### Staff Workshop on the PUC's Docket No. 4600A Guidance Document

Guidance on the Goals, Principles and Values for Matters Involving The Narragansett Electric Company d/b/a National Grid

**November 1, 2018** 

### Purpose

- Explain staff's thoughts for how the Docket 4600 Order and Guidance Document would affect cases
- Provide staff's responses and reactions to questions
- Identify some issues that might need more development
- Identify some issues that might need more clarity from the PUC

### **Disclaimer: I am not a Commissioner**

Public Hearing - 6/18/18 @ 9:30 am - Dockets 4770 and 4780 - Settlement Hearings - Day 3



IBM

### **Disclaimer: I am not a Commissioner**

- Some of your questions can only be answered definitively by the Commission.
- Some of the remaining work can only be deemed complete by the Commission.
- Part of the workshop and continuing discussion is figuring out what these things are and the best process to address them.

# Terminology

- Docket 4600
- Business case
- Rhode Island Benefit Cost Framework
- Qualified value

- Rhode Island Test
- Regulator's point-of-view
- Pilot
  - Critically linked



### **Determine what** to value when setting rates Increase consistency in regulation and valuation across programs

Scope

#### Report



to value when setting rates

Increase consistency in regulation and valuation across programs Goals for the future electric system

Benefit Cost Framework

**Rate Design** 

**Next Steps** 

#### Report



Goals for the future electric system

**Benefit Cost** Framework

valuation across programs

Rate Design
Next Steps

- Framework
- Use for programs and projects
- Use for rates
- Use for optimization
- Next steps

#### Report



Increase consistency in regulation and valuation across programs Goals for the future electric system

Benefit Cost Framework

**Rate Design** 

**Next Steps** 

#### Principles

- TVR recommendations
- Location strategies to investigate
- Low income & customer protections
- Concepts
- Long-term distr. rate design

#### Report



valuation across

programs



Benefit Cost Framework

Rate Design

Next Steps

- Utility business model review
- Functionality and visibility for future energy system
- Develop distribution system planning recommendations
- Beneficial electrification review
   framework
- Valuing distributed generation

#### Report

#### Scope

Determine what to value when setting rates

Increase consistency in regulation and valuation across programs

#### Goals

- Next Steps
  Utility business model review
- Functionality and visibility for future energy system
- Develop distribution system planning recommendations
- Beneficial electrification review framework
- Valuing distributed generation

#### Benefit Cost Framework Framework

- Use for programs and projects
- Use for rates
- Use for optimization
- Next steps

#### Rate Design

- Principles
- TVR recommendations
- Location strategies to investigate
- Low income & customer protections
- Concepts
- Long-term distr. rate design

#### Recommendations

#### **Accept Report**

Adopt Goals, Principles, and Framework and issue Guidance

# Low-income rate requirements

Improve

Framework

#### Report

#### Scope

Determine what to value when setting rates

Increase consistency in regulation and valuation across programs



 Utility business model review

- Functionality and visibility for future energy system
- Develop distribution
   system planning
   recommendations
- Beneficial electrification review framework
- Valuing distributed generation

- Benefit Cost Framework
  - **V** Use for programs and projects
  - ✓ Use for rates
  - Use for optimization
  - Next steps



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Increase consistency in regulation and valuation across programs

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#### **Accept Report**

Adopt Goals, Principles, and Framework and issue Guidance

Low-income rate requirements

Improve

Framework

	Docket 4600		
	Report	Order	
Scope	Goals for the	Accept Report	
	future electric system	Adopt Goals,	
Determine what to value when setting rates	Benefit Cost Framework	Framework and issue Guidance	
Increase	Rate Design	Low-income rate requirements	
consistency in regulation and		Improve Framework	
programs	Next Steps	Grid M.	

	Report	Order	Guidance
Scope	Goals for the	Accept Report	
	future electric system	Adopt Goals,	Adopt Goals,
Determine what to value when setting rates	Benefit Cost Framework	Principles, and Framework and issue Guidance	Framework and issue Guidance
Increase consistency in regulation and valuation across programs	Rate Design	Low-income rate requirements	Pilots
		Improve	Delayed
	Next Steps	Grid M.	applicability



- Order 22851 gave effect to various parts of the report.
- The Guidance Document gave further explanation of the application of certain parts of the Order.
- These are the controlling documents.

• Order 22851 in Docket No. 4600:

"...the Framework should serve as a starting point in making a business case for a proposal."

- The Guidance Document describes when a business case is required as part of a legal case.
- New (or incremental) proposals, programs, rate design, or capital spending
- A business case is the justification of a proposal and its costs based on its expected benefits.



