# SYSTEM RELIABILITY PROCUREMENT

# 2021-2023 THREE-YEAR PLAN

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| Term | Definition |
|---|---|
| AMF | Advanced Metering Functionality |
| Approximate Value | The estimated net present value of deferring the wires investment for the required timeframe. |
| BCA | Benefit-Cost Analysis |
| BCR | Benefit-Cost Ratio |
| BTM | Behind-the-Meter |
| Capex | Capital expenditure |
| CEM | Customer Energy Management |
| CHP | Combined Heat and Power |
| CRM | Cost Recovery Mechanism |
| CSA | Construction Service Agreement |
| DER | Distributed Energy Resource |
| DG | Distributed Generation |
| Division | Division of Public Utilities and Carriers |
| DPAM | Distribution Planning and Asset Management |
| DR | Demand Response |
| DSP | Distribution System Planning |
| EE | Energy Efficiency |
| EE Plan | Energy Efficiency Program Plan |
| EEP | Energy Efficiency Program |
| EERMC | Energy Efficiency and Resource Management Council |
| EPC | Engineering, Procurement, and Construction |
| EPS | Electric Power System |
| ESA | Energy Service Agreement |
| ESS | Energy Storage System |
| FERC | Federal Energy Regulatory Commission |
| Framework | Rhode Island Docket 4600 Benefit-Cost Framework |
| FTM | Front-of-the-Meter |
| GHG | Greenhouse gas |
| GMP | Grid Modernization Plan |
| ISO | Independent Systems Operator |
| ISO-NE | ISO New England, Inc. |
| ISR | Infrastructure, Safety and Reliability Plan |
| kW | Kilowatt |
| kWh | Kilowatt-hour |
| LCP | Least-Cost Procurement |
| MW | Megawatt |
| MWh | Megawatt-hour |

| Term | Definition |
|---|---|
| NECEC | Northeast Clean Energy Council |
| NERC | North American Energy Reliability Corporation |
| NOAA | National Oceanic and Atmospheric Administration |
| NPA | Non-Pipeline Alternatives |
| NPV | Net Present Value |
| NWA | Non-Wires Alternative |
| O&M | Operations and Maintenance |
| OER | Office of Energy Resources |
| Opex | Operational expenditure |
| PIM | Performance Incentive Mechanism |
| Portal | Rhode Island System Data Portal |
| PST | Power Sector Transformation |
| PUC | Public Utilities Commission |
| PV | Photovoltaic |
| RFP | Request for Proposals |
| RGGI | Regional Greenhouse Gas Initiative |
| RNG | Renewable Natural Gas |
| SRP | System Reliability Procurement |
| T&D | Transmission and Distribution |
| TEC-RI | The Energy Council of Rhode Island |
| TWG | Technical Working Group |
| VVO | Volt-VAR Optimization |

# SYSTEM RELIABILITY PROCUREMENT 2021-2023 THREE-YEAR PLAN

## 1. Executive Summary

The purpose of System Reliability Procurement (SRP) is to identify targeted alternative solutions, through customer-side and grid-side opportunities, for the electric and gas distribution systems that are cost-effective, reliable, prudent and environmentally responsible and provide the path to lower supply and delivery costs to customers in Rhode Island.

The role of National Grid[1] with respect to SRP is to identify potential Non-Wires Alternative (NWA) and Non-Pipeline Alternative (NPA) opportunities, to source viable alternative solutions that address system needs and defer, reduce, or remove the need for transmission and distribution (T&D) wires and pipes investments, and to support projects and programs that enable such activity.

The Company summarizes the rulings requested of the Public Utilities Commission (PUC)[2] in the table below.

Table 1: Summary of Requested Rulings for SRP in 2021-2023

| SRP Section | SRP Initiative/Proposal | Requested Ruling |
|---|---|---|
| 5 | SRP Funding Mechanism | The Company requests the PUC approve the Company's proposal that opex-type SRP investments be funded through the System Benefit Charge, or Energy Efficiency (EE) Charge, on customers' bills. |
| 5 | SRP Funding Mechanism | The Company requests the PUC approve the Company's proposal that capex-type SRP investments be filed and proposed in an SRP Investment Proposal. |
| 6 | SRP Performance Incentive Mechanism | The Company requests the PUC approve the Company's proposed performance incentive mechanism (PIM) for calendar years 2021 through 2023. |



[1] The Narragansett Electric Company d/b/a National Grid (National Grid or Company).
[2] "RIPUC." *State of Rhode Island Public Utilities Commission and Division of Public Utilities and Carriers*, State of Rhode Island, www.ripuc.ri.gov/.

| SRP Section | SRP Initiative/Proposal | Requested Ruling |
|---|---|---|
| 7.2 | NWA Screening Criteria | The Company requests the PUC approve the proposed NWA screening criteria for Rhode Island as detailed in Table 5 for calendar years 2021 through 2023. |
| 8 | NPAs in System Planning | The Company requests the PUC approve the development plan for the Non-Pipeline Alternatives (NPA) program in calendar years 2021 through 2023. |
| 12 | SRP Timeline: SRP Investment Proposals | The Company requests the PUC rule on SRP Investment Proposals within 60 days of filing. |
| 12 | SRP Timeline: Year-End Reports | The Company requests the PUC approve the annual reporting plan for SRP Year-End Reports for calendar years 2021 through 2023. |

The Company summarizes the anticipated funding requests and their cost recovery mechanisms (CRM) for 2021 through 2023 in the table below. The Company estimates that the stated incremental costs will be required in 2021 through 2023 to implement the projects and initiatives detailed in this Plan. Please note that the costs stated for calendar years following 2021 are informative to detail potential future costs. These anticipated costs could change in subsequent SRP Investment Proposals, based on the finalized proposal made in a specific year and given changes in system load demand, need for increased market engagement, or other activity.

Table 2: Summary of Anticipated 2021-2023 SRP Funding Requests

| SRP Section | SRP Initiative/Proposal | CRM | CY 2021 | CY 2022 | CY 2023 |
|---|---|---|---|---|---|
| 6.1 | SRP PIM | EE Charge | TBD | TBD | TBD |
| 7 | NWAs in System Planning | TBD | TBD | TBD | TBD |
| 8 | NPAs in System Planning | TBD | TBD | TBD | TBD |
| 9 | Rhode Island System Data Portal | EE Charge | $0 | $0 | $0 |
| 10 | SRP Market Engagement | EE Charge | $0 | $0 | $0 |
| | | **Total** | **$0** | **$0** | **$0** |

Please note that the cells that state "TBD" in Table 2 indicate unknowns because SRP plan and project development during future years will determine applicable funding requests for those items. Also note that the CRM for Non-Wires Alternatives (NWAs) and Non-Pipeline

Alternatives (NPAs) is to be determined in the proposal stage, based on the specific solution's ownership model.

Please note that no new enhancements or new work are currently planned for the Rhode Island System Data Portal and the SRP Market Engagement program and that additional, incremental costs for these programs are therefore expected to be $0 for calendar years 2021 through 2023, as detailed in Sections 9 and 10, respectively.

The commitments included in the 2021-2023 SRP Plan are summarized in the following table. These commitments do not require additional, incremental SRP funding because they are actions covered by the work of full-time employees (FTEs).

Table 3: Summary of 2021-2023 SRP Commitments

| SRP Section | SRP Commitment |
|---|---|
| 7 | The Company plans to continue analyzing its current NWA screening and development processes to determine how NWAs might be best considered as both complete and partial solutions. |
| 8 | The Company commits to developing the NPA Program parts over calendar years 2021 to 2023 and to providing an initial NPA Program, as detailed in Section 8.2, in the SRP 2023 Year-End Report filing. The Company commits to engaging with stakeholders to discuss and understand opportunities and challenges regarding NPAs throughout development of the NPA Program and its integral parts. |
| 8.2 | The Company intends to engage stakeholders continually throughout the development of the NPA program over the next three years via SRP TWG meetings. The Company intends stakeholders to be engaged during the development of specific program parts, as detailed in the figure above and the following program part descriptions. |
| 8.2 | The Company commits to produce a detailed initial NPA Program at the end of the 2021-2023 SRP Three-Year Plan cycle. |
| 11 | The Company recognizes that improved synchronization between SRP and Power Sector Transformation (PST), the Energy Efficiency Program Plan (EE Plan), the Infrastructure, Safety and Reliability (ISR) Plan, the Grid Modernization Plan (GMP), and the Advanced Metering Functionality (AMF) Business Case is necessary and intends to maintain and improve coordination between these filings. |

| SRP Section | SRP Commitment |
|---|---|
| 11 | Therefore, the Company commits to continued stakeholder engagement and continued participation in enhanced discussions regarding SRP, NWA, and related policy and programs with stakeholders. |
| 11.1 | The Company will commit to maintaining alignment between SRP and AMF with regard to the AMF Data Governance and Management Plan and will participate in future collaborative discussions about data access and security. |

The proposals and information the Company presents in this SRP Plan advance Power Sector Transformation (PST)[3] goals, align with Docket 4600[4] principles, are coordinated with the Company's other programs and filings, and adhere to Least-Cost Procurement (LCP) law.



[3] "Power Sector Transformation Initiative." *State of Rhode Island Public Utilities Commission and Division of Public Utilities and Carriers*, State of Rhode Island Office of the Governor Gina M. Raimondo, 8 Nov. 2017, www.ripuc.ri.gov/utilityinfo/electric/PST_home.html.

[4] "Docket No. 4600 and Docket No. 4600-A." *State of Rhode Island Public Utilities Commission and Division of Public Utilities and Carriers*, Rhode Island Public Utilities Commission, 2 Nov. 2018, www.ripuc.ri.gov/eventsactions/docket/4600page.html.

# 2. Introduction

The Company is pleased to submit this System Reliability Procurement 2021-2023 Three-Year Plan (Plan) to the PUC. This Plan has been developed by National Grid through an iterative process with the SRP Technical Working Group (the SRP TWG).[5][6]

This Plan is being jointly submitted as a Stipulation and Settlement (Settlement) between the Acadia Center, Division of Public Utilities and Carriers (Division), the Energy Efficiency and Resource Management Council (EERMC), Green Energy Consumers Alliance, the Office of Energy Resources (OER), Northeast Clean Energy Council (NECEC), The Energy Council of Rhode Island (TEC-RI), and National Grid (together, the Parties). This Plan addresses a range of topics discussed by members of the SRP TWG regarding the Company's Plan for calendar years 2021 through 2023.

National Grid respectfully seeks approval of this Plan and its integral proposals in accordance with the guidelines set forth in Section 4 of the LCP Standards.



[5] Members of the SRP TWG presently include the Company, Acadia Center, the Division, Green Energy Consumers Alliance, OER, NECEC, TEC-RI, several EERMC members, and representatives from the EERMC's Consulting Team.

[6] "The Collaborative." *RI Energy Efficiency & Resource Management Council*, RI Energy Efficiency & Resource Management Council, https://rieermc.ri.gov/thecollaborative/.

# 3. Regulatory Basis for System Reliability Procurement

This SRP Plan is submitted in accordance with the Least-Cost Procurement law, R.I. Gen. Laws § 39-1-27.7,[7] the basis for which is the Comprehensive Energy Conservation, Efficiency, and Affordability Act of 2006[8] (the 2006 Act) and as amended in May 2010. The 2006 Act provides the statutory framework for least-cost procurement, including system reliability, in the State of Rhode Island. The 2006 Act provides a unique opportunity for Rhode Island to identify and procure cost-effective customer-side and distributed resources with a focus on alternative solutions to the standard supply and infrastructure options. These alternative solutions may deliver savings to customers by deferring or removing the need for distribution system investment and improving overall system reliability over time.

This SRP Plan is also submitted in accordance with the Rhode Island PUC's revised "Least-Cost Procurement Standards," which the PUC approved and adopted pursuant to Order No. 23890 in Docket No. 5015 (LCP Standards).[9] The LCP law, R.I. Gen. Laws § 39-1-27.7, requires standards and guidelines for system reliability. On July 23, 2020 in Docket 5015, the PUC unanimously approved the revised standards for system reliability, finding that the standards were consistent with the policies and provisions of R.I. Gen. Laws § 39-1-27.7.1(e)(4),(f) and R.I. Gen. Laws § 39-1-27.7.3.

