December 4, 2018

BY HAND DELIVERY AND ELECTRONIC MAIL

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

RE: Docket 4888 – The Narragansett Electric Company d/b/a National Grid
2019 Energy Efficiency Program Plan
Joint Pre-Filed Direct Testimony

Dear Ms. Massaro:

On behalf of National Grid, I have enclosed eleven copies of the Joint Pre-filed Direct Testimony of Rachel Henschel and Courtney Lane in the above-referenced docket.

Thank you for your attention to this filing. If you have any questions, please contact me at 781-907-2121.

Sincerely,

Raquel J. Webster

cc: Dockets 4888/4889 Service Lists
Jon Hagopian, Esq.
John Bell, Division
Certificate of Service

I hereby certify that a copy of the cover letter and any materials accompanying this certificate was electronically transmitted to the individuals listed below.

The paper copies of this filing are being hand delivered to the Rhode Island Public Utilities Commission and to the Rhode Island Division of Public Utilities and Carriers.

Joanne M. Scanlon
December 4, 2018

Docket No. 4888 - National Grid – 2019 Energy Efficiency Plan (EEP)
Service list updated 10/18/18

<table>
<thead>
<tr>
<th>Name/Address</th>
<th>E-mail Distribution List</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raquel Webster, Esq. National Grid</td>
<td><a href="mailto:Raquel.webster@nationalgrid.com">Raquel.webster@nationalgrid.com</a>; <a href="mailto:Joanne.scanlon@nationalgrid.com">Joanne.scanlon@nationalgrid.com</a>; <a href="mailto:Celia.obrien@nationalgrid.com">Celia.obrien@nationalgrid.com</a>; <a href="mailto:Rachel.henschel@nationalgrid.com">Rachel.henschel@nationalgrid.com</a>; <a href="mailto:Matthew.Chase@nationalgrid.com">Matthew.Chase@nationalgrid.com</a>; <a href="mailto:Timothy.Roughan@nationalgrid.com">Timothy.Roughan@nationalgrid.com</a>;</td>
<td>781-907-2121</td>
</tr>
<tr>
<td>Jon Hagopian, Esq. Division of Public Utilities and Carriers</td>
<td><a href="mailto:Jon.hagopian@dpuc.ri.gov">Jon.hagopian@dpuc.ri.gov</a>; <a href="mailto:Macky.McCleary@dpuc.ri.gov">Macky.McCleary@dpuc.ri.gov</a>; <a href="mailto:Jonathan.Schrag@dpuc.ri.gov">Jonathan.Schrag@dpuc.ri.gov</a>; <a href="mailto:john.bell@dpuc.ri.gov">john.bell@dpuc.ri.gov</a>; <a href="mailto:Ronald.Gerwatowski@dpuc.ri.gov">Ronald.Gerwatowski@dpuc.ri.gov</a>; <a href="mailto:Albert.DeMiranda@dpuc.ri.gov">Albert.DeMiranda@dpuc.ri.gov</a>;</td>
<td>401-784-4775</td>
</tr>
<tr>
<td>Tim Woof jennifer kallay Synapse Energy Economics</td>
<td><a href="mailto:twoolf@synapse-energy.com">twoolf@synapse-energy.com</a>; <a href="mailto:jkallay@synapse-energy.com">jkallay@synapse-energy.com</a>;</td>
<td></td>
</tr>
<tr>
<td>Marisa Desautel, Esq. (EERMC) Law Office of Marisa Desautel, LLC 55 Pine St. Providence, RI 02903</td>
<td><a href="mailto:marisa@desautelesq.com">marisa@desautelesq.com</a>;</td>
<td>401-477-0023</td>
</tr>
<tr>
<td>Mike Guerard, Optimal Energy</td>
<td><a href="mailto:guerard@optenergy.com">guerard@optenergy.com</a>;</td>
<td></td>
</tr>
<tr>
<td>Mark E. LeBel, Esq. Acadia Center 31 Milk Street Suite 501 Boston, MA 02108</td>
<td><a href="mailto:mlebel@acadiacenter.org">mlebel@acadiacenter.org</a>;</td>
<td>617-742-0054 Ext. 104</td>
</tr>
<tr>
<td>Carol Grant, Commissioner</td>
<td><a href="mailto:Carol.grant@energy.ri.gov">Carol.grant@energy.ri.gov</a>;</td>
<td></td>
</tr>
<tr>
<td><strong>Office of Energy Resources (OER)</strong></td>
