

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

In re The Narragansett Electric Company	:	
d/b/a National Grid	:	Docket No. SB-2016-01
(Aquidneck Island Reliability Project)	:	

DECISION AND ORDER

Dated:     August 18, 2017

## 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, National Grid sought to reinforce and enhance existing transmission on Aquidneck Island in Rhode Island. Specifically, the proposed work would involve rebuilding and upgrading two existing 69 kV lines, the so-called 61 and 62 lines, to 115 kV; building a new Jepson Substation; and reconfiguring the existing Dexter Substation (collectively referred to as the Aquidneck Island Reliability Project or the Project).

The Energy Facility Siting Act, R.I. Gen. Laws §§ 42-98-1 to 42-98-20 (Act), prohibits siting, constructing, or altering a major energy facility without first obtaining a license from the EFSB.<sup>1</sup> The applicant for such a license 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
- (iii) the facility will not cause unacceptable harm to the environment and will enhance the socioeconomic fabric of the state.<sup>2</sup>

The statute and the Boards 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

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<sup>1</sup> R.I. Gen. Laws § 42-98-4.

<sup>2</sup> R.I. Gen. Laws § 42-98-11.

the activities proposed in the application, all of which must be complied with prior to the issuance of a license.<sup>3</sup>

## II. *TRAVEL OF THE CASE*

On December 29, 2015, National Grid filed an application for a license with the Board. After review of the application to determine its completeness and within thirty days as required by law, the Board notified National Grid that the application was complete, and it was docketed on January 28, 2016. Subsequently and pursuant to the Rule 1.10(a)(1)<sup>4</sup> of the EFSB Rules of Practice and Procedure (Rules), the Towns of Middletown and Portsmouth filed Notices of Intervention. Kevin Smith, through his attorney, filed a Motion to Intervene pursuant to 1.10(b)(2)<sup>5</sup> of the Rules. Mr. Smith asserted that the proposed substation would have an adverse economic impact on the value of his property and that his interests would not be adequately represented by any other party in the proceeding.

After public notice and pursuant to R.I. Gen. Laws § 42-98-9, the Board convened a Preliminary Hearing on March 24, 2016.<sup>6</sup> The purpose of a Preliminary Hearing is to set forth the issues identified in the statute that the Board will consider in evaluating the application, and to designate certain agencies of State government and political subdivisions of the State to render advisory opinions on these issues, and to determine petitions for intervention.<sup>7</sup>

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<sup>3</sup> R.I. Gen. Laws §§ 42-98-8, 42-98-9, 42-98-10, 42-98-11, Energy Facility Siting Board Rules of Practice and Procedure.

<sup>4</sup> Rule 1.10(a)(1) provides that “[p]articipation in a proceeding as an intervenor may be initiated as follows 1. By filing a notice of intervention by CRMC, DEM, *the city or town in which the proposed facility is to be located* or designated agencies.” (emphasis added).

<sup>5</sup> Rule 1.10(b)(2) allows intervention to a person with “an interest which may be directly affected and which is not adequately represented by existing parties and as to which petitioners may be bound by the Board’s action in the proceeding.”

<sup>6</sup> Notice of the Preliminary Hearing was published in the Providence Journal and the Newport Daily News, sent directly to the service list, and posted on the Public Utilities Commission and Secretary of State websites.

<sup>7</sup> R.I. Gen. Laws § 42-98-9(a).

At the Preliminary Hearing, the Board granted Mr. Smith's motion.<sup>8</sup> The Board also granted National Grid's Motion for Protective Treatment for critical energy infrastructure information contained in the unredacted copy of Appendix A of the application. Admitted as full exhibits, with no objection, were the application (Exhibit 1A); the Environmental Report (Exhibits 1B and 1C); the Visual Impact Assessment (Exhibit 1D); Appendix A (Exhibit 1E); an addendum to question 20 of the application (Exhibit 2); a revised response to question 21 of the application (Exhibit 3); a revised chapter 10, part of the Environmental Report (Exhibit 4); a revised Section 4.7, also part of the Environmental Report (Exhibit 5); a plan showing the location of the existing and proposed Jepson Substation (Exhibit 6); and a copy of the presentation slides used to describe the Project at the Preliminary Hearing (Exhibit 7).

