

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

IN RE: INVESTIGATION INTO THE CHANGING ELECTRIC :  
DISTRIBUTION SYSTEM AND THE MODERNIZATION OF : DOCKET NO. 4600  
RATES IN LIGHT OF THE CHANGING DISTRIBUTION SYSTEM :

REPORT AND ORDER

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## **I. Overview of Docket 4600**

### **A. Need to Investigate the Changing Distribution System**

The Public Utilities Commission (PUC) opened this docket to address issues related to the changing electric distribution system that were increasingly arising as important topics in PUC dockets, and as central themes in the business of other state agencies. The need for this docket had been developing over several years. Since 2013, for example, the PUC had been considering the interplay of various programs offered by The Narragansett Electric Company d/b/a National Grid during its review of these programs. The PUC was seeking to understand whether or not these programs provide different incentives to National Grid to achieve similar objectives, particularly those that promote a modernized electric system.<sup>1</sup>

Also, in 2014, the Office of Energy Resources (OER); the Energy Efficiency and Resource Management Council (EERMC); the Distributed Generation Board; and National Grid convened a working group, Systems Integration Rhode Island (SIRI), to determine and make recommendations on important issues related to developing Rhode Island's future electric grid.<sup>2</sup> Similar to the PUC's work described above, one of SIRI's main functions was to recommend ways to harmonize existing processes, many of which were subject to PUC regulation, to achieve Rhode Island's policy goals related to a modernized energy sector.<sup>3</sup> Further, in 2014 the Renewable

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<sup>1</sup> These programs included Standard Offer Supply Procurement Plans (for energy); Renewable Energy Standard compliance; net metering; Energy Efficiency Plans; System Reliability Procurement Plans; and Infrastructure, Safety, and Reliability Plans, among others.

<sup>2</sup> System Integration Rhode Island (SIRI) Vision Document (January 2016); <http://www.energy.ri.gov/documents/siri/Systems%20Integration%20Rhode%20Island%20Vision%20Document%20January%202016%20FINAL.pdf>; OER explained on its website that the purpose of the SIRI group was to take a first step at mapping out key issues related to the future of Rhode Island's electric grid and offer early stage recommendations for addressing opportunities, filling gaps, and gaining efficiencies in existing state processes. <http://www.energy.ri.gov/siri/>.

<sup>3</sup> The list of processes identified by SIRI can be found in Table 1 of the final report. System Integration Rhode Island (SIRI) Vision Document, January 2016. <http://www.energy.ri.gov/documents/siri/Systems%20Integration%20Rhode%20Island%20Vision%20Document%20January%202016%20FINAL.pdf>

Energy Growth Program Act (REGrowth Act)<sup>4</sup> was signed into law. The REGrowth Act created a new program to harmonize with existing programs and required that the PUC review distribution rate design in light of the changing distribution system.<sup>5</sup> The PUC's review of the distribution rate design prompted the formal investigation into the changing distribution system and the opening of the instant docket.

### **B. Requirement to Modernize how Rates are Set**

The REGrowth Act<sup>6</sup> created a tariff-based financing program for renewable distributed energy generation systems, expressly subject to review and supervision by the PUC. The purpose of the program is to facilitate and encourage the installation and development of renewable distributed generation systems, reduce environmental impacts and carbon emissions, diversify generation sources, stimulate economic development, improve distribution system resilience and reliability, and reduce distribution system costs.<sup>7</sup> In light of the changes this and other programs will cause to the distribution system, the REGrowth Act specifically addressed possible changes to rate design as well as the allocation of both costs and benefits to the distribution system, energy efficiency costs, and other renewable energy program costs recovered in rates.<sup>8</sup>

In compliance with the REGrowth Act, the PUC opened a docket to consider rate design that could determine the appropriate cost responsibility and contributions to the operation, maintenance, and investment in the distribution system that is relied upon by all customers, including, without limitation, non-net-metered and net-metered customers. In that proceeding, Docket No. 4568, National Grid, the State's dominant electric distribution utility, filed a new,

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<sup>4</sup> R.I. Gen. Laws § 39-26.6-1 to 27.

<sup>5</sup> R.I. Gen. Laws § 39-26.6-24(a).

<sup>6</sup> R.I. Gen. Laws § 39-26.6-1 to 27.

<sup>7</sup> R.I. Gen. Laws § 39-26.6-1.

<sup>8</sup> R.I. Gen. Laws § 39-26.6-24(a).

revenue-neutral rate design proposal using the previously-approved cost-of-service upon which current rates were set, in accordance with the REGrowth Act.<sup>9</sup> During the six months-long proceeding, it became apparent that there was significant disagreement about how the new factors contained in the REGrowth Act should be applied as well as how the PUC would review those applications. Just prior to the evidentiary hearing, National Grid filed a motion to withdraw the filing. With no objection from the parties, the motion to withdraw was granted without prejudice.

In approving the Motion to Withdraw, the PUC interpreted the rate design section of the REGrowth Act<sup>10</sup> to mean that, in setting future distribution rates for National Grid,<sup>11</sup> the PUC must take into account and balance specific factors that include not only traditional ratemaking principles, but also principles more specific to the legislative intent of distributed energy resource programs.<sup>12</sup> Essentially, the PUC determined that the REGrowth Act requires that rates be modernized to account appropriately for the modernization of the electric distribution system.

### **C. Purpose of the Investigation**

Following the close of Docket No. 4568, the PUC intended to open a docket or a series of dockets to review matters related to the changing distribution system. The PUC endeavored to begin to determine how rate modernization could accommodate and enhance an efficient modernization of the electric distribution system. To meet these goals, the PUC sought to develop

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<sup>9</sup> In re: Review of The Narragansett Electric Company d/b/a National Grid Review of Electric Distribution Rate Design Pursuant to R.I. Gen. Laws § 39-26.6-24; <http://www.ripuc.org/eventsactions/docket/4568page.html>.

<sup>10</sup> Specifically, the language of R.I. Gen. Laws § 39-26.6-24(c).

<sup>11</sup> Currently, the statute only applies to The Narragansett Electric Company d/b/a National Grid.

