

DIVISION OF PUBLIC UTILITIES AND CARRIERS  
MEMORANDUM

TO: LULY MASSARO, CLERK  
PUBLIC UTILITIES COMMISSION

DATE: 5/17/13

FROM: STEPHEN SCIALABBA  
DIVISION OF PUBLIC UTILITIES AND CARRIERS

SUBJECT: DOCKET 4397, ADVANCED GAS TECHNOLOGY INCENTIVE FOR A  
12.5MW COMBINED HEAT AND POWER SYSTEM.

On March 5, National Grid filed a petition for approval of a package of incentives with a total value of \$15,890,000 for Toray Plastics to install a 12.5 MW CHP system at Toray's manufacturing facilities in North Kingstown, RI. The majority of the incentive funds come from energy efficiency funds, but a component of the incentive package is a \$1.8 million Advanced Gas Technology (AGT) payment from National Grid Gas' AGT funds.

The AGT program was approved by the Commission in Docket 2025. Its purpose was to promote the development and utilization of natural gas technologies that will increase the utilization of natural gas during periods of low demand. Increasing off-peak usage reduces the unit cost of gas for all customers by increasing distribution revenues to support fixed costs associated with resources needed during peak periods. The AGT program is presently funded through base rates in an amount of \$300,000 per year. The AGT program is also a component of the Distribution Adjustment Clause (DAC), but for the present DAC period, the AGT component of the DAC is \$0.00/Dkt, so the total annual amount currently collected is \$300,000 through base rates only.

In recent past periods, the AGT fund had also collected an additional \$300,000 through the DAC for a \$600,000 annual total, but that was recently scaled back in the last DAC docket at the Division's recommendation due to lack of program activity for an extended period. The present balance in the fund is approximately \$2.3 million. The most recent incentive awarded from the AGT fund was \$187,000 to help fund an on-site CNG filling station at a local waste-hauler's location as that company was converting its fleet of 80 trucks from diesel to CNG. The Division approved that application in October of 2012.

The proposed Toray CHP facility, if it operates as projected, will meet the primary objective of the AGT program by noticeably increasing gas consumption during off-peak months (May-Oct) relative to consumption in on-peak months (Nov-Apr). The estimates of Toray's gas consumption as presented in the filing show Toray's gas use increasing by 3,000- 4,000 therms per day more during the off-peak months than during winter on-peak months. (See January 28, 2013 Offer Letter, Attachment 2, Page 8). This results in a flattening of Toray's daily and monthly gas requirements throughout the year. Toray's annual gas use is projected to increase by nearly 81%, from 7.9 million therms to 14.3 millions therms of gas.

As stated above, the AGT is designed to provide rebates to projects that benefit the Company's firm customers over time. Under the program, the rebate is based on the lesser of:

1. 75 percent of the lifetime net present value of marginal gas distribution revenue;
2. 75 percent of the project capital cost
3. An amount resulting in a simple payback of 1.5 years.

The annual incremental gas distribution margin to be generated from the project has been calculated to be \$475,261. The Division believes this is an accurate calculation. The calculation of the rebate based on 75% of the NPV of the margin, less estimated required construction costs of \$249,482 which are included in the analysis yields an AGT rebate \$2,774,813. This yields the lowest result of the three-pronged analysis discussed above. National Grid further reduced the rebate amount to \$1.8 million so that the total incentive offer, including the energy efficiency incentives, do not exceed 70% of the estimated project cost. The approved 2013 Energy Efficiency Program subjects CHP projects to an overall 70% incentive cap, including incentives from gas programs. (See Docket 4366 Settlement, Attachment 2, page 37, Incentive Levels).

The additional gas consumption created through this project of 6,349,418 therms annually, and its associated additional margins of \$475,000 were not included in the development of gas rates in the last National Grid Gas rate case, Docket 4323. The project's additional billing units and revenues occur outside of that Docket's rate year which was 2/1/13-1/31/14. The CHP units are expected to come on line between March and June of 2014. In order to afford customers some benefit from the additional throughput expected from the project, the approved Settlement Agreement in Docket 4323 included a provision whereby 50 percent of any incremental revenues received by Narragansett Gas from this project will be credited to customers through the annual DAC filing, until the next base rate case, in which the additional billing units and revenues can be fully incorporated into the gas tariff calculations. This was important, as the Extra-Large rate classification is excluded from the revenue decoupling mechanism, so those revenues would not otherwise be captured until the next rate case. See National Grid's confirmation of this in response to Division 2-10.

Based on the Division's review of the AGT Incentive, the project is consistent with the intent of the AGT program, and the amount of the rebate does not exceed the parameters established for the AGT program.

