

**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
ENERGY FACILITY SITING BOARD**

In re The Narragansett Electric Company
d/b/a National Grid
(Interstate Reliability Project)

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Docket No. SB-2012-01

DECISION AND ORDER

Dated: June 14, 2013

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	TRAVEL OF THE CASE.....	2
III.	FACTS	3
A.	The Project.....	3
1.	Construct a New 345 kV Transmission Line from the Rhode Island/Massachusetts Border to the West Farnum Substation.....	4
2.	Construct a New 345 kV Transmission Line from the West Farnum Substation to the Rhode Island/Connecticut Border.....	5
3.	Reconstruct and Reconductor the Existing 328 Line from the West Farnum Substation to the Sherman Road Switching Station.....	6
4.	Reconstruct the Sherman Road Switching Station.....	6
5.	Relocate Existing 3361 345 kV Transmission Line in the Vicinity of the Sherman Road Switching Station.....	7
6.	Relocate Existing 333 345 kV Transmission Line in the Vicinity of the Sherman Road Switching Station.....	7
7.	Relocate Existing 347 345 kV Transmission Line in the Vicinity of the Sherman Road Switching Station.....	7
8.	Modifications to B-23 115 kV Transmission Line near the 341 Line and 328 Line.....	7
9.	Modifications to T172N 115 kV Transmission Line near the 366 Line.....	8
B.	Advisory Opinions.....	8
C.	Witnesses.....	8
1.	National Grid Witnesses.....	9
2.	Public Statements.....	10
V.	ANALYSIS.....	10
VI.	CONCLUSION.....	23

I. INTRODUCTION

In this proceeding, The Narragansett Electric Company d/b/a National Grid (“National Grid”) sought approval from the Energy Facility Siting Board (“EFSB” or the “Board”) to construct and alter major energy facilities. In its application, which covers the Rhode Island components of the Interstate Reliability Project (the “Project”)¹, National Grid proposed to construct two new 345 kilovolt (kV) transmission lines; to relocate, reconstruct, and, in some cases, reconductor existing 345 kV and 115 kV transmission lines; and to reconstruct an existing switching station. This project is the last piece of the New England East-West Solution (“NEEWS”) effort that involves Rhode Island and would complete the Company’s upgrades to the Rhode Island electric transmission system, the planning for which began in 2004.²

The Energy Facility Siting Act, R.I.G.L. §42-98-1 et seq. (the “Act”), prohibits siting, constructing or altering a major energy facility without first obtaining a license by the EFSB.³ The applicant for a license from the EFSB must demonstrate, and the Board is required to find prior to issuing the license, that:

- (i) the facility is needed;
- (ii) the proposed facility is cost justified and will [transmit] electricity at the lowest reasonable cost consistent with applicable statutes; and

¹ The Interstate Reliability Project is a joint project proposed by National Grid and Northeast Utilities (“NU”) to resolve multiple electric reliability issues within southern New England and involves (i) the construction of new 345 kV transmission lines totaling approximately 75 miles in length in Massachusetts, Rhode Island, and Connecticut, (ii) the reconstruction of the existing Sherman Road Switching Station in Burrillville, Rhode Island, and (iii) the reconstruction and modification of other transmission lines and facilities in the three states. The IRP facilities in Rhode Island will be constructed, owned, and operated by The Narragansett Electric Company d/b/a National Grid, those in Massachusetts by New England Power Company d/b/a National Grid, and those in Connecticut by The Connecticut Light & Power Company (“CL&P”), a wholly-owned subsidiary of NU.

² NEEWS was a coordinated effort to study and evaluate the reliability and performance of the transmission system serving Southern New England, specifically, Massachusetts, Rhode Island and Connecticut and involved planners from ISO New England Inc. (“ISO-NE”), National Grid and Northeast Utilities.

³ R.I.G.L. §42-98-4.

- (iii) the facility will not cause unacceptable harm to the environment and will enhance the socioeconomic fabric of the state.⁴

The statute and the Rules and Regulations promulgated pursuant thereto establish a number of procedures and requirements, including receiving advisory opinions from various state and local agencies and public comment hearings conducted in the municipalities affected by the activities proposed in the application, that must be complied with prior to the issuance of a license.⁵

II. TRAVEL OF THE CASE

On July 19, 2012, National Grid filed an application for a license with the Board. After a review of the application to determine its completeness and within thirty (30) days as required by law, the Board notified National Grid that the application was complete and that it was docketed on August 1, 2012.⁶ After public notice and pursuant to R.I.G.L. §42-98-9, a preliminary hearing was held on September 25, 2012.⁷ During the course of the Board's hearings, the following appearances were entered:

FOR NATIONAL GRID:

Peter V. Lacouture, Esq.
George W. Watson, III, Esq.
Robinson & Cole LLP

Bess Gorman, Esq.
Assistant General Counsel and Director
National Grid

FOR THE DIVISION:

Christy L. Hetherington, Esq.
Office of Rhode Island Attorney General

⁴ R.I.G.L. §42-98-11.

⁵ R.I.G.L. §§42-98-8, 42-98-9, 42-98-10, 42-98-11, Energy Facility Siting Board Rules of Practice and Procedure.

⁶ R.I.G.L. §42-98-8(b), Exhibit Nos. EFSB-1.

⁷ Exhibit No. EFSB-2. The purpose of the preliminary hearing is to determine the issues to be considered by the EFSB in evaluating the application, to designate state and local agencies to render advisory opinions and to determine petitions for intervention.

