or quality, may have been affected by the fact that respondents to the Clean Energy RFP approved by the PUC were unaware that the Company would consider PPAs when submitting bids? If so, please provide the analysis. If not, why not?

Response:

As stated in Section 1.1 of the Clean Energy RFP, the purpose of the three-state procurement was for parties in each state to identify any projects that offer the potential to meet their clean energy goals in a cost-effective manner. The three participating states acted jointly to open the possibility of procuring large-scale projects that no state could procure if it acted unilaterally. Sections 1.2.2.1 through 1.2.2.3 of the RFP described three categories of eligible bids. The three-state RFP specifically stated that bids with a transmission component must provide for clean energy and/or RECs as part of a power purchase agreement (PPA), or clean energy pursuant to the Delivery Commitment Model (DCM), or a combination of both. Also, the RFP allowed bids to include multiple categories in a single bid. As can be discerned from Exhibit CMD-10 (Confidential), the Soliciting Parties received numerous bid permutations, the vast majority of which were PPAs.

Additionally, Section 1.2.5 of the RFP listed the approximate procurement levels, but went on to say, “[t]he Soliciting Parties are also interested in receiving bids for Qualified Clean Energy in excess of these amounts or that do not qualify under the specified state statutes”. Thus, bidders were aware there may be opportunity for procurement beyond the volumes stated in the RFP.

Because bidders were submitting projects through the three-state RFP process (which specifically solicited PPAs), rather than responding directly to National Grid, as well as the large number of PPA bids in the solicitation, the Company does not believe that its intent to select clean energy pursuant to the DCM rather than PPAs had any effect on the quantity or quality of bids submitted in response to the RFP.

PUC 1-4

Request:

Referencing page 25 of Ms. DiDomenico's testimony, please explain how the Evaluation Team arrived at the determination that the bids were within a reasonable range of competitiveness and it was therefore not necessary to establish a benchmark to judge the economic competitiveness of the bids? Please include a description of what the term "reasonable range of competitiveness" means.

Response:

The term "reasonable range of competitiveness" means that there were no apparent outliers in terms of pricing. The Steering Committee decided that the quantitative evaluation would provide useful information concerning the economic competitiveness of bids, and that it was premature to disqualify any of the remaining bids in advance of the quantitative evaluation.

The Narragansett Electric Company

d/b/a National Grid

RIPUC Docket No. 4764

In Re: Request for Approval of Eight Long-Term Renewable Energy Contracts

Responses to Commission's First Set of Data Requests

Issued on November 9, 2017

PUC 1-5

Request:

Referencing page 26 of Ms. DiDomenico's testimony, was any additional analysis done based on the results of the February 2017 Forward Capacity Auction (Forward Capacity Auction 11)?

Response:

No additional analysis was done based on the results of Forward Capacity Auction (FCA) 11. As noted on page 31 of the Company's testimony, the Selection Teams sent notices to bidders informing them of the RFP results on October 24, 2016. FCA 11 was held on February 6, 2017.

In Re: Request for Approval of Eight Long-Term Renewable Energy Contracts
Responses to Commission's First Set of Data Requests
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PUC 1-6

Request:

Referencing footnote 10 on page 28 of Ms. DiDomenico's testimony, please indicate whether and how the overall bundled price and component product prices (energy, RECs, and any others) changed in RES America's bids when this bidder lowered REC prices to conform with the RFP.

Response:

In response to an Evaluation Team request for RES America to correct its proposal pricing to comply with Section 2.2.12.1 of the RFP, RES America provided conforming REC prices on March 10, 2016. This resulted in lower REC prices in each of its bids. In its original bids, RES America proposed REC prices that varied by either remaining constant or lowering over the 20-year term of the PPAs. In its revised pricing, RES America proposed a fixed REC price for each year of the PPAs. Energy prices remained unchanged between the originally submitted pricing and the revised pricing.

The Narragansett Electric Company

d/b/a National Grid

RIPUC Docket No. 4764

In Re: Request for Approval of Eight Long-Term Renewable Energy Contracts

Responses to Commission's First Set of Data Requests

Issued on November 9, 2017

PUC 1-7

Request:

Referencing page 29 of Ms. DiDomenico's testimony, lines 7-9, was the CT evaluation team involved in the qualitative analysis?