<sup>12</sup> The factors are (1) The benefits of distributed-energy resources; (2) The distribution services being provided to net-metered customers when the distributed generation is not producing electricity; (3) Simplicity, understandability, and transparency of rates to all customers, including non-net metered and net-metered customers; (4) Equitable ratemaking principles regarding the allocation of the costs of the distribution system; (5) Cost causation principles; (6) The General Assembly's legislative purposes in creating the distributed-generation growth program; and (7) Any other factors the PUC deems relevant and appropriate in establishing a fair rate structure. The statute is also clear on the breadth of options before the PUC in considering and balancing these factors, and that the PUC "may consider any reasonable rate design options, including without limitation, fixed charges, minimum-monthly charges, demand charges, volumetric charges, or any combination thereof, with the purpose of assuring recovery of costs fairly across all rate classes." R.I. Gen. Laws § 39-26.6-24(b).

a set of rate design principles and a benefit-cost framework to inform how rates could be set in a way to properly incent National Grid to meet state policies.

Accordingly, the PUC opened Docket No. 4600, Investigation into the Changing Electric Distribution System. Its stated purpose was to guide the PUC's review of National Grid's rate structure in future proceedings.<sup>13</sup> The PUC focused the investigation on major points of controversy in Docket No. 4568, namely, disagreement regarding distributed energy resources' use of and contribution to the distribution system or, more succinctly, the costs and benefits of distributed energy resources.<sup>14</sup> Given the remaining controversies and the PUC's goals for reviewing rate and grid modernization described above, the PUC determined that it was imperative to develop an improved understanding, and consistent accounting of, the costs and benefits caused by various activities on the system.

In Docket No. 4600, the PUC specifically sought answers to the following overarching query: What attributes are possible to measure on the electric system and why should they be measured? The PUC indicated that this overarching question could be further broken down into three broad areas of inquiry: (1) What are the costs and benefits that can be applied across any and/or all programs, identifying each and whether each is aligned with state policy? (2) At what level should these costs and benefits be quantified -- where physically on the system and where in cost-allocation and rates? and (3) How can we best measure these costs and benefits at these levels-- what level of visibility is required on the system and how is that visibility accomplished?

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<sup>13</sup> PUC Notice of Commencement of Docket and Invitation for Stakeholder Participation (Mar. 18, 2016). [http://www.ripuc.org/eventsactions/docket/4600-Notice\\_InviteStakeholders.pdf](http://www.ripuc.org/eventsactions/docket/4600-Notice_InviteStakeholders.pdf).

<sup>14</sup> Docket No. 4568.

#### **D. Process and Outcomes of the Investigation in Docket No. 4600**

Docket No. 4600 was designed as a stakeholder process to build consensus (or define where consensus could not be reached) on answers to the above-referenced questions. Twelve Stakeholders representing the utility, competitive suppliers, developers of distributed energy resources, low income advocates, environmental advocates, large commercial and industrial users of electricity, and two state agencies participated in the year-long process.<sup>15</sup> The PUC hired a Facilitator/Consultant, Raab Associates, Ltd.,<sup>16</sup> to assist in the review and consensus building. PUC staff participated as *ex officio* Stakeholders.

After seven day-long meetings and numerous conference calls and discussions among Stakeholders, the process resulted in a Stakeholder Report (Report). Filed on April 5, 2017, the Report represented unanimous consensus on goals for a new electric system; costs and benefits to account for on the system and refinement of cost-effectiveness testing; and a set of rate design and cost recovery strategies and principles. Consensus was not reached on a single issue regarding implementation strategies for future rates. The Report also provided recommendations for future action.

At an Open Meeting on May 4, 2017, following a presentation of the Report at a Technical Record Session on April 28, 2017, the PUC accepted the Report and adopted the goals, principles, and new Rhode Island Benefit-Cost Framework (Framework). The PUC also requested that the Division of Public Utilities and Carriers (Division) continue its work on the Framework, specifically: (1) develop proposed methodologies needed to populate the missing information in

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<sup>15</sup> The stakeholders included Acadia Center, Conservation Law Foundation, Direct Energy, George Wiley Center, The Narragansett Electric Company d/b/a National Grid, New Energy Rhode Island (a coalition of renewable energy developers), Northeast Clean Energy Council, People's Power & Light, the Division of Public Utilities and Carriers, the Energy Efficiency and Resource Management Council, the Office of Energy Resources, and The Energy Council of Rhode Island.

<sup>16</sup> Raab Associates, Ltd. subcontracted with Paul Centolella & Associates (and TCR). Mr. Centolella is a former Ohio Public Utilities Commissioner, an economist and an attorney who worked with Dr. Jonathan Raab on this project,

the Framework and submit those proposed methodologies to the PUC for adoption in this docket; (2) devise and describe a set of functionalities that are desirable on the electric system to achieve a better accounting and allocation of costs and benefits for would support the consensus goals in Section 1.3 of the Report; and (3) investigate the level of benefits that have been achieved through various programs and the cost of these programs, including identifying how National Grid currently recovers costs and receives incentives to execute these programs. The goals, principles, and Framework will be further expounded upon by the PUC in a guidance document upon which Stakeholders and the PUC can rely.

## **II. Key Components of the Stakeholder Report**

As described above, the PUC accepted the Report as fulfillment of the first piece of work necessary in its investigation into rate modernization issues. Key components of the Report include principles of rate design, the Framework, goals of a future electric system, and recommendations for next steps.