National Grid presented as a witness Daniel McIntyre, a civil engineer who works for National Grid and who was identified as being involved in the Project since its inception. Mr. McIntyre described the Project and its components as set forth in the application, as well as the community outreach program National Grid had engaged in.<sup>9</sup> Gerald Pepi, a consultant engineer hired by National Grid to conduct the transmission engineering component of the Project, also responded to questions from the Board.<sup>10</sup>

Immediately following the hearing, the Board conducted an Open Meeting. At that meeting, the Board identified the issues, the advisory opinions to be requested from various state and municipal agencies, and the exempt licenses. The Board designated thirteen state and local agencies to review the Project and to provide advisory opinions by November 2, 2016.

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<sup>8</sup> SB-2016-01, Order No. 89.

<sup>9</sup> Prelim. Hr'g Tr. at 15-37, 45-46 (Mar. 24, 2016).

<sup>10</sup> *Id.* at 38-41.

Following proceedings before the designated agencies, the Board convened local public hearings pursuant to § 42-98-9.1(b) in Middletown, on January 31, 2017, and in Portsmouth on February 8, 2017, during which local residents were able to express their opinions, concerns, and comments regarding the Project. The Final Hearing commenced and concluded on April 13, 2017.<sup>11</sup>

### III. *FACTS*

#### A. *The Project*

In its application, National Grid proposed to construct a new Jepson Substation, to reconfigure the existing Dexter Substation, and to rebuild the two existing 69 kV 61 and 62 Lines and upgrade those lines to 115 kV on the existing right-of-way and between the new Jepson Substation and the existing Dexter Substation.<sup>12</sup> It stated that the Project was needed to meet reliability standards and criteria for the projected load and generation conditions on Aquidneck Island. Additionally, it provided that the equipment in the Jepson Substation was aging or obsolete and increasingly difficult to replace while the existing control house was not large enough to accommodate equipment upgrades.

The Project has four stated objectives. The Project's first objective is to upgrade the two existing 69 kV lines, the 61 and 62 Lines, to 115 kV beginning at the Dexter Substation in Portsmouth and running to the Jepson Substation in Middletown, a distance of approximately 4.4 miles. All of the work will occur within a 100 foot wide right-of-way. The upgrade will include

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<sup>11</sup> 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. Gen. Laws § 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. Gen. Laws §§ 42-98-11(b) and (c)." Preliminary Order at 9-10. At the April 13, 2017 hearing, the Board allowed for additional public comment.

<sup>12</sup> R.I. Gen. Laws § 42-98-3(d) states, in pertinent part, that "[m]ajor energy facility" means "transmission lines of sixty-nine (69) kV or over".

replacing a total of sixty-nine wood structures ranging in height from forty-five to sixty-five feet with ninety-two single circuit steel structures ranging in height from eighty-six to ninety-six feet. In addition to the ninety-two single circuit steel structures, three double circuit structures ranging in height between ninety-six and 106 feet will support the additional line needed to extend the lines to the new Jepson Substation location. The entire length of the line will be reconducted and the shieldwire replaced.

The Project's second objective involves replacing the existing Jepson Substation located in Portsmouth, Rhode Island with a new substation located on the west side of Jepson Lane in Middletown, Rhode Island and relocating a segment of the 63 Line to connect to the new substation. Prior to the completion of the new Jepson Substation, a portion of the 63 Line will be rerouted around the construction area and supported with a seventy-nine foot single wood pole, which will be removed when the line is ultimately connected to the new Jepson Substation.<sup>13</sup> Any areas cleared to accommodate the temporary relocation of the 63 line will be restored with native tree and shrub plantings.

Because of physical limitations and environmental and constructability concerns regarding the existing site, the Jepson Substation must be relocated. Like the existing substation, the relocated Jepson Substation will be supplied by the upgraded 61 and 62 Lines and will be unmanned. The new substation will be constructed to accommodate two future 115 kV connections and capacitor banks. National Grid estimates that the new substation will be constructed on approximately 3.1 acres of land and will be fenced off from public access.

The third objective of the Project is to decommission the existing Jepson Substation after the new substation is completed. Finally, because the 61 and 62 Lines will be reconfigured to

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<sup>13</sup> The Jepson Substation will supply the 63 Line, which commences at that substation and goes to Newport.