I would like to point out certain issues that should be discussed further and clarified by National Grid in this proceeding in its reply comments:

- 1) Attachment 2, page 7 to the Offer Letter indicates that National Grid has the right to access Toray's records for a period of two years to ensure that the project is performing in accordance with representations. In response to Commission Request 1-4 on this issue, the Company indicated that it could collect performance data over a four-year period and referred to

Attachment A to the Petition. National Grid should clarify what rights it has to inspect Toray's records relative to performance of the CHP system.

2) In response to Division 2-7, National Grid confirmed that it has no form of guarantee or assurance from Toray regarding the estimated incremental margin revenue. While the Company indicates it has no guarantee regarding the incremental margin revenue, the Letter of Award & Acceptance (1/28 Offer Letter, Attachment 2, page 7) states; "*Upon National Grid identifying the Energy Project under-performing, Toray Plastics (America), Inc. is obligated to return the full rebate to National Grid within four (4) weeks from the date of a Letter of Termination from National Grid.*"

In contrast to the gas AGT rebate, the Energy Efficiency Incentives seem to have clear repayment terms spelled out in the January 28, 2013 Offer Letter (See paragraph 6, page 4 of the Offer Letter). National Grid should specify what provisions exist, if any, to seek a return of part or all of the AGT rebate should the incremental margins not materialize as expected. Included in the clarification should be the time period over which any clawback provision exists. In the absence of a clawback provision, National Grid should explain how ratepayers would be protected from the inefficient use of ratepayer-provided rebate funds in the event of Toray's under-performance.

3) In Division 2-7, the Division asked National Grid if a gas service agreement existed between NGrid and Toray that addresses the incremental gas service requirements. The Division asked to be provided with a copy of any such service contract. In response National Grid indicated that it has prepared a draft gas service agreement for Toray for the provision of firm gas service to the CHP system. A copy of the draft agreement was not provided in the response. This should be provided to the Commission and Division, in confidential form if necessary, as soon as possible.

4) In the AGT financial analysis, there is \$249,482 of construction costs estimated to be required in order to accommodate the CHP project. In response to Division 2-1 which queried about whether National Grid would have to incur costs associated with capital upgrades in order to serve the added load, National Grid identified the need to install a minimum of 2,495 feet of 12-inch main on Quaker Lane in order to ensure the reliability of its gas distribution system in southern Rhode Island. National Grid has estimated the cost at \$886,010. My understanding is that this is a re-estimate of the originally estimated \$249,482 capital upgrade cost. National Grid's response said the \$886,010 will be adopted into the annual gas growth budget and processed through the Company's Contribution in Aid of Construction policy. National Grid should expand on this issue and further describe the capital spending requirement, and explain why there is such a large increase from the original estimate. NGrid should also explain how the additional cost affects the economics of the project from both Toray's perspective and the perspective of NGrid's other ratepayers. Finally, National Grid should explain the effect of processing the \$886,010 through the CIAC.

The Division believes it and the Commission will be in a better position to more completely assess the proposed AGT rebate incentive upon the submission of the above-noted clarifications and documentation.





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## **Memorandum**

To: Rhode Island Division of Public Utilities and Carriers  
From: Tim Woolf, Synapse Energy Economics, Inc.  
Date: May 17, 2013

***Subject: Docket 4397 - Toray Petition for CHP Energy Efficiency Incentives***

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### ***1. Introduction and Summary***

This memo summarizes my review of the Narragansett Electric Company (the Company) petition for approval of energy efficiency incentives to Toray Plastics of America Inc. (Toray) to install a combined heat and power (CHP) system at its manufacturing facility. This review is based on the Company's petition of March 5, 2013 and the associated responses to discovery from the Commission and the Division, as well as the Narragansett Electric 2013 Energy Efficiency Plan (the Efficiency Plan) and accompanying collaborative settlement.

My comments are focused on two issues:

- The way the Toray CHP incentives will be charged to the energy efficiency funds. I recommend that the incentives be charged to the energy efficiency funds in both 2013 and 2014, instead of just 2013 as proposed by the Company.
- The cost-effectiveness estimates of the Toray CHP Project. I note that the Toray CHP project is expected to be cost-effective according to the CHP benefit-cost test established by the legislature and proposed in the Efficiency Plan. Nonetheless, I recommend that the Company work with the Division and the DSM Collaborative to refine the methodology for estimating employment impacts for future CHP projects.

### ***2. Use of the Energy Efficiency Funds***

The total Installation Incentive that will be provided to Toray is proposed to be \$13.5 million. The Company has set aside \$7 million in the electric program budget for commitments for 2013 (i.e., to encumber funds in 2013 that will be used to pay for projects completed in 2014, such as the Toray project). The Company is proposing to use this \$7 million commitment budget to pay for a portion of the Installation Incentive. The remaining \$6.5 million for the Installation Incentive will be drawn from the 2013 spending budget for the C&I Retrofit program. (Narragansett Toray Petition, page 8.)