### **A. Principles of Rate Design**

The PUC sought input into what rate design principles, including, but not limited to, traditional principles, would now need to be considered as a result of the passage of REGrowth Act. The Report set forth rate design principles in Section 3.1. Some of the enumerated principles closely resembled traditional principles; others are significantly updated and, similar to traditional rate-making principles, are quite nuanced.<sup>17</sup>

Twelve rate design principles were listed in the Report: (1) ensuring safe, reliable, affordable, and environmentally responsible electricity service today and in the future; (2) promoting economic efficiency over the short and long term; (3) providing efficient price signals

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<sup>17</sup> Stakeholder Rpt. at 12.

that reflect long-run marginal cost; (4) identifying future rates and rate structures that appropriately address “externalities” that are not adequately counted in current rate structures; (5) empowering consumers to manage their costs; (6) enabling a fair opportunity for utility cost recovery of prudently incurred costs and revenue stability; (7) ensuring that all parties provide fair compensation for value and services received and receive fair compensation for value and benefits delivered; (8) being transparent and understandable to all customers; (9) ensuring that any changes in rate structures are implemented with due consideration to the principle of gradualism, allowing ample time for customers (including DER customers) to understand new rates and lessening immediate bill impacts; (10) providing opportunities to reduce energy burden and address low income and vulnerable customers’ needs; (11) being consistent with policy goals such as environmental protection, addressing climate change and the Resilient Rhode Island Act, energy diversity, competition, innovation, power/data security, and least cost procurement; and (12) evaluating rate structures on whether they encourage or discourage appropriate investments that enable the evolution of the future energy system.<sup>18</sup>

## **B. Benefit-Cost Framework**

Recognizing the need for a broader view of the value of resources on the distribution system, the PUC sought development of a benefit-cost framework to use as a tool for measuring the benefits and costs that can be evaluated across: (1) programs (current and proposed); (2) technologies (current and proposed); (3) future utility investment; and (4) future rate design proposals.<sup>19</sup> The Report provided a new Rhode Island-specific Framework that includes thirty-four categories of costs and benefits and fifty-three different drivers of costs or benefits. The

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<sup>18</sup> Stakeholder Rpt. at 12.

<sup>19</sup> The stakeholders envisioned being able to apply the Framework to analyze distributed energy resources programs and technologies, conventional distribution projects, grid modernization projects, rate design proposals, and a comparison across resources, technologies, or policies. Stakeholder Rpt. at 8-10.



Report explained that these drivers “are key factors that will affect the value of the associated cost or benefit in the context of specific plans or deployments.”<sup>20</sup> Further recognizing that the value of a cost or benefit may vary by time, location, electric product, technology, or customer, the Framework also included a list of candidate methodologies that could be used to quantify the costs and benefits. To express that these candidate methodologies may have specific data or technology requirements, the Framework also included “potential visibility requirements.”<sup>21</sup> It was further noted that the Framework is meant to be refined or modified over time as the PUC and parties to dockets gain experience in applying it.

### **C. Goals of the Future Electric System**

While the scope of the PUC’s inquiry focused on the modernization of rates to guide the efficient modernization of the distribution grid rather than the role of the utility in the future, the Report included eight specific goals that a modernized electric system should be able to meet. Described in Section 1.3, the goals were: (1) providing reliable, safe, clean and affordable energy to Rhode Island customers over the long term (this applies to all energy use, not just regulated fuels); (2) strengthening the RI economy; (3) supporting economic competitiveness, retaining and creating jobs by optimizing the benefits of a modern grid and attaining appropriate rate design structures; (4) addressing the challenge of climate change and other forms of pollution; (5) prioritizing and facilitating increasing customer investment in their facilities (such as, for example efficiency, distributed generation, storage, responsive demand, and the electrification of vehicles and heating) where that investment provides recognizable net benefits; (6) appropriately compensating distributed energy resources for the value they provide to the electricity system, customers, and society; (7) appropriately charging customers for the cost they impose on the grid;

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<sup>20</sup> Stakeholder Rpt. at 6.

<sup>21</sup> *Id.* at 7.

appropriately compensate the distribution utility for the services it provides; (8) and aligning distribution utility, customer, and policy objectives and interests through the regulatory framework, including rate design, cost recovery, and incentives.<sup>22</sup>

#### **D. Recommendations for Next Steps**

The Report also included a series of recommendations for next steps that relate to the modernization of rates, the modernization of system design, and the modernization of the system itself. Furthermore, it concluded that all of the recommendations described below are interdependent and should be reviewed together to allow stakeholders<sup>23</sup> and parties to dockets to more fully develop their positions in the future.

##### **1. Time-Varying Rates**

The Report reflected that Stakeholders agreed that rate design should be evaluated not only for its ability to recover costs, but also for the role it can play in supporting the evolution of the system. The Report recommended that, as the grid modernizes, consideration should be given to how distribution rate design can help the system evolve in an efficient manner and to ultimately benefit all customers. Furthermore, the Report recognized that visibility on the physical electric system will be needed to accomplish this goal. It recommended that the PUC should investigate long-term rate design options that will provide price signals to customers, promote more efficient use of the electric system, and compensate the utility and others for services to customers.

The Report explained that Stakeholders all agreed with the adoption of time-varying rates at some future time, while not necessarily reaching consensus on a transition plan. A further recommendation was that changes to customer charges and demand charges (e.g., specific time

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<sup>22</sup> Stakeholder Rpt. at 5.

<sup>23</sup> The PUC assumes that here the Report used the term “stakeholder” to include, but not be limited to, the Stakeholder Group.

blocks when a customer's demand could cause additional charges) warrant investigation.<sup>24</sup> This recommendation was applied to both small and large customers.

## **2. Distribution System Planning**

The Report noted that utilities play a critical role in identifying the value of investments on the distribution system made by the utility and by third parties. The Report explained that, in the context of investing in system resources to meet overall power system, customer, and societal needs, the Framework provided the conceptual blueprint for comparing diverse distributed energy resources to each other as well as to conventional utility resources. This conceptual blueprint, the Report explained, creates a need to update processes for planning and resource investment so that these processes can take advantage of third-party and programmatic investments. Thus, applying the Framework within processes for planning and resource investment was identified as remaining a challenge to achieving a least-cost investment portfolio for the system.<sup>25</sup> As a first step in meeting that challenge, the Report included a recommendation that the PUC request OER and the Division to work with stakeholders<sup>26</sup> to recommend updates to National Grid's distribution system planning in order to align both the utility's and third-parties' investment decisions with applicable public policy objectives for the electric system.<sup>27</sup>

## **3. Beneficial Electrification**

Reiterating that the electric system should evolve toward greater efficiency, reliability, and less pollution, the Report noted that the adoption of electric vehicles and space heating could lead

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<sup>24</sup> Stakeholder Rpt. at 15-16.