> ***§ 39-1-27.7. System reliability and least-cost procurement. –*** *Least-cost procurement shall comprise system reliability and energy efficiency and conservation procurement as provided for in this section and supply procurement as provided for in § 39-1-27.8, as complementary but distinct activities that have as common purpose meeting electrical energy needs in Rhode Island, in a manner that is optimally cost-effective, reliable, prudent and environmentally responsible.*[10]

The LCP law further states that SRP resources are intended to include, but are not limited to, the following:

*(i) Procurement of energy supply from diverse sources, including, but not limited to, renewable energy resources as defined in chapter 26 of this title;*



[7] "Title 39 Public Utilities and Carriers." *State of Rhode Island General Laws*, State of Rhode Island General Assembly, http://webserver.rilin.state.ri.us/Statutes/title39/39-1/39-1-27.7.HTM.

[8] "The Comprehensive Energy Conservation, Efficiency and Affordability Act of 2006." *State of Rhode Island General Assembly*, 25 Apr. 2006, http://www.ripuc.org/eventsactions/docket/3759-RIAct.pdf.

[9] "Least Cost Procurement Standards." *State of Rhode Island Public Utilities Commission and Division of Public Utilities and Carriers*, Energy Efficiency and Resource Management Council, 21 Aug. 2020, http://www.ripuc.ri.gov/eventsactions/docket/5015_LCP_Standards_05_28_2020_8.21.2020%20Clean%20Copy%20FINAL.pdf.

[11] Synapse Energy Economics, *Avoided Energy Supply Components in New England: 2018 Report*, Amended October 24, 2018.

*(ii) Distributed generation, including, but not limited to, renewable energy resources and thermally leading combined heat and power systems, which is reliable and is cost-effective, with measurable, net system benefits;*

*(iii) Demand response, including, but not limited to, distributed generation, back-up generation and on-demand usage reduction, which shall be designed to facilitate electric customer participation in regional demand response programs, including those administered by the independent service operator of New England ("ISO-NE") and/or are designed to provide local system reliability benefits through load control or using on-site generating capability;*

SRP resources include, in part, NWA and NPA investments. Section 4.4.A of the LCP Standards requires that the Company identify T&D projects that meet certain screening criteria for potential NWAs or NPAs that reduce, avoid, or defer T&D wires investments. See Section 7 for detail regarding NWAs and Section 8 for detail regarding NPAs.

Sections 4.4 and 4.6 of the LCP Standards further require the Company to submit, by November 21, 2020 and triennially thereafter, an SRP Three-Year Plan that includes, among other information, the proposed Performance Incentive Mechanism (PIM) for SRP, proposed screening criteria for SRP investments, strategies that enhance procurement of SRP investments, the general procurement process for SRP, the evaluation process and criteria for SRP investments, and a proposed annual reporting plan for implementation updates of SRP investments. For additional discussion on the criteria for NWA analysis, please see Section 7.

In addition to NWA and NPA opportunities, SRP resources can also include other efforts that adhere to the Least-Cost Procurement goals; that these resources be *complementary but distinct activities that have a common purpose of meeting electrical and natural gas energy needs in Rhode Island, in a manner that is optimally cost-effective, reliable, prudent and environmentally responsible*.

## 3.1 Cost Test

In accordance with Section 1.3.B of the revised Standards, the Company adheres to the Rhode Island Benefit-Cost Test (RI Test) for all SRP investment proposals. The Company has developed the Rhode Island Non-Wires Alternative Benefit-Cost Analysis Model (RI NWA BCA Model), which is a derivative of the RI Test and utilizes the same Docket 4600 Benefit-Cost Framework, to more accurately assess NWA opportunities benefits and costs. Please see Appendix 2 for the RI NWA BCA Model.

The shift to using the RI NWA BCA Model has been a positive development for SRP. Per the LCP Standards, this specialized derivative of the RI Test is created using the RI Framework and accounts for applicable policy goals, PUC orders, regulations, guidelines, and other policy directives; accounts for all relevant, important aspects of the SRP and NWA programs; is

symmetrical by including both costs and benefits for each relevant type of impact; is forward-looking by capturing the benefit-cost analysis over the life of the investment; and is transparent in its application and calculation.

Accounting for all costs and benefits associated with System Reliability Procurement provides a more robust accounting of the societal benefits that SRP investments deliver to electric customers, the state, and society.

The cost test and cost-effectiveness analyses of SRP investments use avoided cost impact factors developed by Synapse Energy Economics as part of the "Avoided Energy Supply Components in New England: 2018 Report" (2018 AESC Study), sponsored by New England's electric and gas energy efficiency program administrators.[11] The study utilizes state level avoided costs to reflect current and expected market conditions and are highly influenced by the cost of fossil fuels and expectations about ISO-New England's forward capacity market. Where applicable, the company utilizes site-specific calculations to augment the state level data. The cost-effectiveness analyses also include estimates of economic benefits applicable to System Reliability Procurement.

Project-specific transmission and distribution capacity values are also included. The company has developed a deferral calculator that utilizes the location-specific wires solution expected cost, related O&M costs, depreciation, and revenue requirements over the course of the expected lifetime of a wires solution. A distribution deferral value is obtained by delaying the need date for a wires solution.

The RI NWA BCA model will be continually reviewed by internal cross-functional teams and, in alignment with the SRP Year-End Report filings, externally on an annual basis by the EERMC Consultant Team (EERMC C-Team) and the PUC.

The Company will use the RI NWA BCA Model, as detailed in Section 7.4 and Appendix 2, for assessing Rhode Island NWAs.

## 3.2 Cost-Effective

A cost-effectiveness analysis will be completed for potential NWA solutions. The SRP investment will be considered cost-effective if the benefit-cost ratio (BCR) for the resource is greater than 1.0. Utilizing the cost test as detailed in Section 3.1, NWA options will be compared to each other and the wires option. This comparison will be utilized during the NWA evaluation process outlined in Section 7.4. Note that the costs of $CO_2$ mitigation, as imposed by the Regional Greenhouse Gas Initiative (RGGI), and other utility system costs are accounted for in the RI NWA BCA Model as detailed in Table 4. The Company plans to demonstrate cost-effectiveness for any specific projects by inclusion of the RI NWA BCA Model results in each SRP Investment Proposal filing. The

[11] Synapse Energy Economics, *Avoided Energy Supply Components in New England: 2018 Report*, Amended October 24, 2018.

BCA methodology for SRP proposals is consistent with the language in the LCP Standards Section 1.3.C and Docket 4600 Framework.

Table 4. Summary of RI Test Benefits and Costs Applicability

| RI Test Category | Docket 4600 Category | SRP Program | Notes |
|---|---|---|---|
| Electric Energy Benefits | Energy Supply & Transmission Operating Value of Energy Provided or Saved (Power System Level) | X | |
| | Retail Supplier Risk Premium (Power System Level) | X | |
| | Criteria Air Pollutant and Other | X | |
| | Distribution System Performance (Power System Level) | X | |
| RPS and Clean Energy Policies Compliance Benefits | REC Value (Power System Level) | X | |
| | GHG Compliance Costs (Power System Level) | X | |
| | Environmental Externality Costs (Power System Level) | X | |
| Demand Reduction Induced Price Effects | Energy Demand Reduction Induced Price Effect (DRIPE) (Power System Level) | X | |
| Electric Generation Capacity Benefits | Forward Commitment Capacity Value (Power System Level) | X | |
| Electric Transmission Capacity Benefits | Electric Transmission Capacity Value (Power System Level) | X | |
| | Electric Transmission Infrastructure Costs for Site-Specific Resources | X | |
| Electric Distribution Capacity Benefits | Distribution Capacity Costs (Power System Level) | X | |
| Natural Gas Benefits | Participant non-energy benefits: oil, gas, water, waste water (Customer Level) | O | (1) |
| Delivered Fuel Benefits | | O | |
| Water and Sewer Benefits | | O | |
| Value of Improved Reliability | Distribution System and Customer Reliability/Resilience Impacts (Power System Level) | X | |
| Non-Energy Impacts | Distribution Delivery Costs (Power System Level) | O | (2) |
| | Distribution system safety loss/gain (Power System Level) | O | |
| | Customer empowerment and choice (Customer Level) | O | |
| | Utility low income (Power System Level) | O | |

| RI Test Category | Docket 4600 Category | SRP Program | Notes |
|---|---|---|---|
| | Non-participant rate and bill impacts (Customer Level) | O | |
| Non-Embedded GHG Reduction Benefits | GHG Externality Cost (Societal Level) | X | |
| Non-Embedded NOx Reduction Benefits | Criteria Air Pollutant and Other Environmental Externality Costs (Societal Level) | X | |
| Non-Embedded SO2 Reduction Benefits | Public Health (Societal Level) | X | |
| Economic Development Benefits | Non-energy benefits: Economic Development (Societal Level) | O | (3) |
| Utility Costs | Utility / Third Party Developer Renewable Energy, Efficiency, or DER costs | X | |
| Participant Costs | Program participant / prosumer benefits / costs (Customer Level) | X | |
| Notes<br>(1) These non-electric utility benefits are expected to be negligible for a site-specific targeted need (i.e. NWAs or NPAs).<br>(2) Currently do not have data to claim benefits for a targeted need case.<br>(3) Sensitivity analysis is currently under development. This benefit is negligible unless sensitivity analysis determines otherwise. | | | |



The following additional Docket 4600 Benefit Categories were determined to be negligible at this time, but additional research may be necessary to determine if there are non-negligible quantitative or qualitative impacts:

- Low income participant benefits (Customer Level)
- Forward commitment avoided ancillary services value (Power System Level)
- Net Risk Benefits to Utility System Operations from DER Flexibility & Diversity (Power System Level)
- Option value of individual resources (Power System Level)
- Investment under uncertainty: real options value (Power System Level)
- Innovation and learning by doing (Power System Level)
- Conservation and community benefits (Societal Level)
- Innovation and knowledge spillover - related to demo projects and other RD&D (Societal Level)
- Societal low-income impacts (Societal Level)
- National security and US international influence (Societal Level)

## 3.3 Reliable

SRP investments must always meet the system need or support the sourcing of solutions that are evaluated to meet the system need. When procuring an SRP investment, such as an NWA solution, the following aspects are considered during NWA bid evaluation: safety, level of availability given a contingency or peak load event (e.g. market participation), level of communication uptime, maintenance, fuel availability, response time, and level of customer engagement as applicable, in additional to the technical and functional requirements. Every NWA bid proposal is compared with the other competing NWA bid proposals, as detailed in Section 7.4, and the Company's wires option to determine that the potentially viable primary NWA option meets the technical requirements and does not detrimentally impact the customer. These aspects indicate how a proposed SRP investment aligns with the reliable requirement in accordance with Section 1.3.D of the revised Standards.

## 3.4 Prudent

SRP investments consider cost deferral, the overall timeline of solution implementation, and the lifetime of any procured solution. SRP investments seek to produce synergy savings by deferring, reducing, or removing costs that would otherwise be borne via ISR investments. When procuring an SRP investment, SRP proposal evaluation includes schedule criteria such as meeting the need date, project milestones, and timing of project planning and permitting. Also, investment risk is addressed in NWA proposal evaluation, as detailed in Section 7.4. Additionally, for solutions that involve physical assets, any applicable ratings degradation of the asset is considered and factored in to the solution procurement. Furthermore, please see Section 5 for detail on the effective use of available funding sources; note that funding requests and bill impacts are detailed for each specific proposal in the respective SRP Investment Proposal filings. These aspects indicate how a proposed SRP investments align with the prudent requirement in accordance with Section 1.3.E of the revised Standards.

## 3.5 Environmentally Responsible

While maintaining an agnostic view with technology type, SRP investments assess , as part of their evaluation criteria as detailed in Section 7.4, consideration of customer impacts, zoning considerations, greenhouse gas (GHG) emissions, public health impacts, and the aesthetic, economic, acoustic, and general environmental impacts. SRP investments also adhere to Docket 4600 framework, overall and specific to environmental impacts. These aspects indicate how a proposed SRP investments align with the environmentally responsible requirement in accordance with Section 1.3.F of the revised Standards.

## 3.6 Lower than the Cost of the Best Alternative Utility Reliability Procurement

In accordance with Section 1.3.H of the LCP Standards, SRP investments are compared with the cost of the best alternative Utility Reliability Procurement. This includes comparison between the alternative non-wires or non-pipes option and the standard option for applicable cost categories

enumerated in the Rhode Island Docket 4600 Benefit-Cost Framework (Framework) or, at a minimum, in the Total Resource Cost Test[12], as detailed in Section 3.1 and 3.2 and through the evaluation process as detailed in Section 7.4.