<td><a href="mailto:Christopher.Kearns@energy.ri.gov">Christopher.Kearns@energy.ri.gov</a>; <a href="mailto:Nicholas.Ucci@energy.ri.gov">Nicholas.Ucci@energy.ri.gov</a>; <a href="mailto:Becca.Trietch@energy.ri.gov">Becca.Trietch@energy.ri.gov</a>; <a href="mailto:Carrie.Gill@energy.ri.gov">Carrie.Gill@energy.ri.gov</a>; <a href="mailto:Andrew.Marcaccio@doa.ri.gov">Andrew.Marcaccio@doa.ri.gov</a>; 401-222-8880</td>
<td></td>
</tr>
<tr>
<td>------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Andrew Marcaccio, Esq.</td>
<td><a href="mailto:Andrew.Marcaccio@doa.ri.gov">Andrew.Marcaccio@doa.ri.gov</a>; 401-222-8880</td>
<td></td>
</tr>
<tr>
<td>Dept. of Administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Division of Legal Services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One Capitol Hill, 4th Floor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Providence, RI 02908</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Larry Chretien, Executive Director</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Green Energy Consumers Alliance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Luly E. Massaro, Commission Clerk</td>
<td><a href="mailto:Luly.massaro@puc.ri.gov">Luly.massaro@puc.ri.gov</a>; 401-780-2107</td>
<td></td>
</tr>
<tr>
<td>Public Utilities Commission</td>
<td></td>
<td></td>
</tr>
<tr>
<td>89 Jefferson Blvd.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warwick, RI 02888</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frederick Sneesby</td>
<td><a href="mailto:Frederick.sneesby@dhs.ri.gov">Frederick.sneesby@dhs.ri.gov</a>; 401-780-2107</td>
<td></td>
</tr>
<tr>
<td>Dept. of Human Services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Douglas W. Gablinske, Executive Director</td>
<td><a href="mailto:doug@tecri.org">doug@tecri.org</a>; 401-780-2107</td>
<td></td>
</tr>
<tr>
<td>The Energy Council of RI (TEC-RI)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kat Burnham, PPL</td>
<td><a href="mailto:kat@ripower.org">kat@ripower.org</a>; 401-780-2107</td>
<td></td>
</tr>
<tr>
<td>Chris Vitale, Esq., RI Infrastructure Bank</td>
<td><a href="mailto:evitale@hylawltd.com">evitale@hylawltd.com</a>; 401-780-2107</td>
<td></td>
</tr>
</tbody>
</table>
JOINT PRE-FILED DIRECT TESTIMONY

OF

RACHEL HENSCHEL

AND

COURTNEY LANE
# Table of Contents

I. Introduction ..........................................................................................................................1  
II. Purpose of Joint Testimony ..................................................................................................4  
III. Conclusion ..........................................................................................................................11
I. INTRODUCTION

Q. Ms. Henschel, please state your name and business address.

A. My name is Rachel Henschel. My business address is 40 Sylvan Road, Waltham, Massachusetts 02451.

Q. By whom are you employed and in what position?

A. I am employed by National Grid USA Service Company, Inc. (the Service Company). My current position is Manager of Rhode Island Customer Energy Management. My responsibilities include managing the team of commercial, residential, and policy strategists who develop the Annual and Three-Year Energy Efficiency Plans for The Narragansett Electric Company d/b/a National Grid (the Company) and enhance, innovate, and report on energy efficiency programs.