Response:

No, the Connecticut Evaluation Team was not involved in the process for determining the qualitative factors that were used by the Rhode Island Evaluation Team or in the qualitative analysis of bids for selection for Rhode Island.

In Re: Request for Approval of Eight Long-Term Renewable Energy Contracts
Responses to Commission's First Set of Data Requests
Issued on November 9, 2017

PUC 1-8

Request:

Referencing page 31 of Ms. DiDomenico's testimony, lines 9-10, please explain how allocation of energy and RECs or payment for these products will work in practice. Please specifically explain any ISO-NE or NEPOOL-GIS market processes that will be used. Please also indicate if and how oversight of these processes will be provided?

Response:

The delivery of energy shall be accomplished by an Internal Bilateral Transaction (IBT) through ISO-NE. An IBT can be created to transfer energy in the Day-Ahead or Real-Time Energy Markets for specific periods. After an operating day occurs, the seller shall enter the Company's allocation of energy by hour into ISO-NE's website, and the Company shall receive the energy and the associated revenue in its settlement reports.

The delivery of RECs shall be accomplished by an irrevocable Forward Certificate Transfer (FCT) through the NEPOOL-Generator Information System (GIS). The seller shall create an FCT in NEPOOL-GIS for a specific quantity of RECs that matches the Company's allocation of RECs for an operating month.

The Company will only make payments to the seller when the energy delivered via the ISO-NE matches the quantity of RECs delivered through NEPOOL-GIS.

PUC 1-9

Request:

Referencing page 32 of Ms. DiDomenico's testimony, lines 11-14, what years were included in forecasts used for the determination that the pricing was forecasted to be below the market prices of energy and RECs?

Response:

Please refer to footnote 7 of Section 2.2 of Navigant's New England Clean Energy RFP Evaluation Report (Schedule CMD-11) which states, in part:

Benefits were analyzed in PROMOD over the 20-year 2017-2038 period. For bids whose 20-year term extended to 2039 or 2040, annual benefits were extrapolated through 2040. For proposed projects with terms lengths of less than 20 years, benefits were evaluated over the term length of the proposal.

The Narragansett Electric Company

d/b/a National Grid

RIPUC Docket No. 4764

In Re: Request for Approval of Eight Long-Term Renewable Energy Contracts

Responses to Commission's First Set of Data Requests

Issued on November 9, 2017

PUC 1-10

Request:

Please provide the below market forecast for each PPA based on the most recent ESAI report used in Docket No. 4371.

Response:

Please refer to Confidential Attachment PUC 1-10.

The Company has prepared the analysis, as requested; however, the ESAI forecast should not be given any weight by the PUC in its review of the contracts submitted in this proceeding. The ESAI forecast was prepared after the Company awarded bids in the CERFP solicitation and is not as robust as the forecast agreed upon by the CERFP soliciting parties, as described in response to data request PUC 1-13. Indeed, any number of forecasts may produce different results than the forecast agreed upon by the CERFP soliciting parties to analyze bids in the CERFP process. Therefore, only the forecast used by the Massachusetts, Connecticut and Rhode Island CERFP evaluation team (which included state government agencies) should be used to judge whether the contracts submitted to the PUC in this proceeding are commercially reasonable.

REDACTED

CONFIDENTIAL

ESAI NE Energy and REC Price Forecast - December 2016

	RI	ME	NH	Conn	Mass Hub	REC Forecast	Comments
	7x24	7x24	7x24	7x24	7x24		
2011							
2012							
2013							
2014							
2015							
2016							
2017							
2018							
2019							
2020							
2021							
2022							
2023							
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2035							
2036							
2037							
2038							
2039							
2040							
2041							