FOR ISO-NE:

Erica P. Bigelow, Esq.
Rich May, a Professional Corporation

FOR THE BOARD:

Patricia S. Lucarelli, Esq.
Chief of Legal Services

Within the thirty (30) days as required by law, the EFSB issued its Preliminary Decision and Order on October 10, 2012.⁸ In the Preliminary Order, the Board designated twelve (12) state and local agencies to review the Project and to provide advisory opinions by April 10, 2013.⁹

Following proceedings before the designated agencies, the Board convened local public hearings pursuant to §42-98-9.1(b) in North Smithfield on April 30, 2013 and in Burrillville on May 2, 2013 during which local residents were able to express their opinions, concerns and comments regarding the Project. The final hearing commenced and concluded on May 6, 2013.¹⁰ At the close of the hearing, the Board voted unanimously to approve the Project.

III. FACTS

A. The Project.

In its application, National Grid proposed to construct two new 345 kV transmission lines and to alter existing 345 kV and 115 kV transmission lines; both lines are encompassed in the

⁸ Exhibit No. EFSB-3. In re The Narragansett Electric Company d/b/a National Grid (Interstate Reliability Project), Docket No. SB-2012-01, Preliminary Decision and Order (Order No. 66, October 10, 2012) (hereinafter "Preliminary Order."); R.I.G.L. §42-98-9(f).

⁹ Exhibit No. EFSB-3. R.I.G.L. §42-98-10. The Board ordered that the North Smithfield Zoning Board of Review, the Burrillville Zoning Board of Review, the North Smithfield Town Council, the North Smithfield Building Inspector, the Burrillville Building Inspector, the Rhode Island Historical Preservation & Heritage Commission, the Rhode Island Department of Transportation, the Public Utilities Commission, the Statewide Planning Program and State Planning Council, the Rhode Island Department of Health, the North Smithfield Planning Board, and the Burrillville Planning Board render advisory opinions on specific issues set forth in the Preliminary Order.

¹⁰ As the Board stated in the Preliminary Order, "The purpose of the final hearing is not to rehear evidence presented in hearings before designated agencies providing advisory opinions, but rather to provide the parties and the public the opportunity to address in a single forum, and from a consolidated, statewide perspective, the issues reviewed and the recommendations made by such agencies. R.I.G.L. § 42-98-11(a). A final decision favoring the application shall constitute a granting of all required and jurisdictional permits, licenses, variances and assents, and such final decision may be issued on any condition the Board deems warranted by the record. R.I.G.L. §§ 42-98-11(b) and (c)." Preliminary Order, pp. 9-10. At the May 6 hearing, the Board allowed for additional public comment.

definition of a major energy facility.¹¹ In addition to the lines, the Project includes the reconstruction of the existing Sherman Road Switching Station. Although not specified in the definition of a “major energy facility,” the Board has previously interpreted the definition in a case involving a power plant “to include not only actual generating facilities but also ancillary facilities integral and dedicated to the energy generating process.”¹² In the instant matter, the reconstruction of the existing Sherman Road Switching Station constitutes an “ancillary facility integral and dedicated” to the transmission of electricity at 345 kV. As a result, all of the Rhode Island components of the Project – including the lines and the reconstruction of the switching station – are subject to the Board’s jurisdiction under R.I.G.L. § 42-98-4.

The proposed transmission system improvements are set forth in Table 4-1 and described in Section 4 of the Environmental Report (“ER”) for the Project and are also show in Figure 2-2 of Volume 2 of that Report.¹³ The Project components, lengths, and affected municipalities are summarized below.

1. Construct a New 345 kV Transmission Line from the Rhode Island/Massachusetts Border to the West Farnum Substation.

National Grid proposed to construct a new 345 kV transmission line (the “366 Line”) from the existing Millbury No. 3 Switching Station in Millbury, Massachusetts to the West Farnum Substation on Greenville Road in North Smithfield, a total distance of approximately 20.2 miles, approximately 4.8 miles of which are in Rhode Island. The 366 Line will be constructed within an existing National Grid ROW in North Smithfield.¹⁴ The width of the existing ROW varies, but it is generally 250 to 270 feet wide. Presently, the ROW is occupied in

¹¹ R.I.G.L. §42-98-3(d) which states in pertinent part “[m]ajor energy facility” means “...transmission lines of sixty-nine (69) Kv or over....”

¹² In re The Narragansett Electric Company and New England Power Company (Manchester Street Station Repowering Project), Docket No. SB-89-1, Final Report and Order, p. 14 (Order No. 12, December 17, 1990).

¹³ Exhibit Nos. NGrid-2, NGrid-4.

¹⁴ NGrid Exhibit 2, Figure 4-1.

places by the S-171N and T-172N 115 kV transmission lines, the Q-143S and R-144 115 kV transmission lines, and the 315 345 kV transmission line (the “315 Line”). The proposed location of the 366 Line on the ROW and the resulting configuration of the lines on the ROW is shown in ER, Figure 2-2, Sheets 33-41 and Figure 4-1, Map Sheets: RI – 366 – 1 to RI – 366 – 6.¹⁵

2. Construct a New 345 kV Transmission Line from the West Farnum Substation to the Rhode Island/Connecticut Border.

National Grid and NU proposed to construct a new 345 kV transmission line (the “341 Line”) between the West Farnum Substation and the Lake Road Switching Station in Killingly, Connecticut, a total distance of approximately 25.3 miles, of which approximately 17.7 miles are in Rhode Island and are subject to this application.¹⁶ The 341 Line will be constructed within an existing National Grid ROW that extends through North Smithfield and Burrillville. The width of the existing ROW typically varies between 300 and 700 feet wide. Presently, portions of the ROW are occupied by the 328 345 kV transmission line (the “328 Line”), the 347 345 kV transmission line (the “347 Line”), and the B-23 115 kV transmission line (the “B-23 Line”). The proposed location of the 341 Line on the ROW and the resulting configuration of the lines on the ROW is shown in ER, Figure 2-2, Sheets 1-32 and Figure 4-1, Map Sheets: RI – 341 – 1 to RI – 341 - 5.¹⁷

¹⁵ NGrid Exhibit 2.

¹⁶ A third 345 kV line (the “3271 Line”) will be constructed by NU between the Lake Road Switching Station and the Card Street Substation in Lebanon, Connecticut.