<sup>25</sup> Stakeholder Rpt. at 19-20.

<sup>26</sup> Again, the PUC assumes that here the Report used the term "stakeholder" to include, but not be limited to, the Stakeholder Group.

<sup>27</sup> Stakeholder Rpt. at 19-20. The Office of Energy Resources (OER) has been and continues to study distribution system planning with the goal of recommending updates to the process. The goal is for distribution system planning to fully align utility and third-party investment decisions with the State's goal of having a least-cost and reliable utility system that achieves public policy objectives. OER's study may also inform time-varying rates and locational-based strategies for setting rates.

to mutually beneficial electrification by providing these attributes to the grid, while also allowing for load growth opportunities for National Grid. For these purposes, the Report concluded that a new electric system should enable the adoption of these technologies. In light of that discussion, the Report recommended the creation of an outline for what information should be included in proposals from National Grid for electric vehicle infrastructure deployment and integration, and for how the PUC would review such proposals.<sup>28</sup>

#### **4. Valuing Distributed Generation**

The Report asserted that Rhode Island policy envisions a future electric system that will include more resources invested in; installed by; and operated by someone other than the utility, including National Grid's end-use customers and new energy services businesses. The discussion explained that such a system could be more transactional between many parties than the existing system, which operates mostly like subscription service from a single provider. The Report suggested that all resources must be evaluated for the net value that they offer to the power grid, the customer, and society because, per the Report, until such value is recognized, Rhode Island programs and policies will not send accurate market signals to customers and value will remain unrealized.<sup>29</sup>

The Report noted that, as the Framework is further developed, it could be used to identify and justify preferred methods to characterize and quantify the value of various resources. Having noted that the Stakeholders had provided examples of comprehensive valuation methodologies that could be applied in Rhode Island, the recommendation then identified characteristics for an appropriate methodology. One characteristic was that an appropriate methodology would identify and justify preferred methods to characterize and quantify each component attribute or effect or

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<sup>28</sup> Stakeholder Rpt. at 20.

<sup>29</sup> Stakeholder Rpt. at 20-21.

each resource. Another was that methodologies should address uncertainty and the appropriate adjustments for less-than-comprehensive data. Yet another was that any preferred methodology should establish the timeframe for assessing component attributes and effects, as well as the cost and benefit perspective that should be used for each. The final element was that an appropriate methodology should integrate all necessary decisions into a unified methodology and provide instructions for its use.<sup>30</sup>

### **5. Development of a Straw Proposal of Desired Functionalities to Achieve the Goals for a New Electric Grid**

The Report explained that customer-facing and grid-facing technologies need to be deployed to provide opportunities for achieving utility system efficiency and enabling customers to better manage their energy usage. In light of this, one recommendation was to develop business cases for using various information and communications technologies on the electric grid to enable a designated degree of grid connectivity and functionality.

To accomplish this work, the Report further recommended that the Division, through a collaborative process, build on and refine the “visibility requirements” column of the Framework and identify a more specific set of functionalities and potential technology pathways necessary to achieve a future energy system. The recommendation included holding technical meetings to review potential deployment scenarios and provide basic Rhode-Island specific cost and benefit information.<sup>31</sup>

### **III. Technical Record Session – Presentation of the Stakeholder Report**

On April 28, 2017, the PUC conducted a Technical Record Session to receive a formal presentation of the Report from the Facilitator/Consultant and the Stakeholders and to gather

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<sup>30</sup> Stakeholder Rpt. at 20-21.

<sup>31</sup> Stakeholder Rpt. at 19.

additional information on the use of the Framework. Stakeholders were also invited to provide individual presentations explaining to the PUC why the Report and recommendations contained therein are important and should be adopted, as well as how the Report should be used going forward.

Facilitator/Consultant Dr. Jonathan Raab first provided an overview of the successful consensus-building process. He complimented the Stakeholders on the quality of discussion and deliberation and stated that, in a process where consensus was defined as unanimity, having only one minor issue outstanding was no small feat. He noted that he had conducted stakeholder processes “in other states and [his team] really never had that level of consensus on this kind of breadth of material.”<sup>32</sup> Paul Centolella, of Centolella & Associates, added that the level of discussion was more sophisticated than is often realized at stakeholder proceedings.<sup>33</sup>

Dr. Raab explained that the single area of disagreement involved a somewhat nuanced policy decision. All the Stakeholders agreed that time-varying rates should be the goal for the future and that they should be implemented with an opt-out provision. However, the Stakeholders disagreed about just what type of product a customer should default to once he or she opted out. For example, a customer could be defaulted to the competitive market, a third-party supplier, or another time-varying rate product offered by National Grid. Alternatively, a customer could be defaulted back to National Grid with a more traditional rate that could be priced like the current Standard Offer Service rate. Notwithstanding the default quandary, it was noted that no decision on the matter was immediately necessary at this time in any event because additional metering,

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<sup>32</sup> Tr. at 9-10 (Apr. 28, 2017).

<sup>33</sup> *Id.* at 12-13.

system visibility, and billing changes would be necessary to allow any implementation of time-varying rates.<sup>34</sup>

Discussing the Framework, Mr. Centolella explained that it constituted an attempt to answer the four questions posed by the PUC in opening Docket No. 4600. He also noted that while the Framework was a Rhode Island-specific matrix, it was also a tool that could be informed by other work being done outside of Rhode Island. He also stated the Framework was intended to become more detailed over time and would become more useful as those applying and relying upon it become more sophisticated with its repeated use.<sup>35</sup>

On behalf of the George Wiley Center, John Willumsen-Friedman from the Center for Justice expressed appreciation for the inclusion of the low-income issues among the recommendations in the final Report. He cautioned, however, that if those recommendations were not addressed seriously in future proceedings, the George Wiley Center would oppose any resulting policies. He also contended that the PUC should consider harm or lack of benefits to the most vulnerable before implementing any class-wide changes. Noting that the George Wiley Center's core concern is preventing involuntary shutoffs, he averred that the PUC should always implement protections and policies recommended in the Report before implementing any new programs.<sup>36</sup>

Marc Hanks, Senior Manager of Direct Energy, spoke on behalf of the Retail Energy Supply Association. Mr. Hanks highlighted what his group considered to be the three most critical principals of rate design. First, rates should provide customers with efficient price signals that reflect long term marginal cost. Second, rates should be designed to empower consumers to

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<sup>34</sup> Tr. at 23-24; Stakeholder Rpt. at 13.

