STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
Department of Administration
DIVISION OF LEGAL SERVICES
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Jennifer Sternick, Esq.
Chief of Legal Services

November 2, 2016

Mr. Todd A. Bianco
Coordinator
Energy Facility Siting Board
89 Jefferson Blvd.
Warwick, RI 02888

VIA HAND DELIVERY

Re: Narragansett Electric Company dba National Grid: Aquidneck Island Reliability Project, EFSB Docket No. SB-2016-01

Dear Mr. Bianco:

Enclosed for filing, in accordance with the Board's Preliminary Decision and Order, dated May 2, 2016, please find an original and ten copies of the Advisory Opinion of the Rhode Island Statewide Planning Program. This Advisory Opinion has also been e-served to all members on the Service List.

The Statewide Planning Program does not intend to offer any witness testimony in this matter. However, it will make the following witnesses available for examination by the Board or cross-examination by other parties:

1. Kevin Nelson, (Sponsor and witness)
2. Robert Valenti (Witness for Economic Impact analysis)
3. Caitlin Greeley (Witness for Planning)

I am including current curricula vitae/resumes for all three witnesses. Thank you for your attention to this matter.

Sincerely,

Jennifer S. Sternick

Encl.

Kevin Nelson
2 Oak View Drive
Cranston, Rhode Island 02921
(401) 615-9697 (h) (401) 222-2093 (w)

EXPERIENCE

Supervising Planner: Rhode Island Department of Administration, Statewide Planning Program. July 2008 to present

- Supervise State Guide Plan consistency reviews. This entails reviews of:
  - local comprehensive plans, plan updates, and plan amendments, and the preparation of findings and recommendations for the Associate Director of the Division of Planning regarding such reviews;
  - environmental impact statements;
  - federal grant proposals;
  - certain economic development proposals;
  - energy facilities siting proposals.

Principal Planner: Rhode Island Department of Administration, Statewide Planning Program. October 1997 to June 2008

- Researched and co-authored State Guide Plan Element 121, *Land Use 2025: Rhode Island's Land Use Policies and Plan.*
- Assisted and provided technical advice to the Rhode Island Resource Recovery Corporation in the update of State Guide Plan Element 171, *The Rhode Island Comprehensive Solid Waste Management Plan.* Co-authored various sections of the Plan. Supervised the final wording and preparation of the Plan.
- Co-supervised the Comprehensive Plan review process. This entailed the review of local comprehensive plans, plan updates, and plan amendments, and the preparation of findings and recommendations for the Director of Administration regarding such reviews. In this capacity, I designed a number of standard forms and tracking reports for the purpose of improving efficiency.
- Design, supervise, and/or conduct surveys, studies, interviews, and other research culminating in findings and recommendations, and/or the adoption of long-range plans regarding a variety of state and local issues. Topics include all traditional planning subjects such as land use, natural resource protection and usage, transportation, economic development, and social services.
- Researched and wrote *Land Use Trends in Rhode Island 1961-1988, An Analysis of Rhode Island Land Use,* and *Rhode Island Land Use Trends and Analysis 1970-1995.*
- Researched and co-authored *Growth Challenges for the New Millennium - Balancing the Options (A Citizen's Guide to Land Use Planning in Rhode Island).*
- Assisted in the design and oversight of public opinion surveys regarding land use for the State Land Use Plan and recreation for the State Outdoor Recreation Plan.
- Supervised the update and publication of the State Guide Plan Overview.
- Represent the Department of Administration on the Rhode Island Agricultural Land Preservation Commission. This involves the evaluation, ranking, and approval of farmland

throughout the state for the purchase of development rights. This includes assessing soil quality, development pressure, economic potential, protection of water supplies, and preservation of aesthetic, historic, and cultural values.

- Represent the Department of Administration on the Rhode Island Rivers Council. The Rivers Council functions as a planning and coordinating agency. It is responsible for the development of State Guide Plan Element 162, *Rivers Policy and Classification Plan*, providing advice to state agencies and municipalities concerning measures to improve and protect river quality, and to foster public involvement in river planning and decision-making. The Council also designates and oversees local Watershed Councils for the purpose of implementing the *Rivers Plan* in their watershed.
- Represent the Statewide Planning Program as a technical advisor to the State Conservation Committee. The Committee coordinates and assists the State's three Conservation Districts, supervises and controls funds appropriated to the Conservation Districts, provides information and studies to local, state, and federal agencies, and coordinates state policies for the conservation of renewable natural resources.
- Appointee to the Governor's Advisory Committee on Natural Heritage Preservation. The Committee assists the Natural Heritage Commission in establishing criteria for determining projects that shall be eligible for natural heritage preservation loans, evaluates loan applications, and makes recommendations as to loan awards.
- Assist and provide technical advice to the Department of Environmental Management in the design, scope, and budget regarding the rewrite of State Guide Plan Element 152, *The State Comprehensive Outdoors Recreation Plan.*
- In cooperation with other State agencies such as the Department of Environmental Management, Department of Transportation, and Coastal Resources Management Council, provide planning guidance to the United States Army Corps of Engineers in coastal restoration and construction projects.

Senior Planner: Rhode Island Department of Administration, Division of Planning.
June 1992 to October 1997

- Developed and monitored performance measures for various State agencies in conjunction with the Budget Office.
- Analyzed of current and emerging issues which have a major impact on the utilization of financial resources and are of significant statewide concern. This included research and writing of issue briefs and contributing articles to RISCAN, a quarterly publication of the Office of Strategic Planning.
- Advised government and other agencies of state and federal Intergovernmental Review requirements. Coordinated reviews of federal grant applications, environmental impact statements, and conveyances of state land and buildings. When needed, conducted hearings and issued a report and recommendation to the federal funding source.
- Supervised secretary for all Intergovernmental Review matters and student interns for individual projects.
- Special project: Participated in a team effort to produce the *Commercial Fisheries Economic Adjustment Strategy.* This involved researching and analyzing economic, sociological, and scientific data related to fishery stocks, all aspects of the commercial fishing industry, and sociological effects of a declining industry on local communities.

- Served as Chairperson of the Department's Equal Opportunity Advisory Committee from 1992 through 1995.
- Served as the Division's representative on the Environment and Water Quality Committee of the Rhode Island Resource Conservation and Development Council.

Planner: Rhode Island Department of Administration, Division of Planning.
March 1989 to May 1992

- Advised government and other agencies of state and federal Intergovernmental Review requirements. Coordinated reviews of federal grant applications, environmental impact statements, and conveyances of state land and buildings. When needed, conducted hearings and issued a report and recommendation to the federal funding source.
- Supervised secretary for all Intergovernmental Review matters and student interns for individual projects.
- Special project: Participated in a team effort to produce a Master Plan for the Howard Complex in Cranston, RI. This required analyzing a broad range of social and site specific issues including correctional services for adults and youth, physical and mental health care, historical preservation, infrastructure assessment, and environmental and land use considerations.
- Analyzed current and emerging issues of significant statewide concern that had the potential for a major impact on the utilization of financial resources. This included research and writing of issue briefs and contributing articles to RISCAN, a quarterly publication of the Office of Strategic Planning.
- Served as the Division's representative on the Environment and Water Quality Committee of the Rhode Island Resource Conservation and Development Council.

Taxpayer Assistance Representative: Rhode Island Department of Administration, Division of Taxation. May 1987 to March 1989

- Provided assistance and authoritative information regarding state tax law and proper filing of tax returns.
- Conducted interviews with taxpayers to determine the nature of their tax problems and advised as to their best solution.
- Analyzed copies of returns, schedules, and transcripts of accounts necessary to assist taxpayers.
- Conducted office investigations of records and statements submitted by taxpayers.

Stores Clerk: Rhode Island Department of Education, Office of School Food Services.
March 1986 to May 1987

- Tabulated food inventory for school kitchens statewide.
- Ensured kitchen stockrooms meet state and federal health and safety standards.
- Delivered, inspected, and stored food items as needed.
- Checked incoming or outgoing materials against invoices or other records.

EDUCATION AND TRAINING

Rhode Island College - Providence, Rhode Island
- Bachelor of Arts Degree in Philosophy
- Alpha Sigma Lambda (Honor Society for Continuing Education)

University of Rhode Island - Kingston, Rhode Island
- Bachelor of Arts Degrees in Economics and Political Science
- Phi Beta Kappa
- Pi Sigma Alpha (Political Science Honor Society)
- Graduated Magna Cum Laude

In-Service Training:
- Highway Engineering Concepts for Non-Engineers
- Reinventing Government Workshop
- Continuing Education Program for Planners
- Project Development and Environmental Documentation
- Strategic Planning for Your Organization

CAITLIN R. GREELEY

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Professional urban planner committed to advancing sustainable land use policies.

PROFESSIONAL EXPERIENCE

PRINCIPAL PLANNER
10.2013 - PRESENT
Division of Planning
State of Rhode Island
Providence, RI

- Provide technical assistance and legislative interpretation to municipal planners.
- Coordinate with State agencies and municipalities to address greenhouse gas emission reduction and the impacts of climate change.
- Work with stakeholders to develop policy and legislation on planning-related issues.
- Developed Division policy for the review of local comprehensive plans.
- Drafted legislation to enable local unified development review and to enable municipalities to more efficiently review variance applications following a disaster.

ARCHITECTURAL HISTORIAN
9.2012 - 9.2013
Boston Landmarks Commission
City of Boston
Boston, MA

- Prepared study reports to determine the eligibility of properties and sites for potential Boston Landmark designation.
- Managed Survey and Planning Grant process which included procurement, hiring a consultant, evaluating quality and content of work, and coordinating all aspects of grant administration.

PRESERVATION PLANNER
11.2009 - 9.2012
Environment Department
City of Boston
Boston, MA

- Reviewed applications for design changes to historic properties located within three local historic districts.
- Advised applicants, architects, contractors, and commission members on the appropriateness of designs.
- Provided education and outreach about local historic districts.

RESEARCH ASSISTANT
1.2008 - 5.2009
University of Michigan
Ann Arbor, MI

- Evaluated the effectiveness of local planning efforts in protecting environmentally sensitive coastal areas by quantitatively comparing municipal land use plans and zoning ordinances.

AMERICORPS MEMBER
5.2008 - 8.2008
Focus: HOPE
Detroit, MI

- Developed neighborhood revitalization plan for an affordable housing cooperative model between municipalities, including assembling financing from state and local agencies.

EDUCATION

UNIVERSITY OF MICHIGAN
Taubman College of Architecture and Urban Planning
Ann Arbor, MI

M.U.P., Urban Planning, 2009
Concentration in Land Use and Environmental Planning

CONNECTICUT COLLEGE
New London, CT

B.A., Art History and Architectural Studies, 2005, Magna Cum Laude
Minors in Spanish and Italian

TECHNICAL SKILLS

ArcGIS
ADOBE CREATIVE SUITE
MICROSOFT OFFICE SUITE

PROFESSIONAL AFFILIATIONS

AMERICAN PLANNING ASSOCIATION, RI CHAPTER
Secretary
Manage communications strategy and social media platform for the Chapter.

Robert L. Valenti

1 Capitol Hill | Providence, RI 02908 | (401) 574-8475 | Robert.valenti@omb.ri.gov

Education

Brown University, Providence, RI
Master's Degree, Public Policy 3.88 GPA May 2016

- 2015 Darrell West Scholar for outstanding engagement with the Taubman Center and Brown University.
- 2016 Director's Award: Outstanding Achievement-- Master's Capstone. Consulting project for the Rhode Island Office of Regulatory Reform: "Sustaining Success in Regulatory Review in Rhode Island."
- Coursework includes Urban Economics, Corporate Finance, Public Economics, Statistics, Policy Analysis and Program Evaluation.