¹⁷ NGrid Exhibit 2.

3. Reconstruct and Reconductor the Existing 328 Line from the West Farnum Substation to the Sherman Road Switching Station.

National Grid proposed to reconstruct and reconductor the existing 328 Line from the West Farnum Substation to the Sherman Road Switching Station, a distance of approximately 9.2 miles. This will involve the removal of existing structures, overhead conductors, and shield wires, and the installation of new structures, conductors, and shield wires. Cross-section drawings showing the existing and rebuilt configuration of transmission lines and structures are presented in ER, Figure 4-1, Map Sheets: RI – 341 – 3 to RI – 341 – 5 of 5.¹⁸

4. Reconstruct the Sherman Road Switching Station.

National Grid proposed to reconstruct the Sherman Road Switching Station and retire the existing switching station. The switching station is located at 1573 Sherman Farm Road, Burrillville, Rhode Island on a portion of approximately 40.7 acres of property owned in fee by National Grid. The Company presented that reconstruction of the Sherman Road Switching Station is required to address thermal capacity issues, short-circuit duty related issues, asset conditions in the station, and to meet NPCC requirements. The reconstruction entails building a completely new 345 kV switching station with Air Insulated Switchgear in a breaker-and-a-half configuration. The existing switching station will be expanded to the northwest in an area approximately 180 feet in width and 540 feet in length. In connection with this work, segments of the existing 333, 3361, and 347 345 kV transmission lines will need to be realigned on National Grid property in the vicinity of the switching station in order to tie into the rebuilt station. The existing conditions and the proposed layout of the Sherman Road Switching Station are shown in ER, Figure 4-5.¹⁹

¹⁸ *Id.*

¹⁹ *Id.*

5. Relocate Existing 3361 345 kV Transmission Line in the Vicinity of the Sherman Road Switching Station.

National Grid proposed to relocate approximately 0.25 miles of its existing 3361 345 kV transmission line outside of the Sherman Road Switching Station to realign with the reconstructed Sherman Road Switching Station. ER, Figure 2-2, Sheets 16 and 16A.²⁰

6. Relocate Existing 333 345 kV Transmission Line in the Vicinity of the Sherman Road Switching Station.

National Grid proposed to relocate approximately 0.25 miles of its existing 333 345 kV transmission line outside of the Sherman Road Switching Station to realign with the reconstructed Sherman Road Switching Station. ER, Figure 2-2, Sheets 16, 16A, and 17.²¹

7. Relocate Existing 347 345 kV Transmission Line in the Vicinity of the Sherman Road Switching Station.

National Grid proposed to relocate approximately 0.25 miles of its existing 347 345 kV transmission line outside of the Sherman Road Switching Station to realign with the reconstructed Sherman Road Switching Station. ER, Figure 2-2, Sheet 16.²²

8. Modifications to B-23 115 kV Transmission Line near the 341 Line and 328 Line.

National Grid proposed to modify the existing B-23 Line in North Smithfield to accommodate the construction of the 341 Line and the reconstruction of the 328 Line. The route of the B-23 Line is shown in ER, Figure 2-2, Sheets 26-32 and a typical cross-section of the ROW is shown in ER, Figure 4-1, Map Sheet: RI-341-5.²³

²⁰ *Id.*

²¹ *Id.*

²² *Id.*

²³ *Id.*

9. Modifications to T-172N 115 kV Transmission Line near the 366 Line.

National Grid proposed to modify the existing T-172N 115 kV transmission line in North Smithfield to accommodate the construction of the 366 Line. The route of the T-172N Line is shown on ER, Figure 2-2, Sheets 39-41 and a typical cross-section of the ROW is shown in ER, Figure 4-1, Map Sheet: RI-366-5.²⁴

B. Advisory Opinions.

The Board requested advisory opinions from twelve state and local agencies and officials.²⁵ The Board received Advisory Opinions from the Statewide Planning Program, the Town of North Smithfield Planning Board, the Town of North Smithfield Zoning Board, the Town of Burrillville Zoning Board, the Town of Burrillville Planning Board, the Public Utilities Commission, the Rhode Island Historical Preservation & Heritage Commission and the Rhode Island Department of Health.²⁶ The substance of the advisory opinions will be discussed in the Board's analysis of the legal issues below.

C. Witnesses.

To respond to Board inquiries, National Grid presented six witnesses. The subjects addressed by each of the witnesses are set forth below and a more detailed review of the witnesses' testimony is included as part of the analysis of the legal issues before the EFSB.

²⁴ *Id.*

²⁵ Exhibit No. EFSB-2 at 15-19.

²⁶ Exhibit Nos. EFSB-5 through EFSB-12. The North Smithfield Town Council heard and granted National Grid's request for relief from the Town noise ordinance. The approval was reflected in meeting minutes which were attached to Mr. Beron's prefiled testimony which was admitted as a full exhibit, Exhibit No. NGrid 8-A, Attachment DJB-1. However, the Town Council did not file a document reflecting the approval with the Board. Additionally, although dated April 29, 2013, the Rhode Island Department of Transportation ("RIDOT") letter was not filed with the Board prior to the time that the record closed and therefore was neither marked nor admitted as an exhibit.