[12] "Docket No. 4443 - RI Energy Efficiency and Resource Management Council (EERMC) - Proposed Energy Efficiency Savings Targets for National Grid's Energy Efficiency Procurement for the Period 2015 - 2017 Consistent with Least Cost Procurement (Filed 9/17/13)." *State of Rhode Island Public Utilities Commission and Division of Public Utilities and Carriers*, Energy Efficiency and Resource Management Council, 17 Sept. 2013, www.ripuc.ri.gov/eventsactions/docket/4443page.html.

# 4. SRP Program Design and Planning Principles

The SRP program is designed to achieve optimal cost-effectiveness for the electric and gas systems and for Rhode Island customers, while maintaining the safety and operational reliability of such systems and integral assets.

The SRP program and its constituent investments are planned in accordance with LCP law and the LCP Standards as detailed in Section 3, the guidance and process aligned with electric distribution planning as detailed in Section 7 and the in-development guidance and process with gas distribution planning as proposed in Section 8, and in coordination with other Company programs and initiatives as detailed in Section 11.

Areas of focus for National Grid in the SRP program for calendar years 2021 through 2023 include the following:

- Identification of system needs for the gas and electric systems
- Identification of potential NWA opportunities
- Identification of potential NPA opportunities, including NPA pilot opportunities, as the NPA program is developed
- Development of National Grid's NPA program
- Continued and improved market engagement, including sourcing potential NWA and NPA solutions
- Continued vendor stakeholder and SRP stakeholder engagement
- Continuous refinement of NWA Deferral Value calculation
- Continuous program and process improvement

Generally, the perennial needs of the electric and gas systems are safety, reliability, cost-effective operations, meeting demand, and system capacity. The Company has a greenhouse gas (GHG) emissions reduction goal and blueprint, the *Northeast 80x50 Pathway*[13], that it aims to achieve 80% reduction in GHG by 2050. National Grid has further environmental policy and goals regarding reducing pollution, protecting wildlife and wetlands, minimizing climate change, and more as detailed on the Company's environmental policy webpage.[14]

Rhode Island state goals and initiatives include Executive Order 20-01[15] that mandates "to meet one hundred percent (100%) of the state's electricity demand with renewable energy resources by

[13] "Northeast 80x50 Pathway." *National Grid's Northeast 80x50 Pathway*, National Grid USA, Inc., 15 June 2018, www.nationalgridus.com/news/Assets/80x50-White-Paper-FINAL.pdf.

[14] "Environmental Policy & Programs: National Grid." *Environmental Policy & Programs | National Grid*, National Grid USA, Inc., 2020, www.nationalgridus.com/Our-Company/Environmental-Policy-and-Programs.

[15] R.I. Executive Order No. 20-01 (Jan. 17, 2020), https://governor.ri.gov/documents/orders/Executive-Order-20-01.pdf.

2030", Executive Order 19-06 [16] that mandates the path forward for Heating Sector Transformation, the integral components of Power Sector Transformation, and the integral components of the Resilient Rhode Island Act of 2014[17].

SRP investments how they affect other programs (Portal and NWAs to D-planning)
TBD text



[16] R.I. Executive Order No. 19-06 (July 8, 2019), https://governor.ri.gov/documents/orders/Executive%20Order%2019-06.pdf.
[17] "CHAPTER 42-6.2 Resilient Rhode Island Act of 2014 – Climate Change Coordinating Council." *Chapter 42-6.2 - Index of Sections*, State of Rhode Island General Assembly, 2014, http://webserver.rilin.state.ri.us/Statutes/TITLE42/42-6.2/INDEX.HTM.

# 5. SRP Funding Mechanism

The Company proposes to fund the projects and initiatives included in SRP Investment Proposals through the applicable cost recovery mechanism.

For SRP investments composed of operational expenditure (opex), the Company proposes that such investments be filed and proposed in an SRP Investment Proposal. The Company also proposes that such investments be funded through the System Benefit Charge, or Energy Efficiency (EE) Charge, on customers' bills. Such opex-type SRP investments may include third-party owned and operated NWA projects, new enhancements to the Rhode Island System Data Portal, or SRP market engagement work.

For SRP investments composed of capital expenditure (capex), the Company proposes that such investments be filed and proposed in an SRP Investment Proposal. The Company also proposes that specific capex tracking factors would be used to track funding allocated to such capex-based SRP investments. This capex tracking factor would be separate from the SRP Opex Factor that is a component of the EE Charge. Such capex-type alternative investments may include Company-owned and operated NWA or NPA projects.

All funding requests made in SRP Investment Proposals are factored into the respective SRP cost recovery mechanism. For opex-type SRP investments this would be the SRP Opex Factor, or the "Proposed SRP Opex Factor per kWh" value, which is a component of the EE Charge on customers' bills. The proposals and funding requests in SRP Investment Proposals are not complemented by or funded through other Company programs or plans.

Please note that administrative costs for SRP plan development and stakeholder meetings are covered by the work of full-time employees (FTEs) and are included in the current rate case. Only additional, incremental costs for plan implementation of proposed projects and programs are included in SRP funding requests.

# 6. SRP Performance Incentive Mechanism

This section details the SRP Performance Incentive Mechanism to advance LCP goals.

The Company and the Parties have agreed on savings-based metrics for the Company to earn incentives on work completed through SRP in years 2021 through 2023.

## 6.1 SRP Savings-Based Incentives

The Company will be able to earn savings-based incentives for distributed energy resources (DER), targeted EE measures, or targeted demand response (DR) programs that are installed or implemented as a result of SRP RFPs. The Company will be obligated to demonstrate that DERs, targeted EE, or targeted DR were installed or implemented as a result of SRP investments. This demonstration would require:

1. The project contract between the solution provider and the Company, and
2. Confirmation that the SRP solution was installed by the in-service need date of the SRP opportunity, and
3. Measured output at the feeder during peak hours showing the specific investment's contribution to mitigating or eliminating the specified system need.

For the Company to earn savings-based incentives on such SRP investments, the investments must be deemed cost-effective according to the Rhode Island cost-effectiveness framework established in the Commission's Docket 4600 Guidance Document.

The savings-based incentive will allow the Company to earn a share of the net benefits of the installed DERs that meet the demonstration criteria described above. Net benefits are defined as the remaining sum left after total costs have been subtracted from the total benefits; net benefits are synonymous with savings in the context of the savings-based incentive. Net benefits will be calculated for DER projects using the Utility Cost Test, which includes only the "power sector" costs and benefits in the Rhode Island cost-effectiveness framework. Participant and societal costs and benefits will not be included for the purpose of determining the shared savings incentive amount. The Utility Cost Test provides the clearest indication of the extent to which DERs reduce costs for all customers. Net benefits will include the location-based avoided distribution costs, if applicable, prepared by the Company, as described above. The location-based avoided distribution costs are the deferral value of the wires investment.

The net benefits of the DERs will be shared by allocating 20% to the Company and 80% to customers, with the share to the Company apportioned annually over the lifetime of the SRP project. The Company earns its apportioned annual share for each year the installed DER meets the three demonstration requirements listed above.

$$Company\ Share = Net\ Benefits \times 20\%$$

$$Apportioned\ Annual\ Company\ Share = \frac{Net\ Benefits \times 20\%}{\#Years\ of\ SRP}$$

$$Customer\ Share = Net\ Benefits \times 80\%$$

The savings-based incentive mechanism would be applied to the net benefits of the SRP project(s) proposed in SRP Investment Proposals, as well as any projects installed and marketed as a result of the other SRP initiatives proposed in the SRP Investment Proposals, to the extent they meet the criteria outlined in this section and the projects or initiatives result from RFPs.

The proposed savings-based incentives for specific and implemented SRP projects would be filed annually in an SRP Investment Proposal following year-end analysis of the SRP project's performance measurement. The savings-based incentive proposal for a specific SRP project would detail the requested incentive value, the corresponding calculation, and would be based off the prior year's actual solution performance measurements.

The Company requests approval of the proposed PIM as detailed in this section for calendar years 2021 through 2023.

# 7. NWAs in System Planning

This section details the Company's Non-Wires Alternative (NWA) program in Rhode Island.

## 7.1 Definition of NWA

The definition and requirements of NWAs are as follows:

| | |
|---|---|
| NWA Definition: | Non-Wires Alternatives is the inclusive term for any targeted investment or activity that is intended to defer, reduce, or remove the need to construct or upgrade components of an electric system, or "wires investment". |
| NWA Requirements: | These NWA investments are required to be cost-effective and are required to meet the specified electrical grid need. |

An NWA can include any action, strategy, program, or technology that meets this definition and these requirements. The Company is currently engaged in ongoing discussions with stakeholders about non-clean energy and how it is considered in NWA solutions, proposals, and investment decisions.

Some technologies and methodologies that can be applicable as an NWA investment include demand response, solar, energy storage, combined heat and power (CHP), microgrid, conservation or energy efficiency measure, and other distributed energy resources (DERs) and distributed generation (DG). NWA projects can include these and other investments individually or in combination to meet the specified need in a cost-effective manner.

Additionally, the terms "potential NWA opportunity" or "NWA opportunity" refer to a non-wires investment option that has been identified for a specific electric grid need but which has not yet been confirmed as an NWA project for implementation in place of the wires investment option.

The maximum amount payable for NWA resources will be an annualized amount of the Approximate Value for the NWA opportunity. This Approximate Value is a net present value (NPV) calculated from 100% of the deferral value of the otherwise-needed localized wires investment option, which by default are location-based avoided costs. The 100% rate is the application of the Rhode Island Locational Incentive to provide greater value to Rhode Island customers. The rate was previously pegged at 60% of the deferral value, as described in the 2019 SRP Report; however, the Company has experienced reduced market engagement following this derated incentive. The Approximate Value is stated in NWA requests for proposals (RFPs) to help inform third-party solution providers whether their NWA solution bid is cost-effective for the need. Any contracts to procure NWAs would have to be approved by the PUC, as required for all non-tariff contracts.

## 7.2 Screening Criteria for NWA

The screening criteria for potential NWA opportunities are as follows:

Table 5: Screening Criteria for NWA Opportunities

| Criteria Type | Criteria Requirement |
|---|---|
| Project Type Suitability | Project types include Load Relief and Reliability.[18] The need is not based on Asset Condition. Other types have minimal suitability and will be reviewed as suitability changes due to State or Federal policy or technological changes. If load reduction is necessary, then it will be less than 20% of the total load in the area of the defined need. |
| Timeline Suitability | Start date of system need is at least 24 months in the future. |
| Cost Suitability | Cost of wires option is greater than $1M. |

Additionally, by the Company's discretion, National Grid may propose to pursue a project that does not pass one or more of these criteria if there is reason to believe that a viable NWA solution exists, assuming the benefits of doing so justify the costs.

Project types for potentially viable NWA include load relief and reliability because other need types are dependent on resolving equipment degradation, such as with asset condition, upgrading substations and feeders with Volt-VAR Optimization (VVO), upgrading protective circuitry, or other needs that fall outside of the scope of SRP and NWA. Asset condition work and protective circuitry upgrades are standard distribution planning activities and would fall within ISR. VVO upgrades are part of grid modernization activities and would therefore fall within the purview of the Grid Modernization Plan (GMP). Other system needs may also be addressed through SRP so long as the need is not based on asset condition, and as determined to be potentially feasible, technically or economically, by the Distribution Planning and Asset Management (DPAM) and NWA teams. Additionally, NWA projects should not exceed 20% of the total load in the area of the defined need because a significant minority or a majority of load, and therefore customers, would lose power and be put at risk should the NWA fail to operate for any event call.

Timeline suitability is set at 24 months based on the development and implementation timeframe needed for most projects and project types and to align with ISR and distribution planning timeframes.

Cost suitability is set at one million dollars based on National Grid's experience to date illustrating that any system need with a wires option value less than $1M does not produce economically

[18] For definition of reliability, see "Docket 3628: Proposed Service Quality Plan." *State of Rhode Island Public Utilities Commission and Division of Public Utilities and Carriers*, Rhode Island Public Utilities Commission, 2004, www.ripuc.ri.gov/eventsactions/docket/3628page.html.

viable NWA opportunities and that the market does not find such NWA opportunities to be fiscally prudent for their goals and policies.