REDACTED

In Re: Request for Approval of Eight Long-Term Renewable Energy Contracts

Responses to Commission's First Set of Data Requests

Attachment PUC 1-10

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	Sanford Airport Solar Project	Chinook Solar Project	Farmington Solar Project	Quinebaug Solar Project	Hope Farm Solar Project	Scituate Solar Project	Wood's Hill Solar
Year	Above Market Cost	Above Market Cost	Above Market Cost	Above Market Cost	Above Market Cost	Above Market Cost	Above Market Cost
2018	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2019	(\$21,249)	(\$10,607)	(\$13,449)	(\$10,964)	\$0	\$0	\$0
2020	(\$68,845)	(\$29,349)	(\$28,316)	(\$10,219)	\$24,603	\$24,603	\$20,434
2021	(\$34,431)	(\$9,214)	\$2,420	\$22,939	\$69,482	\$69,482	\$33,316
2022	(\$27,365)	(\$5,079)	\$8,731	\$28,740	\$77,707	\$77,707	\$35,570
2023	(\$46,823)	(\$16,433)	(\$8,648)	\$9,825	\$53,679	\$53,679	\$28,221
2024	(\$53,487)	(\$20,319)	(\$14,600)	\$4,411	\$46,602	\$46,602	\$26,118
2025	(\$68,022)	(\$28,803)	(\$27,581)	(\$9,982)	\$27,198	\$27,198	\$20,526
2026	(\$68,871)	(\$29,282)	(\$28,340)	(\$10,996)	\$25,895	\$25,895	\$20,132
2027	(\$69,268)	(\$29,498)	(\$28,694)	(\$11,333)	\$25,804	\$25,804	\$20,001
2028	(\$69,419)	(\$29,572)	(\$28,829)	(\$11,458)	\$24,923	\$24,923	\$19,952
2029	(\$74,168)	(\$32,324)	(\$33,071)	(\$15,281)	\$20,302	\$20,302	\$18,467
2030	(\$75,437)	(\$33,049)	(\$34,204)	(\$16,398)	\$17,854	\$17,854	\$18,033
2031	(\$78,555)	(\$34,850)	(\$36,989)	(\$19,564)	\$13,752	\$13,752	\$16,803
2032	(\$82,104)	(\$36,903)	(\$40,158)	(\$23,152)	\$9,095	\$9,095	\$15,409
2033	(\$86,089)	(\$39,210)	(\$43,717)	(\$27,166)	\$3,875	\$3,875	\$13,850
2034	(\$90,513)	(\$41,773)	(\$47,669)	(\$31,610)	(\$1,913)	(\$1,913)	\$12,123
2035	(\$95,384)	(\$44,596)	(\$52,019)	(\$36,490)	(\$8,275)	(\$8,275)	\$10,227
2036	(\$100,705)	(\$47,682)	(\$56,771)	(\$41,811)	(\$15,220)	(\$15,220)	\$8,160
2037	(\$106,483)	(\$51,034)	(\$61,932)	(\$47,579)	(\$22,755)	(\$22,755)	\$5,919
2038	(\$111,292)	(\$53,822)	(\$66,227)	(\$52,400)	(\$29,050)	(\$29,050)	\$4,046
2039	(\$97,066)	(\$47,359)	(\$59,049)	(\$47,991)	(\$35,832)	(\$35,832)	\$2,030
2040	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	(\$1,525,576)	(\$670,756)	(\$699,111)	(\$358,480)	\$327,726	\$327,726	\$349,340
NPV (7%, 2018)	(\$644,933)	(\$273,929)	(\$265,487)	(\$100,547)	\$246,277	\$246,277	\$189,632

Notes:

- Above market cost is calculated using market price forecasts for Energy and RECs provided by ESAI in December 2016.