1. National Grid Witnesses.²⁷

David J. Beron, P.E., P.M.P., Lead Project Manager for the Project, introduced the Project, addressed Project details and costs, reviewed alternatives to the Project, addressed issues raised in several of the advisory opinions to the EFSB, and commented on a recommendation by edr²⁸ in the visual impact assessment.²⁹ David M. Campilii, P.E., a Consulting Engineer employed by National Grid in the Asset Management Transmission Planning Department and responsible for the design, licensing and construction of underground transmission facilities described the underground transmission alternatives which were considered as part of the Project.³⁰ James Durand, P.W.S., Environmental Project Manager at Power Engineers (“Power”), summarized the environmental conditions in the Study Area of the proposed Project (a 5,000 foot wide corridor centered on the existing ROW) and the potential impacts of the Project. He addressed issues related to the existence of the L&RR site within and beyond the ROW and explained the erosion and sediment control plan which National Grid had prepared for the Project.³¹ John D. Hecklau and Joanne C. Gagliano, a principal with and the president of edr respectively, addressed the visual impact of the Project. They explained the process they follow to assess visual impact and summarized the Visual Impact Assessment (“VIA”),³² which they had prepared for the Project.³³ Finally, William H. Bailey, Ph.D., Principal Scientist in the Health Sciences Practice at Exponent, presented a review of the status of health research regarding

²⁷ The four National Grid witnesses, who are not employees of the Company, Messrs. Durand and Hecklau, Ms. Gagliano and Dr. Bailey, were, upon motion by counsel, qualified by the Board as experts in their respective fields.

²⁸ edr is Environmental Design & Research, Landscape Architecture and Engineering, P.C.

²⁹ Exhibit No. NGrid-8A.

³⁰ Exhibit No. NGrid-8D.

³¹ Exhibit No. NGrid-8B.

³² Exhibit No. NGrid-3, Appendix M.

³³ Exhibit No. NGrid 8-C

exposure to electric and magnetic fields (“EMF”) prepared by Exponent.³⁴ He also presented Exponent’s calculations of EMF associated with the existing and proposed transmission lines.³⁵

2. Public Statements.

The Board conducted public comment hearings during the evenings of April 30, 2013 and May 2, 2013 in the Towns of North Smithfield and Burrillville, respectively, at which time numerous members of the public offered comment. The Board also accepted public comment at the May 6, 2013 final hearing.

IV. ANALYSIS

An applicant for a license to site, construct or alter a major energy facility from the EFSB is required by R.I.G.L. §42-98-11(b) to demonstrate that:

- (i) the facility is needed,
- (ii) the proposed facility is cost justified and will [transmit] electricity at the lowest reasonable cost consistent with applicable statutes or whether a waiver of such is required, and
- (iii) the facility will not cause unacceptable harm to the environment and will enhance the socioeconomic fabric of the state.

The Board reviewed the evidence before it using the same framework that was used to analyze the issues in the Preliminary Order.³⁶

The first issue the Board considered was whether the proposed alteration is necessary to meet the needs of the state and/or region for energy. In its Preliminary Order, the Board requested that the Rhode Island Public Utilities Commission (“PUC” or “Commission”) render

³⁴ Exhibit Nos. NGrid-3, Appendix J, NGrid-8E, Attachment WHB-2.

³⁵ Exhibit No. NGrid-3.

³⁶ Exhibit No. EFSB-3 at 10-14.

an advisory opinion as to the need for the Project.³⁷ The PUC conducted a hearing on March 5, 2013, during which it heard from five National Grid witnesses and Gregory Booth, a consultant to the Division of Public Utilities and Carriers (“Division”) who had been retained by the Division to review the need for and cost of the Project. It also admitted the joint prefiled testimony of Stephen Rourke, Vice President of System Planning and Brent Oberlin, Director of Transmission Planning at ISO-New England (“ISO”) that noted ISO’s concerns with the reliability of the transmission system in Southern New England. The testimony described ISO’s opinion that the Project is needed for system reliability and is the preferred transmission solution to address ISO’s concerns.³⁸

In its findings, the Commission stated that:

[i]t was undisputed in the Record that there are transmission upgrades necessary to relieve existing transmission constraints on the electric grid, particularly from east to west and from west to east across Southern New England and to satisfy both national and regional transmission planning standards. It was also undisputed that the overhead alternative presented as the preferred alternative was the least cost solution. Additionally, it was undisputed that the non-transmission alternatives were not practical or cost effective. Therefore, the Commission advises the EFSB that it finds the proposed Project as filed to be needed and to be the least cost solution.³⁹

In its recommendations to the EFSB, the Commission determined there is a need for the components of the Project and recommended “that the Energy Facility Siting Board find

³⁷ The need for the Project had been addressed in Section 3.0 of the ER and in Appendices A to G, K, N and O to the ER. Exhibit No. NGrid-3.

³⁸ Exhibit No. EFSB-10 In re Issuance of Advisory Opinion to the Energy Facility Siting Board regarding The Narragansett Electric Company d/b/a National Grid’s Application to Construct and Alter Major Facilities (Interstate Reliability Project), Advisory Opinion to the EFSB, Order No. 21003, April 8, 2013 as amended by Errata Order No. 21007, April 9, 2013, hereinafter “PUC Advisory Opinion.”

³⁹ *Id.* at 12.

that Narragansett's proposed overhead configuration represents the most reasonable cost alternative to provide adequate, safe and reliable transmission service to the region."⁴⁰

The need for the Project was summarized by Mr. Beron in his prefiled testimony to the EFSB, but was not addressed by other witnesses.⁴¹ Based on the PUC's unequivocal advisory opinion on the issue of need, the Board concludes that the Project is needed to meet the needs of Rhode Island and the region for energy.

The second issue that the Board considered was whether the Project is cost justified and can be expected to transmit power at the lowest reasonable cost to consumers consistent with applicable laws and regulations or whether a waiver of such laws and regulations is justified. In its Preliminary Order, the Board separated this issue into three subsidiary issues: (a) whether the Project is cost justified; (b) whether the Project will comply with applicable laws absent the Act; and (c) whether a waiver from certain laws is justified.⁴²

The issue of whether the Project is cost justified was referred to the PUC by the Board. In the Preliminary Order, the EFSB indicated an intention to examine not only the cost of the Project, but also to consider the cost of reasonable alternatives to the Project.⁴³ The Company estimated the cost of the Project to be \$181 million.⁴⁴ In its Advisory Opinion, the PUC noted that Mr. Beron and other National Grid witnesses had testified to five electrical alternatives for the Project and other alternatives "including a 'No-Build' alternative, alternate overhead routes and configurations, underground alternatives and non-transmission alternatives."⁴⁵ The PUC heard additional testimony from Judah Rose of ICF and David Campilii regarding non-

⁴⁰ *Id.* at 12-13.