College of the Holy Cross, Worcester, MA
Bachelor of Arts, *cum laude* 3.65 GPA May 2011

- Coursework in political science, economics, and political philosophy.
- Junior thesis titled "*The Hidden Politics of Indexation.*" Honors thesis titled "Framing Science for Public Policy."

Harvard University Extension and Summer School, Cambridge, MA
Non-degree coursework Jan. 2012–May 2013

- Coursework includes Introduction to Quantitative Methods, Housing and American Social Policy, WebGIS.

Policy Work Experience

Rhode Island Office of Regulatory Reform, Providence, RI
Senior Economic and Policy Analyst Feb. 2016–Present
Economic Policy Consultant May 2015–Feb. 2016

- Performed research and economic analyses of proposed regulatory and legislative changes; assisted with revenue estimation and other forecasting projects; drafted policy memos and position statements for a wide variety of state policy issues; conducted meetings with policy officials, administrators, and key external stakeholders to discuss policy recommendations and coordinate policy implementation.
- Wrote ORR guidance document "*Analyzing Regulatory Benefits and Costs*" and assisted with development of Rhode Island regulatory review system and Administrative Procedures Act codification project, including training materials and program strategic planning.

Congressional Research Service, Domestic Social Policy Division, Washington, D.C.
Policy Analyst Intern Sept. 2009–Nov. 2009

- Edited and updated CRS reports by using data from state and federal government offices to analyze developments in Social Security policy, including the SSDI and SSI programs.
- Assisted with policy briefings for Congressional staff on developments in a wide range of policy areas; prepared materials, composed memos, attended Congressional hearings.

South Worcester Neighborhood Improvement Corporation, Worcester, MA
Community Work Study: Economic Development Assistant Sept. 2008–May 2009

- Led student research team on the Distressed Housing Task Force; aided ComNET surveys; collected map data, ran title searches, and developed plan to maximize impact of 2009 ARRA funds provided to Worcester.

Other Work Experience

Harvard University Office of Technology Development (OTD), Cambridge, MA
Operations Coordinator July 2011–August 2014
Advanced Harvard's scientific research by fostering strategic collaborations with industry through patenting, licensing, sponsored research, and new venture agreements.

- Streamlined operations financial systems by leading team in the restructuring and standardization of the system and creation of a digital records archive; reorganized legal agreement signature process; handled operations-related financial tasks, conducted monthly account reconciliations; proofread legal documents; assisted with operations-related budgeting and royalty distribution process.

Advisory Opinion

on the

Socio-economic Impact and State Guide Plan Consistency

of the proposed

Aquidneck Island Reliability Project

Prepared for the:

ENERGY FACILITY SITING BOARD

Docket No. SB-2016-01

By the:

Statewide Planning Program

Rhode Island Department of Administration

One Capitol Hill

Providence, RI, 02908

November 2, 2016

TABLE OF CONTENTS

PART ONE: INTRODUCTION

A. ENERGY FACILITY SITING ACT AND STATEWIDE PLANNING PROGRAM RESPONSIBILITIES

The Energy Facility Siting Act (the "Act"), enacted in 1986 (Rhode Island General Laws § 42-98-1 *et seq.*) requires that the Energy Facility Siting Board (the "Board") make certain findings prior to granting a license. One of those findings is that, "[T]he proposed facility…will enhance the socio-economic fabric of the state" (§ 42-98-11(b)(3)). Section 42-98-9(e) of the Act also provides that the Statewide Planning Program (the "Program") at the Department of Administration will, "[C]onduct an investigation and render an advisory opinion as to the socio-economic impact of the proposed facility and its construction and consistency with the state guide plan."

In the Preliminary Decision and Order for "The Narragansett Electric Company d/b/a National Grid Aquidneck Island Reliability Project," dated May 2, 2016 , the Board provided additional instruction regarding this requirement specifically concerning the Narragansett Electric Company d/b/a National Grid ("National Grid" or "the Applicant") proposed Aquidneck Island Reliability Project ("AIRP" or "the Project"). The Board instructed the Program as follows:

> The Statewide Planning Program within the Division of Planning shall render an advisory opinion as to (i) the socio-economic impact of the proposed Facility, including its construction and operation; (ii) the Facility's consistency and compliance with the State Guide Plan; and (iii) in coordination with the Rhode Island Office of Energy Resources, a particular examination of the Facility's consistency and compliance with the State Energy Plan.[1]

B. PROJECT SUMMARY

According to National Grid's application (EFSB Docket No. SB-2016-01), the Aquidneck Island Reliability Project includes a number of electric system improvements designed to reinforce and enhance the capacity of the existing transmission system on Aquidneck Island. As part of this project, National Grid proposes to rebuild and upgrade two transmission lines, construct a new Jepson Substation, and refurbish the existing Dexter Substation. The existing 61 and 62 Transmission Lines will be rebuilt and upgraded from 69 kV to 115 kV within the existing ROW, beginning at the Dexter Substation located off Freeborn Street in Portsmouth, Rhode Island and terminating at the proposed new Jepson Substation off Jepson Lane in Middletown, Rhode Island. To accomplish this, the existing wood pole transmission structures will be replaced with single pole, single circuit self-weathering steel poles on concrete caisson foundations with davit arms facing inwards towards the centerline of the ROW. This is standard

[1] Energy Facilities Siting Board, Preliminary Decision and Order section VII, Advisory Opinions

infrastructure now in use for upgraded transmission lines. A total of 96 structures ranging in height from 47.5 to 67 feet in height will be removed from the ROW. A total of 92 new single circuit replacement structures ranging in height from 80 to 95 feet will be installed. In addition to the structure replacements, three new double circuit steel structures ranging in height from approximately 95 to 105 feet are to be installed to extend the lines from the existing Jepson Substation to the relocated Jepson Substation across Jepson Lane. The entire length of both lines (4.4 miles each circuit) will be reconductored. The shieldwire will be replaced, and all new insulators and hardware will be used. The new circuit length will be 4.5 miles due to the extension to the relocated Jepson Substation.[2]

C. STATEWIDE PLANNING REVIEW PROCESS

1. Role of Statewide Planning Program Staff

Statewide Planning Program's staff had the primary responsibility for creating a draft of the report and advisory opinion for consideration by the State Planning Council. Both socio-economic impacts of the Project and State Guide Plan consistency were addressed. Program staff reviewed the full set of application materials, formulated requests for additional information, and then reviewed the data request responses provided by the Applicant. Additionally, staff monitored pre-filed testimony and Applicant responses to other agencies data requests as such information was made available through the EFSB's Service Contact list for this Project, and, in conjunction with other state offices, independently analyzed data provided by the Applicant. Program staff also reviewed previous Advisory Reports that it produced on similar project proposals, such as the Interstate Reliability Project.

2. Coordination with other Agencies

Role of other EFSB Designated Agencies

The Energy Facility Siting Act notes that, "The jurisdiction of each state agency should be defined, and the role of each agency in energy siting should be delineated, *to eliminate overlap and duplication* and to insure that expeditious decisions are made within a time frame to be determined by law.[3]" Therefore, in determining which topics to address for this advisory opinion, the Program recognized that the EFSB has already requested[4] that many of these factors be evaluated by the state's leading experts within the respective fields. These include:

- Land use consistency with the comprehensive plan, local land use zoning, noise, property value, and soil erosion impacts by the Towns of Middletown and Portsmouth;

[2] *Rhode Island Energy Facility Siting Board Application: Visual Impact Assessment. Aquidneck Island Reliability Project, Portsmouth and Middletown, Rhode Island,* VHB, December 2015, 2.
[3] RIGL 42-98-1(c)
[4] EFSB Preliminary Decision and Order, and Modification of Preliminary Order SB-2015-01.

- Traffic and road impacts by the Rhode Island Department of Transportation;
- Historic cultural and heritage impacts by the Rhode Island Historic Preservation and Heritage Commission;
- Energy supply/need, cost, and reliability impacts by the Rhode Island Public Utilities Commission; and
- Public health impacts of electromagnetic fields by the Rhode Island Department of Health.

Given the intent of the Energy Facility Siting Act not to duplicate efforts, and the extensive list of experts that were otherwise being consulted, the Program chose instead to examine factors that were not otherwise being considered by others.

Collaboration with other Agencies

In conducting its review and analysis, the Program collaborated with several State divisions and agencies including the Department of Administration's Office of Energy Resources ("OER"), the Department of Administration's Office of Management and Budget ("OMB"), and the Division of Public Utilities and Carriers ('DPUC) for their assistance in certain subject matters as described below.

- Office of Energy Resources: As directed by the EFSB, Program staff conferred with OER during the formulation of its determination of the Facility's consistency and compliance with the State Energy Plan.

- Office of Management and Budget: The Program requested technical assistance from OMB in reviewing and analyzing the economic projections found in the Application. OMB conducted analyses using standard economic modeling and provided the Program with the results.

- Division of Public Utilities and Carriers: Order SB-2016-01 requires the Public Utilities Commission, with participation of the Division of Public Utilities and Carriers, Office of Energy Resources, and the Division of Planning of the Department of Administration, to render a single advisory opinion on the need for the Project and whether the Project is cost-justified. With the agreement of the DPUC, the Program's participation consisted of the review of the pre-filed testimony offered by Gregory L. Booth, President, PowerServices, Inc. on behalf of the DPUC and offering feedback as necessary. The Program subsequently submitted a letter relaying its support of the pre-filed testimony to the PUC on September 22, 2016 (see Appendix A.)

Role of other Permitting Agencies

In addition to an EFSB license, this project must undergo review by additional bodies and obtain a number of permits and approvals before it can move forward. The Project must obtain State permits, including:

- RIDEM Freshwater Wetlands Permit (including Water Quality Certification)
- Rhode Island Pollutant Discharge Elimination System (RIPDES) General Permit

The Towns of Portsmouth and Middletown will also review the Project and provide the EFSB with advisory opinions regarding local permits.

3. Information Requests and Responses

During the review process, the Program made two information requests to the Applicant. Specifically, the Program requested (1) shapefiles associated with the maps produced for the application and (2) background information and clarification on the economic data included in the application. The applicant was not able to furnish the Program with the requested shapefiles, however, the Program's request for clarification on economic data was supplied (see Appendix B).

4. State Planning Council Review

The final draft advisory opinion, prepared by Program staff, was submitted to the State Planning Council for initial review on September 23, 2016. In order to avoid the potential of *ex parte* communication, the draft opinion was not sent to Parag Agrawal and Janet Coit who also are EFSB members. Following a procedure used for other types of project reviews, Council members were given ten days to enter any objections to the advisory opinion. No objections were filed, and the advisory opinion was thereby accepted by the State Planning Council on October 3, 2016 and subsequently forwarded to the EFSB on November 2, 2016.

D. ORGANIZATION OF THE ADVISORY OPINION

In response to the Board's instruction, Part Two of this report presents the results of the Program's socio-economic impact assessment of the construction and operation of the Project. Part Three presents State Guide Plan consistency assessments, including the State Energy Plan and Part Four concludes the advisory opinion with a summary of findings and recommendations.

PART TWO: SOCIO-ECONOMIC IMPACT ASSESSMENT

The EFSB's Preliminary Decision and Order charges the Program with providing an advisory opinion as to the socio-economic impact of the Project's construction and operation on the state. As discussed in the Introduction, the Energy Facility Siting Act does not specify the topics to be included in a socio-economic impact assessment. The EFSB's order gives some direction by stating the analysis must consider "local population and economy, economic and reliability benefits, including employment and tax benefits to the Towns of Middletown and Portsmouth and/or to the State". Given these parameters, the Program determined other appropriate socio-economic factors to evaluate.