115 kV operation, the fourth objective of the Project is to reconfigure the Dexter Substation in Portsmouth to remove 115/69 kV transformation and 69 kV equipment. The existing 115 kV M13/M14 Lines at this substation will be temporarily relocated to accommodate the modifications and reduce the required number of outages.

National Grid provided that construction hours will occur between 7:00am and 7:00pm Monday through Friday and 7:00am through 5:00pm on Saturdays. Exceptions may occur when it is necessary to complete a task that has already commenced, such as concrete pours and transmission line stringing. Also scheduling of required outages is determined by ISO-NE and may in some instances fall outside of normal work hours.

The Project will be carried out in a sequence of activities, the first of which will require right-of-way vegetation maintenance, mowing and selective tree trimming, and reflagging of the wetlands. National Grid will engage an environmental monitor to supervise erosion control measures implemented pursuant to best management practices as well as all other aspects of the Project. When no upland access to the site is available, swamp mats will be temporarily placed over wetlands areas that must be crossed. Existing access roads should be suitable for a majority of the work areas. If access roads require maintenance, it will be accomplished in compliance with all appropriate agency conditions and approvals. A total of ninety-five new steel structures will be installed to replace sixty-nine existing wood structures. The new structures will be installed on concrete footings that will require excavation and remediation once the structure is in place. The existing wood poles will be removed and properly disposed of.

The new conductor and shieldwire will be pulled using existing conductors and/or pulling rope on access roads, where possible, to minimize soil and vegetation disturbance. Upon completion of the reconductoring, the right-of-way will be restored. If authorized by property

owners, National Grid will install permanent gates and access roadblocks to prevent unauthorized use of the right-of-way. When work on public streets is required, National Grid will coordinate with the appropriate authorities and follow a pre-approved work zone traffic control plan. National Grid will maintain the vegetation in the right-of-way in accordance with its right-of-way Vegetation Management Policies and Procedures and all other state and federal regulations.

The area where the new Jepson Substation will be constructed will be surveyed and staked, and wetlands boundaries will be reflagged prior to any clearing. Once clearing is complete, National Grid will install soil erosion and sediment controls to protect surrounding resource areas. In order to prevent dirt from being tracked onto existing roadways, National Grid will install crushed stone tracking pads at the entrances to the existing and new substation yards. Any materials that must be removed will be properly disposed of. Because it will be necessary to fill and grade a portion of the site to accommodate substation equipment, National Grid will construct a retaining wall to minimize impacts to surrounding wetlands. A chain-link fence topped with barbed wire will surround the station yard. The yard itself will be surfaced with crushed stone to enhance grounding safety and drainage, and the property will be accessible by two paved access drives.

Once construction is complete, all disturbed areas will be stabilized and revegetated, and natural and manmade screening will be installed. After the new substation is energized, the existing substation will be dismantled, and the materials will either be recycled or properly disposed of. The fence will be removed, and the area will be graded and seeded. National Grid has conducted and continues a number of community outreach activities, including open houses, a webinar, a Project hotline, an interactive website, social media and media relations, a Project



video, distribution of various written materials and door hangers, as well as and assigning a Project ombudsman who will be available to respond to inquiries from the public and coordinate outreach during the construction phase of the Project. The Project is estimated to cost \$63.90 million, with an accuracy of +50/-25 percent. It is expected to be complete by the end of 2020.

B. *Advisory Opinions*

The Board requested advisory opinions from thirteen state and local agencies and officials.<sup>14</sup> The Board received advisory opinions from the Rhode Island Statewide Planning Program, the Town of Middletown Planning and Zoning Boards, the Town of Middletown Town Council, the Town of Middletown Building Inspector, the Town of Portsmouth Planning and Zoning Boards, the Town of Portsmouth Town Council, the Rhode Island Public Utilities Commission, the Rhode Island Historical Preservation & Heritage Commission and the Rhode Island Department of Health. The Board did not receive advisory opinions from the Rhode Island Department of Transportation or the Town of Portsmouth Building Inspector. The substance of the advisory opinions will be discussed in the Board's analysis of the legal issues below.