⁴¹ Exhibit No. NGrid-8A at 5.

⁴² Exhibit No. EFSB-3 at pp. 11-12.

⁴³ *Id.* at 11.

⁴⁴ Exhibit Nos. NGrid-2, Section 4.8, Table 4-3; NGrid-8A at 8-9.

⁴⁵ Exhibit No. EFSB-10 at 3-4.

transmission alternatives and underground alternatives, respectively.⁴⁶ Finally, the Division presented prefiled direct testimony of Gregory L. Booth, P.E., President of Power Services, Inc. The PUC noted that Mr. Booth had concluded “that the Project is necessary, is the most cost effective solution for meeting the reliability needs of the transmission system, and provides an integrated transmission solution for the NEEWS.”⁴⁷

As noted above, the PUC concluded that “Narragansett’s proposed overhead configuration presents the most reasonable cost alternative to provide adequate, safe and reliable transmission service to the region.”⁴⁸ Based on the PUC’s Advisory Opinion and the testimony discussed above, it is the conclusion of the Board that the Project is cost justified. Of the alternatives presented by the parties, the Project as proposed by National Grid is the best alternative to meet the identified need.

In order to determine whether the Project will comply with laws that would be applicable absent the Act, the EFSB requested advisory opinions on this issue from seven (7) agencies and officials: the North Smithfield Town Council, North Smithfield and Burrillville Zoning Boards of Review, the North Smithfield and Burrillville Building Officials, the Rhode Island Historical Preservation and Heritage Commission (RIHPHC), and the Rhode Island Department of Transportation (RIDOT).⁴⁹ The Burrillville Zoning Board of Review issued a positive advisory opinion regarding the dimensional variance and special use permit sought by National Grid.⁵⁰ Similarly, the North Smithfield Zoning Board of Review issued a positive advisory opinion on National Grid’s request for a dimensional variance based on National Grid’s agreement with

⁴⁶ *Id.* at 5-6.

⁴⁷ *Id.* at 7-8.

⁴⁸ *Id.* at 13.

⁴⁹ Exhibit No. EFSB-3 at pp.15-17.

⁵⁰ Exhibit No. EFSB-8.

Mountain Road abutters on mitigation measures.⁵¹ As noted previously, the North Smithfield Town Council approved National Grid's requested relief from the town noise ordinance.⁵² However, the Town Council did not send official notice of its action to the EFSB coordinator as requested. The Rhode Island Historical Preservation and Heritage Commission submitted an advisory opinion noting no objection to the Project that concluded "based on our review of the information that was submitted and that [is] in our files, we have concluded that the proposed Project will have no adverse effect on historic resources."⁵³ Therefore, we have no objection to the Project." As noted above, the building officials did not provide advisory opinions and a letter from the RIDOT arrived after the record of the proceeding had been closed. As no laws, regulations or decisions were identified from which a waiver is required, the Board finds that the Project will comply with the laws that would otherwise be applicable absent the Act.

Finally, the Board considered whether a waiver from certain laws would be justified. The Act authorizes the Board to grant a waiver from the requirements of laws, regulations and ordinances which, in the absence of the Act, would apply to a project. The standard for granting of a waiver is that "public health, safety, welfare, security and need for the proposed facility justifies [the] waiver."⁵⁴ In making a decision to grant a waiver from one or more such laws or regulations, the Board is guided by the General Assembly's legislative findings in the Act. In particular, the General Assembly recognized that "the authority to regulate many aspects of the issues involved in the siting of major energy facilities currently exists in a variety of agencies within the government of the State and the political subdivisions of the State; . . . that there is overlapping jurisdiction among several State agencies and that there is the potential for

⁵¹ Exhibit No. EFSB-7.

⁵² Exhibit No. NGrid-8A, DJB-1.

⁵³ Exhibit No. EFSB-11.

⁵⁴ R.I.G.L. §42-98-11(b)(2).

conflicting decisions being issued by the various agencies having authority over the different aspects of the siting of a major energy facility.”⁵⁵ As National Grid has not requested a waiver from any laws for the Project, the Board does not grant any waivers.⁵⁶

In its Preliminary Order, the Board characterized the issue of whether the proposed project would cause unacceptable harm to the environment as being at the heart of its analysis of the overall impact of the Project. It stated that it would consider “all reasonable alternatives to the various components to the Project” in determining the impact of the Project to the environment.⁵⁷

National Grid provided an extensive analysis of the environmental impact of the Project in its ER, including a description of the natural and social environments that would be affected by the Project (Sections 6.0 and 7.0), an analysis of the impacts of the Project on those environments (Section 8.0), and a description of design, construction and post-construction mitigation measures (Section 9.0). James Durand of POWER summarized the environmental conditions of the Project Study Area and the potential environmental impacts that would result from the construction and operation of the Project.⁵⁸ Specifically, he described the geology, soils, water resources, vegetation, wetlands, wildlife, air quality, and noise conditions of the Study Area. After summarizing the conditions, he described the impact analysis which he and other project personnel had performed and then summarized the potential impacts of the Project

⁵⁵ R.I.G.L. §42-98-1(b).

⁵⁶ Rule 1.14 of the EFSB Rules of Practice and Procedure governs post licensure proceedings. Rule 1.14(a) includes a process for Board review and action on any permits that are in the nature of construction permits.

