



## *HEARTWOOD GROUP, INC.*

*165 Evergreen Street, Providence, RI 02906*

*401-861-1650*

February 15, 2016

Cynthia Wilson-Frias  
Rhode Island Public Utilities Commission  
89 Jefferson Blvd.  
Warwick, RI 02888  
cynthia.wilsonfrias@puc.ri.gov

Dear Ms. Wilson-Frias, Commissioners and Commission Staff,

I am responding to your published Request for Comments on Docket No. 4568 to Investigate the Changing Distribution System and want to thank you for the opportunity to do so.

Let me suggest that before answering the important questions you highlighted, it is critical to first address much broader questions. As I am sure everyone at the commission realizes, the utility industry is undergoing a period of profound change. The traditional utility regulatory model we still utilize is counterproductive in important ways. That existing utility business model is the primary obstacle to providing clean, efficient, cost effective energy to ratepayers and is also the primary obstacle to creating a vibrant democratic entrepreneurial energy sector in our economy.

Nationwide utilities are trying to turn back the tide of independently owned distributed generation because it is in fundamental conflict with their no risk monopoly business model that provides guaranteed profit on their investments. Under our existing model, utilities are incentivized to spend as much as possible, so their rate base that profits are calculated from is as large as possible. The fundamental design of that model is clearly in conflict with the economic interests of ratepayers. Though the PUC does its best to keep costs in a reasonable range, what is really needed is to replace that outmoded system with a regulatory framework that rewards utilities for reducing ratepayer costs and that aligns distribution utility revenues with encouraging and supporting independent non-utility energy services investments. We should reward utilities for maintaining the distribution grid, excellent reliable service and opening up their systems to innovative independent competitive service providers as much as possible. Obviously such fundamental change will take time.

Ratepayers will benefit most by finishing the job started in the 1996 Utility Restructuring Act and limiting the distribution utilities role to providing only the distribution infrastructure and those services that are natural and essential monopoly functions. As much as possible, the PUC should strongly favor mechanisms that encourage independent economic transactions between distributed energy service providers and consumers.

Rhode Island has embarked on several positive endeavors to start thinking differently about the role of the electric utility. The Office of Energy Resources recently published Systems Integration Vision Document, as well as last year's RI State Energy Plan - Energy 2035, both offer good goals and good efforts at rethinking certain aspects of our grid. But they don't clearly envision the more fundamental reform that is needed.

Asking the questions you raised in your memo in the context of the antiquated utility regulatory model will provide very different answers than answering those same questions in the context of a 21<sup>st</sup> Century utility paradigm. So I will suggest that in addition to whatever process is evolving from Docket 4568, the PUC should begin a process to re-examine the fundamental design, goals and financial incentives in the entire utility business model.

New York is exploring all that under their Reforming the Energy Vision (REV) effort at the New York Public Service Commission. They offer a good example for Rhode Island to study.

Audrey Zibelman, chair of the New York Public Service Commission, has said: "The existing ratemaking structure falls far short of the pace of technology development that defines many parts of our economy. By fundamentally restructuring the way utilities and energy companies sell electricity, New York can maximize the utilization of resources, and reduce the need for new infrastructure through expanded demand management, energy efficiency, renewable energy, distributed generation, and energy storage programs."

The web site for the New York REV effort lays out ambitious goals:

- Make energy more affordable for all New Yorkers
- Build a more resilient energy system
- Empower New Yorker's to make more informed energy choices
- Create new jobs and business opportunities
- Improve New York's existing initiatives and infrastructure
- Support cleaner transportation
- Cut greenhouse gas emissions 80% by 2050
- Protect New York's natural resources
- Help clean energy innovation grow

They have also set ambitious relatively near term goals for 2030:

- 40% reduction in greenhouse gas emissions from 1990 levels
- 50% of all New York's energy will be generated from renewable sources
- 23% reduction of energy use in buildings from 2012 levels

REV has the potential to create real energy democracy and innovation, enabling a clean energy future based on independently owned distributed energy projects, with consumers empowered to make meaningful decisions about their energy use and their energy investments.

Let's have those same kinds of discussions and proceedings here in Rhode Island. As National Grid learns to be a new kind of service provider in New York, let's encourage and share the benefits of those transformations here in Rhode Island.