The Program reviewed the requests that the EFSB made to other State agencies and organizations. Adhering to the intent of § 42-98-1(c), the Program chose not to duplicate the efforts of other agencies. After careful consideration, the Statewide Planning Program concluded that its socio-economic impact assessment would include economic impacts from the construction and operation of the facility on employment, state and local tax revenues, and impacts to the size and composition of the Town's population, vulnerable populations, local support services, and visual impacts. In addition, the Program assessed whether the indirect economic impacts resulting from multiplier effects of the Project would be positive or negative in nature. Also considered are the reliability benefits that could occur in the Project were constructed.

Many portions of this socio-economic analysis were conducted using quantitative and qualitative data supplied by the Applicant. With regards to economic data provided by the applicant, the Program and OMB utilized National Grid's construction and operations cost data, and performed an independent analysis to evaluate the direct and indirect economic effects as measured in jobs, earnings, and total economic output. As detailed below, in some other parts of its analysis the Program referred to independent sources to test the Applicant's assertions. Staff also reviewed pre-filed testimony from all parties and noted where there were differences of opinion on the accuracy of the data and/or projections reported in the Application.

A. SOCIAL IMPACT ASSESSMENT

1. Local Population

The Program finds that the Project is not likely to result in any significant population changes within the Towns of Portsmouth or Middletown.

As the Project is not expected to result in the creation of any permanent full-time employment opportunities, the Program is of the opinion that it will not directly affect population growth or decline within the Towns of Middletown or Portsmouth or the State of Rhode Island.

2. Federally-Protected Populations

The Program finds that the construction and operation of the Facility will not unfairly impact Federally-protected populations.

In considering the potential impacts of the Project on the socio-economic fabric of the state, the Program examined whether any Federally-protected group of people would bear a "disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies."[5] Federal government statutes and regulations protect the following groups of people, which represent the groups considered in this analysis: minority populations, [6] persons of low-income, [7] children and the elderly, [8] households with limited English proficiency, [9] and individuals with a disability. [10]

Table 1: Presence of Select Population Groups in Proximity to the Project (Portsmouth)[11]

	Census Tract 401.03		Portsmouth		Rhode Island	
	#	*% of total*	*#*	*% of total*	*#*	*% of total*
Minority Population	605	9%	1211	7%	248,882	23.6%
Population under 200% Poverty Level[12]	976	15%	2789	16%	310,086	30.6%
Population under 5-years of Age	302	5	788	5%	57,448	5.5%
School-aged Population (age 5 to 18)	1341	20%	3670	21%	204,310	19.4%
Aging Individuals (age 65+)	1253	19%	2858	16%	151,881	14.4%
Limited English Proficiency Households[13]	168	2.7%	283	1.7%	84,851	8.5%
Individuals with a Disability	888	14%	2139	12%	133,024	12.8%

[5] *Learn About Environmental Justice.* Environmental Protection Agency, March 29, 2016. Web. 11 May 2016.
[6] Title VI Statute, 42 U.S.C. § 2000d (1964). Web.
[7] Exec. Order No. 12898, 3 C.F.R. 1-5 (1994). Web.
[8] Age Discrimination Act, 29 U.S.C. § 6101 (1975). Web.
[9] Exec. Order No. 13166, 3 C.F.R. 1-6 (2000). Web.
[10] Americans with Disabilities Act, 42 U.S.C. § 126-12101 (1990). Web.
[11] Unless otherwise noted, all data is from the 2010 U.S. Census
[12] Data source: U.S. Census 2014 American Community Survey 5-year estimates, Table S1701
[13] Population is individuals aged 5 and older where the language spoken at home is other than English and have identified as speaking English "less than very well;" data source: U.S. Census 2014 American Community Survey 5-year estimates, Table DP02

Table 2: Presence of Select Population Groups in Proximity to the Project (Middletown)

	Census Tract 403.04		Middletown		Rhode Island	
	#	*% of total*	#	*% of total*	#	*% of total*
Minority Population	481	17%	2488	7%	248,882	23.6%
Population under 200% Poverty Level[14]	649	23%	3163	16%	310,086	30.6%
Population under 5-years of Age	148	5%	933	5.8%	57,448	5.5%
School-aged Population (age 5 to 18)	536	18%	2999	18.6%	204,310	19.4%
Aging Individuals (age 65+)	455	16%	2843	17.6%	151,881	14.4%
Limited English Proficiency Households[15]	40	1.5%	513	3.4%	84,851	8.5%
Individuals with a Disability	434	16%	1566	10.1%	133,024	12.8%

For the purposes of this assessment, a significant concentration of any single population group is said to exist when the group makes up a greater percentage of the population in the defined area than in the host state as a whole. This methodology was chosen based on the approval that the program received from the State's Federal Highway Administration Civil Rights Specialist to use it in the State's Draft FY 2017-2025 Transportation Improvement Program.

As shown in Table 1, which compares the Census Tract 401.3 data to Town of Portsmouth and State data, the percentages of persons with a disability, school-age children, and aging individuals within Census Tract 401.3 are slightly higher than the state as a whole. The Minority Population, the Population under 200% of the Poverty Level, and Limited English Proficiency Households all exist in significantly lower percentages within Census Tract 401.3 than in the state as a whole. As shown in Table 2, although only a small portion of the project (primarily the proposed new Jepson Substation and a small portion of the transmission lines) is located within the Town of Middletown, the Program also analyzed the impact of the Project on Census Tract 403.04 in Middletown. Within this Census Tract, the Percentage of Individuals with a Disability and Aging Individuals exceed those of the state as a whole. The Minority Population, Population under 200% of the Poverty Level, Populations under 5 Years of Age, School-Aged Population, and Limited English Proficiency Households all exist in lower percentages within Census Tract 403.04 than in the state as a whole. Overall, the population group data for Census Tracts 401.3

[14] Data source: U.S. Census 2014 American Community Survey 5-year estimates, Table S1701

[15] Population is individuals aged 5 and older where the language spoken at home is other than English and have identified as speaking English "less than very well;" data source: U.S. Census 2014 American Community Survey 5-year estimates, Table DP02

and 403.04 indicate that vulnerable population groups do not exist in significant concentrations in proximity to the Project.

3. Housing

The Program finds that there would be no significant impact to the number of housing units that exist within the Towns of Middletown or Portsmouth.

Given that the Program expects no significant change in Middletown or Portsmouth's population as a result of the Project, it also does not expect any corresponding changes in housing supply or demand. The Project is to be constructed within an existing right-of-way and the Jepson Substation will be built on an existing right-of-way. As such, the Program expects that no existing housing units will be lost as a result of the construction and/or operation of the Project and that housing demands in the area will not be impacted.

4. School and Library Services

The Program finds that there would be little to no impact on school and library services.

The need for additional school capacity is related to the number of school-aged children being served. The adequacy of the library system and community centers are directly related to the number of people and/or housing units being served. For these services, increase in demand or capacity would be directly related to population growth and/or new housing units. As little to no population growth is expected and no new housing units are anticipated, there should be little or no impact on these services.

5. Police, Fire, and Emergency Services

The Program finds that there will be little to no impact on police, fire, and emergency services.

Demand for police, fire, and emergency services is based on population growth and/or new housing units. As little to no population growth is expected and no new housing units are anticipated, there should be little or no impact on these services.

6. Visual Impacts

The Program finds that visual impacts caused by the Project will be relatively limited.

The Project will be located in an existing, developed utility right-of-way. As such, the Project will be replacing existing infrastructure as opposed to constructing infrastructure on previously undeveloped land. While the new infrastructure will be somewhat more visible than what now exists, its visual impact would be less significant than if it were purely new construction.

The Applicant conducted a visual impact assessment for the Project which aimed to assess its visual impacts associated with the project. The specific techniques used to assess potential Project visibility and visual impacts consisted of the following assessment techniques:

- Viewshed Analysis
- Field Verification
- Viewpoint Selection
- Visual Simulations
- Visual Impact Evaluation

The study area for the Aquidneck Island Reliability Project was defined as "the area within 1 mile of the centerline of the proposed transmission lines and within 1 mile of the new (relocated) Jepson Substation site. This area covers approximately 11.7 square miles, and includes portions of the Towns of Portsmouth and Middletown."[16]

In addition to the work referenced above, the Program requested Geographic Information System (GIS) data files from the Applicant so that it could undertake its own independent assessment of the number of houses and businesses that would be visually impacted. Unfortunately this request was declined and therefore, the Program was left to base what follows solely on the information contained in the application.

Overview of Visual Impacts

The visual impact analysis performed for the Project indicates that the proposed transmission lines, due to their greater mass and height, will be slightly more visible than the existing transmission lines. The new Jepson Substation will be larger and closer to Jepson Lane thereby creating a greater visual impact than the current substation.

Overall, the Applicant's topographic viewshed analysis, "revealed that approximately 82.3% of the visual study area could have potential views of the proposed project." This represents an increase of approximately 6.5% compared to the visibility of the existing transmission line under "leaf off" conditions. When the screening effect of mapped forest vegetation is factored into the viewshed analysis, approximately 59.3% of the study area has potential views of the proposed project, which represents a 7.9% increase in visible area when compared to the vegetation/topographic viewshed of the existing 61 and 62 Transmission Line structures.

In addition to the overall viewshed analysis, the *Visual Impact Assessment* analyzed the visual impact of the Project on visually sensitive resources, defined as "aesthetic resources that have been formally recognized, such as buildings and landscapes listed on the national or State Register of Historic Places, designated scenic areas, or publicly-owned properties such as

[16] *Rhode Island Energy Facility Siting Board Application: Visual Impact Assessment. Aquidneck Island Reliability Project, Portsmouth and Middletown, Rhode Island,* VHB, December 2015, 10.

conservation areas and parks," as well as "places of concentrated activity such as schools, village centers and heavily used roadways, or landscapes of high aesthetic merit that may be considered important by local residents." The study area does include numerous resources/sites that could be considered visually sensitive from a statewide, regional, or local perspective. Since the Rhode Island Historic Preservation and Heritage Commission has been asked to provide an advisory opinion to the EFSB on this topic, the Program will defer to that agency on the visual impacts to historic and cultural resources. However, it must be acknowledged that the proposed new transmission lines, while replacing existing infrastructure within an existing right-of-way, may be visible from certain sensitive resources due to their increased mass and height. The *Assessment* identifies several resources such as:

- The 75 acre Escobar Farm;
- The 40 acre Wicks Nursery (which is also contiguous to a number of other local and state designated conservation lands);
- The 34 acre Oakland Forest, which includes a 20-acre meadow and a forest stand considered to be one of the last old-growth forests in Rhode Island.

One of the more significant visual impacts of this project will be the construction of the new Jepson Substation on a portion of the existing right-of-way and the dismantling of the existing substation directly across the street. The *Visual Impact Assessment* acknowledges that the visual impact of this change will be relatively high in close proximity to the new substation. The visual impact will be more moderate from more distant and/or well-screened viewpoints. In addition, "The new substation's conversion of a largely undeveloped site into a major built facility changes the perceived character of the site from rural to industrial. However, the degree of visual contrast presented by the new Jepson Substation is partially off-set by removal of the existing Jepson Substation, and mitigated to a degree by proposed perimeter screen plantings."[17]

Conclusion

Based on the information provided in the *Visual Impact Assessment*, the Program concludes that while the Project will have visual impacts to the surrounding communities, those impacts are mitigated by several factors and that the overall impact will be limited.