⁵⁷ Exhibit No. EFSB-3 at 13-14. The Act gives the EFSB authority over all licenses, permits, assents and variances required for a major energy facility except for (i) DEM authority under the freshwater wetlands act and pursuant to delegated federal authority and (ii) Coastal Resources Management Council authority. R.I. Gen. Laws §42-98-7(a). National Grid advised that it has applied for a DEM permit under the freshwater wetlands act. See Durand, p. 2 (Exhibit National Grid-8B); see also National Grid Response to EFSB’s Second Set of Data Requests (Exhibit National Grid-9).

⁵⁸ Exhibit No. NGrid-8B.

on the resources he had described previously. Mr. Durand testified that he prepared an erosion and sediment control plan as part of the DEM wetlands application and in compliance with municipal ordinances. Finally, Mr. Durand expressed his opinion that the Project “will not cause unacceptable harm to the environment.” He based this opinion, in part, on “the level of pre-construction review the Project has received and the commitments made by National Grid to avoid, minimize and mitigate impacts to environmental resources.” He acknowledged that “the project will result in short-term, localized impacts during construction of the Project,” but concluded that the Project “is not anticipated to cause long-term adverse impacts to the natural and human environment for the following reasons: 1) the Project is to occur within an existing, established ROW where existing transmission line facilities already exist, 2) National Grid is proposing a compensatory wetland mitigation plan that provides mitigation for wetland and upland impacts, and 3) National Grid will retain the services of full-time environmental monitors whose primary responsibility will be to oversee the construction activities to maintain compliance with federal, state and local permit requirements.”⁵⁹

At the request of National Grid, edr prepared an assessment of the potential visibility and visual impact of the Project. The VIA included “viewshed analysis, line-of-sight cross-sections, field verification of visibility, computer-assisted visual simulations, and the evaluation of the Project’s visual contrast and overall impact by a panel of landscape architects.”⁶⁰ In prefiled testimony, Mr. Hecklau and Ms. Gagliano of edr explained that as a result of the analyses conducted in the visual impact assessment, they concluded that “the proposed project will result in a limited increase in visibility when compared to the visibility of the existing transmission

⁵⁹ *Id.* at 3-16.

⁶⁰ Exhibit No. NGrid-2, Section 8.11, Appendix M.

lines. However, it is likely to have an effect on the visual/aesthetic character of some near foreground views within the study area.”⁶¹

They explained with the following additional detail:

- Topographic viewshed analysis indicates that the area of potential visibility for the proposed 345 kV structures total approximately 1% more than that of the existing 345 kV structures within the 1-mile radius study area.
- Vegetation viewshed analysis, which considers the screening effect of mapped forest vegetation, indicates that only 15.4% of the study area should have potential views of the proposed 345 kV structures.
- Line-of-sight cross section analysis indicates that existing vegetation, structures and topography will be effective in screening views of the proposed 345 kV structures from most areas within and adjacent to the study area (including visually sensitive sites). Visibility along selected lines of sight was typically restricted to very limited areas, generally within and directly adjacent to the existing transmission corridor.
- Field review confirmed the results of the cross-section analysis and revealed that views of the existing lines are largely restricted to road crossings, open lawns/fields and water bodies/wetlands that are either crossed by or directly adjacent to the existing transmission corridor (generally within 100 yards).
- Visual simulations of the Project show an increase in transmission line visibility, visual weight, and skyline clutter with the proposed Project components in place. However, these changes do not typically result in a significant increase in visual contrast or reduction in the original level of scenic quality, due largely to the presence of the existing transmission lines. The largest impact occurs in those instances where the increased number or mass of the proposed structures, and/or tree removal along the edge of the ROW, accentuate structure visibility and increase the perception of land use contrast.
- Visual contrast ratings conducted by a panel of landscape architects indicated that adverse visual impacts of the proposed Project should generally be minimal to moderate. This is largely attributable to the occurrence of the Project within an existing transmission corridor, and hence the lower scenic quality of the existing views and limited visual contrast with the existing landscape. Visual contrast was perceived as more appreciable in some foreground viewpoints where open or thinly screened views of the proposed line will be available. In views where contrast was perceived to exceed a moderate level, it was attributed to the incompatibility of the proposed transmission structures with residential land use.

⁶¹ Exhibit No. NGrid-8C at 11.

However, in such cases, the views were already compromised (and the perceived change in land use limited) by the presence of the existing lines.⁶²

Mr. Hecklau and Ms. Gagliano testified that co-location of the line within an existing transmission corridor is also considered the best means of reducing perceived visual contrast and change of land use and made the following recommendations:

in selected locations where lack of existing foreground vegetation increases the visibility of the proposed and/or existing lines, the feasibility of screen plantings should be evaluated. Plantings were suggested by the panel in their evaluation of several of the simulations. Screen plantings have the greatest mitigation value in off-ROW situations where the line is proximate to residential or recreational viewers, opportunities for plantings exist, and these plantings have the potential to grow tall enough to fully screen significant portions of the transmission line structures. Plantings on the ROW (e.g., at road crossings) would have to be evaluated in terms of their compatibility with ROW maintenance/line clearance requirements. Even if allowable, such on-ROW plantings would have limited screening value, as they would have to utilize relatively low growing species.⁶³

David Beron addressed this recommendation in his prefiled testimony. He noted that National Grid conducted an extensive community outreach effort which includes discussion of the feasibility of off-ROW screen plantings with abutters who have transmission line structures adjacent to their property. He explained that National Grid would provide funding for such plantings.⁶⁴

Finally, the EFSB Rules require that an applicant seeking a license in connection with the construction or modification of transmission lines provide “a review of the current independent scientific research pertaining to electromagnetic fields (EMF) and . . . data on the anticipated levels of EMF exposure and potential health risks associated with this exposure.”⁶⁵ National Grid provided information on electric and magnetic fields in Section 7.8 of the ER (Description

⁶² *Id.* at 11-13.

⁶³ *Id.* at 13-14.

⁶⁴ Exhibit No. NGrid-8A at 14.

