Jennifer Brooks Hutchinson
Senior Counsel

April 23, 2013

VIA HAND DELIVERY & ELECTRONIC MAIL

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

RE: Docket 4397 - Review of Energy Efficiency and Advanced Gas Technology Incentives For 12.5 MW Combined Heat and Power System
<u>Responses to Division Data Requests – Set 1</u>

Dear Ms. Massaro:

On behalf of National Grid[1] attached are the Company's responses to the Division's First Set of Data Requests issued in the above-captioned proceeding.

Thank you for your attention to this filing. If you have any questions concerning this transmittal, please feel free to contact me at (401) 784-7288.

Very truly yours,

Jennifer Brooks Hutchinson

Enclosures

cc: Docket 4397 Service List
Leo Wold, Esq.
Steve Scialabba, Division

[1] The Narragansett Electric Company d/b/a National Grid (hereinafter referred to as "National Grid" or the "Company").

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Certificate of Service

I hereby certify that a copy of the cover letter and/or any materials accompanying this certificate were electronically transmitted to the individuals listed below. Paper copies of this filing were hand delivered to the Rhode Island Public Utilities Commission.

___________________________________ April 23, 2013

Joanne M. Scanlon Date

Docket No. 4397 - National Grid - Energy Efficiency and Advanced Gas Technology Incentives for 12.5 MW CHP System Package to Toray
Service list updated 3/11/13

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Division 1-1

Request:

With regard to page 3, please describe in detail the assumptions and methodologies that were used to estimate the economic development and environmental benefits of the Toray proposal.

Response:

Please see the Company's response to COMM 1-5 for an overview of the assumptions that were used to estimate the economic development and environmental benefits of the Toray proposal.

The economic development benefits of $2.79 of lifetime gross state product per dollar of program investment based on updated outputs of the report, "Energy Efficiency in Rhode Island: Engine of Economic Growth," prepared by Environment Northeast (ENE) in October 2009, using recent energy and investment values. Table 12 of the ENE report gives a value of $4.00 of lifetime gross state product per dollar of electric energy efficiency program investment. This value was reduced to 70% of the ENE reported value to reflect the decline in energy prices (and consequent lower economic impact from avoiding those prices) since the ENE report was prepared; 70% was the ratio of levelized summer on peak energy values for Rhode Island from the 2011 Avoided Cost Study compared to the same period in the 2007 Avoided Cost Study.

The environmental/emissions related avoided-health cost were estimated using the Co-benefits Risk Assessment (COBRA) Screening Model[1] developed and published by the U.S. Environmental Protection Agency (EPA) for such purposes, and as approved for such use in the 2013 EEPP. Expected changes in emissions, as developed from decreases in regional electricity production and increases in natural gas consumption in Rhode Island resulting from the Toray project, were input into the COBRA model and the avoided-cost benefits were the output. The Company derives the avoided emissions amounts by multiplying the expected hourly output rate of the CHP unit by the marginal unit emissions rate for SO2 and NOx for the ISO-NE region, as apportioned for each state's share of regional energy production and emissions intensity. (Particulate matter is not tracked by the ISO-NE and, thus, could not be measured by COBRA tool). For Rhode Island, the amounts of emissions that are expected from the project itself were also added to the calculations, as it burns a fossil fuel as its energy source.

[1] The Company used the COBRA version 2.3a, published initially December 2010, and available for free at http://www.epa.gov/statelocalclimate/resources/cobra.html.

The differences are then the net reduction or increase of expected emissions from an energy efficiency project, in this case the Toray CHP project. The calculations of net emissions changes resulted in modest changes in Rhode Island emissions – a decrease of 3.2 tons of SO2 per year and an increase of 91.8 tons of NOx per year. When input into the EPA COBRA model these changes resulted in net health costs of $495 in 2015 for Rhode Island. Undiscounted over 20 years, the cost amounts to $9,900, which did not change the outcome of the Benefit Cost Screening Tool outcome, as the other benefits values were substantial.