B. ECONOMIC IMPACT ASSESSMENT

The Program finds that the Project will have a positive impact on the state's economy.

The Program finds that the Project will result in positive revenue benefits to the state.

[17] *Rhode Island Energy Facility Siting Board Application: Visual Impact Assessment. Aquidneck Island Reliability Project, Portsmouth and Middletown, Rhode Island,* VHB, December 2015, 77-78.

In order to evaluate National Grid's Application regarding the projected economic benefits of the Project, the Statewide Planning Program enlisted the assistance of the Office of Management and Budget ("OMB") in the Department of Administration which conducted additional research and economic modeling. The following reflects OMB's research.

The construction of the AIRP involves out-of-state investment in Rhode Island, which economic theory and modeling indicates will lead to a positive effect on businesses through increased spending and employment. While altering some of the assumptions in these models varies the magnitudes of the estimated economic effects, the impacts on employment, earnings, economic output, and tax revenue from the project remain uniformly positive.

1. Direct and Indirect Impacts: Jobs, Personal Income, and Gross Domestic Product

National Grid's application provides estimates of the economic and employment impacts related to the Aquidneck Island Reliability Project. National Grid's response to the Program's data request notes that the impacts were estimated by using the REMI regional economic model of Rhode Island, a common dynamic equilibrium economic model used for economic impact assessments.[18]

The REMI modelling program use assumptions of the macroeconomic structure of the Rhode Island economy across numerous economic sectors, as well as inputs provided by National Grid regarding the costs and timing of the construction of the Project. The outputs from the model estimates both Newport County and overall Rhode Island impacts in three primary categories:

1. employment impact (measured in jobs per year);
2. gross domestic product (measured in millions of 2014 dollars per year); and
3. personal income (measured in millions of 2014 dollars per year).

The model estimates total economic impacts, but does not disentangle direct, indirect, and induced effects.[19]

In order to evaluate the employment, earnings, and economic output figures provided in National Grid's application, OMB used its own methodology to analyze National Grid's results. These analyses rely on cost data supplied by National Grid.[20] National Grid also provided estimates of the share of each cost category that would be attributable to Newport County and Rhode Island.

[18] National Grid Responses to Division of Planning Requests, August 31, 2016. Page 1.
[19] Direct impacts are those directly related to the construction and operation of the facility. Indirect impacts are those that occur throughout the supply chain as a result of the direct impacts. Induced impacts are caused by changes in household spending.
[20] Shoer, Alan. *Response to Letter Dated April 20, 2016 from RI Department of Administration Chief Counsel Sternick*. 4 May 2016.

This is important because project costs that are not met by Rhode Island-based firms cannot have multiplicative effects on the Rhode Island economy.

OMB used the RIMS II multipliers, available from the Bureau of Economic Analysis website, to produce estimates of the economic activity generated by this project.[21] RIMS II is a backward-linkage model, which means it starts by examining how a project changes the output of goods in a certain industry. It then looks backwards and considers how inputs into that industry have to change in order to generate those outputs. For example, if a shoe company is undertaking a project that will lead to $2 million in new shoe sales, then there are inputs needed to generate that change in output. A shoe company might need to build more factory space, purchase more forklifts, or spend more money on electricity. In turn, the purchase of these inputs by the shoe company has a multiplicative effect throughout the economy. For example, in order to supply more forklifts, the forklift company might need to hire more workers or take other steps to increase their own output. The multipliers used in RIMS II are regional. RIMS II adjusts for the fact that, for example, very little forklift manufacturing occurs near the shoe company (leading to a lower multiplier). The RIMS II analysis, described in more detail below, shows positive economic benefits for Rhode Island from the AIRP.

Employment Impacts

Employment impacts are provided by National Grid's Energy Facility Siting Board Environmental Report for the Aquidneck Island Reliability Project. In this report, National Grid estimated that the project will create 380 jobs during the five-year construction period, with approximately 300 of those jobs within Newport County.[22] Further communication with National Grid notes that these jobs estimates include direct, indirect, and induced employment impacts.[23]

OMB used the RIMS II multipliers as a model to test the robustness of National Grid's findings. OMB's analysis uses information regarding project costs and RI share percentages, as well as RIMS Type II Output Multipliers, to compare the employment impacts in three scenarios: a scenario that uses National Grid's assumptions as they were presented, a scenario that slightly reduces the local share percentages, and a conservative scenario that assumes a low utilization of Rhode Island firms. Though magnitudes vary, OMB's model generates values that are generally consistent with National Grid's application and report. Applying the RIMS II multipliers to the cost and local share data provided by National Grid generates an estimate of total employment impacts ranging from 265-530 jobs in the state of Rhode Island. In two of OMB's scenarios, total employment impacts are estimated to be at least 40 jobs greater (10.5% higher) than those

[21] Bureau of Economic Analysis, Regional Input-Output Modeling System (RIMS II), https://www.bea.gov/regional/rims/index.cfm.
[22] Aquidneck Island Reliability Project, Energy Facility Siting Board Environmental Report, December 2015. Section 7-2.
[23] National Grid Responses to Division of Planning Requests, August 31, 2016. Page 1.

supplied by National Grid's application. Based on this, the Program deems National Grid's estimate to be reasonable, and consistent with a finding of positive economic impact.

Economic Impact: Gross Domestic Product (GDP)

Economic impact, including effects on state and local gross domestic product and personal income, are provided by National Grid's Energy Facility Siting Board Environmental Report for the Aquidneck Island Reliability Project and a response to a data request provided by National Grid on August 31st, 2016. National Grid estimated that the project will increase Rhode Island GDP by approximately $29.8 million during the construction phase of the project, with $23.8 million of that amount benefitting Newport County's GDP.[24] Further communication with National Grid notes that these GDP estimates include direct, indirect, and induced economic impacts.[25]

OMB used the RIMS II multipliers as a model to test the robustness of National Grid's findings. OMB's analysis uses information regarding project costs, RI share percentages, and RIMS Type II Output Multipliers to compare the employment impacts in three scenarios: a scenario that uses National Grid's assumptions as they were presented, a scenario that slightly reduces the local share percentages, and a conservative scenario that assumes a low utilization of Rhode Island firms. Though magnitudes vary, OMB's model generates values that are generally consistent with National Grid's application and report. Applying the RIMS II multipliers to the cost and local share data provided by National Grid generates an estimate of total GDP impacts ranging from $35.8 million to $71.6 million for the state of Rhode Island during the construction phase of the project. OMB's estimates for total economic output impacts for the state of Rhode Island are actually at least $6 million greater (20.1% higher) than those supplied by National Grid's application. Based on this, the Program deems National Grid's estimate to be reasonable, and consistent with a finding of positive economic impact.

Earnings and Personal Income

Tax revenue impact estimates were provided by National Grid in the Energy Facility Siting Board Environmental Report for the Aquidneck Island Reliability Project, as well as in a response to a data request from the Program. Some of these tax revenue estimates were based on AIRP's estimated impact on personal income, and the resulting effect that those earnings have on tax revenue.

As described above, OMB used the RIMS II multipliers as a model to test the robustness of National Grid's findings. OMB's analysis uses information regarding project costs and Rhode Island share percentages, as well as RIMS Type II Output Multipliers, to compare the personal

[24] Aquidneck Island Reliability Project, Energy Facility Siting Board Environmental Report, December 2015. Section 7-2.
[25] National Grid Responses to Division of Planning Requests, August 31, 2016. Page 1.

income impacts in three scenarios: a scenario that uses National Grid's assumptions as they were presented, a scenario that slightly reduces the local share percentages, and a conservative scenario that assumes a low utilization of Rhode Island firms. Though magnitudes vary, OMB's model generates values that are generally consistent with National Grid's application and report. Applying the RIMS II multipliers to the cost and local share data provided by National Grid generates an estimate of total earnings impacts in the state of Rhode Island ranging from $12.4 million to $24.7 million between 2015 and 2020. National Grid estimates that total Rhode Island personal income effects from the project will total $23.6 million, with $15.9 million of this total impacting Newport County. Based on this, the Program deems National Grid's personal income estimates to be reasonable and consistent with a finding of positive economic impact.

2. Tax Revenue Impacts

OMB used the earnings and GDP estimates provided above to estimate a range of tax revenue impacts. Additional information provided by National Grid noted an estimated impact on Rhode Island state tax revenue of $2.1 million and combined State and local tax revenue of $4.0 million for 2015-2020.[26] National Grid notes that these tax revenue estimates are based on the amount of personal income impacts estimated by the REMI model, as well as Rhode Island's state and local tax revenues as a percentage of personal income.[27] These effective tax rates were found in reports from the Federation of Tax Administrators, published in 2013.[28] This methodology estimates the effects on tax revenue due to the direct, indirect, and induced economic impacts of the project. These figures do not estimate property tax revenue from the project's specific sites, but rather the overall tax revenue impacts from the project.

OMB used a similar methodology, which generates similar overall state tax impact estimates. OMB took the percentage of state general revenues as a percent of state GDP (6.6%), and applied that percentage to the range of GDP estimates generated by OMB's RIMS analysis. This percentage is slightly higher than the percentage used by National Grid (6.1%).[29] Using this methodology, OMB estimates that state tax revenue impacts from this project will range from $2.4 million to $4.7 million between 2015 and 2020. Based on this, the Program deems National Grid's estimate to be reasonable and consistent with a finding of positive economic impact.

National Grid used a similar methodology to estimate the project's overall impact on combined state and local tax revenue—it applied the amount of state and local tax revenue as a percentage of personal income to the earnings estimates generated by the REMI analysis. This methodology is similar to the one used above, but uses personal income instead of GDP. It generates similar results to the above analysis. National Grid cites a 2013 report from the Federation of Tax

[26] National Grid Responses to Division of Planning Requests, August 31, 2016. Page 2.
[27] National Grid Responses to Division of Planning Requests, August 31, 2016. Page 5.
[28] National Grid Responses to Division of Planning Requests, August 31, 2016. Page 5.
[29] National Grid Responses to Division of Planning Requests, August 31, 2016. Page 5.

Administrators, which sets this percentage at 11.5%.[30] This percentage is slightly higher than the figure that OMB found in two similar reports: a 2013 report from the Federation of Tax Administrators sets this percentage at 11.1%, and a report published by the Tax Policy Center sets this figure at 11.11% for 2013, which is the most recent year included in the report.[31] To generate a conservative estimate, OMB applied the lower 11.1% figure to the range of earnings estimates generated by OMB's RIMS analysis, and finds that the project will generate a total state and local tax revenue impact ranging from $1.37 million to $2.74 million between 2015 and 2020. While OMB's estimate range is lower than National Grid's estimate of $4.0 million for this same time period, it nonetheless represents a positive impact on state and local tax revenue. Based on this, the Program deems National Grid's estimate to be reasonable and consistent with a finding of positive economic impact.

Additionally, National Grid provided estimates of municipal tax revenue generated for the towns of Portsmouth and Middletown during the first five years of the project's life (2017-2022). National Grid estimated that $532,800 in municipal tax revenue will be generated for Portsmouth and $891,900 in municipal tax revenue will be generated for Middletown during this time period.[32]

National Grid noted that the property tax estimates were generated by National Grid's Real Estate Services and Property Tax Department, and are based on the total cost of the AIRP, the allocation of those costs to each town, and tax rate data from Rhode Island Department of Revenue reports.[33] Other state and local tax revenues were estimated using the methodologies noted above. Based on the information provided in the report and response to data request, it is unclear what the municipal tax figures noted above include. It is unclear whether they represent estimates of the direct property tax revenue from the impacted properties, or if they include other sources of revenue—such as fees, meals and beverage tax revenue generated by the Project's economic activity, or other sources of revenue. This lack of information hinders OMB's ability to replicate National Grid's specific municipal revenue estimates for Portsmouth and Middletown.