<sup>35</sup> Tr. at 17.

<sup>36</sup> Tr. at 42-45.

manage costs. Third, rates should be consistent with key policy goals, particularly those related to environmental concerns, climate change, and competition. Additionally, he averred, when time-varying rates are implemented, they should be designed to provide competitive suppliers with access to data. The purpose of such access, he explained, would be to drive the expansion of product offerings and third-party billing options that add to, rather than replace, what the distribution company provides. Finally, Mr. Hanks suggested that the ability to have access to information of constraints or opportunities on the electric grid would provide tremendous opportunities for third-party suppliers, distributed energy resources, and ultimately, the development of options for customers.<sup>37</sup>

On behalf of People's Power & Light, a non-profit dedicated to making energy more affordable and sustainable, Kat Burnham expressed appreciation that the Stakeholder Report included acknowledgement that rates should be designed to achieve the goals set forth in the Resilient Rhode Island Act aimed at reducing emissions. She further emphasized the need for energy infrastructure planners to consider these goals in their planning activities. Finally, she indicated clear interest in the development of easily understandable guidelines for using the Framework.<sup>38</sup>

Speaking for Acadia Center, a non-profit, research and advocacy organization committed to advancing the clean energy future, Dr. Abigail Anthony urged the PUC to think about how utility costs were classified, and identifying which costs could be avoided by energy efficiency investment and by distributed energy resources and which cannot. This question, she explained, should be considered in choosing cost recovery options such as demand charges, customer charges, or variable rates. Implementation of time varying rates, she continued, is important for aligning

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<sup>37</sup> Tr. at 45-51.

<sup>38</sup> Tr. at 51-54



rates with underlying system costs while creating opportunities for customers to lower their energy bills. Dr. Anthony further explained Acadia Center's position that, over the long term, any adopted time-varying rates should be technology neutral in application. In the meantime, Dr. Anthony represented, Acadia Center recommended the PUC consider administratively setting locational payments for distributed energy resources.<sup>39</sup>

Janet Besser, on behalf of the Northeast Clean Energy Council, a nonprofit organization that acts as a voice for hundreds of clean energy companies across the Northeast with the goal of influencing the energy policy agenda and growing the clean energy economy, agreed that adoption of time-varying rates over the long term is the goal of modern ratemaking. Accordingly, she suggested that in any consideration of proposed rate design changes, the PUC should determine if the rate design advances or hinders adoption or implementation of time-varying rates. She cautioned the PUC to avoid approving rates or investments that would limit options for achieving time-varying rates. Ms. Besser highlighted the need to also consider changes in distribution system planning such as considering opportunities that may be provided by beneficial electrification.<sup>40</sup>

Speaking for New Energy RI, a coalition of businesses and other advocates of distributed energy resources, Karl Rábago<sup>41</sup> presented three points his group wished to raise about the stakeholder process and Report. First, he expressed New Energy RI's support for the development of the Framework as clear guidance for measuring the full, long-term value of benefits and costs for energy resources, and recognized the need for the development of methodologies. Second, Mr. Rábago highlighted the rate design principle that states "future rates and rate structures should

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<sup>39</sup> Tr. at 54-56.

<sup>40</sup> Tr. at 56-61.

<sup>41</sup> Mr. Rábago is Executive Director of Pace Energy and Climate Center at the Pace University Elisabeth Haub School of Law in White Plains, New York.

appropriately address externalities.”<sup>42</sup> He asserted that it was important to properly reflect the real costs and benefits in order to drive efficient demand for electricity. Finally, Mr. Rábago expressed New Energy RI’s excitement over a review of the appropriate future role of the electric distribution company and its associated compensation.<sup>43</sup>

On behalf of National Grid, the State’s dominant electric distribution company and Timothy Roughan raised three points. First, he said that while the Framework is an important tool, there will be challenges to address as the methodologies are developed, as was the case for the energy efficiency cost-benefit tests used in Rhode Island. Addressing rate design, Mr. Roughan agreed with Acadia Center’s comments that it was essential to consider costs within the frame of which are avoidable and which are not. Finally, he cautioned against oversimplifying distribution system planning when speaking of locational pricing.<sup>44</sup>

Jerry Elmer, representing the Conservation Law Foundation, a non-profit environmental advocacy organization, urged the PUC to refer to the Report in its review of National Grid’s next distribution rate case.<sup>45</sup>

On behalf of OER, a Rhode Island state agency focused on energy program administration and energy policy setting responsibilities, Commissioner Carol Grant stated that the Framework constitutes an important tool for policy development and system planning. She expressed her belief that the Framework would help Rhode Island meet its ultimate goal of deploying an optimized energy portfolio. Finally, she made clear that OER supported analysis of potential cost shifting between different customers to inform consideration of new rate design proposals.<sup>46</sup>

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<sup>42</sup> Tr. at 68.

<sup>43</sup> Tr. at 61-71.

<sup>44</sup> Tr. at 71-77.

<sup>45</sup> Tr. at 77.

<sup>46</sup> Tr. at 77-80.