Prepared by or under the supervision of: Jeremy Newberger and Ian Springsteel

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Division 1-2

Request:

With regard to page 3, please provide the results of the cost-effectiveness screening analysis, in terms of net present value of costs and net present value of benefits.

Response:

The net present value of costs was $23,700,000 and the net present value of benefits, using the modified benefit cost model as approved in Docket 4366, was $44,767,952, yielding a benefit cost ratio of 1.89.

Prepared by or under the supervision of: Jeremy Newberger

Division 1-3

Request:

With regard to page 3, please provide the workbook(s) that the Company used to evaluate the cost-effectiveness of the Toray CHP proposal, in electronic, machine readable format.

Response:

Please see Attachment DIV 1-3 being provided on CD-ROM.

The Company uses a screening tool for cost-effectiveness testing of custom projects, including CHP. The 2013 tool had not been built and programmed at the time of the filing of the Petition to allow for screening. Therefore, the Company used the 2012 tool for the Toray project. This workbook features several tabs. Inputs are shown on the "Input" Tab. Calculations are made on the "Screening Tool" tab using the inputs, as well as values from the "Value Tables" tab and other parameters associated with the selected measure code from the "MeasLookUp" tab. Benefit Cost ratios are reported both on the Input tab as well as the Screening Tool tab. This workbook is used by Company and external field personnel for screening.

To determine the cost-effectiveness of the Toray project, given the unavailability of the 2013 tool, the Company created a modified version of the 2012 tool. The Company created a separate "Screening Tool 1" tab, and held known quantities – such as costs and savings – fixed, and updated the results to show the modifications to the cost effectiveness test consistent with the new statute for CHP and adopted in the 2013 Energy Efficiency Procurement Plan. These changes used site-specific values for distribution capacity benefits and incorporation of the economic development benefit. The incentive calculations in the Screening Tool are not applicable for purposes of this analysis since they are the incentives from the 2012 program year.

Attachment DIV 1-3, Screening Tool 1 Tab, cell I60 shows the benefit-cost calculation results for the Toray project including the incorporation of the site-specific distribution capacity benefits and the incorporation of the economic development benefit. The value on the Inputs tab, cell D64, is the benefit-cost ratio before the CHP adjustments were made.

The Company did not include the environmental benefit in the screening of the Toray project because the algorithm for this calculation was still under development at that time. Initial results of working with an avoided-health cost assessment tool published by the U.S. Environmental Protection Agency, as described in DIV 1-1, indicated very small added health costs from the CHP project. Since the inclusion of this environmental cost was immaterial to the overall level

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of positive benefits (See the Company's response to DIV 1-1), the Company was confident that the project would still pass the modified benefit-cost test even without inclusion of this measure. The environmental net impact evaluation will be formalized as a component of the screening tool along with the other new aspects of the benefit-cost test as approved in the 2013 EEPP.

Prepared by or under the supervision of: Jeremy Newberger

Division 1-4

Request:

Please provide the Technical Assistance Study referred to in the footnote on page 5.

Response:

Please see the Company's response to COMM 1-7.

Prepared by or under the supervision of: Mark DiPetrillo

Division 1-5

Request:

With regard to pages 8 and 9, please explain why the Company is requesting to fund the entire $13.5 million Installation Incentive from its 2013 energy efficiency budgets, as opposed to spreading the cost of this incentive over several years.

Response:

Please see the Company's response to COMM 1-8. The Company requested fully funding the entire Installation Incentive from the 2013 budget because it has always been the practice since the early 1990s to fully fund the commitment in the year that the commitment is made. As noted in the response to COMM-1-8, the practice of fully funding commitments in the current program year dates back to a time during which there was no legislative structure that established stable funding for energy efficiency. In that environment, it was not certain that funding would be available from one year to the next and it was important to set aside current funds to honor commitments made to customers for projects that would not be completed until the next year, in case there was no funding for energy efficiency in the next year.