Additionally, as noted in the response to the data request, the actual amount received by each town may vary, depending on "the total cost and fair market value of the AIRP property in each community, government spending, other sources of revenue, and the tax base."[34] Moreover, the response to the data request provides information for project years 2015-2020, which hinders OMB's ability to replicate the municipal tax estimates for 2017-2022, referenced above.

[30] National Grid Responses to Division of Planning Requests, August 31, 2016. Page 5.
[31] http://www.taxadmin.org/2013-state-and-local-revenue-as-a-percentage-of-personal-income and http://www.taxpolicycenter.org/statistics/state-and-local-tax-revenue-percentage-personal-income.
[32] Aquidneck Island Reliability Project, Energy Facility Siting Board Environmental Report, December 2015. Section 7-2.
[33] National Grid Responses to Division of Planning Requests, August 31, 2016. Page 5.
[34] National Grid Responses to Division of Planning Requests, August 31, 2016. Page 5.

Regardless, while these municipal tax revenue impacts are perhaps best estimated by the municipalities themselves, National Grid's methodology appears to be sound, and is consistent with the estimates of positive overall state and local tax impacts that are provided above. While the magnitude of municipal tax impacts may vary, the significant amount of investment and construction in these municipalities is likely to result in positive tax revenue impacts for these municipalities.

C. RELIABILITY

The Program finds that the Project will positively benefit the surrounding region by enhancing electricity reliability.

According to the testimony of Gregory Booth, PE (RIPUC Docket No. 4614, August 2016)[35], National Grid "reported that under contingencies, thermal issues were observed for 24 various substation equipment and transmission lines in the Aquidneck service area. The Company also identified asset condition issues at the Dexter and Jepson substations. The solution to resolve the contingency issues includes upgrading transmission lines to increase the capacity, and replacing equipment with known asset conditions. Due to the extensive nature of the condition issues, and the fact that the current Jepson Substation is located in a watershed area, the Company is proposing to relocate the entire substation. The relocated and expanded substation will provide adequate capacity for reliability along with operational flexibility to better serve area loads under normal and contingency conditions. I find the proposed solutions of transmission upgrades, substation expansion, and equipment retirements to be reasonable and effective in mitigating reliability deficiencies provided that substation alternatives have been fully evaluated."

The socio-economic benefits of a more reliable energy system accrue to both individuals and businesses. A more reliable energy system will create fewer interruptions to the area's power supply. At a minimum, electrical power disturbances can result in inconveniences to customers but power supply interruptions can also harm vulnerable populations, cause economic loss to businesses, disrupt quality of life, and lead to more serious consequences such as fatalities.

[35] Pre-filed Testimony of Gregory Booth. State of Rhode Island and Providence Plantations Public Utilities Commission, Docket No. 4614.

PART THREE: STATE GUIDE PLAN CONSISTENCY

The State Guide Plan (SGP) was established by Rhode Island General Law 42-11-10(d), which states:

> *State guide plan.* The state guide plan shall be comprised of functional elements or plans dealing with land use; physical development and environmental concerns; economic development; energy supply, access, use, and conservation; human services; and other factors necessary to accomplish the objective of this section. The state guide plan shall be a means for centralizing and integrating long-range goals, policies, and plans. State agencies concerned with specific subject areas, local governments, and the public shall participate in the state guide planning process, which shall be closely coordinated with the budgeting process.

The SGP is intended to provide a degree of continuity and permanent policy direction for the state's future development. It is not a single plan but a collection of plans referred to as "elements". The State Guide Plan currently consists of twenty-five functional elements. The State Planning Council is the entity authorized with adopting plans as elements of the State Guide Plan.

For purposes of determining "consistency and compliance with the State Guide Plan", the Program examined the goals, objectives, and policies of the SGP elements since it is these components of the SGP that best present the State's intended future.

Given the breadth of the State Guide Plan it is inevitable that certain goals and policies will come into conflict with other goals and policies. As such, a finding of "State Guide Plan consistency" cannot realistically be based on a project being completely consistent with each and every individual goal, objective, and policy found in the State Guide Plan. While each State Guide Plan goal or policy is considered, the final recommendation regarding State Guide Plan consistency is based on the Project's consistency with the *overall* direction of the State Guide Plan.

Several elements were found not to be applicable to the Project either because they are directed to a portion of the state outside of the Project area or because they do not contain any content relevant to the project. As such, these elements were not further considered in this review. These include:

1. Howard Center Master Plan, Phase I
2. Resource Management in the Reuse of Former Navy Lands
3. Rhode Island Strategic Housing Plan
4. Solid Waste 2038: Rhode Island's Solid Waste Management Plan
5. Policy Statement: Proposals for New or Restructured Public Transit Facilities / Services

6. Rhode Island Rail Plan
7. Waterborne Transportation Plan
8. Blackstone Region Water Resources Management Plan
9. The Cultural Heritage and Land Management Plan for the Blackstone Valley National Heritage Corridor

For those elements that were found to be germane, staff has provided an element by element assessment of the Project's consistency with the relevant goals, objectives, and policies of the element. These elements include:

1. Energy 2035: Rhode Island State Energy Plan
2. Rhode Island Rising: A Plan for People Places and Prosperity
3. Land Use 2025: Rhode Island's State Land Use Policies & Plan
4. State Housing Plan
5. Transportation 2035
6. Rhode Island Water 2030
7. State Historical Preservation Plan
8. Rivers Policy and Classification Plan
9. Forest Resources Management Plan
10. Urban and Community Forestry Plan
11. Ocean State Outdoors: Rhode Island's Comprehensive Outdoor Recreation Plan
12. A Greener Path: Greenspace & Greenways for Rhode Island's Future
13. Nonpoint Source Pollution Management Plan
14. Comprehensive Conservation & Management Plan for Narragansett Bay
15. State Airport Systems Plan
16. Rhode Island Goals and Policies

What follows summarizes the purpose of each of the germane State Guide Plan elements, identifies the goals, objectives, and/or policies particularly relevant to the project, discusses how the project relates to the element's goals, objectives, and policies, and concludes with a series of findings.

A. Energy 2035: Rhode Island State Energy Plan (adopted October 8, 2015)

While all State Guide Plan elements have equal weight, *Energy 2035: Rhode Island State Energy Plan* (the "Plan") is the most directly relevant to the Project under consideration. As noted in the

introduction, the Energy Facility Siting Board requested the Statewide Planning Program, "in coordination with the Rhode Island Office of Energy Resources", render an advisory opinion, conducting "a particular examination of the Facility's consistency and compliance with the State Energy Plan". The following opinion was prepared primarily by the Statewide Planning Program with input from the Office of Energy Resources ("OER"). OER reviewed the final opinion and concurred with the findings, as described below.

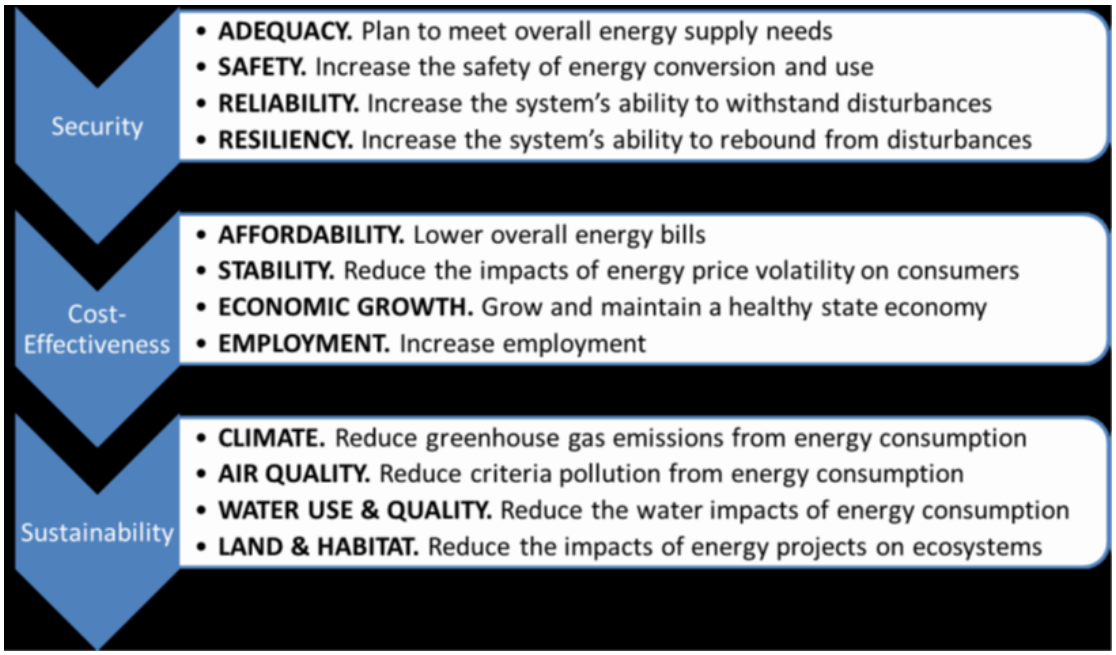
Overview

Energy 2035 describes the existing energy system for the state, identifies Rhode Island's key energy issues, and sets goals and policies to improve energy security, cost-effectiveness, and sustainability in all sectors of energy production and consumption. It is intended to advance the effectiveness of public and private stewardship of the state's use of energy resources and identifies activities needed to keep the energy systems on which the state depends functioning optimally.

Evaluating the Project's consistency and compliance with *Energy 2035* requires an understanding of the Plan's intended scope and application within the context of energy policy decision-making. The research philosophy of the Plan is described in the following excerpt from *Energy 2035*'s "Introduction and Vision" section:

> To reflect the uncertainties associated with forecasting for a dynamic energy system, the Project Team and Advisory Council deliberately chose a directional approach, rather than a specific approach, in establishing the Plan's vision, goals, and strategies. With the understanding that "all models are wrong, but some are useful," the Team structured a data-driven scenario modeling analysis that would help policy-makers understand order-of-magnitude impacts and sensitivities—that is, the range of credible outcomes Rhode Island might expect from strategic investments in alternative demand and supply of energy resources. The team developed goals and performance measure targets that were quantitative enough for meaningful measurement, but not specific enough to risk immediate irrelevance. The team proposed a comprehensive set of policies and strategies to improve Rhode Island's energy system and achieve performance measure targets set in the Plan, but shied away from prescriptive actions and discrete tactics, which will be addressed in the implementation of the plan, including development of policy and program design" (page 7).

The purpose of *Energy 2035* is to provide a context for decision-making by setting a long-term vision and establishing high-level outcome targets. *Energy 2035* groups its twelve goals under the three themes of security, cost-effectiveness, and sustainability as follows:



Energy 2035 also contains performance metric targets, policies, and strategies to assist in achieving the desired goals.

Findings

The Program and the Office of Energy Resources finds the Project to be consistent with *Energy 2035: Rhode Island State Energy Plan*. More specifically:

1. **The Project furthers the Plan's goal of Reliability: Increase the system's ability to withstand disturbances.**

2. **The Project furthers the Plan's goals for Economic Growth and Increased Employment.**

3. **The Project furthers the Plan's goal for Land and Habitat: Reduce the impacts of energy projects on ecosystems.**

Each conclusion is explained in more detail, below.