⁶⁵ Energy Facility Siting Board Rules of Practice and Procedure, Rule 1.6(b)(12).

of Affected Social Environment) and in Section 8.16 (Impact Analysis). In addition, it included as Appendix J to the ER a paper entitled “Current Status of Research on Extremely Low Frequency Electric and Magnetic Fields and Health: Interstate Reliability Project (2011)” prepared by Exponent.⁶⁶

In his prefiled testimony, Dr. William H. Bailey of Exponent described electric and magnetic fields. He described the sources of such fields and presented calculations of electric and magnetic field levels under existing conditions and after construction of the Project. Dr. Bailey also discussed a number of standards for EMF exposure. He explained that Florida and New York have adopted standards of 200 mG at the edge of the ROW but that the standards are not health-based. He testified that “at very high EMF levels, acute stimulation of nerves and muscles can result.” The International Commission on Non-Ionizing Radiation Protection (ICNIRP) has adopted a limit of 2,000 mG and the International Committee on Electromagnetic Safety (ICES) has adopted “public exposure screening values” of 9,040 mG.⁶⁷

Dr. Bailey explained that as part of the report he had prepared, he and his colleagues had reviewed literature and epidemiology and *in vivo* studies published after the World Health Organization (WHO) report of 2007. He continued

these recent studies did not provide sufficient evidence to alter the basic conclusion of the WHO: the research does not suggest that electric fields or magnetic fields are a cause of cancer or any other disease at the levels we encounter in our everyday environment.⁶⁸

Dr. Bailey confirmed that National Grid’s design of the Project to minimize the potential for increased EMF exposure was consistent with these recommendations and stated that

⁶⁶ Exhibit Nos. NGrid-2, Sections 7.8 and 8.16, NGrid-3, Appendix J.

⁶⁷ Exhibit No. NGrid-8E at 9-10.

⁶⁸ *Id.* at 11.

National Grid has proposed to construct the new 345-kV lines on existing ROW to minimize the areal spread of EMF in the area and also proposed to optimize the phasing configuration of the new 345-kV lines to minimize the fields outside the ROW by promoting the mutual cancellation of fields from all of the lines.⁶⁹

In the Preliminary Order, the Board requested the Rhode Island Department of Health (DOH) to provide an advisory opinion “on the potential public health concerns related to biological responses to power frequency electric and magnetic fields associated with the operation of the Project” and that DOH review and comment on the Exponent report.⁷⁰ The DOH responded by letter dated March 5, 2013 and concluded that the Exponent report “has clearly defined the public health concerns of this project, and presents a lucid and credible review of the literature on this topic.” It noted that the Project “would result in decreasing field levels in some areas and increasing in other.” It concluded that “National Grid has been responsive to questions about possible alternative configurations that would lead to reductions in magnetic field strength at the right-of-way. All suggested alternatives include significant cost burdens and time delays to the project, failing to meet the requirements of being no- or low-cost options.”⁷¹

At the request of National Grid, the Board took administrative notice of the report of Kenneth R. Foster, Ph.D., P.E., who the Board had engaged in the Rhode Island Reliability Project proceeding, to review Dr. Bailey’s 2008 report and 2009 testimony before the EFSB in those proceedings.⁷² In his February 8, 2010 letter, Dr. Foster summarized his findings in the following language:

The evidence and testimony presented by National Grid, in particular the testimony of Dr. Bailey, are consistent (in fact heavily rely on) reports of the World Health Organization (WHO) and other health agencies and are technically accurate descriptions of the scientific evidence as it stands at present. Despite some

⁶⁹ *Id.*

⁷⁰ Exhibit No. EFSB-3 at 18.

⁷¹ Exhibit No. EFSB-12.

⁷² EFSB Docket No. 2008-2.

differences in emphasis, the conclusions of Dr. Bailey are consistent with statements of WHO and other major health agencies.

I conclude that the materials presented by National Grid and its consultants ... correctly describes the opinion of WHO that scientific evidence at present does not support the conclusion that exposures to powerline fields at levels below international guidelines can cause adverse health effects, despite raising some level of concern. I am aware of no recent advisories by WHO and other major health agencies that indicate a change in these agencies' longstanding recommendations on the issue.

The Board thoroughly reviewed the extensive report from Exponent and testimony from Dr. Bailey on the issue of EMF. Dr. Bailey's conclusions were confirmed by the DOH in this proceeding and by Dr. Foster in the Rhode Island Reliability Project proceeding. The testimony and conclusions of Mr. Durand regarding environmental resources and impacts was uncontroverted. Based on the evidence before it, the Board determines that the Project, as proposed by National Grid, will not cause unacceptable harm to the environment.

The Board also considered whether the proposed facility will enhance the socioeconomic fabric of the State and requested an advisory opinion from the Statewide Planning Program and the State Planning Council "as to the impact of construction and operation of the Project upon the socioeconomic fabric of the State." It requested that the opinion include "economic and reliability benefits to the local population and economy, employment benefits, and tax benefits to the towns and the state."⁷³

In its advisory opinion, the Statewide Planning Program made the following findings regarding the Project:

- that the preferred alternative (i.e. this Project) will result in a positive benefit to the reliability of the New England electric transmission system.
- that the Project will provide a temporary but direct benefit in employment during the construction of the Project.

⁷³ Exhibit No. EFSB-3 at 14.