These screening criteria are applied by the DPAM team to all electric system needs that arise through planning analysis and system assessment. Such screening criteria is utilized during Initial System Assessment, as detailed in Section 7.3. The Company requests approval of the proposed NWA screening criteria for Rhode Island as detailed in Table 5 for calendar years 2021 through 2023.

## 7.3 NWA Planning Process and Integration with Electric System Planning

This section illustrates the NWA planning process for distribution system planning.

Potential NWA opportunity screening and analysis are included as a standard part of the electric distribution system planning process. The Company can potentially own non-wires assets and acquire Company-owned solutions as a result of NWA opportunities.

The Company identifies and screens potential NWA opportunities through the following high-level sequential process once a system need is identified or an area study is initiated:

1. Scoping

   The DPAM team develops a scope for a specific system need or a scope that details the boundaries and concerns of an area study. Planning criteria, Company standards, and forecasts are inputs to the Scoping stage. The Rhode Island peak forecasting reports and redacted area studies are posted on the "Company Reports" tab of the Rhode Island System Data Portal.[19]

   An area study is an analysis for a specific, bounded area, typically with respect to a substation and its feeders or a geographical demarcation, that assesses the electric grid characteristics and the health of its equipment.

2. Initial System Assessment

   The DPAM team performs an initial system assessment, either as part of an area study or when other targeted asset management and planning projects are initiated, such as for a specific system need.

   The initial system assessment consists of a detailed analysis of facilities and system performance within the identified study's geographic and electric scope. Initial system

[19] See Rhode Island System Data Portal. *National Grid US*, National Grid USA Service Company, Inc., 2018, www.nationalgridus.com/Business-Partners/RI-System-Portal.

assessments are the first step to gather information for area studies and other system evaluations.

To determine whether a potential NWA opportunity is feasible for an electric grid need, the DPAM team screens distribution projects with the criteria listed in Section 7.2 of this Plan, which are aligned with the Company's internal planning document. Feasibility is based on these screening criteria, which cover technical, economic, and timing factors.

These NWA screening criteria are applied to an identified electric grid need and resulting potential NWA opportunities are investigated.

3. Engineering Analysis

An engineering analysis is performed to gather detailed information for comprehensive plan development to solve the system need. This information is also included as part of development of an NWA opportunity and an NWA RFP as required.

Additionally, the potential for targeted EE and targeted DR sourced from internal Company programs is assessed at this stage, if timing for the system need allows, to determine whether they are viable components to include as part of an NWA solution. Formal evaluation of the internally-sourced targeted EE or targeted DR proposals is handled at the same time external bid proposals are evaluated.

System needs that are sufficiently out in the future are re-analyzed to determine whether the technical and economic requirements have changed in a way that allows an NWA option to be potentially feasible, per the NWA screening criteria. Timing of re-evaluation is established within and determined by the specific area study.

4. Plan Development

Plan development is the stage when wires options and non-wires options are developed. The NWA team develops the NWA RFP, sends the RFP to market, and receives and evaluates NWA bid responses during this stage. National Grid maintains a technology-agnostic approach with NWA RFPs. Please see Section 10.1 for the market engagement channels the Company utilizes for NWA outreach.

The NWA team analyzes and evaluates the NWA option in parallel to the wires option, which is developed by the DPAM team.

If the DPAM team determines that an NWA opportunity is technically and economically feasible according to the NWA screening criteria, the NWA team then gathers relevant engineering information from the DPAM team and develops an NWA RFP. This

engineering information is derived from the engineering analysis. This NWA RFP is then published to the market for third-party solution providers to bid on. The NWA team then evaluates any bids received and selects the most suitable bid for the NWA opportunity, as detailed in Section 7.4. The NWA team proposes the winning NWA solution to the DPAM team as the NWA option for the specified electric grid need.

5. Select Recommended Plan

   The DPAM and NWA teams then collaboratively review and compare the wires and non-wires options with respect to project cost and the cost-effectiveness of the options, system reliability, safety, and other factors and finalize the recommended plan. Please refer to Section 3 for explanation on cost-effectiveness and BCA breakdown.

   If an NWA option is selected as the solution for the electric grid need, then the NWA solution is proposed through the next SRP Investment Proposal, as detailed in Section 12.

   If a wires solution is the best option, and if actual load growth continues at a rate where the wires investment is still needed, then that wires investment is fully developed and incorporated into a future Electric Infrastructure, Safety and Reliability Plan (Electric ISR Plan). Electric ISR Plans are filed annually.

   Once a wires solution is selected for a distribution project and is proposed in an annual Electric ISR Plan filing, it is not screened for NWA feasibility again.

For reference on timing of the NWA review process and possible inclusion in a specific year's Electric ISR Plan please see Figure 1 and Figure 2, which illustrate the Distribution Planning Study Process and NWA Procurement Process, respectively. The Distribution Planning Study Process outlines the major steps and study-based inputs in the overall area study process.

Please note that capital infrastructure projects that have passed screening for potential NWA opportunities will not be advanced in the Electric ISR Plan unless they have been fully evaluated for NWA. Also note that the Company reevaluates the potential for an NWA opportunity for a system need only if the technical and economic requirements of the system need and corresponding wires option have changed significantly and if the timeframe allows according to the screening criteria. These reevaluation limits are set to prevent causing market and bidder exhaustion by persistently cycling through the same potential NWA opportunities that are ultimately deemed unviable by the market.

Please note that projects that have had the potential for NWA screened out, including any follow-up re-evaluation or re-screening of the system need, are progressed through the wires option pathway. These wires options are not proposed in an Electric ISR Plan for implementation until the wires option is fully developed.

The Company plans to continue analyzing its current NWA screening and development processes to determine how NWAs might be best considered as both complete and partial solutions.

Figure 1: Electric Distribution Planning Study Process Flowchart

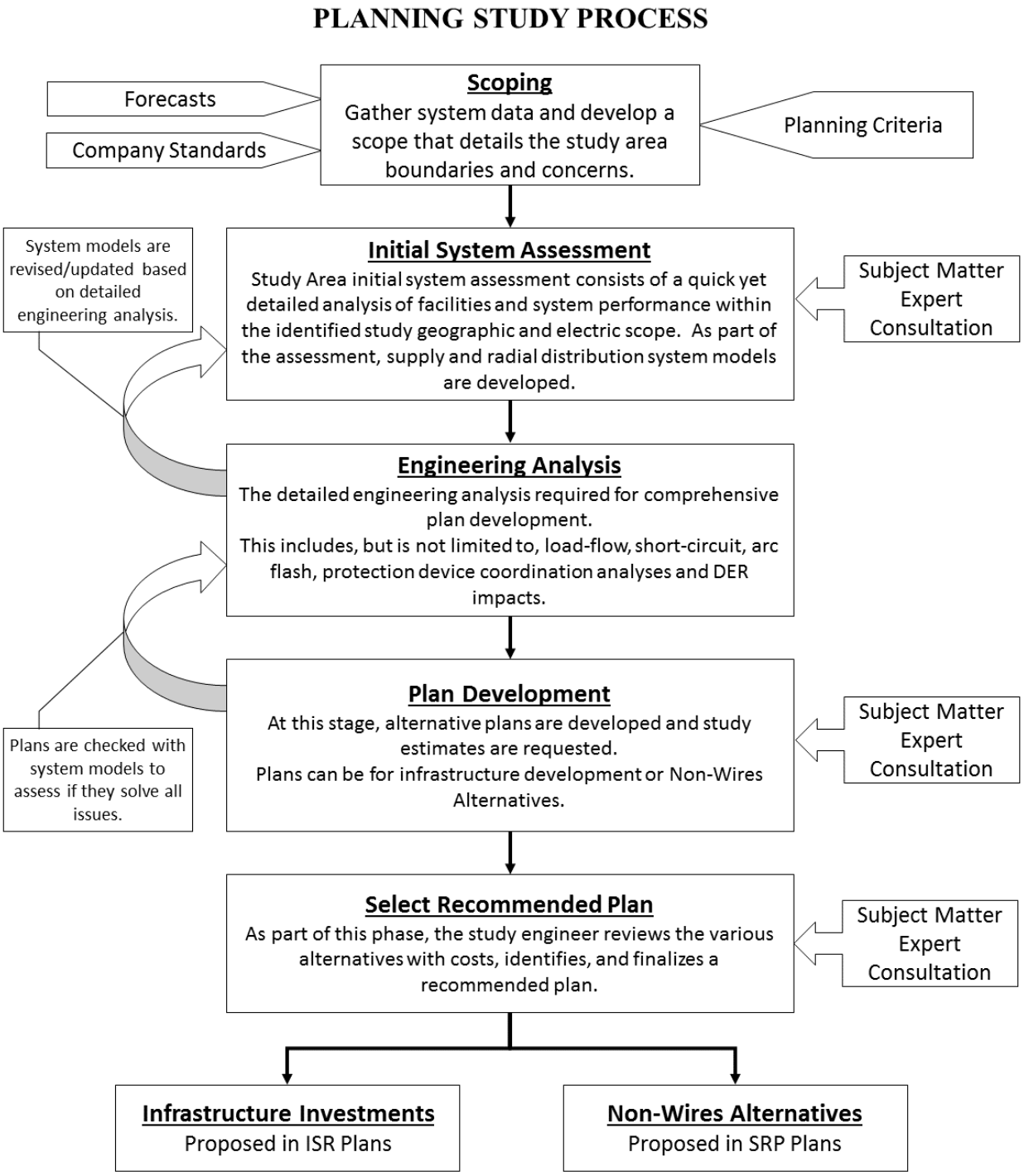
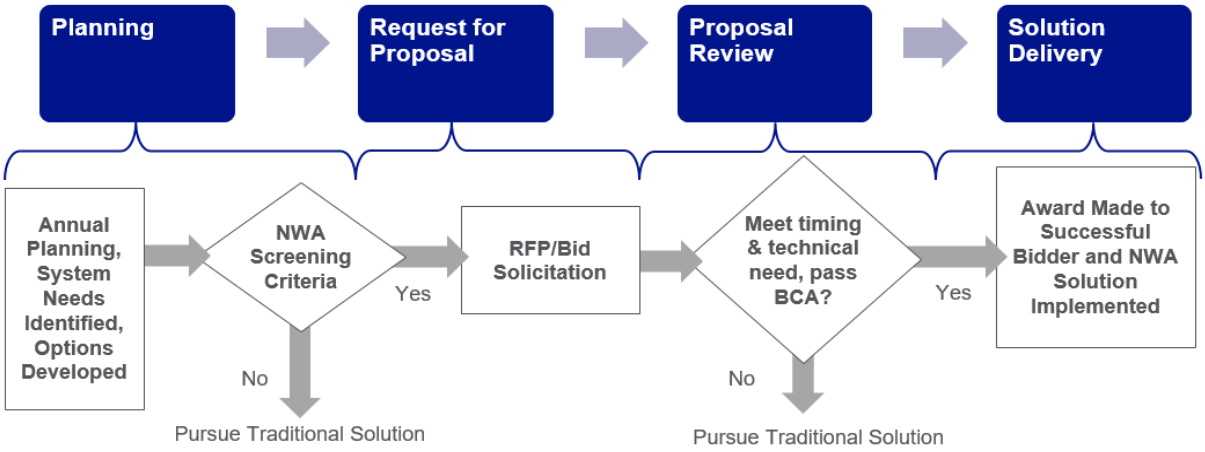


Figure 2: Overview of National Grid's NWA Procurement Process




## 7.4 NWA Evaluation Process

Following receipt of all bid proposals for an NWA opportunity, National Grid proceeds directly into the evaluation stage of the NWA process. This evaluation and review of submitted bid proposals is comprised of four rounds of evaluation, with each round based on a high-level screening, detailed technical review, detailed economic review, and final round selections, as detailed in the table and figure below. All bid proposals are evaluated in parallel through these four rounds.