Reliability: Increase the system's ability to withstand disturbances.
As noted above under the theme of "Security", one of *Energy 2035*'s 12 goals is increasing the reliability of the energy system. As noted on page 5 of the Plan, "Energy—its availability, reliability, affordability, and sustainability—underpins every inch of our state's economic and environmental fabric. Virtually all aspects of daily life and economic activity depend on reliable access to energy." The Aquidneck Island Reliability Project is specifically aimed at improving the reliability of the transmission system on Aquidneck Island in order to reduce the chance of long-term outages under certain contingencies.

The Program and OER also considered whether the electric reliability needs could be addressed by a "non-wires alternative" ("NWA") such as energy efficiency, demand response, or distributed generation. Plan strategy #13 "Modernize the Grid" notes the importance and potential for cost-effective non-wires alternatives as solutions for meeting system needs and providing consumer and grid benefits (page 133). The Program and OER reviewed National Grid's pre-filed testimony where alternatives to the proposed Project were evaluated, including a non-wires alternative. As noted in Endrit Fiku's testimony[36], "National Grid was unable to identify a viable NWA to address either the reliability or the asset condition issues identified in Section 3, consistent with the Rhode Island Public Utilities Commission's System Reliability Procurement Standards". This assessment was also noted in the testimony of Gregory L. Booth, PE on behalf of the Rhode Island Division of Public Utilities and Carriers[37] where he stated that based on his evaluation of National Grid's testimony, "The non-wire alternative is not a viable option". Therefore, because no viable or cost-effective NWA option exists, the Project appears to be the most viable option for meeting this particular transmission reliability need.

Economic Growth and Increased Employment

The Applicant reports that the Project is expected to create approximately 380 jobs in Rhode Island over the five-year construction period with approximately 300 of them located in Newport County.[38] In addition, a more reliable energy system will lessen interruptions to the region's power supply. At a minimum, electrical power disturbances can result in inconveniences to customers but power supply interruptions can also cause economic loss to businesses. Therefore, the enhanced reliability resulting from this Project furthers *Energy 2035*'s goal of Economic Growth.

Land and Habitat: Reduce the impacts of energy projects on ecosystems

The Applicant reports that a number of measures will be taken to reduce the impact of the Project on local ecosystems. These include:

- Siting the new Jepson Substation to avoid significant impact to wetlands;
- Locating proposed access routes to cross streams and wetlands at the narrowest practical point to minimize disturbance;
- Use of erosion and sedimentation control BMPs;
- Limit clearing and vegetation management operations to the existing ROW;
- Re-establishment of vegetation where feasible;
- Retain the services of an environmental monitor throughout the construction phase.

[36] Pre-filed Testimony of Endrit Fiku, P.E. State of Rhode Island and Providence Plantations Public Utilities Commission RE: Narragansett Electric Company Application to Construct the Aquidneck Island Reliability Project.
[37] Pre-filed Testimony of Gregory L. Booth, P.E. State of Rhode Island and Providence Plantations Public Utilities Commission RE: Narragansett Electric Company Application to Construct the Aquidneck Island Reliability Project.
[38] Aquidneck Island Reliability Project Environmental Report, page 7-5.

B. Rhode Island Rising: A Plan for People, Places, and Prosperity (adopted Dec. 2014)

Overview

Rhode Island Rising presents an analysis and discussion of economic development opportunities facing the state. It is intended to be a state-level economic development plan. On the topic of energy, *Rhode Island Rising* defers to *Energy 2035: Rhode Island State Energy Plan* for specific energy policy recommendations while emphasizing the need for Rhode Island to be resilient and competitive. The Plan recognizes that economic development requires a reliable energy infrastructure providing energy at competitive costs over the short-term as well as the potential for long-term economic benefits resulting from the development of sustainable, clean, and renewable energy systems.

Findings

The Program finds that the Project is consistent with *Rhode Island Rising*. Specific findings supporting the Project's consistency with this element of the State Guide Plan can be found in Part Two, section A and under the above findings for *Energy 2035*.

C. Land Use 2025: Rhode Island's State Land Use Policies & Plan (adopted April 13, 2006)

Overview

Land Use 2025 brings together other content from several State Guide Plan elements such as natural resources, economic development, housing, and transportation to guide conservation and land development in the state. It articulates goals, objectives, and strategies to guide current and future land use planning using different development approaches for urban and rural areas. It is intended as a policy guide for directing growth to areas most capable of supporting current and future developed uses and to direct growth away from areas less suited for development. The core development pattern that *Land Use 2025* is directed at is the spread of relatively low-density housing and commercial highway development into the more rural areas of the state. The cornerstone of *Land Use 2025* is the principle that the state will "contain sprawl, and that housing, commerce, and social interaction will be concentrated in dense centers of varying scales, marked by quality design".

Land Use 2025 contains a Future Land Use Map (FLUM) that visually depicts this intent. The map contains an Urban Services Boundary (USB) that shows a projection where areas with public services supporting higher development density presently exist, or are generally desirable. Within the USB, most land is served by public water service; many areas also have public sewer service. Also included on the FLUM are potential areas for the development of local growth centers. What was not specifically included in establishing the USB was the location of existing or proposed energy infrastructure. It is important to note the FLUM is a generalized portrayal of desired state land use policy, and is not intended to be applied to specific development proposals.

Findings

The Program finds that the Project 1) would be appropriately located; 2) would not detract from *Land Use* 2025's vision of maintaining a rural / urban distinction within the state's communities; and 3) would further portions of *Land Use 2025* Goal 4: First class supporting infrastructure that protects the public's health, safety, and welfare, fosters economic well-being, preserves and enhances environmental quality, and reinforces the distinction between urban and rural areas. Therefore, the Program finds the Project to be consistent with *Land Use 2025*.

The Program believes that the Project is appropriately located, consistent with *Land Use 2025* Objective LUO 4D: "Locate new infrastructure in appropriate areas". In consideration of what qualifies as an "appropriate area", the Program has taken into consideration the fact that the Project intends to utilize existing rights-of-way that already contain similar infrastructure and that the new Jepson Substation will be constructed on utility-owned land in the immediate vicinity of the existing substation which will be removed.

In addition, the Program finds that the Project will not detract from *Land Use* 2025's vision of maintaining a rural / urban distinction within the state's communities as expressed in *Land Use 2025* Goal 1: "A sustainable Rhode Island that is beautiful, diverse, connected and compact with a distinct quality of place in our urban and rural centers", and *Land Use 2025* Objective LUO 3C: "Maintain and protect the rural character of various parts of Rhode Island". In the context of *Land Use 2025*, the major threat to rural character is sprawling residential development and commercial strip development. The construction of the Project will impact the project site itself but its overall impact on the surrounding communities will be minimal given its location within an existing utility right-of-way. The Program notes that structures proposed for this Project are similar to several other previously approved electrical system reliability improvement projects that have been located across the State from North Smithfield to Charlestown.

The Program finds that the Project furthers *Land Use 2025* Goal 4: "First class supporting infrastructure that protects the public's health, safety, and welfare, fosters economic well-being, preserves and enhances environmental quality, and reinforces the distinction between urban and rural areas." The primary feature of the Project is the reconstruction of the Jepson Substation and upgraded transmission lines. This new supporting infrastructure will serve the public's health, safety, and welfare, by helping to meet its demand for energy. As noted in Part Two, sections B and C, the Project will promote economic growth as well as enhancing the ability to ensure a reliable supply of electricity to local and regional businesses which helps to foster economic well-being. This same feature also applies to achieving "a vibrant sustainable economy" (*Land Use 2025* Goal 1) and "provid[ing] abundant economic opportunities" (*Land Use 2025* Goal 3).

D. State Housing Plan (adopted March 2000)

Overview

The *State Housing* Plan establishes state goals and policies for housing. It serves as a guide to aid the public and private sectors in providing affordable housing, in standard condition, and in a suitable living environment, for all Rhode Island residents, with special emphasis on the housing needs of lower-income households and individuals.

Findings

The Program finds that the Project would not adversely affect the amount of housing available for occupation within either Town; therefore, the Program finds this Project to be consistent with this State Guide Plan element. Specifically:

The Project is consistent with *State Housing Plan* Goal 1-1-1B: "Ensure the provision of a sufficient number of housing units to meet population needs". The Project is confined to existing rights-of way and therefore no existing housing or land potentially available for future housing would be lost by construction of the Project.

E. Transportation 2035 (adopted December 13, 2012)

Overview

This State Guide Plan element provides a long-range framework, goals, policies, and recommendations for the movement of both goods and people. It encompasses the highway system, public transit, transportation system management, bicycle travel, pedestrian, intermodal, and regional transportation needs.

Findings

The Project is not anticipated to have any permanent or long-term negative impacts on the state's transportation system; therefore, the Program finds the Project to be consistent with this State Guide Plan element.

Based on the Environmental Report prepared for the Applicant by VHB, "The construction related traffic increase will be small relative to total traffic volume on public roads in the area. In addition, it will be intermittent, temporary, and will cease once construction of the Project is completed. The addition of this traffic for the limited periods of time is not expected to result in any additional congestion or change in operating conditions along any of the roadways along the ROW". In addition, the Department of Transportation has been directed to provide an advisory opinion on, "potential impacts upon traffic and road conditions associated with the Project during construction and operation."

F. Rhode Island Water 2030 (adopted June 14, 2012)

Overview

Overall, *Rhode Island Water 2030* describes the potable water resources of the state, and sets goals and policies for the management of issues pertaining to them. It focuses on critical policy and emerging trends for potable water systems at all management and planning levels. It is intended to serve as the foundation for coordinated water supply management and decision making. It identifies where our drinking water comes from, the various types of drinking water systems in the state, and the organizational and managerial responsibilities of our water systems. It overviews the roles and responsibilities of State agencies relative to water allocation but does not address in detail the functions and values of the raw natural resource or the protection of its quality as this subject matter is addressed through other State Guide Plan elements.

Findings

The Project is not expected to have any significant or permanent impacts on drinking water resources in the Project area and Best Management Practices (BMPs) will be employed to minimize temporary impacts; therefore, the Program finds the Project to be consistent with this State Guide Plan element.

Although the Project right-of-way crosses several tributaries to drinking water reservoirs and the proposed site of the new Jepson Substation is located within a municipal watershed protection zone, any impacts of the Project are expected to be minor and mitigated by the employment of Best Management Practices.

G. **State Historical Preservation Plan** (adopted June 25, 1996)

Overview

Rhode Island's *State Historical Preservation Plan* explains how the state organizes information about historic properties, sets policies for preservation, and identifies strategies for carrying out the policies.

Findings

The Program finds the Project to be consistent with this State Guide Plan element contingent upon the approval of the Rhode Island Historical Preservation Commission (RIHPHC).

The Project is being reviewed by the RIHPHC who has concluded that the new Jepson Substation will have no effect on any significant archeological resources. However, the RIHPHC has asked the Applicant to provide additional information regarding the transmission

lines due to the fact that the right-of-way passes near and through properties listed or eligible for listing on the National Register of Historic Places.

I. Rivers Policy and Classification Plan (adopted January 8, 1998; amended May 2004)

Overview

The *Rivers Policy and Classification Plan* is a guide for action to protect and enhance the quality and the use of Rhode Island's freshwater bodies. The Plan is intended to provide guidance for the management and protection of Rhode Island's freshwater resources. Its broad objectives are to protect drinking water supplies and pristine rivers, to encourage recreational use of rivers, to foster the creation of greenways, and to provide for the clean-up of rivers.