C. *Witnesses*

1. *National Grid Witnesses*

National Grid submitted the prefiled testimony of Daniel McIntyre, P.E., Principal Engineer; Endrit Fiku, P.E., Lead Project Manager; John D. Hecklau and Steven Breitzka, Landscape Architects employed by Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR); William H. Bailey, PhD., a Principal Health Scientist employed by Exponent, Inc.; and Susan Moberg, Director of Energy and

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<sup>14</sup> SB-2016-01, Order No. 91 at 11-15.

Environmental Services at Vanasse Hangen Brustlink, Inc. (VHB). National Grid also submitted prefiled rebuttal testimony from Mr. McIntyre, Ms. Moberg, and Renee Codegz, P.E., a Senior Project Engineer at VHB. The Town of Middletown submitted prefiled direct and rebuttal testimony of Steven M. Cabral, President of Crossman Engineering. The Town of Portsmouth and Kevin Smith did not submit prefiled testimony.

Mr. McIntyre's testimony described the existing substation. He explained that since the substation had been constructed in the 1950s, much of its equipment had become unreliable and difficult to repair.<sup>15</sup> He said the new substation was needed to improve electric system reliability on Aquidneck Island and support future load growth.<sup>16</sup> He also discussed the alternative sites reviewed and the justification for why National Grid chose the site in Middletown. He described the various mitigation measures National Grid would employ to address visual impacts.<sup>17</sup>

Mr. Fiku's testimony described the scope of the Project, the need, the alternatives, the cost and a description of construction practices, and scheduling sequence.<sup>18</sup> He addressed each of the advisory opinions specifically, replying in detail to the concerns raised in several of those opinions.<sup>19</sup> He also described the various methods of public outreach performed by National Grid.<sup>20</sup>

Messrs. Hecklau and Breitzka, both employees with Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR), prepared the

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<sup>15</sup> McIntyre Direct, National Grid Ex. No. 13B at 3-4 (Mar. 3, 2017).

<sup>16</sup> *Id.* at 4-6.

<sup>17</sup> *Id.* at 6-19.

<sup>18</sup> Fiku Direct, National Grid Ex. No. 13A at 3-9 (Mar. 3, 2017).

<sup>19</sup> *Id.* at 10-17.

<sup>20</sup> *Id.* at 17.

visual impact assessment and explained the methodology employed.<sup>21</sup> They described what was addressed and included in the visual impact assessment.<sup>22</sup> In addition to providing the results of the assessment and the planned mitigation of visual impacts, they summarized the rejected suggestions for reducing visual impacts, explaining they would have impacted reliability or safety.<sup>23</sup>

Dr. Bailey's testimony discussed electromagnetic fields. He provided that the Project siting and design would actually reduce existing field levels at the edge of the right-of-way.<sup>24</sup> Finally, Susan Moberg's testimony detailed the existing environmental conditions and the potential impact of the Project.<sup>25</sup> She addressed the allegations by the Town of Middletown that the Project failed comply with the runoff and stormwater management guidelines and the Town of Middletown's Comprehensive Plan concerning ecologically sound development.<sup>26</sup> She concluded that the Project would not result in significant or unacceptable harm to the natural environment.<sup>27</sup>

Mr. Cabral's prefiled direct testimony on behalf of the Town of Middletown described the Project.<sup>28</sup> He concluded that National Grid had failed to prove that the relocation of the Jepson Substation was needed, that the Project is inconsistent with the Town's Comprehensive Plan in that it did not comply with the Stormwater Ordinance, and that the Project would cause significant, detrimental environmental and visual impacts.<sup>29</sup>

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<sup>21</sup> Hecklau & Breitzka Direct, National Grid Ex. No. 13D at 5-7 (Mar. 3, 2017).

<sup>22</sup> *Id.*

<sup>23</sup> *Id.* at 13-17.

<sup>24</sup> Bailey Direct, National Grid Ex. No. 13E at 4-13 (Mar. 3, 2017).

<sup>25</sup> Moberg Direct, National Grid Ex. No. 13C at 2-3 (Mar. 3, 2017).

<sup>26</sup> *Id.* at 5-8.

<sup>27</sup> *Id.* at 8.