On behalf of the Division, a state agency with ratepayer advocacy, regulatory, and enforcement responsibilities, Deputy Administrator Jonathan Schrag noted that the Framework provided accounting that was consistent with State policy. He remarked that low-income and industrial customers present special considerations requiring further analysis and consideration. Finally, he declared that the Division was looking forward to the upcoming work related to recommendations in the Report. Deputy Administrator Schrag characterized those as real, important, and direct outgrowths of the Stakeholder process.<sup>47</sup>

Speaking for The Energy Council of Rhode Island (TEC-RI), a coalition of the State's largest electric users, Butch Roberts, Chairperson of the Board of Directors, stated that the ratepayers he represents use energy to create jobs. Currently, Mr. Roberts stated, Rhode Island's rate structure put the State in an uncompetitive position for attracting business. He asserted that some of that uncompetitive position was the result of the current model for designing rates. He urged the PUC to determine how rate design impacted all users.<sup>48</sup>

Finally, reviewing the Framework in more detail, Timothy Woolf, Vice President of Synapse Energy Economics, a consultant to the Division, noted that significant work remains to be done on the Framework. He offered two principles to guide that work and to build on the Framework. First, he recommended that the PUC start with what already exists, namely the benefit-cost test used in energy efficiency. Second, he urged use of the information already available, rather than waiting for perfect information before moving forward with an analysis. Elaborating on the first principle, he suggested that because energy efficiency already had a robust cost-benefit analysis, the first step in testing the Framework should be to add one or two new costs or benefits from the Framework to the energy efficiency analysis. He specifically recommended

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<sup>47</sup> Tr. at 80-83.

<sup>48</sup> Tr. at 83-85.

including environmental externalities and economic development impacts as part of the energy efficiency program analysis. He recommended taking this type of incremental approach to building on and applying the Framework in order to be as transparent as possible in growing the Framework and its applicability.<sup>49</sup>

Mr. Woolf cautioned that when using the Framework, it was imperative to always define what is being compared to what. For example, if the exercise was to evaluate a business-as-usual reference case versus all efficiency, as is currently done, the results might lead to one conclusion. Alternatively, if the purpose of the comparison was to optimize efficiency, demand, response and/or distributed generation, the results might lead to a different conclusion.<sup>50</sup> He further cautioned that before the Framework could be used to evaluate investment in advanced metering infrastructure, distributed energy resources, or photovoltaics, it was important to have well-defined inputs and methodologies. To highlight the complicated nature of using the Framework to evaluate future investments, Mr. Woolf explained that even the order in which resources are installed could affect their individual and cumulative cost-effectiveness. The issue, he explained, was that when a resource is installed to reap the benefits of certain avoided costs, the remaining pool of benefits that could be reaped by other resources has typically changed. Thus, he elaborated, how one assumed resources will be deployed in time relative to one another could affect whether or not they appeared cost-effective. Mr. Woolf identified that as “one of the trickiest parts” in developing methodologies for the Framework and its use.<sup>51</sup>

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<sup>49</sup> *Id.* at 126-29.

<sup>50</sup> *Id.* at 129-30.

<sup>51</sup> *Id.* at 131.

#### **IV. PUC's Open Meeting Discussion & Commission Findings**

##### **A. Decision**

At its Open Meeting on May 4, 2017, the PUC accepted the Stakeholder Report and adopted the goals, principles, and Framework. The PUC also requested that the Division continue its work on the Framework, specifically: (1) develop proposed methodologies needed to populate the missing information in the Framework and submit those proposed methodologies to the PUC for adoption in this docket; (2) devise and describe a set of functionalities<sup>52</sup> that would be desirable on the electric system to achieve a better accounting and allocation of costs and benefits for would support the consensus goals in Section 1.3 of the Report; and (3) investigate the level of benefits that have been achieved through various programs and the cost of these programs, including identifying how National Grid currently recovers costs and receives incentives to execute these programs.

The PUC recognized that all current and future stakeholders would benefit from further explanation by the PUC of how it foresees applying these goals, principles, and Framework in future proceedings. Such explanation is especially important in regards to the Framework, where substantial work still needs to be completed before the Framework can be fully relied upon. To this end, and to continue with a transparent and inclusive approach, the PUC indicated that it intends to issue a guidance document upon which Stakeholders and the PUC can rely, particularly as the PUC anticipates that National Grid will file a new rate case in November 2017. Accordingly, the PUC directed its staff to develop a guidance document for public comment that sets out and explains the goals, rate design principles, and the Rhode Island Benefit-Cost Framework for use in future dockets.

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<sup>52</sup> Functionalities are things such as advanced metering, smart metering, line automation, etc.

A guidance document is an agency statement of general applicability and future effect that sets forth a policy on a statutory, regulatory, or technical issue.<sup>53</sup> The guidance document contemplated here will provide direction on how the PUC will use the goals, principles, and Framework to address the factors set forth in R.I. Gen. Laws § 39-26.6-24(b). Once the guidance document has been drafted, the PUC explained, it will be made public and a comment period will occur before the PUC votes to adopt a final guidance document.

## **B. Commission Findings and Analysis**

The PUC thanks the Stakeholders for their commitment to this project. The PUC also finds the Report the Stakeholders delivered, and which the PUC accepted, to have exceeded expectations. When the PUC opened this docket, it was not clear whether consensus would be reached or whether the result would be no more than a list of issues upon which the Stakeholders failed to agree. What the Stakeholders accomplished through consensus, which was defined here as 100% agreement, was the development of a list of costs and benefits, a framework for assessing them, goals for a future electric system, and a set of rate design principles. The Stakeholders also included recommendations for a pathway toward a more modernized and efficient electric system. It is apparent that all of the Stakeholders approached the project in the spirit of cooperation, and with the outstanding expert assistance of the PUC's Facilitator/Consultant, developed a product that will be invaluable as Rhode Island moves forward into the next phase of modernizing the electric distribution system, modernizing rates and cost recovery mechanisms, and eventually, modernizing the utility's appropriate role in that future electric system.

### **1. Adoption of the Rate Design Principles, Benefit-Cost Framework, and Goals of the Future Electric System for Use in Future Dockets**

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<sup>53</sup> R.I. Gen. Laws § 42-35-1(9) (Guidance document means a record of general applicability developed by an agency which lacks the force of law but states the agency's current approach to, or interpretation of, law or describes how and when the agency will exercise discretionary functions).