Q. Please describe your educational background and professional experience.

A. I received a Bachelor of Arts in Political Science from the University of North Carolina at Chapel Hill in 2003, and a Master of City Planning from the Massachusetts Institute of Technology in 2009. I have been in my current position since August 1, 2018. In previous roles at the Service Company, I managed the team responsible for commercial and residential energy efficiency evaluation in Rhode Island. I also have experience as a residential evaluator, have led development of energy efficiency plans and reports, and previously managed stakeholder collaborative processes. Prior to joining National Grid in
2009, I was an analyst with the Environmental Protection Agency in Washington D.C. and a Rural Community Development Volunteer with the United States Peace Corps in Belize.

Q. Have you previously testified before the Rhode Island Public Utilities Commission (PUC)?
A. Yes. I have testified before the PUC in many dockets, most recently in Docket No. 4755 (the Company’s 2018 Annual Energy Efficiency Plan).

Q. Ms. Lane, please state your name and business address.
A. My name is Courtney Lane. My business address is 40 Sylvan Road, Waltham, Massachusetts 02451.

Q. By whom are you employed and in what position?
A. I am employed by the Service Company as a Lead Analyst for Rhode Island Customer Energy Management. My responsibilities include leading the development of the Company’s Annual and Three-Year Energy Efficiency Plans, leading the facilitation of the Rhode Island Energy Efficiency Collaborative (Collaborative), and working to ensure that the Company’s Energy Efficiency Plans, Annual, and Quarterly Reports meet statutory and regulatory guidelines.
Q. Please describe your education and your professional experience.

A. I received a Bachelor of Arts in Environmental Geography from Colgate University in 2000, and a Master of Arts in Environmental Policy and Planning from Tufts University in 2004. I joined the Service Company in 2013 and have been in my current role since January 1, 2017. In previous roles at the Service Company, I managed residential and System Reliability Procurement evaluations and led the development of energy efficiency quarterly and annual reporting requirements. Prior to joining National Grid, I worked on regulatory and state policy issues pertaining to the development of demand-side and renewable energy resources for seven years as a Senior Energy Analyst for Citizens for Pennsylvania’s Future (PennFuture). Prior to that, I worked for Northeast Energy Efficiency Partnerships, Inc. where I promoted energy efficiency throughout the Northeast.

Q. Have you previously testified before the PUC?

A. Yes. I have testified before the PUC in many dockets, most recently in Docket No. 4755 (the Company’s 2018 Annual Energy Efficiency Plan) and Docket No. 4684 (the Company’s 2018-2020 Energy Efficiency and System Reliability Procurement Plan).
II. PURPOSE OF JOINT TESTIMONY

Q. What is the purpose of this joint testimony?

A. The purpose of our testimony is to highlight certain key aspects of the 2019 Annual Energy Efficiency Plan (Plan).

Q. Please describe the purpose of the Least Cost Procurement law.

A. The purpose of Least Cost Procurement is to meet the “electrical and natural gas energy needs in Rhode Island, in a manner that is optimally cost-effective, reliable, prudent, and environmentally responsible.”

Q. How does the Plan meet the statutory requirements for Least Cost Procurement?

A. The Plan meets the statutory requirements for Least Cost Procurement in the following ways:

  - **The Plan is cost-effective.** The Plan meets the requirement of cost-effectiveness according to the Rhode Island Benefit Cost Test (RI Test). The overall electric portfolio RI Test ratio is 4.00, and the overall natural gas portfolio RI Test ratio is 2.70.

  - **The Plan is reliable.** The Plan continues to offer current best-in-class programs while introducing new measures and implementation strategies. For example, the Plan includes new proposed measures such as radiator covers and automated...
window shades for Commercial and Industrial (C&I) customers, and enhanced strategies including a 100 percent incentive for landlords to address market barriers to renters, expanded small C&I offerings, a new Strategic Energy Management Initiative, and a demand response program for residential and commercial customers.