Figure 3: National Grid NWA Evaluation Rounds

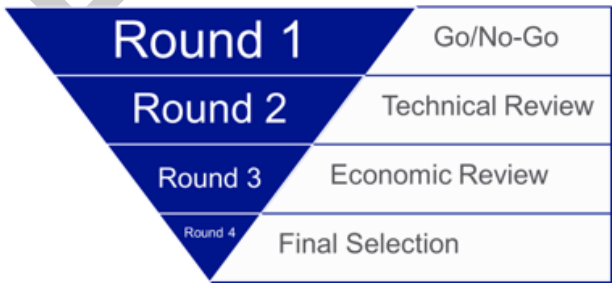



Table 6: National Grid NWA Evaluation Rounds Description

| Round | Evaluation Focus |
|---|---|
| Round 1 | Go/No-Go: preliminary BCA, bidder qualifications, technology type and maturity, schedule, engineering |

| Round | Evaluation Focus |
|---|---|
| Round 2 | Detailed technical review: engineering, controls, communications and operations, permitting, schedule and milestones |
| Round 3 | Detailed economic review: full BCA, credit rating assessment, financing structure, payment structure, additional included costs and incentives |
| Round 4 | Final review of shortlisted bidders, winning bidder selection as applicable, contract negotiation |

The "preliminary BCA", as indicated in Round 1 in the table above, is to determine if the cost-effectiveness of the proposal is even somewhat feasible, it involves the initial proposed solution cost and applicable benefits based on technology. The "full BCA", as indicated in Round 3 in the table above, includes the more complex factors, such as interconnection cost and any contract negotiation changes, and other factors that require deeper research to determine.

National Grid has developed and refined over several years rigorous NWA evaluation criteria to comprehensively assess NWA bid proposals. These evaluation criteria are applied to every single NWA bid proposal that National Grid receives. The criteria are equivalently applied for any solution approach or technology type. The criteria are also equivalently applied for any proposal source, whether from a third-party solution provider or from an internal National Grid team, such as an internally-sourced Company bid proposal for a targeted energy efficiency solution from National Grid's Customer Energy Management (CEM) team.

Partial NWA opportunities are also assessed as an option. Partial NWAs are solutions that address part of a specified system need with the rest of the system need addressed by the wires option. A partial NWA effectively reduces the scope of infrastructure projects.

Factors that will influence the solutions that are chosen will include availability and reliability, viability and functionality, existing market conditions for the proposed technologies, societal and environmental impact, cost-effectiveness, safety and risk, flexibility, ability to meet the specific identified system need, bidder's experience, and the ability for a solution proposal to pass the BCA. The NWA bid proposal that scores highest in total across all categories and meets the minimum criteria requirements (cost-effective, meets the technical need, and does not detrimentally impact the customer) is selected as the winning bid, as applicable. Additionally, in Rhode Island, the costs and cost-effectiveness are compared between the NWA options and the wires option, in alignment with LCP 1.3.H. The NWA evaluation categories are detailed and described in Table 7 below.

Table 7: National Grid USA Evaluation Categories for NWA Solution Proposals

| Category | Description |
|---|---|
| Proposal Content & Presentation | Information requested has been provided by the bidder and is sufficiently comprehensive and well presented to allow for evaluation. |
| Developer Experience | The experience of the Bidder, any Engineering, Procurement and Construction (EPC) contractor, prime subcontractors and, if applicable, O&M operator or other entity responsible for the development, construction, or operation of the proposed solution. |
| Environmental | The Bidder's Proposal shall address Impacts including but not limited to acoustic, aesthetic, air and GHG emissions, water, and soil impacts, and permitting and zoning considerations. |
| Project Viability | The probability that the solution(s) associated with a Proposal can be financed and completed as required by the relevant agreement. |
| Functionality | The extent to which the proposed solution would meet the defined functional requirements and the ability to provide demand reduction during peak times and within the geographic area of need. |
| Technical Reliability | The extent to which the proposed type of technology and the equipment would meet the reliability need and can be integrated with utility operations including the ability to monitor and dispatch. |
| Safety | National Grid requires that the Bidders recognize safety is of paramount importance. Bidders will be required to provide safety information related to the proposed technology and information regarding safety history. |
| Customer and Socio-economic Impacts | The Bidder's Proposal shall address how the proposed technology impacts the customer in addition to temporary and permanent jobs to be created, economic development impacts, and property tax payments. National Grid also assesses public health and energy pricing impacts of each solution proposal. |
| Scheduling | The Bidder's Proposal shall include proposed timelines outlining milestones and providing sufficient details for each deliverable, including meeting the in-service need date. |
| Offer Price | The Bidder's Proposal shall be based on project-specific values and financing requirements. |
| Adherence to Terms | The extent to which the Bidder accepts National Grid's proposed Term Sheet will be taken into consideration. The RFP evaluation may impute an additional amount to Bidder's Proposal to reflect any proposed modifications to the non-price terms and conditions by the Bidder that result in National Grid incurring additional costs or risks. Redlines to the Term Sheet shall be provided by the Bidder as part of its Proposal for review by National Grid during the evaluation period. |
| Credit | Bidder's capability and willingness to perform all of its financial and other obligations under the relevant agreement will be considered by National Grid in addition to Bidder's financial strength, as determined by National Grid, and any credit assurances acceptable to National Grid that Bidder may submit with its Proposal. |

## 7.5 Analysis of System Needs

Detail on system needs that meet the screening criteria, as detailed in Section 7.2, and that the Company has determined may produce a potentially viable NWA opportunity are as follows:

### 7.5.1 Bonnet 42F1

The Bonnet 42F1 NWA opportunity, formerly called Narragansett 42F1 NWA, intends to provide load relief in the Town of Narragansett by deferring or removing the need for feeder line work and reconfiguration on the Bonnet 42F1 feeder. The Bonnet 42F1 system need was identified as part of the South County East Area Study.

The Town of Narragansett is mostly supplied by (4) 12.47 kV distribution feeders. Feeder 42F1 is projected to be loaded above summer normal ratings by 2024 and lacks useful feeder ties to reduce loading below their ratings. Either more capacity must be added or load must be reduced in the town. The distribution system need can be addressed through SRP by implementation of an NWA solution that provides load reduction capability.

The Company expects that the Bonnet 42F1 NWA timeframe will span seven years from 2024 to 2030, which is the maximum amount of time based on the current peak load forecast that the substation and feeder upgrade can be deferred with this solution. There is the potential for a partial or continued NWA solution following 2030 with the Bonnet 42F1 NWA; however, this option has not been assessed at this time.

The Company issued an RFP for the Narragansett 42F1 NWA opportunity in calendar year 2018 and evaluated the submitted bid proposals from third-party solution providers in calendar year 2019. All NWA solution bid proposals submitted to National Grid for this opportunity did not pass evaluation for a feasible solution.

As the timing for the NWA need is not until 2024, the window of opportunity for sourcing a potential NWA solution is still open.

The Company will proceed with investigating alternate solution pathways, which may include: refining the parameters of the need, re-engineering the RFP, a Company-sourced proposal, a Company-owned solution, or a partial NWA. The Company is still actively seeking potential NWA solutions for this opportunity. If an NWA solution option is identified that passes all Company NWA evaluation criteria and meets all LCP criteria, then the Company will proceed to propose the NWA investment in an SRP Investment Proposal filing.

### 7.5.2 Bristol 51

The Bristol 51 NWA opportunity intends to provide load relief and address MWh violations in the Town of Bristol by deferring or removing the need for feeder line work and reconfiguration on the Bristol 51F1, 51F2, and 51F3 feeders. The Bristol 51 system need was identified as part of the East Bay Area Study.

The Town of Bristol is mostly supplied by (3) 12.47 kV distribution feeders. Loading on the 51F1, 51F2, and 51F3 feeders is predicted to be over 100% of their summer normal ratings and will be overloaded in the next ten years. Either more capacity must be added or load must be reduced in the town. The distribution system need can be addressed through SRP by implementation of an NWA solution that provides load reduction capability.

The Company expects that the Bristol 51 NWA timeframe will span nine years from 2022 to 2030, which is the maximum amount of time based on the current peak load forecast that the substation and feeder upgrade can be deferred with this solution. There is the potential for a partial or continued NWA solution following 2030 with the Bristol 51 NWA; however, this option has not been assessed at this time.

The Company issued an RFP for the Bristol 51 NWA opportunity in calendar year 2020. The Bristol 51 NWA bid proposals submitted to National Grid are currently in evaluation and review

If an NWA solution option is identified that passes all Company NWA evaluation criteria and meets all LCP criteria, then the Company will proceed to propose the NWA investment in an SRP Investment Proposal filing.

### 7.5.3 South Kingstown

The South Kingstown NWA opportunity intends to provide load relief in the Town of South Kingstown by deferring or removing the need for feeder line work and reconfiguration on the Peace Dale 59F3 and Kenyon 68F2 feeders. The South Kingstown system need was identified as part of the South County East Area Study.

The western section of the Town of South Kingstown is supplied mostly by (3) 12.47 kV distribution feeders. Feeders 59F3 and 68F2 are projected to be loaded above summer normal ratings and lack useful feeder ties to reduce loading below their ratings. Either new feeder ties must be created or load must be reduced in the western half of the town. The distribution system need can be addressed through SRP by implementation of an NWA solution that provides load reduction capability.

The Company expects that the South Kingstown NWA timeframe will span nine years from 2022 to 2030, which is the maximum amount of time based on the current peak load forecast that the substation and feeder upgrade can be deferred with this solution. There is the potential for a partial or continued NWA solution following 2030 with the South Kingstown NWA; however, this option has not been assessed at this time.

The Company issued an RFP for the South Kingstown NWA opportunity in calendar year 2019 and evaluated the submitted bid proposals from third-party solution providers in calendar year

2019. All NWA solution bid proposals submitted to National Grid for this opportunity did not pass evaluation for a feasible solution.

As the timing for the NWA need is not until 2022, the window of opportunity for sourcing a potential NWA solution is still open.

The Company will proceed with investigating alternate solution pathways, which may include: refining the parameters of the need, re-engineering the RFP, a Company-sourced proposal, a Company-owned solution, or a partial NWA. The Company is still actively seeking potential NWA solutions for this opportunity. If an NWA solution option is identified that passes all Company NWA evaluation criteria and meets all LCP criteria, then the Company will proceed to propose the NWA investment in an SRP Investment Proposal filing.

# 8. Proposal for NPAs in System Planning

This section details the Company's plan for developing the Non-Pipeline Alternatives (NPA) program in Rhode Island.

The Company commits to developing the NPA Program parts over calendar years 2021 to 2023 and to providing an initial NPA Program, as detailed in Section 8.2, in the SRP 2023 Year-End Report filing. The Company commits to engaging with stakeholders to discuss and understand opportunities and challenges regarding NPAs throughout development of the NPA Program and its integral parts.

## 8.1 Definition of NPA

The Company proposes the following definition for NPAs.

| | |
|---|---|
| NPA Definition: | Non-Pipeline Alternatives is the inclusive term for any targeted investment or activity that is intended to defer, reduce, or remove the need to construct or upgrade components of a natural gas system, or "pipeline investment." |
| NPA Requirements: | These NPA investments are required to be cost-effective and are required to meet the specified gas pipeline need. |

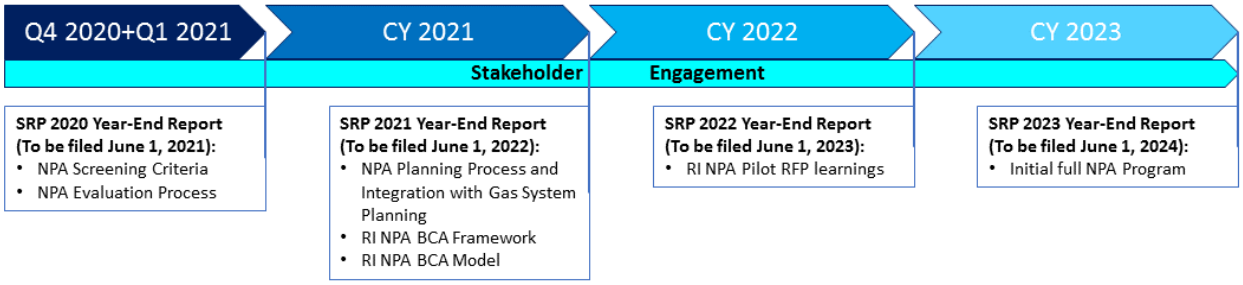
An NPA can include any action, strategy, program, or technology that meets this definition and these requirements. The Company is currently engaged in ongoing discussions with stakeholders about potential solution types in consideration of NPA solutions, proposals, and investment decisions.