- There are many ways to interpret "benefits" and "costs."
- Achieving beneficial objectives and goals can be part of a business case.
- Implementation of beneficial principles can be part of a business case.
- Creating value can be part of a business case



- The Guidance Document can clarify, simplify, and standardize how to make the business case within a legal case.
- The *Framework* can clarify, simplify, and standardize how to make the *value* case within a *business* case.
- Start with Framework values to create evidence



Mixed Cost-Benefit, Cost, or Benefit Category	System Attribute Benefit/Cost Driver	Candidate Methodologies	Potential Visibility Requirements
Power System Level			
Customer Level			
Societal Level			

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The set of costs and benefits that should be evaluated by the PUC when reviewing rates, programs, and investment	For each category, the set of factors that, when changed, will increase or decrease the benefits or costs in that category	Options for ways to quantify or qualify the value of benefits and costs	Requirements of different valuation methods

 Guidance Document: "...significant work still left to be done so that the Framework can be applied in a fully quantitative manner..."

Mixed Cost-Benefit, Cost, or Benefit Category	System Attribute Benefit/Cost Driver	Candidate Methodologies	Potential Visibility Requirements

My opinion: need for improvement increases in this direction...



- Guidance Document and PUC decisions point to using all Framework categories to test for cost-effectiveness and to make a business case
- This is the regulator's point-ofview on cost-effectiveness.



## **Regulator's Point-of-View**

- A participant asks, "Do my benefits outweigh my costs?"
- A program administrator asks, "Do the program benefits outweigh the program costs?"
- A ratepayer asks, "Will the rate decreases outweigh the rate increases?"
- Society asks, "Do the benefits to society outweigh costs to society?"



Paraphrasing EPA's Understanding Cost-Effectiveness of Energy Efficiency Programs, 2008

### **Regulator's Point-of-View**

 A regulator asks, "Do the energy policy benefits outweigh the energy policy costs?"



## **Regulator's Point-of-View**

- A regulator asks, "Do the energy policy benefits outweigh the energy policy costs?"
- This question extends to the business case.



- Some sections of statute require additional specific value cases as part of the standard.
- The Framework should be used to create these value cases too.
- These value cases may imply specific sets of costs and benefits, and can differ depending on point-of-view.



 PUC may use the regulator's point-of-view for other value cases when statute is not specific

#### **Framework Value Case**

- Cost-effective
- Less than supply
- Below market

- RI Test, built on the Framework, is how the Commission determines cost-effectiveness.
- Parties can also provide additional value cases (and from other points-of-view) to support their case

#### Framework Value Case

- Cost-effective
- Less than supply
- Below market
- Others e.g. other cost tests

- Guidance Document: "...if a proposal passes the costeffectiveness test, it will not automatically be approved if persuasive evidence is presented that, for example, it will be too burdensome on customers in the short term."
- Consider a proposal that passes the RI Test, with all benefits being societal economic gains.



- To create different value cases, ask "Does this category apply in this context?"
- When I say, "Does this category apply?" I do not mean "Is this category non-zero?"
- I mean "Should this category logically be included in the test (or comparison) being constructed?"



- Cost-effective
- Less than supply
- Below market
- Others e.g. other cost tests

#### Would...

- a participant
- a ratepayer
- society
- the market
- a regulator

...include the category to answer their objective question?

#### Framework Value Case

- Cost-effective
- Less than supply
- Below market
- Others e.g. other cost tests

- If a category applies, the PUC expects the proponent to quantify or qualify that value, even if the value is zero.
- If you believe a proposal has no effect on a certain category, explain why and that you expect the value is zero.

#### Framework Value Case

- Cost-effective
- Less than supply
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- Others e.g. other cost tests

## **RI Test**

- The RI Test is a benefit cost test from the regulator's point of view.
- Every category in the Framework applies.
- Some values will be zero because the program or proposal has no effect on that category, but this should be explicitly provided.

# **RI Test**

- When I refer to the "RI Test," I am referring to
  - a cost-effectiveness test that includes all categories in the Framework presented in a case
  - a test that can change with time as methods improve
  - a test that can change between cases because a different expert was employed
  - a snapshot application of the Framework

# **RI Test**

- Why do I do this?
  - It seems useful to have a name for the test that happens in a docket, and can change from case to case or party to party for a lot of different reasons.
  - This seemed useful considering we can also use the Framework for other things
  - The Framework is something the PUC adopted; the Test is something parties present in a case.