REDACTED

In Re: Request for Approval of Eight Long-Term Renewable Energy Contracts
Responses to Commission’s First Set of Data Requests
Attachment PUC 1-10
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Year	Cassadaga Wind Project	Totals by Year
	Above Market Cost	Above Market Cost
2018	\$0	\$0
2019	\$0	(\$56,269)
2020	\$0	(\$67,090)
2021	\$487,070	\$641,064
2022	\$553,418	\$749,429
2023	\$339,244	\$412,745
2024	\$278,368	\$313,694
2025	\$115,386	\$55,921
2026	\$104,539	\$38,972
2027	\$101,322	\$34,139
2028	\$100,331	\$30,851
2029	\$57,555	(\$38,219)
2030	\$45,377	(\$59,970)
2031	\$9,978	(\$115,673)
2032	(\$30,188)	(\$178,907)
2033	(\$75,171)	(\$249,752)
2034	(\$125,025)	(\$328,292)
2035	(\$179,808)	(\$414,619)
2036	(\$239,582)	(\$508,831)
2037	(\$304,414)	(\$611,033)
2038	(\$358,553)	(\$696,348)
2039	(\$416,867)	(\$737,966)
2040	(\$479,388)	(\$479,388)
Total	(\$16,408)	(\$2,265,539)
NPV (7%, 2018)	\$881,106	\$278,396

REDACTED

In Re: Request for Approval of Eight Long-Term Renewable Energy Contracts
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Attachment PUC 1-10
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Year	Sanford Airport Solar Project		Chinook Solar Project		Farmington Solar Project	
	Contract Cost	Remuneration	Contract Cost	Remuneration	Contract Cost	Remuneration
2018		\$0		\$0		\$0
2019		\$2,278		\$1,379		\$2,186
2020		\$13,667		\$8,272		\$13,119
2021		\$13,667		\$8,272		\$13,119
2022		\$13,667		\$8,272		\$13,119
2023		\$13,667		\$8,272		\$13,119
2024		\$13,667		\$8,272		\$13,119
2025		\$13,667		\$8,272		\$13,119
2026		\$13,667		\$8,272		\$13,119
2027		\$13,667		\$8,272		\$13,119
2028		\$13,667		\$8,272		\$13,119
2029		\$13,667		\$8,272		\$13,119
2030		\$13,667		\$8,272		\$13,119
2031		\$13,667		\$8,272		\$13,119
2032		\$13,667		\$8,272		\$13,119
2033		\$13,667		\$8,272		\$13,119
2034		\$13,667		\$8,272		\$13,119
2035		\$13,667		\$8,272		\$13,119
2036		\$13,667		\$8,272		\$13,119
2037		\$13,667		\$8,272		\$13,119
2038		\$13,667		\$8,272		\$13,119
2039		\$11,389		\$6,893		\$10,932
2040		\$0		\$0		\$0
Totals		\$273,343		\$165,434		\$262,373
NPV (7%, 2017)		\$127,941		\$77,433		\$122,806

Notes:

- Above market cost is calculated using market price forecasts for Energy and RECs provided by ESAI in December 2016.

REDACTED

In Re: Request for Approval of Eight Long-Term Renewable Energy Contracts
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Year	Quinebaug Solar Project		Hope Farm Solar Project		Scituate Solar Project	
	Contract Cost	Remuneration	Contract Cost	Remuneration	Contract Cost	Remuneration
2018		\$0		\$0		\$0
2019		\$2,488		\$0		\$0
2020		\$14,926		\$20,806		\$20,806
2021		\$14,926		\$20,806		\$20,806
2022		\$14,926		\$20,806		\$20,806
2023		\$14,926		\$20,806		\$20,806
2024		\$14,926		\$20,806		\$20,806
2025		\$14,926		\$20,806		\$20,806
2026		\$14,926		\$20,806		\$20,806
2027		\$14,926		\$20,806		\$20,806
2028		\$14,926		\$20,806		\$20,806
2029		\$14,926		\$20,806		\$20,806
2030		\$14,926		\$20,806		\$20,806
2031		\$14,926		\$20,806		\$20,806
2032		\$14,926		\$20,806		\$20,806
2033		\$14,926		\$20,806		\$20,806
2034		\$14,926		\$20,806		\$20,806
2035		\$14,926		\$20,806		\$20,806
2036		\$14,926		\$20,806		\$20,806
2037		\$14,926		\$20,806		\$20,806
2038		\$14,926		\$20,806		\$20,806
2039		\$12,438		\$20,806		\$20,806
2040		\$0		\$0		\$0
Totals		\$298,511		\$416,112		\$416,112
NPV (7%, 2017)		\$139,721		\$192,519		\$192,519