Some technologies and methodologies that can be applicable as an NPA investment include demand-side measures, such as demand response, conservation or energy efficiency, and electrification, and supply-side measures, such as renewable natural gas (RNG). This is not intended to be an exhaustive list of possible demand-side and supply-side solutions. NPA projects can include these and other investments individually or in combination to meet the specified need in a cost-effective manner.

## 8.2 NPA Program Development Plan

The Company proposes to develop the NPA program, process, and its integration with gas system planning over calendar years 2021 through 2023. Status and progress updates on NPA program development will be provided in the SRP Year-End Reports, as detailed in the figure below.

Figure 4. NPA Program Development Plan Timeline




**Stakeholder Engagement**

The Company intends to engage stakeholders continually throughout the development of the NPA program over the next three years via SRP TWG meetings. The Company intends stakeholders to be engaged during the development of specific program parts, as detailed in the figure above and the following program part descriptions.

The Company has been working to align the development of NPA frameworks across its Rhode Island, Massachusetts, and New York business units, which has resulted in modified development timelines in order to cross-jurisdictionally coordinate NPA programs. All three states are currently exploring NPAs and NPA framework, which allows for a standard framework for the market to follow, potentially increasing the opportunity to engage in NPA opportunities and deploy NPA solutions. The Company will present and solicit feedback in the SRP TWG meetings on the following major components of NPAs: eligible NPA technologies, NPA screening criteria, RFP structure and NPA bid process, and NPA BCA criteria, inputs and data sources.

**NPA Screening Criteria**

Given the limited experience with NPAs, screening criteria are currently in research and development. Generally, the NPA screening criteria will be designed to enable a large percentage of infrastructure projects to be eligible for consideration using NPAs. The Company's intent with the screening criteria in the NPA program will be to apply them to all pipeline needs that arise through planning analysis and system assessment. Such screening criteria will be integrated into gas system planning process as the NPA program is developed. These criteria will be developed as part of the SRP program and will be filed as an update in the SRP 2020 Year-End Report.

**NPA Planning Process and Integration with Gas System Planning**

Currently, the Company does not have a planning process defined for NPAs, which means it is not possible to identify projects where NPAs may be suitable or to put forth a solicitation to gather proposals. Over the course of the SRP Three-Year Plan cycle, the Company will assess the existing NWA framework for applicability to NPAs, propose any modifications, and report on the process that will be used going forward. The Company will file a detailed NPA Planning Process in the SRP 2021 Year-End report.

**NPA Evaluation Process**

The Company plans to use an evaluation process analogous to the one that is deployed for NWAs but recognizes that there may be specific criteria that are applicable to NPAs and not NWAs. These differences will be identified during the course of the SRP Three-Year Plan cycle. As stated above, the proposed NPA evaluation process will be filed in the SRP 2020 Year-End Report.

**RI NPA BCA Model**

As described in Section 7.4 above, a full BCA analysis is required before any NWA investment is considered for proposal. To date, the Company does not have a BCA framework that is applicable to NPAs so one will need to be developed over the course of the SRP Three-Year Plan cycle. The BCA model for NPAs will be developed in alignment with Docket 4600. National Grid will complete a review of filings for NPA BCA frameworks and will compare them to the criteria outlined in Docket 4600 to ensure that any available NPA best practices are incorporated in the RI NPA program.

The Company will file an NPA BCA framework and a finalized RI NPA BCA Model in the SRP 2021 Year-End report.

**Develop a Pilot for Learnings**

The timeline described above means that the necessary components to identify, evaluate, and select NPAs will be filed by no later than the SRP 2021 Year-End report. Once the framework is established, the Company will develop an RFP and go to market for at least one eligible project so that the process can be tested and reviewed for efficacy and efficiency. If a proposal satisfies the Screening Criteria, Evaluation Process, is cost-effective, and is the least-cost option compared to the pipeline investment, then the Company will file the NPA proposal for approval with the PUC.

Details from this RFP effort, including the proposals and their evaluation results, will be included in the SRP 2022 Year-End report.

## At End of SRP Three-Year Plan Cycle

The Company commits to produce a detailed initial NPA Program at the end of the 2021-2023 SRP Three-Year Plan cycle. Note that, as with the Company's NWA Program, the NPA Program will continue to undergo program and process refinement and updates in the years following 2023 as the Company continues to learn and become experienced in NPA subject matter.

# 9. Rhode Island System Data Portal

This section details the Rhode Island System Data Portal and associated resources.

The Portal is an interactive online mapping tool developed by the Company. The Portal provides specific information for select electric distribution feeders and associated substations within the Company's electric service area in Rhode Island. This information includes feeder characteristics such as geographic locations, voltage, feeder ID, planning area, substation source, approximate loading, and available distribution generation hosting capacity.

The Portal provides this information to stakeholders, customers, and third-party solution providers. The main target audience is third-party solution providers and the main goal of the Portal is to provide information in order to engage the market for cost-effective grid solutions to reduce costs for Rhode Island customers. Therefore, the Portal is considered an SRP resource because it adheres to LCP standards and goals and is a complementary activity to meet electrical energy needs.

Costs related to Portal maintenance and routine operation of existing Portal aspects and work by FTEs are included in the current rate case under Docket 4770. Only new enhancements to the Portal are covered in SRP Investment Proposals. New enhancements are expected to originate from collaborative consultation between National Grid and external stakeholders.

A public landing page for the Portal is located on the customer-facing National Grid website.[20]

## 9.1 Portal to Date

To date, the Portal includes tabs that detail select Company reports, a distribution assets overview map, a heat map, a hosting capacity map, sea level rise, and National Grid's NWA program. Each map tab has the date listed in its about dropdown for when the tab data was last updated.

The Company Reports tab lists documents such as the annual SRP reports, annual ISR proposals, the electric peak forecast, and redacted area study reports.

The FAQ tab lists common questions with standard responses to proactively inform and resolve confusion for visitors to the Portal, such as third-party solution providers.

The Distribution Assets Overview tab contains a map that displays specific electric distribution feeder and substation information, summer normal ratings, and up-to-date recorded loading and forecasted loading.

[20] See Rhode Island System Data Portal. *National Grid US*, National Grid USA Service Company, Inc., 2018, www.nationalgridus.com/Business-Partners/RI-System-Portal.

The Heat Map tab contains an interactive color-coded map of distribution feeders based on forecasted load compared to summer normal rating. The heat map provides information on circuits that would benefit from DER interconnection for load relief, and on circuits that have existing capacity for electric vehicle (EV) charging stations, heat pumps, and other beneficial electrification opportunities.

The Hosting Capacity tab contains an interactive map of distribution feeders based on interconnected distributed generation (DG) and in-progress DG projects. The hosting capacity map also contains information on substation ground fault overvoltage protection (3V0) status. The Portal details if 3V0 is installed at a substation or if 3V0 is in construction or slated for construction and the proposed in-service date. Installation of 3V0 makes a substation transformer "DG-ready".

The Sea Level Rise tab is an interactive map that overlays National Oceanic and Atmospheric Administration (NOAA) federal sea level rise map data with National Grid's electric distribution network map data in Rhode Island. This map provides information intended to help third-party solution providers and DER developers identify locations on the National Grid electric distribution network in relation to areas that may experience potential coastal flooding impacts in the future. All sea level rise data is sourced and mirrored from the NOAA Sea Level Rise Viewer.[21]

The NWA tab that contains a link to National Grid's NWA Website[22], which contains information on the Company's NWA process and NWA RFP opportunities.

## 9.2 Portal Funding Plan

The Company estimates that no additional SRP funding will be required for currently planned Portal enhancements for calendar years 2021 through 2023.



[21] "NOAA Sea Level Rise Viewer." *NOAA Sea Level Rise and Coastal Flooding Impacts*, National Oceanic and Atmospheric Administration of the United States Department of Commerce, https://coast.noaa.gov/slr/.
[22] "Non-Wires Alternatives." *National Grid Business Partners*, National Grid USA, Inc., 13 Nov. 2019, www.nationalgridus.com/Business-Partners/Non-Wires-Alternatives/.

# 10. SRP Market Engagement

This section provides information regarding the Company's market engagement efforts with respect to SRP.

SRP Market Engagement aims to raise awareness and perform outreach and engagement for the Rhode Island System Data Portal as needed, for NWA-related activities not covered by FTE work, and with third-party solution providers.

Outreach and engagement for activities specific to NWA, such as NWA RFPs, are already included in the work by FTEs dedicated to the development and pursuit of NWA opportunities and solutions. These FTEs are covered by the rate case.

SRP market engagement will enable third-party solution providers and vendors to more easily access available information about National Grid's electric distribution system and SRP opportunities in Rhode Island and therefore further enable these solution providers to create, submit and develop innovative energy solutions for Rhode Island customers. SRP Market Engagement upholds the commitment of National Grid and the State of Rhode Island to advance a more reliable, safe, and cost-effective energy landscape for residents and businesses of Rhode Island.

## 10.1 Market Engagement Channels

With respect to SRP and NWA activities, the Company further engages with the market, vendors, and third-party solution providers through the following communication channels:

- Procurement and Contracting Platform: National Grid posts RFPs, receives vendor bids, and sends formal vendor communications in an official forum via its procurement and contracting digital platform for vendors. This is National Grid's Ariba platform.[23]
- Rhode Island System Data Portal: National Grid posts information regarding Company reports, feeder loading, hosting capacity, sea level rise, and links to National Grid's NWA Website.
- NWA Website: National Grid maintains a central public-facing website for its NWA program that details the Company's planning process, opportunities, and other NWA-related information.
- NWA Vendor Stakeholder Monthly Calls: National Grid directly interacts with vendor stakeholders in monthly calls to raise awareness on the NWA development and bid submission process and to inform vendor stakeholders on upcoming and current NWA

[23] "National Grid Ariba." *SAP Ariba*, Ariba Inc., 2020, http://nationalgrid.sourcing.ariba.com/.

opportunities. National Grid also hosts Q&A during these calls and receives feedback relevant to NWA.

- NWA Vendor One-on-One Meetings: National Grid directly interacts with vendor stakeholders on an individual basis as requested by vendor companies in order to learn about the vendor's background and technology and for the vendor to learn about National Grid's NWA program and purpose.

- NWA Email: National Grid maintains an email mailbox for NWA-specific inquiries and vendor engagement. National Grid also maintains an up-to-date mailing list for email outreach to the market, whether for engaging on the NWA Vendor Stakeholder Monthly Calls, announcing NWA RFP events, or communicating about the Portal.

- Utility Industry Events: Networking to continue to build National Grid's third-party relationships, socialize upcoming NWA opportunities, and promote National Grid's NWA forums.

- Cross-Functional Internal Coordination: The NWA team within National Grid coordinates cross-functionally with National Grid's CEM team on potential NWA options that involve targeted energy efficiency or targeted demand response.

These market engagement channels are utilized to enable qualifiable vendor engagement and to procure targeted bid proposals that solve the system need. These market engagement channels reduce market barriers by directly engaging with market vendors to clearly communicate upcoming NWA opportunities, clarify any points around National Grid's NWA process, and for National Grid to understand the market vendor demographic and the types of solutions they provide. The Company will also assess viable market engagement channels for NPA activities during development of the NPA program, whether such channels be similar, different, or the same as the NWA market engagement channels.

## 10.2 SRP Procurement

SRP procurement is a comprehensive process that encompasses, for the electric side, NWA planning and evaluation and will encompass the NPA program process currently in development. Procurement of SRP resources involve the following general process:

- Identification of a system need or opportunity
- Development of an RFP for the SRP opportunity
- Issue RFP to market on National Grid's Ariba platform
- Receive bid proposals
- Evaluation of submitted bid proposals
- Selection of bid proposal
- Filing of SRP proposal

The Company will utilize National Grid's existing strategic sourcing process for procurement of SRP and standard option investments. The existing strategic sourcing process is used for all procurements for goods, materials and services across National Grid US and National Grid UK. The process is designed to ensure thorough diligence and fairness and to establish clear histories of each procurement before award and contracting. The strategic sourcing process involves including all relevant stakeholders and internal approvals for the go-to-market strategy, bid review, detailed interviews and final selection of bidders. This process is in line with existing strategic procurement standards and has been refined for the specific purposes of procuring NWA solutions.