Findings

The Project is not expected to have any significant or permanent impacts on the freshwater bodies in the Project area and Best Management Practices (BMPs) will be employed to minimize temporary impacts; therefore, the Program finds the Project to be consistent with this State Guide Plan element.

Section 46-28-7(d) of the Rhode Island General Laws requires the Rhode Island Rivers Council to assess and classify freshwater bodies. The Council has developed five freshwater classes: pristine; water supplies; open space; recreational; and working. While several surface water features are located within the Project area, none have been classified in this State Guide Plan element. For those water features within the Project area, the Application reports, "Any impact of the Project upon surface watercourses will be minor and temporary. Construction activities temporarily increase risks for erosion and sedimentation that may temporarily degrade existing water quality; however, appropriate BMPs will be implemented and maintained to effectively control sediment." Additionally, the Project will require a freshwater wetlands permit from RIDEM.

J. Nonpoint Source Pollution Management Plan (adopted October 12, 1995) and, Comprehensive Conservation & Management Plan for Narragansett Bay (adopted October 8, 1992)

Overview

The *Nonpoint Source Pollution Management Plan* addresses the protection and restoration of all waters of the state -- surface and ground waters -- that are threatened or impaired by nonpoint sources of pollution. It provides a vehicle for coordinating and integrating nonpoint source pollution control activities, both statewide and in high priority watersheds. A primary principle of the plan is to maintain a balanced approach between preventing and mitigating nonpoint source pollution.

The purpose of the *Comprehensive Conservation & Management Plan for Narragansett Bay* is set forth in section 320 of the federal Clean Water Act, which is to recommend priority actions addressing point and nonpoint sources of pollution, so as to restore and maintain the Bay's water quality, natural habitats, and recreational values.

Findings

The Project is not expected to have any significant or permanent impacts on the freshwater bodies in the Project area or on the water quality of Narragansett Bay; therefore, the Program finds the Project to be consistent with these two State Guide Plan elements.

As noted in the findings for the *Rivers Policy and Classification Plan*, the impacts of the Project on waterbodies are expected to be minor and temporary and the Applicant will employ Best Management Practices to minimize the major potential source of nonpoint pollution soil erosion and sedimentation from the disturbed sites. Furthermore, the Project will require a freshwater wetlands permit from RIDEM and permission for storm water discharge associated with construction activities pursuant to Rule 31 of the Rhode Island Pollutant Discharge Elimination System (RIPDES) Regulations.

K. Urban and Community Forestry Plan (adopted May 13, 1999) and,
Forest Resources Management Plan (adopted March 10, 2005)

Overview

The aim of the *Urban & Community Forestry Plan* is to influence future decision-making to improve Rhode Island's urban and community forest resources. By providing information on the nature of the threats facing urban and community forests and by establishing goals, policies, and strategies for dealing with these issues, the plan seeks to stimulate a greater awareness among those who can influence the fate of Rhode Island's forest lands.

The *Forest Resources Management Plan* establishes a vision for the management of the forest resources of the state. It provides goals, policies, and strategies focused on the management of tree resources within the state. It is intended to advance local stewardship of the state's forest resources towards the twin goals of a healthy, sustainable economy and environment.

Findings

The Program finds that the Project is consistent with these two State Guide Plan elements.

By utilizing an existing ROW and employing best management practices and other mitigation measures as described in the Aquidneck Island Reliability Project Environmental Report, the Project will have minimal impacts on forest resources.

M. Ocean State Outdoors: Rhode Island's Comprehensive Outdoor Recreation Plan (adopted 2009) and,
A Greener Path: Greenspace & Greenways for Rhode Island's Future (adopted November 10, 1994)

Overview

Ocean State Outdoors is the State of Rhode Island's comprehensive plan for outdoor recreation, conservation, and open space. It presents a vision of a statewide system of connecting greenspaces and greenways, a network made up of critical natural and cultural resources, outdoor recreation facilities, public spaces, community and urban forests, and public and private open spaces.

A Greener Path...Greenspace and Greenways for Rhode Island's Future offers a vision of an integrated, statewide greenway network, and provides strategies to advance protection of valuable resource lands, encourage transportation alternatives, and expand recreation opportunities for Rhode Island.

Findings

The Program finds that the Project is consistent with these two State Guide Plan elements.

The Project is located within existing rights-of-way and does not contain any trails, greenways, or natural heritage lands nor will the Project disturb any existing or planned recreational areas or interfere with building the greenspace network, meeting critical needs for outdoor recreation, or impact accessibility of existing open spaces areas.

O. State Airport Systems Plan (adopted September 15, 2011)

Overview

The *Rhode Island State Airport System Plan* is a strategic plan for the six state-owned airports looking forward to the year 2021. It outlines the efforts needed to ensure that Rhode Island maintains an airport system capable of meeting the state's long-term transportation and economic needs.

Findings

The Project is not expected to impact the Newport State Airport. Provided that the Project receives FAA approval, the Program finds that the Project is consistent with the *Rhode Island State Airport System Plan.*

National Grid's evaluation determined that the Jepson Substation and portions of the transmission lines are located within protected airspace and operational control areas used for air

navigation. As such, the Project is within the jurisdiction of the FAA and will require an FAA Obstruction Evaluation and Airport Airspace Analysis. The Applicant reports that it will provide a Notice of Construction for each structure to the FAA along with information to enable the FAA to review the Project.

H. Rhode Island Goals and Policies (adopted November 13, 1974)

Overview

Rhode Island Goals and Policies presents a broad series of goals and policies for the physical, economic, and social development of Rhode Island, including economic development, energy, and environmental considerations. The purpose of these goals and policies are to establish a framework to guide the formulation of plans and implementation of programs.

Findings

Given the breadth of the previously reviewed State Guide Plan elements, the goals and policies contained within this element are largely duplicative. They include Energy, Economic Development, Land Use, Water, and Outdoor Recreation. All of the previous findings would also be applicable here. With the same caveat noted elsewhere concerning the Applicant receiving all required permits, **the Program finds the Project to be consistent with this State Guide Plan element.** In particular, given the Project's proposed use of the existing rights-of-way and land already dedicated to electrical infrastructure, the Project furthers *Rhode Island Goals and Policies* Physical Development Policy 1-3: **Minimize the adverse impact of power generation and transmission facilities on the environment by careful planning and capitalizing on potential compatible uses to the greatest extent possible.**

PART FOUR: ADVISORY OPINION AND RECOMMENDATIONS

As noted in the Introduction, the Program was instructed to provide the Board with an advisory opinion on:

1. the socio-economic impact of the proposed Project;
2. the Project's consistency and compliance with the State Guide Plan; and
3. in coordination with the Rhode Island Office of Energy Resources, a particular examination of the Project's consistency and compliance with the State Energy Plan.

A. SOCIO-ECONOMIC IMPACTS

The Statewide Planning Program's socio-economic impact assessment concludes that the Project will have an overall positive socio-economic impact, based on the individual findings identified below.

The Program finds that the Project is not likely to result in any significant population changes within the Towns of Portsmouth or Middletown.

The Program finds that the Project will not unfairly impact Federally-protected populations.

The Program finds that there would be no significant impact to the number of housing units that exist within the Towns of Middletown or Portsmouth.

The Program finds that there would be little to no impact on school and library services.

The Program finds that there will be little to no impact on police, fire, and emergency services.

The Program finds that visual impacts caused by the Project will be relatively limited.

The Program finds that the Project will have a positive impact on the state's economy.

The Program finds that the construction of the Project will result in positive revenue benefits to the State.

B. STATE GUIDE PLAN CONSISTENCY

The Program finds that the proposed Aquidneck Island Reliability Project is consistent with the State Guide Plan including the State's energy plan, *Energy 2035* based on the findings

enumerated in Part Three of this Advisory Opinion. However, this finding of consistency is contingent upon National Grid receiving all necessary State and Federal permits.

C. ADVISORY OPINION RECOMMENDATION

As noted throughout, the Program limited its assessment to content matters that did not overlap or duplicate that requested of other entities and in several instances defers to the particular expertise solicited by the EFSB through the additional advisory opinions that it requested. As such the Program recommends that the EFSB, in finalizing its perspective as to the socio-economic impact and State Guide Plan consistency of the project, view this opinion in light of the forthcoming information that was not otherwise available to the Program at the time of this report's production.

APPENDIX A

LETTER OF SUPPORT FOR TESTIMONY OF GREGORY L. BOOTH

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Administration
DIVISION OF PLANNING
One Capitol Hill
Providence, RI 02908-5870

September 22, 2016

Commissioner Margaret Curran, Chairperson
Commissioner Marion Gold
Commissioner Herbert F. DeSimone, Jr,
Public Utilities Commission
89 Jefferson Blvd.
Warwick, Rhode Island 02888

Re: Narragansett Electric Company dba National Grid: Aquidneck Island Reliability Project,
EFSB Docket NO. SB-2016-01, PUC Docket No. 4614

Dear Commissioners:

In anticipation of the Commission's review of testimony in this matter, and in accordance with the directive of the Energy Facilities Siting Board's Preliminary Decision and Order (p. 14) which mandates that:

> The Rhode Island Public Utilities Commission (PUC) shall render an advisory opinion as to (i) the need for the proposed facility and (ii) whether it is cost justified. The Division of Planning, the Office of Energy Resources, and the Division of Public Utilities and Carriers shall participate in the PUC proceeding pursuant to R.I. Gen. Laws Section 42-98-9(d).

Please know that the Division of Planning's Statewide Planning Program has reviewed the proposed testimony to be offered in this matter by the Division and is in support of its content.

Sincerely,

Jared Rhodes
RI Statewide Planning Program, Chief

CERTIFICATE OF SERVICE

I certify that the original and four copies of this correspondence were filed with the clerk of the Public Utilities Commission, 89 Jefferson Blvd., Warwick, RI 02888. In addition, electronic copies of this letter were served via e mail on the service list for this Docket. I certify that all of the above occurred on Sept. 22, 2016.

_____

APPENDIX B

NATIONAL GRID'S RESPONSE TO DOA DATA REQUEST

Robinson+Cole

PETER V. LACOUTURE

One Financial Plaza, Suite 1430
Providence, RI 02903-2485
Direct (401) 709-3314
Fax (401) 709-3377
placouture@rc.com

Via First Class Mail and Electronic Mail

August 31, 2016

Kevin J. Nelson
Supervising Planner
Department of Administration
Statewide Planning Program
One Capitol Hill
Providence, RI 02908-5872

Re: Aquidneck Island Reliability Project – EFSB Docket No. SB-2016-01

Dear Mr. Nelson:

Attached are National Grid's responses to the Department of Administration, Division of Planning's request for additional background materials that were summarized in your letter dated August 11, 2016.

Please do not hesitate to contact me with any questions.

Sincerely,

Peter V. Lacouture

Enclosure

Aquidneck Island Reliability Project – EFSB Docket No. SB-2016-01
NATIONAL GRID RESPONSES TO DIVISION OF PLANNING REQUESTS
August 31, 2016

1. ***An explanation of the methodology and assumptions that were used to calculate the economic and employment impact of the project.***

Economic and employment impacts were estimated using the REMI regional economic model of Rhode Island along with Aquidneck Island Reliability Project (AIRP) construction spending estimates from the Project Management team.

REMI is a dynamic equilibrium economic model based on public data and peer-reviewed methodology. REMI has been used in the industry for over 30 years to estimate the local economic impact of construction projects such as the AIRP. REMI has over 150 US and international clients including the Rhode Island Department of Revenue; dozens of other state, federal and local government planning agencies; non-profit research organizations; energy consultants; universities and utilities. REMI is owned by Regional Economic Models, Incorporated and leased to its clients. National Grid leases a 169 sector version of REMI's Rhode Island model that includes detail for each Rhode Island County.