REDACTED

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Year	Wood’s Hill Solar		Cassadaga Wind Project	
	Contract Cost	Remuneration	Contract Cost	Remuneration
2018		\$0		\$0
2019		\$0		\$0
2020		\$6,470		\$0
2021		\$6,470		\$175,300
2022		\$6,470		\$175,300
2023		\$6,470		\$175,300
2024		\$6,470		\$175,300
2025		\$6,470		\$175,300
2026		\$6,470		\$175,300
2027		\$6,470		\$175,300
2028		\$6,470		\$175,300
2029		\$6,470		\$175,300
2030		\$6,470		\$175,300
2031		\$6,470		\$175,300
2032		\$6,470		\$175,300
2033		\$6,470		\$175,300
2034		\$6,470		\$175,300
2035		\$6,470		\$175,300
2036		\$6,470		\$175,300
2037		\$6,470		\$175,300
2038		\$6,470		\$175,300
2039		\$6,470		\$175,300
2040		\$0		\$175,300
Totals		\$129,397		\$3,505,994
NPV (7%, 2017)		\$59,867		\$1,515,969

PUC 1-11

Request:

Referencing page 36, line 13 through page 37, line 5 of Ms. DiDomenico's testimony, , because not all of the energy will be delivered to the ISO-NE control area, please explain and show how this PPA nameplate capacity is quantified as contract capacity the Long Term Contracting Standard amounts.

Response:

The expected contract capacity listed in the testimony should be corrected to reflect the minimum required delivery into ISO-NE. The PPA requires the project to deliver 90% of the metered output in a contract year. Therefore, the expected contract capacity for Cassadaga should be adjusted to $8.1 \times 90\% = 7.3$ MW of contract capacity.

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PUC 1-12

Request:

Why did RES America request that the Company execute separate PPAs for each project?

Response:

RES America Development Inc. (RES) submitted one proposal for the combined Hope-Scituate Project with one point of interconnection and delivery point. During the contract negotiations, RES requested that the two projects have their own PPA because they were established as separate legal entities.

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PUC 1-13

Request:

What is the level of confidence in forecasts that contract prices will provide savings compared to market prices for energy and RECs. Please describe this for the aggregate PPAs over the expected life of the PPAs, and, if possible, each individual PPA over each 20-year contract. Please explain and provide any sensitivity analyses that were performed on these forecasts?

Response:

The response below was provided by Navigant:

No formal statistical analysis of confidence intervals was conducted. The general level of confidence that there will be savings is conditional on two items, (i) the accuracy of the inputs to the forecasting model and proper operation of the forecasting model and (ii) the size or scale of savings projected. All forecasts are of a temporary nature and are based on the best information known at the time of the forecast and will change over time as conditions change.

- (i) Forecast input assumptions were prepared jointly by the Navigant team and the utility and regulator advisory team in early 2016 using the best available information at that time regarding load growth, fuel prices, carbon policy, generator retirements, and generator additions. Model assumptions and settings such as generator and grid capability were reviewed carefully by the teams and confirmed to be accurate based on ISO and other secondary information. With this, the level of confidence in the forecasts is considered to be high given the information known and documented as of early 2016.
- (ii) Projects with higher projected savings per MWh of output are, all else equal, more likely to demonstrate total savings than are projects with lower savings per MWh.

Sensitivities were not conducted. However, Levitan & Associates, Inc. (LAI) separately performed an analysis of the benefit-cost ratios of the PPA bids, and the LAI results were largely consistent with those found by Navigant.

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PUC 1-14

Request:

Please provide the aggregate cost of each PPA over the life of the PPA.

Response:

Please refer to Confidential Attachment PUC 1-14.