### **Creating Any Value or Cost-Effectiveness Case**





### **Qualitative Factors**

- Drivers of benefits and costs
- Identify independent and dependent factors
- Explain basis of each factor and any assumptions
- For each factor, identify direction and magnitude if possible, and identify confidence in each
- Identify order of magnitude or range if possible
- Call out ambiguity

### **Qualitative Factors**



Net direction can have four responses



- Net magnitude can be on a continuum, discrete ordering, comparison, or some other metric
- Continuum might use qualitative size or order-of-magnitude



- Net magnitude can be on a continuum, discrete ordering, comparison, or some other metric
- Discrete ordering might use qualitative size or order-ofmagnitude too



- Net magnitude can be on a continuum, discrete ordering, comparison, or some other metric
- Comparison might use equality or inequality relationships

Factor 3 ≈ Factor 4 << Factor 1 < Factor 2 ≈ Factor 7 ? Factor 5, Factor 6



# **Qualifying Value**

- Should be done at factor level
- Total net qualitative value is a sort of "sum" of individual factors

Factor	Net Direction	Net Magnitude	Value Vector
1	-	Small	
2	+	Large	
3	-	Insignificant	<b></b>
4	+	Insignificant	<b>↓</b>
5	?	?	?
6	0	?	?
7	+	Large	
Total			

# **Qualifying Value**

- It may be possible to enhance both quantified and qualified value by indicating a confidence level
  - Very low
  - Low
  - Medium
  - High
  - Very high

#### IPCC Uncertainty Guidance may have useful information

- <u>https://www.ipcc.ch/pdf/supporting-material/uncertainty-guidance-note.pdf</u>
- Independence of factors
- Quality of information regarding factors

- I think the PUC is interested in understanding how new rate design:
  - 1. Reallocates framework costs and benefits
  - 2. Creates incremental framework costs and benefits
- Section 2.3.4 of the Stakeholder Report had what I considered a useful draft methodology.

#### **Reallocates framework costs and benefits**

#### Case 1 – Only consumers on the system

- Assume a cost-based revenue requirement that is fully reconciling.
- Assume the only benefit is the required use of the system and energy.
- Every dollar of cost shifted is a dollar of benefit shifted.



#### **Reallocates framework costs and benefits**

#### Case 2 – A consumer and prosumer

- Assume a cost-based revenue requirement that is fully reconciling.
- Assume the only benefit is the required use of the system and energy.
- > Can design rates so that each customer pays their cost



#### **Reallocates framework costs and benefits**

#### Case 3 – A consumer and prosumer

- Assume a cost-based revenue requirement that is fully reconciling.
- Assume the only benefit is the required use of the system and energy.
- > Can also design rates so benefits of production are split.



**Reallocates framework costs and benefits** 

#### Case 4 – Consumers and a net positive PPA

- Assume a cost-based revenue requirement that is fully reconciling.
- Benefits now include proceeds from sale of the PPA products.
- Can design rates so benefits of PPA are related to use of the system, energy burden risk, best use of incremental revenue, etc.

**PPA Cost \$1000** PPA Product: \$2000 \$500

**Creates incremental framework costs and benefits** 

Case 1 – Increase fixed charges relative to volumetric charges

- This change could affect, for example,
  - energy efficiency adoption,
  - distributed generation adoption, and
  - arrearages.
- Changes in the size of these associated with incremental costs and benefits?

Creates incremental framework costs and benefits Case 2 – Time-varying rates

- Advanced meters could have some benefits that are independent of revenue metering.
- Some of the benefits of advanced revenue metering could come from improved efficiency through price signals.
- Meters cannot do that alone; there must be rate design to create these incremental benefits, and some will be more effective than others.
- Rate design and meters could be critically linked.

- Sometimes benefits of one action or technology cannot be achieved without additional actions.
- In these cases, the actions can be tested for costeffectiveness as a single action.
- This provides transparency on the total costs needed to achieve the total benefits expected.

• For example, National Environmental Policy Act:

Actions are connected if they:

- (i) Automatically trigger other actions which may require environmental impact statements.
- (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously.
- (iii) Are interdependent parts of a larger action and depend on the larger action for their justification.

- Guidance Document goes at least one step further
- Recognizes that some combined actions have dependent and independent elements.
- PUC may review independent elements independently



- If the storage can only charge from the PV system
- And the \$2000 in PV system benefits are independent of storage capabilities
- PUC may approve PV system but reject storage element



- If the storage can only charge from the PV system
- And the \$2000 in PV system benefits requires storage capabilities to shift generation to meet demand
- PUC may approve both elements

![](_page_64_Figure_4.jpeg)

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