The REMI model is a complete representation of the macroeconomic structure of the Rhode Island economy. By entering assumptions about the amount, timing and type of AIRP investments, REMI predicts their economic impact in both Newport County and the State of Rhode Island. Economic impacts in REMI are based on an input-output model that captures the industry structure of Rhode Island and Newport County and how a change in demand in one industry changes demand in other industries related to it.

REMI estimates the total economic impact of construction project spending, including the direct, indirect and induced impacts. Direct impacts are tied directly to the project, for example, the number of contractors hired to do the work. Indirect impacts are felt in the local supply chain, that is, industries providing goods and services for the project. Induced impacts are felt mainly in the local service sector and result from the spending of the direct and indirect workers, for example, increased retail activity and hiring. The total economic impact is the sum of the direct, indirect and induced impacts.

The REMI model also includes regional purchase coefficients that measure the portion of local demand that is met by local suppliers versus suppliers from outside of the of Newport County and the State of Rhode Island.

A more detailed description of the REMI model, methodology, data sources, and client lists are available at www.remi.com.

REMI input assumptions for the AIRP are shown below in Exhibit 1.1. These consist of cost estimates to construct the project. National Grid plans to invest $53.032 million constructing the AIRP,

including $52.282 for the New Jepson Substation, Dexter Substation and the 61/62 Line Upgrade; and $0.750 million for retirement of the Jepson Substation in the final year of construction.

Exhibit 1.1
Capital Spend for AIRP Components included in the RI EFSB Filing, by year ($m)
Newport County

Fiscal Year	2015	2016	2017	2018	2019	2020	Sum
New Jepson Substation ($m)	$0.100	$2.230	$2.947	$8.826	$8.836	$7.120	$30.059
Dexter Substation ($m)	$0.000	$0.051	$0.100	$0.494	$1.207	$1.001	$2.853
61/62 Line Upgrade ($m)	$0.000	$0.484	$2.421	$5.811	$5.811	$4.843	$19.370
Total Construction	$0.100	$2.765	$5.468	$15.131	$15.854	$12.964	**$52.282**
Jepson Substation Retirement ($m)	$0.000	$0.000	$0.000	$0.000	$0.000	$0.750	$0.750
Grand Total	$0.100	$2.765	$5.468	$15.131	$15.854	$13.714	**$53.032**

Source: AIRP Project Management team.

Of the $52.282 million for construction, 80% is expected for labor and 20% for materials. We expect most materials, such as specialized electrical equipment, will be purchased from outside of Rhode Island, having no significant impact in the State. Therefore, materials expenditures were not included in the REMI analysis. The remaining amount of construction spending, totaling $41.83 million over the six-year construction period, was input into REMI, by year, as an exogenous increase in final demand in the construction industry in Newport County. The $0.75 million earmarked for retiring the Jepson Substation was entered into REMI as an exogenous increase in the final demand for waste management and remediation services in 2020.

REMI results by year are summarized in Exhibit 1.2 below. REMI predicts that AIRP construction spending in Newport County will lead to the creation of 381 annual jobs in Rhode Island during the construction phase, or 76 jobs per year from 2016 to 2020. This includes direct, indirect and induced jobs. Of the 381 annual Rhode Island jobs, 309 are expected to be in Newport County.

Exhibit 1.2
Estimated Economic Impact of Capital Spend for AIRP Components Included in RI EFSB Filing

	2015	2016	2017	2018	2019	2020	Sum
Newport County							
Employment (Jobs)	1	18	34	91	92	73	309
Gross Domestic Product ($2014m)	$0.0	$1.3	$2.6	$7.0	$7.1	$5.8	$23.8
Personal Income ($2014m)	$0.0	$0.9	$1.7	$4.6	$4.7	$4.1	$15.9
State of Rhode Island							
Employment (Jobs)	1	22	42	111	113	92	381
Gross Domestic Product ($2014m)	$0.1	$1.6	$3.2	$8.6	$8.9	$7.4	$29.8
Personal Income ($2014m)	$0.0	$1.2	$2.4	$6.6	$7.1	$6.3	$23.6
State Tax Revenue ($2014m)	$0.0	$0.1	$0.1	$0.4	$0.4	$1.1	$2.1
State and Local Tax Revenue ($2014m)	$0.0	$0.1	$0.3	$0.8	$0.8	$2.0	$4.0
Source: REMI regional economic model of Rhode Island and AIRP construction spending estimates.							

2. ***An explanation of the baseline that the benefits and alternatives outlined in the application are measured from.***

REMI economic impacts are calculated as differences between a baseline forecast of the Rhode Island economy without construction of the AIRP and the forecast of the Rhode Island economy that includes the AIRP spending projections discussed in response to Request 1. above.

3. ***A list and any background information regarding the costs and benefits that were considered both to the state as a whole and the subject municipalities.***

The AIRP addresses a regional energy capacity need identified by the ISO-NE that threatens future Rhode Island economic growth, electric reliability, wholesale electricity prices and the ability to integrate future energy supply sources such as renewables into the electric network. By addressing this need, the AIRP represents an investment in the Rhode Island community that will produce both short- and long-term benefits to the state as a whole and to the subject municipalities, relative to a case with no system upgrade. Costs consist of ratepayer impacts. Benefits include:

- Allows Rhode Island to accommodate future economic growth, attract new industries and continue state and local economic development efforts.
- Maintains electric reliability, holding down outage costs to businesses and consumers.
- Creates jobs, income and GDP in Rhode Island during construction of the project, with most of the impact in Newport County, as shown in Exhibit 1.2 of the reply to Request 1 above.
- Produces on-going property tax payments to the subject municipalities after project completion.
- Facilitates integration of future energy sources, including renewables.

4. ***A more detailed listing of project costs by category of spending and the percentages for each category showing the ratio paid to in-state versus out-of-state firms.***

Exhibit 4.1 below provides a more detailed listing of project costs by category of spending and the percentages for each category showing the ratio paid to in-state versus out-of-state firms. As discussed in response to Request 1, 80% of spending for construction of the project is expected to be for labor and 20% for materials. Also Materials, such as specialized electrical equipment, expected to be purchased from outside of the State, were not included in the analysis.

The $41.83 million project for labor to construct the project was entered into REMI as an increase in demand in the Newport County construction industry. REMI Regional Purchase Coefficients indicate that 83% of this increase in construction demand will be met by Newport County firms and 95% will be met by construction firms in Rhode Island. For waste management and remediation services (Removal), REMI estimates 28% of demand will be met by Newport County firms and 67% by Rhode Island firms.

Exhibit 4.1
Capital Spend for AIRP Components included in the RI EFSB Filing, by year and spending category ($m)
Investment Spending Totals

Fiscal Year	2015	2016	2017	2018	2019	2020	Sum
Labor	$0.080	$2.212	$4.374	$12.105	$12.683	$10.371	$41.826
Materials	$0.020	$0.553	$1.094	$3.026	$3.171	$2.593	$10.456
Removal	$0.000	$0.000	$0.000	$0.000	$0.000	$0.750	$0.750
Total	$0.100	$2.765	$5.468	$15.131	$15.854	$13.714	$53.032

Regional Purchase Coefficients - Newport County *

	2015	2016	2017	2018	2019	2020	Avg
Labor	83.0%	83.1%	83.1%	83.1%	83.2%	83.2%	83.1%
Materials	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Removal	28.3%	28.2%	28.1%	28.1%	28.0%	27.9%	28.1%

Regional Purchase Coefficients - State of Rhode Island *

	2015	2016	2017	2018	2019	2020	2020
Labor	94.5%	94.5%	94.5%	94.5%	94.5%	94.5%	94.5%
Materials	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Removal	67.4%	67.2%	66.9%	66.7%	66.4%	66.2%	66.8%

* Regional Purchase Coefficients measure the proportion of regional demand for a good or service that is fullfilled by regional production, as opposed to being fullfilled by production by imports from other regions.

5. ***Additional detail of the economic and employment benefits from the project:***

   - ***By year;***

Please see Exhibit 1.2 in the response to Request 3 above.

   - ***By construction phase versus operational phase;***

The economic and employment benefits in Exhibit 1.2 are for the construction phase only. Once operational, the project is expected to provide on-going benefits that will favorably impact long-term economic growth in Newport County and Rhode Island. These benefits include property tax payments to the subject municipalities; the ability to accommodate economic growth and maintain electric reliability.

Property tax payments to the subject municipalities are expected average $284,940 annually the first five years the Project is in service. REMI estimates that this will lead to the creation of 3 permanent jobs in the State of Rhode Island. While the other long-term benefits of the Project are also expected to produce favorable economic impacts, these benefits have not been quantified for input into REMI.

   - ***By direct, indirect and induced effects; and,***

Although REMI estimates the total economic impacts, including the direct, indirect and induced effects, it does not disentangle them.

- ***By impact of each affected municipality and on Rhode Island as a whole.***

Exhibit 1.2 in response to Request 1 shows the economic and employment impacts for Newport County and for Rhode Island as a whole. REMI results are not available below the County level.

6. ***An explanation of the percentage of project costs/benefits that are associated with the decommissioning of the old substation versus the construction of the new substation and a breakdown of the number of jobs for each site.***

Exhibit 2.1 in response to Request 2 above shows that the Company expects to spend $0.75 million for decommissioning the old substation in the final year of AIRP construction, or 1.4% of total project cost. REMI estimates that this will lead to the creation of 3 jobs out of the 381 total jobs REMI estimates will be supported by total AIRP construction spending.

7. ***An explanation of the methodology used to assess the tax revenue.***

National Grid's Real Estate Services and Property Tax Department estimated property tax revenues to the subject municipalities based on the total cost of the AIRP, the allocation of those costs to those municipalities and data on tax rate data from Rhode Island Department of Revenue reports. Actual taxes paid by the AIRP, would depend on the total cost and fair market value of the AIRP property in each community, government spending, other sources of revenue and the tax base, after construction.

State and local tax revenue impacts during the construction phase of the AIRP were estimated based the personal income impacts projected by REMI and Rhode Island State and Local tax revenues from all sources as a percent of personal income. The source of these effective tax rates was two reports from the Federation of Tax Administrators (www.taxadmin.org): (1) "2013 State Tax Revenue and % of Personal Income;" and (2) "2013 State and Local Tax Revenue and % of Personal Income." For state tax revenues only, the effective tax rate on personal income was 6.1%. For both state and local tax revenues, the rate was 11.5%. These percents were multiplied by the personal income impacts predicted by REMI.

8. ***Any reliability statistics regarding the benefits yielded by the upgraded system.***

National Grid recently completed a study of transmission system reliability on Aquidneck Island. The April 2015 Newport Area (Aquidneck Island) Transmission Solution Study Report (Aquidneck Island Study provided at Appendix A of the Environmental Report) documented potential violations of the transmission planning standards under certain contingencies related to the 61 and 62 Lines. Specifically, if the 61 or the 62 Line, or certain equipment at the Dexter or Jepson Substations, were to malfunction or be taken out of service, other equipment may overload. If any of these scenarios occur during summer peak loading conditions, National Grid would be forced to reduce the demands on the transmission system by dropping electric service to some Aquidneck Island

customers until the out-of-service equipment is repaired, or until electric demand falls sufficiently to allow the Company to serve all of its customers with its remaining equipment.

If the study conditions are met and the Project is in service, then dropping electric service to Aquidneck Island customers would not be necessary to reduce the demand on the transmission system on Aquidneck Island, as the Project will increase the loading capability of the transmission system.