REDACTED

Bid	Net Avg Annual MWh (b)	LevNom Direct Benefit (Tot)	LevNom Direct Cost	RI %	Contract Cost	Market Revenues	Net Direct Benefits	Aggregate 20 Year Cost	National Grid Annual Remuneration	National Grid Remuneration for 20 Years
Ranger Sanford			79.0	7.5%			\$ (264,922)		\$ 13,667	\$ 273,343
Ranger Chinook			81.8	7.5%			\$ (151,039)		\$ 8,272	\$ 165,434
Ranger Farmington			84.9	7.5%			\$ (188,533)		\$ 13,119	\$ 262,373
Ranger Quinebaug			89.2	7.5%			\$ (211,145)		\$ 14,926	\$ 298,511
Cassadaga			92.2	15.0%			\$ (2,248,695)		\$ 175,300	\$ 3,505,994
RES Woods Hill			99.5	7.5%			\$ (43,501)		\$ 6,470	\$ 129,397
RES Hope			93.7	50.0%			\$ (187,748)		\$ 20,806	\$ 416,112
RES Scituate			93.7	50.0%			\$ (187,748)		\$ 20,806	\$ 416,112
						Total (\$/yr)	\$ (3,483,331)	\$ 198,810,035	\$ 273,364	\$ 5,467,276
						20 yrs (\$)	\$ (69,666,617)			

Data source: Previously filed as the response to data request DIV 1-1, WP Support Tab E-1 (Confidential)

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PUC 1-15

Request:

Please provide the calculation of the financial remuneration to the Company for each PPA for each year of the PPA and provide a total.

Response:

Please refer to Confidential Attachment PUC 1-14.

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PUC 1-16

Request:

Was the financial remuneration to the Company considered in the evaluation of the below market cost? If not, please reduce each below market benefit by the annual and aggregate amount of the financial remuneration.

Response:

The estimated cost of each PPA was calculated and determined before the Company's financial remuneration was calculated or considered. First, the estimated cost of each bid was calculated, then the bids were evaluated and ranked, and finally certain bids were selected for PPA execution. The Company's financial remuneration is added for purposes of cost recovery, but it is not used and should not be used for purposes of estimating the costs of bids, for evaluating bids, or for making bid selections.

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PUC 1-17

Request:

Please provide an estimate of any administrative costs associated with these contracts. Please include and itemize any costs associated with monitoring or executing the sale of products purchased through the PPAs into any markets.

Response:

The Power Purchase Agreements (PPAs) associated with the New England Clean Energy Request for Proposals (Clean Energy RFP) will be included in existing processes already established to administer the Long-Term Contracting Standard for Renewable Energy (LTC Standard) and Distributed Generation Standard Contracts Act (together, Long-Term Renewable Contracts). The Company does not anticipate additional costs to monitor these PPAs other than incremental labor hours resulting from the inclusion of these PPAs into existing processes.

The sale of energy associated with these PPAs will not result in any execution costs as it is settled through the ISO-New England Inc. However, there may be execution expenses related to the sale of Renewable Energy Certificates (RECs).

National Grid currently receives New RECs from transactions associated with the Long-Term Renewable Contracts, as well as the Renewable Energy Growth Program. In the 2018 Renewable Energy Standard (RES) Procurement Plan¹ the Company proposed and the PUC approved the use of these New RECs to comply with the Company's RES obligation for its Standard Offer Service (SOS) customers. The 2018 RES Procurement Plan also included three methods to sell RECs in the event that its New REC supply exceeds its RES obligation and the allowable banking limit for its SOS customers. The Clean Energy RFP PPAs are executed under the LTC Standard and therefore the 2018 RES Procurement Plan applies to RECs from these PPAs.

The three sales methods approved by the PUC include:

- A. The Company may issue a Request for Bids (RFB) or auction for RECs to solicit bids for the sale of the RECs. The RFB would allow multiple participants to bid for various volumes up to the quantity offered.

¹ The 2018 RES Procurement Plan was approved by the PUC in Docket No. 4692 pursuant to PUC Order 22774.

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- B. The Company may participate in REC RFPs or auctions in the market place conducted by utilities, brokers, or other market participants.
- C. The Company may engage a third party to broker the sale of RECs.

There may be execution expenses if the Company uses any third parties to broker REC sales. Also, in its future RES procurement plans, the Company may propose new sales methods that may result in additional execution expenses. However, the Company does not anticipate using a third party broker, at this time.