### **a. Rate Design Principles**

In order to assess the reasonableness of proposed rate designs, the PUC adopts the principles in Section 3.1 of the Report. These principles should be considered by the utility and other parties to dockets that propose changes to the current rate design. It is incumbent upon the proponent of a rate or rate design proposal to meet its burden of proof. Thus, a party proposing a specific rate design will need to include accompanying evidence that addresses how the proposal advances, detracts from, or is neutral as to each of the stated rate design principles listed above. Likewise, an opponent to a rate design proposal should also refer to these principles in developing its rationale. The PUC recognizes that no one rate design proposal may advance each principle, but each should be addressed so that the PUC can appropriately balance the interests of all parties in setting just and reasonable rates across rate classes and programs. Adoption of these principles is intended to augment the PUC's role in ensuring just and reasonable rates for all classes of customers.

### **b. Benefit-Cost Framework**

The PUC adopts the Benefit-Cost Framework, recognizing that significant work remains to be done in order to derive maximum benefit from it. The PUC holds that the Framework should be relied upon, but also that it should not be the exclusive measure of whether a specific proposal should be approved. Rather, the Framework should serve as a starting point in making a business case for a proposal. For example, there may be outside factors that need to be considered by the PUC regardless of whether a specific proposal is determined to be cost-effective or not. This may include statutory mandates or qualitative considerations. Such application is consistent with the PUC's broad regulatory authority in setting just and reasonable rates. The PUC notes that the Rhode Island Supreme Court has oft held that the PUC is not held to any one specific formula in

setting rates, but is expected to use its expertise in setting rates.<sup>54</sup> This does not mean that a proposal can avoid cost-effectiveness testing. Rather, if persuasive evidence is presented where a proposal that does not pass the screening is nonetheless found to be beneficial to the system and/or furthers state energy goals, it may be approved. Conversely, if a proposal passes the cost-effectiveness test, it will not automatically be approved, and can be rejected if persuasive evidence is presented that the proposal is costly to the system and/or hinders state energy goals. As further technological advances and investment provide additional visibility on the electric system and allow for additional quantitative measures to be developed, the PUC expects the Framework will become a more robust tool for evaluating various proposals.

### **c. Goals of a Future Electric System**

As noted above, the Report provided a list of goals that a new electric system should be able to accomplish.<sup>55</sup> The PUC recognizes that these goals could be achieved through various utility business models, consideration of which were beyond the scope of the current investigation. Regardless of which model is chosen, these goals would still be important for analysis of new program proposals, new rate proposals, and new models addressing the appropriate role of National Grid in a future electric distribution system. Thus, the PUC adopts these goals and will consider them any such proposals to the PUC for its review and approval of related cost recovery.<sup>56</sup>

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<sup>54</sup> See, e.g., *In re Island Hi-Speed Ferry, LLC*, 746 A.2d 1240, 1246 (R.I. 2000), which stated that:

[T]his Court's review of decisions of the Commission is extremely deferential in light of the fact that the Commission possesses a unique, specialized expertise and the ability to consider the complex social, economical, and technical information required to set public utility rates that are fair and reasonable. Further, we reiterate that the Commission has exclusive jurisdiction to make such orders as it deems necessary to protect consumers and to ensure the economic viability of the utility. It is important to further note that this Court has held that "[n]o particular formula binds the commission in formulating its rate decision; the sole requirement is that the ultimate rate be fair and reasonable." (citations omitted).

<sup>55</sup> *Id.* at 5.

<sup>56</sup> While voting in the affirmative, Commissioner DeSimone did raise a cautionary note of concern that some of the principles and goals will lead to increased rates.



The PUC's expectation is that all parties to a National Grid rate matter will include a discussion in any testimony of how a proposal advances, detracts from, or is neutral to each of the stated goals of the electric system.

## **2. Additional Considerations for Next Distribution Rate Filing (Low-Income Rates)**

For the first time in many years, the George Wiley Center expanded its focus before the PUC from specific termination-of-service related issues to engage in this more comprehensive review. The PUC appreciates the time and effort and the contributions of the George Wiley Center to this Report. The PUC is not directly adopting any specific recommendation related to the Section 3.4 Low-Income/Customer Protections (and Opportunities), partially because several of these will need to be investigated and it is not clear that all would need to be adopted in order to provide appropriate protections and opportunities.<sup>57</sup>

However, the PUC finds it appropriate to require National Grid to submit, within its next electric distribution rate case, a re-examination of the design of the low-income rate in accordance with the rate design principles and goals adopted by the PUC herein, and which will be contained in the guidance document. In doing so, National Grid shall refer to the low-income/customer protections listed in Section 3.4 of the Report. National Grid should also consider whether any opportunities might be targeted to low-income customers to enable them to more effectively manage their energy consumption and costs, either through existing programs or cost-effective proposals. While this docket and decision relate only to National Grid's electric distribution business, National Grid should also review the design of its two low-income rates in its next gas

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<sup>57</sup> The PUC directs staff to collect and report on data relative the points listed in Section 3.4 as part of the PUC's report to the General Assembly on low income energy programs which is due in November 2018. *See* R.I. Gen. Laws § 39-2-1(e).

distribution rate case. This is not meant to suggest the gas and electric rates should have an identical design, but a fresh review should be conducted nonetheless.

### **3. Further Work on Development and Application of the Framework**

While the Framework can already provide the basis for qualitative assessment of proposals, the PUC recognizes there is still work to be done on developing the Framework for quantifying cost effectiveness. Therefore, the PUC is requesting that the Division develop methodologies needed to populate the missing information in the Framework, and submit these proposed methodologies to the PUC in this docket on or before November 1, 2017. The first step of development of methodologies should be based on currently deployed technologies.

The PUC aims to have the methodologies and Framework application integrated into a unified methodology to guide utility decisions, and finds it appropriate to develop instructions for how to use the Framework. This opinion is consistent with the PUC's intention for this docket to investigate how to normalize least-cost procurement across programs. The PUC expects the Division's proposal for the Framework to provide valuable information to the PUC so that it can identify next steps and further inform parties as to the Framework's use.