This will leave a total of \$1.84 million in budgeted C&I Retrofit funds for 2013. The Company offers several remedies for ensuring that it meets its energy savings goals, despite the lower budget available for the C&I Retrofit program. These include adjusting

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the mix of efficiency measures; transferring funds from other C&I programs; transferring funds from other sectors; and overspending the 2013 budget, to be made up from the 2014 budget. (Narragansett Toray Petition, page 9.)

In response to a discovery request the Company explains why it is recommending this approach, and suggests an alternative approach:

The Company also notes that 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 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. In the event that the commission were to waive the requirement for full funding of the commitment in 2013, this would enable the Company to commit to the budgeted \$7 million in 2013 and to pay the remaining \$6.5 million of the incentive (in addition to the budgeted \$7 million which would be carried over to 2014) from the new funds collected in 2014, thereby mitigating any potential overspending as a result of the Toray project in 2013. (Company response to Commission 1-8, page 2.)

I believe that it would be appropriate to pay the remaining \$6.5 million of the Installation Incentive from the new funds collected in 2014. This would alleviate the budgetary burden put on to the C&I Retrofit program in 2013 created by charging all of the Toray incentive in that year. Recovering the funds across two years would minimize the need to adjust the mix of efficiency measures, or to transfer funds from other programs or sectors, and would increase the likelihood that the C&I Retrofit program would have sufficient budget to serve a variety of customers in addition to Toray.

Therefore, I recommend that the Division request the Commission to waive the requirement for full funding of the Toray commitment in 2013.

### ***3. The Cost-Effectiveness of the Toray CHP Project***

The Company begins its cost-effectiveness analysis of the Toray CHP project by applying the standard costs, benefits and methodologies that it applies to other energy efficiency projects. By statute the Company is required to expand this cost-effectiveness analysis to include three additional items: environmental benefits, local distribution benefits and economic development benefits.

The Company estimated the likely environmental benefits of the Toray CHP project and found them to be minimal. Therefore, it does not include any environmental benefits in the cost-effectiveness estimate for the project. (Company response to Division 1-1, page 2.)

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The Company also assumes that the Toray CHP project will not result in system level distribution benefits, the way that other energy efficiency projects will, because the distribution benefits from a CHP project will only be local. Therefore, the Company removes this benefit from the list of benefits typically included in energy efficiency projects. (Company response to Division 1-3, Attachment DIV 1-3.)

Furthermore, the Company estimated that the local distribution benefits of the Toray CHP project are likely to be zero, because it already has sufficient substation capacity in the local area. Therefore, it does not include any local distribution benefits in the cost-effectiveness estimate for the project. (Company response to Commission 2-5.)

Finally, the Company includes an estimate of the economic development benefits of the Toray CHP project. For this purpose it assumes \$2.79 of lifetime gross state product per dollar of efficiency program investment, based on updated outputs of the report *Energy Efficiency in Rhode Island: Engine of Economic Growth*, prepared by Environment Northeast in October 2009. This results in an estimated \$35 million of economic development benefits associated with the Toray CHP project. (Company response to Commission 2-4.)

Using these assumptions, the Company estimates that the benefit-cost ratio of the Toray CHP project will be 1.89. This indicates that the Toray CHP project is cost-effective.

As indicated in the table below, the economic development benefits estimated by the Company have a very large impact on the cost-effectiveness results of this project. Note that if the economic development benefits are excluded from the analysis, the benefit-cost ratio drops from 1.89 to 0.41.

	\$ Million	Net Benefits	Benefit-Cost Ratio
Costs	23.7	---	---
Benefits without economic development	9.7	-14	0.41
Benefits with economic development	44.8	21.1	1.89

(Company response to Division 1-3, Attachment DIV 1-3.)

The economic development benefits have such a large impact on the results because the net benefits, after accounting for increased gas use, are relatively small. The Company estimates that there will be significant lifetime *electricity benefits* from this project – on the order of \$140 million in present value dollars. However, there will also be increased *gas costs* – on the order to \$130 million in present value dollars. The difference between these two results in only \$9.7 million in energy benefits from the project. (Company response to Division 1-3, Attachment DIV 1-3.) Relative to this amount, \$35 million in economic development benefits will have a large impact on the cost-effectiveness of the project.

The Company's analysis highlights the importance of estimating economic development benefits in assessing the cost-effectiveness of CHP projects. The Company's estimate of

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economic development benefits is based upon the methodology proposed in the 2013 Energy Efficiency Plan. Given the importance of this estimate for CHP projects, I recommend that the Company and the Efficiency Collaborative revisit this methodology to make sure that it provides reasonable estimates of the economic development benefits associated with CHP projects. Specifically, I recommend that the Company work with the members of the DSM Collaborative to refine and improve the methodology and assumptions used to estimate economic development benefits, for the purpose of assessing future CHP projects.