In today's environment, the least cost procurement provisions of R.I.G.L. §39-1-27.7, which are in place through 2020, provide greater stability. However, even with this greater stability, the Company did not believe that it had the authority to spread the incentive costs over several years and, therefore, did not propose such an approach in the Petition.[1]

The Company would, however, favor spreading the Toray commitment over 2013 and 2014 in the event that the Commission approved such an approach for purposes of the Toray project.

As noted in the Petition and in the response to COMM-1-8, the funding of the full commitment in 2013 will put pressure on the budget and program implementation as the Company attempts to achieve its 2013 goals. Funding the incentive with the budgeted $7 million commitment in 2013 and the remainder in 2014 will make 2013 program implementation efforts easier, alleviate potential overspending pressure in 2013, and potentially reduce the administrative burden on the Company and the Division from the processing of fund transfers in 2013.

Prepared by or under the supervision of: Jeremy Newberger

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[1] A new provision approved in the 2013 Energy Efficiency Procurement Plan ("EEPP") allows the spreading out of commitments over multiple years for projects that are expected to come on line more than one year in the future. This would not apply to Toray, which is expected to come on line in 2014. It would have been applied had Toray been expected to come on line in 2015. See 2013 EEPP, page 18.

Division 1-6

Request:

With regard to pages 8 and 9, does the Company have any concerns with spreading the cost of the Installation Incentive over several years? Which years would be most appropriate?

Response:

The Company does not have any concerns about spreading the cost of the Installation Incentive over 2013 (through a commitment) and 2014. Indeed, the Company would favor this approach over fully funding the commitment in 2013 as indicated in the Company's responses to COMM 1-8 and DIV 1-5.

The Company would have concerns with spreading out the cost of the Installation Incentive beyond 2014. If the funding of the Installation Incentive is stretched out beyond 2014, the Company would not have the funds to pay for the full cost of the Installation Incentive in 2014. This could result in a scenario whereby Toray would be unable to pay its vendors for the installed equipment without the full incentive, which may in turn jeopardize the project's viability. Such considerations would likely cause a renegotiation of the offer letter and the outcome of such renegotiations would be uncertain.

Prepared by or under the supervision of: Jeremy Newberger and Mark DiPetrillo

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Division 1-7

Request:

With regard to paragraph 26 on page 9, please provide the cost of saved energy, as well as all calculations the Company used in its determination.

Response:

The cost of saved energy for the Toray project is $0.0135 per lifetime kWh. This is determined by taking the cost of the project ($23,700,000) and dividing by the product of annual energy savings (87,473 MWh, Petition paragraph 12) and expected equipment life (20 years, see the AGT Financial Analysis and the Company's response to COMM 1-3).

In making the statement in paragraph 26, the Company compared the cost of saved energy for the Toray project to the cost for the 2013 Retrofit program, $0.032/lifetime kWh, as seen in Table E-5 of the 2013 Energy Efficiency Program Plan in Docket 4366. (Program-level costs for the 2014 Plan have not yet been determined.)

Prepared by or under the supervision of: Jeremy Newberger

Division 1-8

Request:

With regard to Attachment A, page 2, Incentive Payment Intervals, please provide the estimated dates for Completion of Milestone Nos. 2A, 2B, 2C, 3 and 4.

Response:

Milestone 2A- Installation of Engines:
The estimated date for completion is January 14, 2014.

Milestone 2B – Demonstration of Operability:
The estimated date for completion is January 14, 2014.

Milestone 2C – Interconnect Agreement:
The estimated date for completion is March 14, 2014.

Milestone 3 – Commissioning and Documentation:
The estimated date for completion is March 14, 2014.

Milestone 4 – Preventative Maintenance Contract Signed:
The estimated date for completion is November 1, 2013.

Prepared by or under the supervision of: Mark DiPetrillo