- The Plan is prudent. The Plan seeks to achieve a level of energy savings in 2019 that is technically feasible, economically possible, and achievable. There are several ways to determine the level of energy savings that should be procured in a given year. There is technical potential, which includes savings from all feasible energy efficiency measures. There is economic potential, which is the portion of technical potential that is cost-effective. Finally, there is achievable potential, which is the portion of economic potential that is achievable given customer adoption, program, and market limitations. The Plan captures all achievable potential for 2019 given projections for customer participation, the number of skilled auditors and installation contractors, and staffing levels. In each Annual Plan, the Company must plan for short-term gains that enable long-term market transformation. This sustained growth provides market certainty for vendors, manufacturers, contractors, and customers making longer-term comprehensive energy design and investment decisions.

• **The Plan is environmentally responsible.** The electric, gas, and oil energy efficiency measures proposed in this Plan will avoid over 1.1 million tons of carbon over the lifetime of the installed measures. These reductions will provide a meaningful contribution to the Resilient Rhode Island Act of 2014.

Q. Please describe the stakeholder engagement process for developing the Plan.

A. For the past 27 years, the Company has facilitated the Energy Efficiency Collaborative (Collaborative) as a means to create transparency and dialogue regarding the Company’s energy efficiency programs and Plans. The Collaborative meets monthly and provides an opportunity for the Company to update stakeholders on the progress of energy efficiency programs and savings throughout the year. The Collaborative also serves as a venue for the Company to obtain input, recommendations, and feedback from stakeholders on its Plans to build consensus on the Annual Plan and reach settlement prior to the PUC hearing. In 2019, the Company focused on building on the successful framework of the Collaborative to provide more time for the Plan development process and obtain additional stakeholder input, recommendations, and feedback.

---

2 This includes the net impact of EE measures on carbon emissions. The marginal carbon emission rates are from “Avoided Energy Supply Components in New England: 2018 Report” Appendix K. pages 368-370.

Q. Please provide specific examples of how the above-described stakeholder engagement process worked for the Plan.

A. Beginning in March 2018, members of the Collaborative gave presentations on their priorities for the 2019 Plan. Discussion of the Plan continued from March 2018 until the final Plan was circulated to the Energy Efficiency Resource Management Council (EERMC) in late September 2018. Over this period of time, Collaborative members shared hundreds of comments and suggestions with the Company ranging from minor edits and clarifications on the draft Plan to more comprehensive items such as the following: the expansion of electrification of heating to income-eligible customers with delivered fuels, adding test metrics on cost of saved energy and customer satisfaction, providing incentive parity for delivered fuels customers, lowering costs while increasing savings, and improving language and organization of the K-12 school offerings.

The Company also hosted a Customer Listening Forum on August 1, 2018 to obtain feedback from residential customers, businesses, community representatives, and other members of the public to help inform deployment of current programs and the 2019 Plan.

Additional feedback from public comment at the EERMC led to the Company changing the definition of a customer that qualifies for the Small Business Direct Install Program to C&I customers that consume less than 1,000,000 kWh per year to simplify eligibility requirements and allow for more customers to qualify.
Q. What is the Company’s strategy for growing strategic electrification of heating?

A. The Company’s goal is to aid in the market transformation of the heating sector through the promotion of electric heating. In its recent Northeast 80x50 Pathway paper, the Company acknowledges that a dramatic shift is needed in the way in which customers heat their homes and businesses to meet the challenging greenhouse gas (GHG) emission reduction goals of the region, including Rhode Island. This includes a long-term goal of converting nearly all of the state’s oil-heated buildings by 2030.