## 10.3 Market Engagement Proposal

The Company has entered a maintenance phase with the Rhode Island System Data Portal. Therefore, the only planned SRP Market Engagement activities for the Portal are to maintain web traffic analytics to the Portal landing page. These web traffic analytics have no cost to operate or acquire.

The Company will continue to engage the market in the other channels in addition to the Portal, as detailed in Section 10.1. These other channels are already included in the work by FTEs and are therefore covered by the rate cases of all National Grid jurisdictions.

## 10.4 Market Engagement Funding Plan

The Company estimates that no additional SRP funding will be required for currently planned SRP Market Engagement for calendar years 2021 through 2023.

# 11. Coordination between SRP and other Programs

The Company recognizes that improved synchronization between SRP and PST, the Energy Efficiency Program Plan (EE Plan)[24], the Infrastructure, Safety and Reliability (ISR) Plans[25,26], the Grid Modernization Plan (GMP), and the Advanced Metering Functionality (AMF) Business Case is necessary and intends to maintain and improve coordination between these filings.

Therefore, the Company commits to continued stakeholder engagement and continued participation in enhanced discussions regarding SRP, NWA, and related policy and programs with stakeholders. These enhanced discussions are held in the SRP TWG monthly meetings and related sessions, which include in-depth topical deep dives, process reviews, and plan development negotiation, in order to maintain coordinated dialogue between all SRP stakeholders.

## 11.1 Coordination with Power Sector Transformation

This section describes how SRP coordinates with the Power Sector Transformation Phase One Report[27] goals and recommendations. Please refer to the PST Phase One Report for the full details on the goals and recommendations. Note that as programs and filings related to PST are approved, the Company will align SRP to maintain coordination. Correspondingly, as PST development progresses, SRP will progress in parallel.

The PST Phase One Report details the following goals:

1. **Control the long-term costs of the electric system.** The regulatory framework should promote a broad range of resources to help right-size the electric system and control costs for Rhode Islanders. Today's electric system is built for peak usage. New technology provides us with more ways to meet peak demand and lower costs.

SRP has the potential to control the long-term costs of the electric system by proactively searching for potential NWA opportunities to be implemented on the electric distribution grid instead of the standard wires option if they are at a lower cost to customers. Such NWA opportunities may

[24] "Docket No. 4979 - 2020 Energy Efficiency Plan." *State of Rhode Island Public Utilities Commission and Division of Public Utilities and Carriers*, The Narragansett Electric Company d/b/a National Grid, 15 Oct. 2019, www.ripuc.ri.gov/eventsactions/docket/4979page.html.
[25] "Docket No. 4995 - Electric Gas Infrastructure, Safety and Reliability (ISR) Plan for FY 2021." *State of Rhode Island Public Utilities Commission and Division of Public Utilities and Carriers*, The Narragansett Electric Company d/b/a National Grid, 20 Dec. 2019, www.ripuc.ri.gov/eventsactions/docket/4995page.html.
[26] "Docket No. 4996 - Gas Infrastructure, Safety and Reliability (ISR) Plan for FY 2021." *State of Rhode Island Public Utilities Commission and Division of Public Utilities and Carriers*, The Narragansett Electric Company d/b/a National Grid, 20 Dec. 2019, www.ripuc.ri.gov/eventsactions/docket/4996page.html.
[27] "Rhode Island Power Sector Transformation: Phase One Report to Governor Gina M. Raimondo." *State of Rhode Island Public Utilities Commission and Division of Public Utilities and Carriers*, Division of Public Utilities and Carriers, Office of Energy Resources, and the Public Utilities Commission, Nov. 2017, www.ripuc.org/utilityinfo/electric/PST%20Report_Nov_8.pdf.

include technologies and methodologies such as demand response, solar, energy storage, combined heat and power, microgrid, conservation or energy efficiency measures, and other DERs. These technologies can help increase electric grid reliability through implementation as cost-effective and safe solutions in place of the standard wires option, all aspects of which readily align with controlling the long-term costs of the electric system.

2. **Give customers more energy choices and information.** The regulatory framework should allow customers to use commercial products and services to reduce energy expenses, increase renewable energy, and increase resilience in the face of storm outages. Clean energy technologies are becoming more affordable. Our utility rules should allow customers to access solutions to manage their energy production and use.

SRP provides customers with more energy choices and information through programs such as NWA participation opportunities. NWAs have the potential to reduce energy expenses by providing a cost-effective solution in place of a standard wires option. NWA resources include and depend on renewable energy opportunities to provide unique benefits compared to a wires option. Properly configured NWA resources could provide resilience from outages as compared to the standard wires option.

3. **Build a flexible grid to integrate more clean energy generation.** The regulatory framework should promote the flexibility needed to incorporate more clean energy resources into the electric grid. These resources would help Rhode Island meet the greenhouse gas emission reduction goals specified in the Resilient Rhode Island Act of 2014 and consistent with Governor Raimondo's goal of 1,000 megawatts of clean energy, equal to roughly half of Rhode Island's peak demand, by 2020.

SRP is designed to build a flexible grid to integrate more clean energy generation through NWA opportunities, initiation of the Rhode Island System Data Portal, and engagement with third-party solution providers. The 2018 SRP Report commenced work on the Portal, an interactive tool that provides information to stakeholders, customers, and third parties regarding the status of the Company's distribution grid. This tool enables third-party solution providers to proactively identify areas on the electric distribution grid in Rhode Island where NWA or other opportunities may be implemented. Application of such NWA technologies, as described previously, can enhance the flexibility of the electric grid, such as with battery storage technology, or directly contribute to more clean energy generation, such as with wind or solar technologies.

The PST Phase One Report also details the following recommendations:

1. **Synchronize filings related to Distribution System Planning.** National Grid should begin filing the ISR and SRP as two linked, synchronized, and cross-referenced Distribution System Planning (DSP) filings each year. Linking these two filings and including key DSP-related content will: (1) provide increased transparency and a codified

mechanism for stakeholder and regulatory input into the improvement of DSP analytics and tools over time, and (2) enable the Commission and stakeholders to consider investments proposed in the ISR and SRP in a comprehensive and holistic manner. Coordinating these filings should account for the sequencing necessary by National Grid to develop the plans, including considerations related to the differing planning horizons associated with infrastructure projects versus NWA. ISR/SRP filings should include the following elements:

- Methodologies, assumptions, and results of the annual forecasting process;
- Any amendments to customer and third-party data access plans and procedures;
- Proposed updates to the Rhode Island DSP Data Portal based on stakeholder input; and
- Description of updates and improvements to publicly-provided datasets such as heat and hosting capacity maps.

SRP has synchronized with Distribution System Planning and the ISR filing to a certain extent, in that potential NWA opportunities are screened for as a standard part of DSP and that SRP takes into account the annual electric peak load forecasting, as seen in Section 7 and Appendix 1. The Company recognizes that improved synchronization between SRP and Distribution System Planning and the ISR filing is necessary. The Company is improving coordination between the SRP, ISR, and EE filings in internal calls, discussions, cross-department review requests, and other active coordination efforts. The Company has also improved stakeholder engagement and participates in enhanced discussions on SRP, NWA, and related policy and programs in the SRP TWG monthly meetings, which include the SRP TWG members, and NWA Quarterly meetings, which include the Division, OER, and National Grid. The work the Company has completed on the Portal to date and proposals for enhancement, which developed from stakeholder discussion and input, are described in Section 9.

2. **Improve forecasting.** National Grid should include detailed information on its forecasts used for DSP in annual SRP/ISR filings. Inclusion of forecasts within the SRP/ISR filings will provide regulators and stakeholders with the opportunity to provide ongoing review and feedback. In addition, National Grid should implement a robust stakeholder engagement plan during forecast development to provide policymakers and third parties the opportunity to review and provide input on forecasting assumptions and methodology.

This SRP Plan currently includes information on forecasted electric load growth, as seen in Appendix 1, for the main purpose of identifying and coordinating with potential NWA opportunities. This SRP Plan also includes the Rhode Island Electric Peak (MW) Forecast in Appendix 1 for additional, holistic information. The Company intends to implement robust stakeholder engagement and discussion on the electric forecasting process. Specifically, the Company hosted a meeting in November 2019 to review the electric forecasting process and engage and discuss the forecasting process with stakeholders. The Company will discuss the electric forecasting process with stakeholders on an annual basis. Additionally, the Company filed

its Gas Long-Range Resource and Requirements Plan on June 30, 2020 detailing the gas system forecast period from 2020/21 to 2024/25.[28]

3. **Establish customer and third-party data access plans.** National Grid should include and seek approval of a plan for establishing and improving customer and third-party data access in the upcoming rate case. Updated data access plans should be included in future annual SRP/ISR filings. Inclusion of data access plans within the SRP/ISR filings will provide regulators and stakeholders with the opportunity to provide ongoing review and feedback.

SRP establishes customer and third-party data access through the Rhode Island System Data Portal. The 2019 SRP Report proposed further work on the Portal to improve data access for external parties. The 2019 SRP Report also proposed commitment to discussion on posting NWA RFPs and to inclusion of redacted area studies in the Portal. The Company further improved data access by setting up an NWA Website in order to post information and RFPs on the Company's NWA process and opportunities. SRP does not currently maintain a specific data access plan, as a document or otherwise. The Company will commit to maintaining alignment between SRP and AMF with regard to the AMF Data Governance and Management Plan and will participate in future collaborative discussions about data access and security.

4. **Compensate locational value.** State policymakers and regulators should develop an implementation strategy for locational incentives/value of DERs in Rhode Island, in consultation with National Grid and stakeholders.

The 2019 SRP Report presented the Company's research and findings on locational incentive analysis for Rhode Island. From further deep cross-functional research and through engagement and discussion with stakeholders, the Company presents its findings on locational value for the SRP program as follows:

> Any incentive, as a benefit or paid incentive, for SRP investments are inherently locational due to the targeted nature of NWA or NPA projects and the programs that support these projects. The incentive categories that apply to SRP investments include those for Customers, for Third-Parties, and for National Grid, as detailed below in Table 8. Incentives for customers are interpreted as the benefits derived from implementing SRP investments such as NWA or NPA projects. The incentive to the Company, the SRP Savings-Based Incentive, is filed separately for recovery and does not count against a specific project's cost-effectiveness.

[28] "Gas Long-Range Resource and Requirements Plan for the Forecast Period 2020/21 to 2024/25." *State of Rhode Island Public Utilities Commission and Division of Public Utilities and Carriers*, The Narragansett Electric Company d/b/a National Grid, 30 Jun. 2020, http://www.ripuc.ri.gov/eventsactions/docket/5043-NGrid-LRGas%20Plan-2020-21%20to%202024-25%20(6-30-20).pdf.

Table 8. SRP Incentive Categories

| Group | Corresponding Incentive | Exists/Applied Currently? |
|---|---|---|
| Customers | Benefits of SRP Investment (NWA, NPA) | Yes |
| Third-Parties | No current incentive | No |
| National Grid | SRP Savings-Based Incentive | Yes |

National Grid has determined that any Company-sponsored paid incentive, such as ones for third-parties or for customers' paid participation, must be counted as a cost in the BCA of any project as such incentives would be deemed part of project or program implementation. Paid participation incentives for customers, such as those for NWA or NPA projects comprised of targeted EE or targeted DR in addition to existing statewide EE or DR programs, are factored as a component of project costs; these paid incentives are typically the major component of the cost for such project types.

There is currently no incentive structure for direct, paid incentives to third-parties in the SRP program. The NWA Deferral Value is interpreted as an indirect incentive for third-parties. Any paid incentive for third-parties that is Company-sponsored would have to count as a cost in the BCA. Therefore, to be an effective incentive and maintain cost-effectiveness for any SRP project, third-party incentives would have to be sourced from outside the Company.

For locational incentives or value more specific than the locational value based on targeted substations or feeders in an NWA project, SRP would require the granular datapoints and datasets provided by advanced metering, such as those detailed by the AMF proposal.

## 11.2 Coordination with Energy Efficiency

The Company continues coordination between SRP and customer offerings in the Energy Efficiency Program Plan to ensure that efforts, projects, and programs are optimal and not duplicated. The Company coordinates SRP and EE planning efforts so that opportunities for targeted EE are considered in NWA opportunity development.