- that the Project will benefit tax revenues for North Smithfield and Burrillville through the increase of the tangible tax base. Furthermore, the Project may have small positive revenue benefit for the State through increases in income tax and sales tax.
- that the Project will result in a net economic benefit to both the local economy in the short-term, resulting from the influx of construction workers, and to the regional economy over the long-term by providing increased electrical capacity and reliability.
- that the Project minimizes potential land use conflicts by placing improvements within an existing right-of-way corridor that already contains significant transmission facilities. The Project is not anticipated to have any long-term negative impacts on adjacent land uses.⁷⁴

The Statewide Planning Program recommended that National Grid should consider assessing public access opportunities for limited recreational activities along suitable sections of the right-of-way where it could offer a connection between trails or between recreation/conservation areas.⁷⁵

In his prefiled testimony, Mr. Beron addressed the recommendation from the Statewide Planning Program. He testified that National Grid works with the Audubon Society of Rhode Island and other organizations to provide access across ROWs in certain instances. He continued:

[a]s I have testified in previous cases, opening up our ROWs for general recreational or other use is contrary to our efforts, over many years, with property owners and abutters along many ROWs in Rhode Island and elsewhere to reduce the use of the ROW by unauthorized persons. In the ER we stated “where authorized by property owners, permanent gates and access road blocks will be installed at key locations to restrict access onto the ROWs by unauthorized persons or vehicles” ER §4.4.1.7. In addition, along much of our ROWs, National Grid owns only easement rights which would not allow us to authorize public use of the ROW.⁷⁶

⁷⁴ Exhibit No. EFSB-5 at 20.

⁷⁵ *Id.*

⁷⁶ Exhibit No. NGrid-8A at 13.

Based on the advisory opinion of the Statewide Planning Program and Mr. Beron's testimony, the Board finds that the Project will enhance the socioeconomic fabric of the State.

Finally, the EFSB asked Statewide Planning to provide an advisory opinion on the consistency of the Project with the State Guide Plan.⁷⁷ After conducting its rigorous analysis of the Project, the Statewide Planning Program concluded in its advisory opinion that

the proposed Interstate Reliability Project is consistent with the relevant goals, objectives, and policies of the State Guide Plan. However, this finding of consistency is contingent upon National Grid's commitment to utilizing the mitigative measures and best management practices recommended in the Interstate Reliability Project Environmental Report, Volume 1, Volume 2, Appendix I, *Right-of-Way Access, Maintenance, and Construction Best Management Practices (EG-303)*, and Appendix M, the *Visibility and Visual Impact Assessment*.⁷⁸

Based on this advisory opinion, the Board finds that the Project is consistent with the State Guide Plan.

V. CONCLUSION

The Board has conducted an exhaustive review of National Grid's proposal with the able assistance of the numerous designated state and local agencies. The Board heard comprehensive testimony from National Grid witnesses on all aspects of the Project, as well as comments from members of the general public. Based on our review of the record and our findings of fact, discussed above, we reach the following conclusions of law:

First, as to need for the Project, its cost justification and alternatives:

There was no disagreement about the need for the Project to relieve existing transmission constraints in Southern New England and to satisfy mandatory national and regional transmission planning standards. As the PUC described in its advisory opinion, National Grid

⁷⁷ Exhibit No. EFSB-3 at 14.

⁷⁸ Exhibit No. EFSB-5 at 20.

conducted an extensive examination of alternatives to the Project ranging from non-transmission alternatives, electrical alternatives, physical alternatives (configuration on the right-of-way and underground) and alternate routes. The Board agrees with the PUC's conclusion that the Project as proposed by National Grid is the best and most cost-effective alternative.

Thus, the Board concludes that the Project is cost-justified and can be expected to transmit energy at the lowest reasonable cost to the consumer consistent with the objection of ensuring that the construction and operation of the line will be accomplished in compliance with all applicable requirements, except as noted below.

Second, as to waivers from applicable state and local laws, rules and regulations:

The Board determines that the Project will comply with laws that would otherwise be applicable absent the Act and finds that no waivers are necessary.

Third, with respect to the impact of the Project on the environment:

Based on the testimony of the witnesses and other evidence as discussed above, the Board determines that the Project will not cause unacceptable harm to the environment.

Fourth, as to the impact of the Project on the socioeconomic fabric of the State and its consistency with the State Guide Plan:

Based on the advisory opinion of the State Planning Council and the other evidence and testimony before the Board, the Board determines that the Project will enhance the socioeconomic fabric of the State and is consistent with the State Guide Plan.

Accordingly, it is hereby

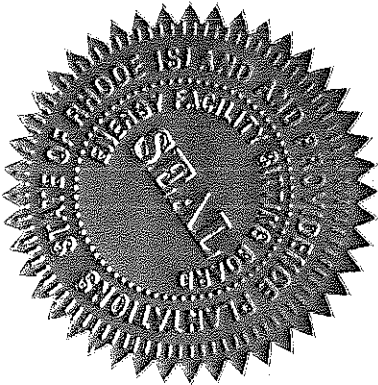
(Order No. 68) ORDERED:

That the application of The Narragansett Electric Company d/b/a National Grid for a license to construct the Interstate Reliability Project as described herein is hereby granted, and

the license so granted shall constitute a granting of all permits, licenses, variances or assents subject to the jurisdiction of the Board, which under any law, rule, regulation or ordinance of the State or of a political subdivision thereof would, absent the Energy Facility Siting Act, be required for the construction of the Project; provided, however, that the license granted hereby shall be subject to and comply with all the conditions and requirements as described in this Order.

DATED AND EFFECTIVE AT WARWICK, RHODE ISLAND ON JUNE 14, 2013
PURSUANT TO A BENCH DECISION ON MAY 6, 2013.

ENERGY FACILITY SITING BOARD



Elia Germani

Elia Germani, Esq.
Chairman

Kevin M. Flynn

Kevin M. Flynn, Member

Janet L. Coit

Janet L. Coit, Member

NOTICE OF RIGHT OF APPEAL PURSUANT TO R.I.G.L. SECTION 42-98-12, ANY PERSON AGGRIEVED BY A DECISION OF THE BOARD MAY, WITHIN TEN (10) DAYS OF THE ISSUANCE OF THIS ORDER PETITION THE SUPREME COURT FOR A WRIT OF CERTIORARI TO REVIEW THE LEGALITY AND REASONABLENESS OF THIS ORDER.