To reach the goal of a cleaner, more efficient, heating sector, the Company must ensure that the deployment of Air Source Heat Pumps (ASHPs) is done in a manner that ensures proper usage, energy savings, and customer satisfaction. Therefore, the Plan seeks to address the following:

A. Installer/builder and customer awareness of, and confidence in, ASHP as a primary heating source;

B. The potential for integration of advanced control technologies to allow automated coordination among multiple heating systems;

C. The need for more accurate tools to predict energy, cost, and greenhouse gas savings associated with ASHP installation through the collection and analysis of real world performance data;

---

D. Determination of appropriate incentive levels and program delivery models to motivate customer adoption;

E. The high up-front costs and longer-term paybacks;

F. Creation of consistent installer requirements; and

G. Aesthetics.

The Plan also increases the number of ASHP heating projects offered to customers heating with delivered fuels in its electric HVAC program and now includes the ASHP heating offering to income-eligible and multifamily programs. The Company previously included a proposal for an Electric Heat Initiative as part of the Company’s Power Sector Transformation proposal in Docket Nos. 4770/4780. At its August 3, 2018 Open Meeting, the PUC disallowed funding for an Electric Heat Initiative in base distribution rates; however, the PUC indicated its expectation that the heat pump rebates proposed in Docket Nos. 4770/4780 would be funded through the Company’s energy efficiency program. Accordingly, the Company’s proposal to increase the number of ASHPs in this year’s Plan is driven partly by the PUC’s direction in Docket Nos. 4770/4780, projected program growth, and the potential for increased customer adoption.
Q. Why were definitions for demonstrations and assessments added to the Plan and how are they critical to the success of the programs in the Plan?

A. Demonstrations and assessments are enhancements to existing program offerings and are critically linked to existing programs. The Company provided unique definitions for demonstrations and assessments to highlight new and innovative aspects of a program in a transparent manner and to differentiate them from pilots, as described in Section V of the PUC’s Docket No. 4600-A Guidance Document. Demonstrations and assessments are critical to program success because they may increase or maintain customer participation in existing programs, which is essential in meeting the energy savings targets. Demonstrations are estimated to be cost-effective based on data from other utility programs or technical estimates from market research. Savings from assessments are unknown but the measures, bundle of measures, or technologies have the potential to enhance existing programs. Assessments are small-scale, cannot stand alone in their current form, and are, therefore, integrated into programs. For example, the behavior change through education of small/medium plant personnel assessment within the Commercial Retrofit program looks to engage with only three customer sites.

Q. Are the energy savings resulting from the Plan verifiable and transparent?

A. Yes. The Plan relies on verified savings. For example, the Plan incorporates findings from more than 75 evaluations conducted by independent, third-party evaluation firms.
Twenty-seven of these evaluations were completed within the past year. Evaluations adhere to evaluation protocols such as those established by the Department of Energy’s Uniform Methods Project (UMP). The UMP provides details on a national set of consensus-based protocols for estimating savings from specific measures or programs. The energy efficiency savings are transparent and documented in the Technical Reference Manual, which includes methodologies and assumptions used by the Company to estimate the savings. The reference manual provides methods, formulas, and default assumptions for estimating energy, peak demand, and other resource and non-energy impacts from efficiency measures. The manual is reviewed by the EERMC evaluation consultants annually.

III. CONCLUSION

Q. In your opinion, does the Plan fulfill the requirements of Least Cost Procurement and provide net benefits to Rhode Island?

A. Yes. The Plan is the least cost means to meet 194,677 MWh and 432,708 MMBtu of energy load through the lifetime savings from the program offerings in the Plan. Although the cost of energy efficiency makes up a small portion of a customer’s overall electric and natural gas bill (approximately five percent), it provides the benefit of giving customers the tools to reduce their total energy bill. The analysis of bill impacts found in Attachment 7 of the Plan finds that the average electric program participant will realize

5 Public Utilities Commission’s Guidance on Goals, Principles and Values for Matters Involving The Narragansett
an annual bill reduction of 1.69 percent to 22.85 percent over the lifetime of installed measures depending on rate class and the average gas program participant will realize a bill reduction of 1.59 percent to 25.08 percent over the lifetime of installed measures depending on rate class. Furthermore, the Plan provides a mix of offerings to provide all customers with the chance to participate and achieve net energy bill reductions.

Q. Does this conclude this joint testimony?

A. Yes, it does.