The SRP Plan and its NWA proposals are separate and unique from the Energy Efficiency Program (EEP) customer measures because NWA projects are targeted solutions for electric grid reliability as compared to energy efficiency's goal of bulk energy savings from customers for the regional electric grid. These two main differences are illustrated by a difference in scope of area, feeder- or substation-level for SRP and state or regional for energy efficiency, and in scope of intent,

electric grid reliability for SRP via NWA projects and energy savings for EEP via energy efficiency measures and programs.

As is the practice now and going forward, energy efficiency and demand response are examined during National Grid's distribution planning process as part of the development of NWA opportunities. This assessment of energy efficiency and demand response for NWAs occurs before the Company goes out to market with RFPs for solution bids from third-party solution providers. Energy efficiency and demand response may be deployed as part of an NWA solution so long as the targeted energy efficiency or demand response programs are least-cost, cost-effective, reliable, and technically feasible for the electric system need. The Company ensures cost-competitive utilization of targeted DR by evaluating market prices and comparing third-party demand response proposals to the incremental costs of targeted DR which would build upon National Grid's existing ConnectedSolutions program.

As energy efficiency is a least-cost resource, the Company will continue to identify opportunities where it can target energy efficiency to create multifaceted benefits for customers. For example, the Company can utilize the increased visibility from the Rhode Island System Data Portal to target energy efficiency and demand response in areas that would benefit from load reduction. Other examples may include enhanced or targeted community initiatives or enhanced marketing for ConnectedSolutions, the Company's demand response program, with specific system needs. Such enhanced marketing would be targeted to customers based on the system need, whether it is targeted to customers supplied by a feeder, set of feeders, a whole substation, or a geographical area.

The Company also maintains synchronization and clear communications between the SRP TWG and the EE TWG: The National Grid program leads for the EE Plan and for SRP attend each other's TWG meetings and coordinate via email.

The Company will report on the evaluation results of internally-sourced targeted EE or targeted DR bid proposals for an NWA opportunity in the annual SRP Year-End Reports, as applicable.

## 11.3 Coordination with Infrastructure, Safety and Reliability

The Company prepares area studies to identify reliability and safety needs and associated solution options and recommendations for the Electric Distribution business in Rhode Island. The solutions identified in area studies can include both wires and non-wires alternatives. After an analysis of all wires and non-wires options identified, the Company recommends the solution that is the least-cost option that will meet the needs identified in the area studies. If the recommended solution is a non-wires alternative, progression of the bidding, approval and implementation processes will progress through the SRP program. If the recommended solution is a wires alternative, it may be progressed through the Electric ISR Plan at some point in the future. Coordination occurs between the distribution planners and the NWA team by the planners communicating to the NWA team the

screened system needs that have potential for an NWA option and by the NWA team communicating to the distribution planners any viable NWA options that passed evaluation.

Please see Section 7 for further detail regarding the planning process and coordination.

The Company will report on the wires and pipes investment screening results for potential NWA or NPA opportunities in the annual SRP Year-End Reports. The Company is inherently coordinated between the SRP Plan and Electric ISR Plan as part of the normal course of business with regard to planning and development of NWA and NPA opportunities in parallel consideration to wires and pipes solution investments.

## 11.4 Coordination with Grid Modernization and AMF

The SRP team is tracking the development and implementation of the Grid Modernization Plan and Advanced Metering Functionality Business Case filings to ensure future coordination is maintained with the outcome of these plans. The Company will coordinate SRP with the GMP and AMF filings once they are approved to ensure that efforts, projects, and programs are not being duplicated and to ensure cohesive and comprehensive plan framework and implementation.

The AMF Data Governance and Management Plan is intended to be integrated, consolidated, and cross-functional. From this, data governance for SRP is intended to be covered by the AMF Data Governance and Management Plan. SRP will maintain alignment with AMF to ensure SRP's relevant data concerns are included in the AMF Data Governance and Management Plan, namely with regard to data access on the Portal.

The SRP team is aware that the AMF proposal includes data availability and access. Such data can further improve planning and development of potential NWA opportunities, both on the internal distribution planning side and on the external side by furnishing more granular, anonymized load data to third-party bidders. Additionally, the SRP team understands that third-party data access to AMF may be required for the implementation of certain NWA projects. For example, the addition of smart meter data realized from the AMF investment can provide planners with more granular data and thusly provide the ability to aide in forecasting and strategic planning. Furthermore, National Grid control center operators may have more informed datapoints from assets on the system and therefore have further clarified control, such as with front-of-the-meter (FTM) battery storage assets. The SRP and NWA teams will plan for how the NWA development process may improve with respect to the availability and granularity of data following implementation of the AMF proposal. The SRP and NWA teams are therefore coordinating with the development and implementation of the AMF filing with these specific data access themes in mind, in addition to following the AMF Business Case in general.

The SRP team is aware that Grid Modernization discusses functional topics such as EV, DG, energy storage, demand response, and other technologies and methodologies through its development and implementation. The SRP and NWA teams are therefore synchronized with the

development and implementation of the GMP to ensure coordination is maintained. The Company has internal, regular check-in meetings and additional one-on-one meetings to stay synchronized and coordinated across Company programs and filings, such as between SRP, GMP, and AMF. The Company will report on program updates relevant to SRP in coordination with GMP and AMF in the annual SRP Year-End Reports, as applicable. The Company maintains overall coordination between SRP and the GMP and AMF filings.

# 12. SRP Timeline

Sections 4.6, 5.5, and 4.4.B of the Standards, respectively, outline the following timeline for the development of the program implementation plans and detailed budgets. National Grid will work with the EERMC and the SRP TWG to meet these deadlines:

1. SRP Three-Year Plans
    a. By October 21, 2020 and triennially thereafter: The EERMC will vote whether to endorse the System Reliability Procurement Plan.
    b. November 21, 2020 and triennially thereafter: Submit the System Reliability Procurement Plan for three years of implementation beginning January 1 of the following year.

2. SRP Investment Proposals
    a. The Company will file SRP Investment Proposals as needed, and will aim to file SRP Investment Proposals alongside, and separately from, annual Infrastructure, Safety, and Reliability (ISR) Plans when possible.
    b. The Company requests the PUC rule on SRP Investment Proposals within 60 days of filing.
    c. SRP Investment Proposals will contain content, proposals, and funding requests for, but not limited to, the following:
        i. NWA projects
        ii. NPA projects
        iii. New enhancements for the Rhode Island System Data Portal
        iv. Outreach and Engagement Plans for SRP Market Engagement

3. SRP Year-End Reports
    a. National Grid will submit a Year-End Report to the EERMC and the SRP TWG for their review and comment annually at least three weeks before the EERMC's scheduled meeting prior to the filing date that year.
    b. The EERMC shall vote whether to endorse the Annual Plan prior to the prescribed filing date, annually.
    c. June 1, 2021 and annually thereafter: Submit the Year-End Report detailing plan implementation for the preceding calendar year.
    d. The SRP Year-End Reports will contain content including, but not limited to:
        i. Screening results summary on all applicable wires and pipes investments for potential NWA or NPA opportunities.
        ii. Details on Rhode Island Company electric service projected load growth rates.
        iii. Status and progress updates on potential NWA or NPA opportunities.
        iv. Status and progress updates on active and implemented NWA or NPA projects.

v. Status and progress updates on new enhancements for the Rhode Island System Data Portal, as applicable.
vi. Status and progress updates on SRP market engagement efforts, as applicable.
vii. Proposals to update the Company's NWA screening criteria for Rhode Island, as applicable.
viii. Proposals to update the Company's RI NWA BCA Model, as applicable.

The Company proposes the annual reporting plan for SRP Year-End Reports as detailed above for calendar years 2021 through 2023.

# 13. Miscellaneous Provisions

**A.** Other than as expressly stated herein, this Settlement establishes no principles and shall not be deemed to foreclose any party from making any contention in any future proceeding or investigation before the PUC.

**B.** This Settlement is the product of settlement negotiations. The content of those negotiations is privileged, and all offers of settlement shall be without prejudice to the position of any party.

**C.** Other than as expressly stated herein, the approval of this Settlement by the PUC shall not in any way constitute a determination as to the merits of any issue in any other PUC proceeding.

The Parties respectfully request the PUC approve this Stipulation and Settlement as a final resolution of all issues in this proceeding.

Respectfully submitted,

THE NARRAGANSETT ELECTRIC COMPANY
D/B/A NATIONAL GRID

By its Attorney, Date
Andrew S. Marcaccio

# Appendices

**Appendix 1 Rhode Island and Company Electric Service Projected Load Growth Rates**

**Appendix 2 RI NWA BCA Model**

# Appendix 1 – Rhode Island Company Electric Service Projected Load Growth Rates

# Forecasted Load Growth for NWA Opportunities

This appendix provides an overview and update on the Rhode Island electric service projected load growth rates as well as the forecasted load growth for locations in Rhode Island that have the potential for NWA opportunities.

The Company's electric distribution system serves close to 500,000 customers in 38 cities and towns in Rhode Island. The residential class accounts for approximately 41% of the Company's total Rhode Island load, the commercial class accounts for approximately 49%, and the industrial class accounts for approximately 10%.

The forecasted load growth rates for cities and towns in Rhode Island are shown in the Rhode Island Projected Load Growth Rates table below. Additionally, as seen in the sections below for Bristol, Kent, Newport, and Providence counties, the average annual growth rates are projected to be negative over the next 10 years.

The Bristol 51 NWA opportunity intends to address the forecasted load growth and system need in Bristol County. The Bonnet 42F1 and South Kingstown NWA opportunities intend to address the forecasted load growth and system need in Washington County.

The Company has not presently identified other NWA opportunities through the distribution system planning (DSP) process, which is detailed in Section 7.

The Company accounts for DG, DR, EE, DV, and solar photovoltaic (PV) impacts in the Company's electric peak load forecasting.

## Forecasted Load Growth in Bristol County

The Bristol County area annual weather-adjusted summer peak is expected to decrease at an average annual growth rate of 0.8% for the next 10 years. This rate is less than the statewide average annual growth rate of -0.7%.

## Forecasted Load Growth in Kent County

The Kent County area annual weather-adjusted summer peak is expected to decrease at an average annual growth rate of -0.7% for the next 10 years. This rate is less than the statewide average annual growth rate of -0.7%.

## Forecasted Load Growth in Newport County

The Newport County area annual weather-adjusted summer peak is expected to decrease at an average annual growth rate of -0.7% for the next 10 years. This rate is less than the statewide average annual growth rate of -0.7%.

## Forecasted Load Growth in Providence County

The Providence County area annual weather-adjusted summer peak is expected to decrease at an average annual growth rate of -0.9% for the next 10 years. This rate is less than the statewide average annual growth rate of -0.7%.

## Forecasted Load Growth in Washington County

The Washington County area annual weather-adjusted summer peak is expected to flat atbe an average annual growth rate of 0.0% for the next 10 years. This rate is greater than the statewide average annual growth rate of -0.7%.

**Rhode Island Projected Load Growth Rates**

| County | ---------- Annual Growth Rate (%) ---------- _2020 | _2021 | _2022 | _2023 | _2024 | _2025 | _2026 | _2027 | _2028 | _2029 | 5-Year Average (%) 2020 to 2024 | 10-Year Average (%) 2020 to 2029 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BRISTOL | (1.1) | (1.4) | (0.6) | (0.7) | (0.7) | (0.0) | (0.7) | (0.8) | (0.8) | (0.9) | (0.9) | (0.8) |
| KENT | (1.1) | (1.4) | (0.6) | (0.7) | (0.6) | 0.0 | (0.7) | (0.8) | (0.8) | (0.8) | (0.9) | (0.7) |
| NEWPORT | (0.9) | (1.3) | (0.5) | (0.6) | (0.6) | 0.1 | (0.6) | (0.7) | (0.8) | (0.8) | (0.8) | (0.7) |
| PROVIDENCE | (1.4) | (1.7) | (0.8) | (0.9) | (0.8) | (0.2) | (0.8) | (0.9) | (0.9) | (0.9) | (1.1) | (0.9) |
| WASHINGTON | 0.0 | (0.4) | 0.3 | 0.2 | 0.1 | 0.7 | (0.1) | (0.2) | (0.3) | (0.4) | 0.0 | (0.0) |
| RHODE ISLAND | (1.1) | (1.4) | (0.6) | (0.7) | (0.6) | 0.0 | (0.7) | (0.8) | (0.8) | (0.8) | (0.9) | (0.7) |

# Appendix 2 – RI NWA BCA Model