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PUC 1-18

Request:

Based on the forecasted load for the next ten years, please provide a projected per kWh charge for these PPAs under the Long Term Contracting for Renewable Energy Recovery Factor for each year.

Response:

Please see Attachment PUC 1-18 for projected per kWh factors for these PPAs under the Long Term Contracting for Renewable Energy Recovery Factor for each of the next ten years.

National Grid
Illustrative Ten Year LTCRER Factor Associated with CERFP RI PPAs

Line Description	2018 (a)	2019 (b)	2020 (c)	2021 (d)	2022 (e)	2023 (f)	2024 (g)	2025 (h)	2026 (i)	2027 (j)
(1) Above/(Below) Market Cost - Annual	(\$3,483,331)	(\$3,483,331)	(\$3,483,331)	(\$3,483,331)	(\$3,483,331)	(\$3,483,331)	(\$3,483,331)	(\$3,483,331)	(\$3,483,331)	(\$3,483,331)
(2) Contract Remuneration - Annual	<u>\$273,364</u>									
(3) Total Estimated Annual Cost	(\$3,209,967)	(\$3,209,967)	(\$3,209,967)	(\$3,209,967)	(\$3,209,967)	(\$3,209,967)	(\$3,209,967)	(\$3,209,967)	(\$3,209,967)	(\$3,209,967)
(4) Forecasted kilowatt-hours	7,292,198,600	7,242,559,891	7,198,614,407	7,144,863,576	7,132,895,018	7,144,860,299	7,172,753,253	7,221,629,924	7,256,643,249	7,343,587,667
Illustrative Adjustment to Long Term Contracting										
(5) Renewable Energy Recovery Factor (LTCRER)	(\$0.00044)	(\$0.00044)	(\$0.00044)	(\$0.00044)	(\$0.00045)	(\$0.00044)	(\$0.00044)	(\$0.00044)	(\$0.00044)	(\$0.00043)
(6) Adjustment for Uncollectibles	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%
(7) Illustrative Adjustment to LTCRER after Uncollectibles	(\$0.00044)	(\$0.00044)	(\$0.00044)	(\$0.00044)	(\$0.00045)	(\$0.00044)	(\$0.00044)	(\$0.00044)	(\$0.00044)	(\$0.00043)

- (1) Narragansett Electric's share of Estimated Above/(Below) Market Cost
 - (2) Narragansett Electric's share of Estimated Output x Bundled Contract Price x 2.75%
 - Included Contract Remuneration to reflect total estimated annual costs over the life of the contracts, contract remuneration is recovered through the LTCRER reconciliation factor
 - (3) Line (1) + Line (2)
 - (4) 12 Month kWh Forecast Per Company Forecast - CY 2018
 - (5) Line (3) + Line (4), truncated after 5 decimal places
 - (6) Uncollectible Percentage as approved in RIPUC Docket No. 4323
 - (7) Line (5) x [1 + Line (6)], truncated to five decimal places
- For illustrative purposes the Company is providing an annual LTCRER Factor Adjustment. LTCRER Factor is typically updated semi-annually

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PUC 1-19

Request:

Will these PPAs reduce the cost of energy to Standard Offer Customers? If so, how? If not, why not? Please provide a quantification of the response.

Response:

The cost of the PPAs will be recovered through the Long Term Contracting for Renewable Energy Recovery Factor, which is billed as part of the Renewable Energy Distribution Charge line item on customers' bills. Cost recovery will not occur through Standard Offer Service rates.

Also, please see response to data request PUC 1-21.

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PUC 1-20

Request:

Will these PPAs reduce the cost of transmission to National Grid customers? If so, how? If not, why not? Please provide a quantification of the response.

Response:

No, none of the projects involve transmission. The cost of the PPAs will be recovered through the Long Term Contracting for Renewable Energy Recovery Factor, which is billed as part of the Renewable Energy Distribution Charge line item on customers' bills. Cost recovery will not be through transmission service rates.

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PUC 1-21

Request:

Will these PPAs reduce costs on the bulk power system? If so, how? If not, why not? Please provide a quantification of the response.