Regarding your specific questions regarding costs and benefits:

**What attributes are possible to measure on the electric system and why should they be measured?**

My own most relevant experience is in developing solar projects in Massachusetts, almost all of which serve municipalities, non-profits and affordable housing communities and all utilizing net metering programs. I have been directly responsible for the development of 6.5 MW of solar over 80 installations ranging from 20 kW to 1.4 MW, as well as for the feasibility analysis and permitting on two projects each utilizing 1.6 MW wind turbines. I can best speak to the issues that should be evaluated in a cost benefit analysis for distribution connected renewables projects. In the case of solar specifically, these factors, among others, should be considered:

Avoided energy cost

Avoided generation capacity and reserve capacity costs

Avoided transmission capacity cost

Avoided distribution capacity cost

Distribution system voltage regulation

Avoided regulatory compliance costs of CO<sub>2</sub>, SO<sub>2</sub>, and NO<sub>x</sub>

Wholesale energy market price suppression

Avoided wholesale energy supply costs

Avoided fuel price uncertainty from our overdependence on volatile priced natural gas.

Avoided natural gas pipeline costs if the cost of building future pipeline capacity is built into electricity prices as is currently being discussed in New England.

Avoided social and medical costs related to of CO<sub>2</sub>, SO<sub>2</sub>, and NO<sub>x</sub> pollution

Benefits of jobs, local businesses and other economic factors of locally generated energy

Incremental cost of providing distribution services to distributed generation facility

**1. What are the costs and benefits that can be applied across all programs, identifying each and whether each is aligned with state policy?**

Most of the costs and benefits listed in answer to your broader question above can be applied to net metering and off-site net metering for most forms of renewable energy. Many of them can be applied for the net metering of cogeneration facilities as well. They can also likely be applied to the DG Growth Program. Most can be applied to demand response and energy efficiency programs.

**2. At what level should these costs and benefits be quantified—where physically on the system and where in cost-allocation and rates?**

Rather than try to answer this question myself, I will refer you to the best resource available on the subject: “A Regulator’s Guidebook: Calculating the Benefits and Costs of Distributed Solar Generation” recently published by the Interstate Renewable Energy Council (IREC). Any process the Commission engages in to address your questions should be based on the methodologies laid out in this guidebook. Any consultant engaged to help with the process should be experienced in utilizing those methodologies.

<http://www.irecusa.org/2013/10/experts-propose-standard-valuation-method-to-determine-benefits-and-costs-of-distributed-solar-generation/>

**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?**

Even in our decoupled energy market, decisions made by the PUC can end up steering investments that will shape our energy supply mix for decades. I applaud your focus that “all programs are consistent with Rhode Island’s Least Cost Procurement Standard”. That said, Chapter 39-1 Section 39-1-27.7 doesn’t define “least cost” very well. Least cost should be more clearly redefined as Least Total Life Cycle Cost of an investment and should factor in issues like potential for stranded costs and the potential to favor projects dependent on vulnerable transmission infrastructure or those with volatile and uncertain long term pricing. Prudent hedging against uncertain long-term ratepayer cost exposure is an important factor to be considered in all PUC proceedings. Non-wires alternatives should always be prioritized.

Investments by consumers and developers made independently of the distribution utility should be strongly favored over procurements that get rate based. The PUC should prioritize and encourage independent ratepayer investments in energy savings and independent generation. Investments that advance goals similar to those outlined for the New York REV should be weighted favorably relative to investments that encourage further entrenchment in the current utility paradigm. To the degree possible, procurement from local projects, connected directly to the local distribution system that encourage jobs and investment in Rhode Island should be favored over out of state projects.

In closing, let me again emphasize that in order to answer your questions well and make appropriate decisions from the answers, they need to be addressed in the context of the larger questions outlined at the beginning of this letter. As currently designed, our utility regulatory and compensation model encourages National Grid to hinder real systemic progress in every way they possibly can. I hope the ongoing proceeding will start the process seriously reforming the utility business model here in Rhode Island so that National Grid’s economic interests and financial incentives are realigned with real grid modernization and in supporting independent investment in a democratic entrepreneurial clean energy future.

Please add my name and contact information to the Docket No. 4568 Service List, so I can participate more fully in the process going forward.

Thank you for considering my feedback.



Fred Unger  
President, Heartwood Group, Inc.