### **4. Study of Current Achievement of Benefits**

The PUC's task of ensuring rates are just and reasonable is affected by the discreteness of programs. Separate review of these programs can lead to an inefficient implementation strategy (and potentially higher program costs and corresponding rates) when a state policy goal spans multiple programs, or when the goals of one program are at odds with the goals of another. Furthermore, many of these programs provided in state law allow National Grid to earn various types of monetary incentives for successful implementation of the programs, each based on a different measure. Some programs have no incentives currently, such as Standard Offer Supply

portfolio procurement; others allow for traditional rate-base earnings, such as the Infrastructure, Safety, and Reliability Plans. Further, some programs, such as the Energy Efficiency Plans; various distributed generation programs; and certain distribution-related rates, have budget-, revenue-, and performance-based incentives. Through docket proceedings, internal research, and stakeholder engagement, the PUC has learned that some utility activities can be funded through more than one of these programs, and in some cases, simultaneously through multiple programs. These multiple avenues of funding, combined with the possibility that each has a different incentive to the utility, create a potential for unintended investment signals to the company from regulators and stakeholders.

The PUC envisions that the Framework could serve as a single set of measurements by which all future programs funded through rates can be examined for reasonableness. This includes considering whether differences between program incentives are reasonable, and whether the decision to implement a utility activity through one program versus another is reasonable. This will eventually allow the PUC to ensure rates are set most efficiently across programs. However, as a starting point, the PUC believes it is important to determine how National Grid achieves incentives through current programs for achieving policy objectives.

Accordingly, the PUC is requesting that the Division investigate the level of certain benefits that have been achieved through various programs and the cost of these programs, including identifying how National Grid currently recovers costs and receives incentives to execute these programs. A report should be submitted to the PUC in this docket on or before November 1, 2017. At a minimum, the review should include the procurement of clean and renewable power and energy, the procurement of demand and energy savings, the reduction of greenhouse gas emissions, and job-years or economic growth.

## **5. Development of a Straw Proposal of Desired Functionalities to Achieve the Goals for a New Electric Grid**

The Report recommended that, through a collaborative process, the Division build on and refine the “visibility requirements” column of the Framework to identify a more specific set of functionalities and potential technology pathways necessary to achieve a future energy system.<sup>58</sup> In its continuing move toward modernization of the electric system and associated rates, the PUC requests the Division to file a report on a set of functionalities that are desirable on the electric system to achieve a better accounting and allocation of costs and benefits and that would support the consensus goals in Section 1.3 of the report on. The report should be submitted or before, November 1, 2017. Where possible, the study should also identify candidate technologies needed to achieve these functionalities. The PUC also expects that the work done by the Division on the Framework and in the development of a straw proposal will inform the PUC on time-varying rates.

## **6. Beneficial Electrification**

The PUC agrees with Stakeholders that future distribution system planning, utility and third-party compensation, and rate design should all consider and enable beneficial electrification to make the electric system function with overall greater efficiency and reliability and contributing to a lower carbon energy system.<sup>59</sup> Accordingly, the PUC has undertaken an initiative in conjunction with the multi-agency-led Power Sector Transformation initiative. In this context, consistent with the recommendations of the Report,<sup>60</sup> the PUC will conduct technical sessions and develop guidance for the PUC’s consideration of proposals from National Grid for electric vehicle infrastructure deployment and integration, and for how the PUC would review such proposals. In

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<sup>58</sup> Stakeholder Rpt. at 19.

<sup>59</sup> See Stakeholder Rpt. at 20.

<sup>60</sup> Stakeholder Rpt. at 20.

agreement with the Report, the PUC anticipates that many of the considerations applicable to electric vehicles will also apply to electrification of space heating.

Accordingly, it is hereby

(22851) ORDERED:

1. The Public Utilities Commission accepts the Stakeholder Report.
2. The Public Utilities Commission adopts the goals set forth in Section 1.3 of the Stakeholder Report; the rate design principles listed in Section 3.1 of the Stakeholder Report; and the Rhode Island Benefit-Cost Framework, recognizing that further work needs to be done on the Framework.
3. The Public Utilities Commission directs its staff to develop a guidance document for public comment and consideration by the Public Utilities Commission that sets out the goals, rate design principles, and Rhode Island Benefit-Cost Framework for use in future dockets.
4. In its next electric distribution rate filing, The Narragansett Electric Company d/b/a National Grid shall include a re-examination of the design of the low income rate in accordance with the rate design principles and goals adopted by the Public Utilities Commission, which re-examination shall refer to the low income/customer protections listed in Section 3.4 of the Stakeholder Report.
5. In its next natural gas distribution rate filing, The Narragansett Electric Company d/b/a National Grid shall include a re-examination of the design of the low income heating and non-heating rates, considering the low income/customer protections listed in Section 3.4 of the Stakeholder Report.
6. The Public Utilities Commission requests that the Division of Public Utilities and Carriers develop methodologies to populate the missing information in the Benefit-Cost Framework and submit those proposed methodologies to the PUC for consideration in this docket.
7. The Public Utilities Commission requests that the Division of Public Utilities and Carriers file a report on a set of functionalities that are desirable on the electric system to achieve a better accounting and allocation of costs and benefits that would support the consensus goals in Section 1.3 of the Report. Where possible, the report should also identify candidate technologies that would achieve these functionalities.
8. The Public Utilities Commission requests that the Division of Public Utilities and Carriers investigate the level of benefits that have been achieved through various programs and the cost of these programs, including identifying how National Grid currently recovers costs and receives incentives to execute these programs.

EFFECTIVE AT WARWICK, RHODE ISLAND PURSUANT TO AN OPEN MEETING  
DECISION ON MAY 4, 2017. WRITTEN ORDER ISSUED JULY 31, 2017.

PUBLIC UTILITIES COMMISSION



*Margaret E. Curran*

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Margaret E. Curran, Chairperson

*Herbert F. DeSimone, Jr.*

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Herbert F. DeSimone, Jr., Commissioner

*Marion S. Gold*

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Marion S. Gold, Commissioner

**Notice of Right of Appeal:** Pursuant to R.I. Gen. Laws § 39-5-1, any person aggrieved by a decision or order of the PUC may, within 7 days from the date of the Order, petition the Supreme Court for a Writ of Certiorari to review the legality and reasonableness of the decision or Order.