Response:

It is probable, yet difficult to quantify. With no fuel costs, adding the energy generating resources associated with these PPAs to the ISO-NE system should, all other things being held equal, reduce energy market prices. This is because their energy should displace ISO-NE's need to dispatch energy from higher cost resources to satisfy system demand. This should result in a reduction to the locational marginal prices (LMPs) for energy on the bulk power system. However, for relatively small energy generating resources, it is difficult for dispatch models to accurately quantify energy market price reductions and resulting savings for customers. Thus, as explained below by Navigant in Schedule CMD-11, at 14, energy market savings were not assumed in the assessment of the benefit-cost (B-C) ratios for these PPAs:

 Navigant evaluated a number of Small PPA bids in PROMOD, ranging from 20 to 125 MW in size.[footnote omitted] These small bids were evaluated using the Reference Case PROMOD model encompassing only the ISO-NE footprint. Based on Navigant's experience, the impact of small incremental changes in generation resources within ISO-NE would have minimal impacts on transmission flows at the ISO's external interfaces and on LMPs within ISO-NE. . . . The small load price differences found between the Reference Case and the Small PPA bids were within a range of uncertainty. As such, Navigant recommended that the small PPA bid B-C ratios be assessed assuming no load payment savings. [footnote omitted] This assisted in providing a more conservative estimate of the B-C ratios for the small PPA bids.

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PUC 1-22

Request:

Please quantify the level of carbon reductions expected from each of the PPAs as they relate to the region and to Rhode Island. Please also provide a dollar amount of the benefit.

Response:

The response below was provided by Navigant:

The decreases in CO₂ emissions expected from each of the proposed PPAs from generation sources are shown for ISO-NE and Rhode Island, respectively, in Confidential Attachment 1-22. The reductions in the cost of CO₂ emissions were captured within the production cost savings used in deriving the B/C Ratio for each PPA, and these CO₂ dollar values were not separately calculated. An estimate of the CO₂ dollar value associated with the proposed Rhode Island PPAs is provided in Confidential Attachment 1-22 using the average CO₂ price assumed in the production cost analysis over the 2019 to 2038 period.

Generation sources modeled as being in or close to Rhode Island have larger measured impacts on CO₂ emissions from Rhode Island.

See Section 3.3 of Navigant's report, or Schedule CMD 1-11, for a description of the methodology used for this analysis.

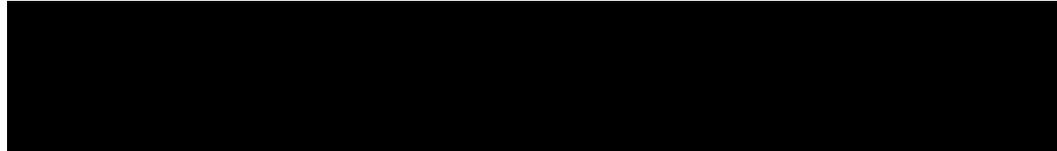
REDACTED

Attachment 1-22
Redacted
Decreased CO2 from PPAs

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Attachment PUC 1-22
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	Amount		Dollar Value (a)	
	000 Short Tons		\$ Millions (2016\$)	
	ISO-NE	RI, RI/ISONE	ISO-NE	RI
Cassadaga				
Ranger Chinook				
Ranger Farmington				
Ranger Quinebaug				
Ranger Sanford				
RES Hope-Scituate				
RES Woods Hill				



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PUC 1-23

Request:

Please provide a quantification of the direct economic benefits assumed for National Grid customers. Please provide a copy of the analysis or point to the location within the filing.

Response:

Please refer to page 43, lines 15 through 21 and pages 40 through 41, lines 4 through 2, of Corinne M. DiDomenico's testimony. For a copy of the analysis described, please see National Grid's response to Data Request DIV 1-1.

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PUC 1-24

Request:

Please provide a quantification of the direct economic benefits to Rhode Island consumers from these PPAs. Please provide a copy of the analysis or point to the location within the filing.

Response:

Please refer to page 43, lines 15 through 21 and pages 40 through 41, lines 4 through 2, of Corinne M. DiDomenico's testimony. For a copy of the analysis described, please see National Grid's response to data request DIV 1-1 within this docket.