<sup>28</sup> Cabral Direct, Middletown at 3-4 (Mar. 13, 2017).

<sup>29</sup> *Id.* at 4-10.

National Grid submitted rebuttal testimony of Mr. McIntyre, Ms. Codega, and Ms. Moberg to address the issues raised by Mr. Cabral. The Town of Middletown filed surrebuttal testimony of Mr. Cabral.<sup>30</sup>

## 2. Public Statements

During the evenings of January 31, 2017 and February 8, 2017, the Board conducted public comment hearings in the Towns of Middletown and Portsmouth, respectively. Members of the public expressed concerns including visual impacts, safety issues involving structures falling, the schedule, and activities that would occur within the right-of-way.<sup>31</sup> Individuals upon whose property workers and equipment might have to be during construction were particularly concerned about getting advance notice of work on their property. They wanted to ensure that they had sufficient time to rescue or relocate any plantings that might potentially be harmed or destroyed. Some particular concerns were voiced concerning fruits and vegetables.

National Grid represented that it has been and continues to be committed to engaging in active community outreach. In addition to conducting open houses and providing different types of written materials, the Company uses various forms of social media, has an interactive website and Project hotline, and has and will continue to conduct door-to-door outreach and abutter meetings throughout the life of the Project. The Board also provided an the opportunity for public comment at the Final Hearing; none, however, was offered.

## IV. *HEARING*

At the April 13, 2017 Final Hearing, National Grid presented a number of witnesses to respond to Board inquiries and explain the settlement agreement reached by the parties. Mr.

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<sup>30</sup> Because the matter settled prior to hearing, the rebuttal and surrebuttal testimonies were not offered as full exhibits and marked for identification only.

<sup>31</sup> One such individual, Judy Staven, who appeared at the February 8, 2017 public comment hearing, specifically expressed her distress about the numerous plantings that would require sufficient time for her to relocate. Hr'g Tr. at 17-25 (Feb.8, 2017).

Fiku and Ms. Moberg adopted their prefiled testimony. Mr. McIntyre testified that after hearing the concerns raised at the public comment hearings, National Grid reevaluated the twenty-foot screening wall and was able to eliminate it from the final plan.<sup>32</sup> He reiterated the process used by National Grid to select the site for the new Jepson Substation and the Company's efforts to maintain the rural character of the area.<sup>33</sup> When questioned about his report, Dr. Bailey testified that while there was a former statistical association between childhood leukemia and living in close proximity to transmission lines, this association has "entirely disappeared."<sup>34</sup>

Ms. Codega and Mr. Cabral testified about the changes to the stormwater management plan and the soil erosion and control plan.<sup>35</sup> Mr. Cabral outlined the agreement that the Town of Middletown reached with National Grid. He testified that the soil erosion and control measure concerns during the construction phase had been satisfied with the addition of additional sediment traps through the proposed station site.<sup>36</sup> He provided that National Grid had addressed his second concern, about the long-term stormwater management system and potential for loss of groundwater recharge, by adding another component to the design. That component will guarantee that the ability to infiltrate is maximized and will maintain existing hydrologic balance, which involves layering and installation of stone trenches.<sup>37</sup>

Lorayne Black, a landscape architect with AECOM, also testified on behalf of National Grid about the landscaping that would be installed around the new substation.<sup>38</sup> Peter Lacouture, National Grid's attorney, highlighted the agreement reached with Mr. Smith, noting that its

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<sup>32</sup> Hr'g Tr. at 27-29 (Apr. 13, 2017).

<sup>33</sup> *Id.* at 30-33.

<sup>34</sup> *Id.* at 58-60.

<sup>35</sup> *Id.* at 10-18.

<sup>36</sup> *Id.* at 12-13.

<sup>37</sup> *Id.*

<sup>38</sup> *Id.* at 62-69.

financial terms were confidential.<sup>39</sup> He stated that there were two other direct abutters<sup>40</sup> that National Grid was committed to working with.<sup>41</sup> He also reiterated that National Grid had agreed to eliminate the screening wall and not install any landscaping on Mr. Smith's property.<sup>42</sup>

## V. ANALYSIS

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

- (1) the facility is needed,
- (2) 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,
- (3) the facility will not cause unacceptable harm to the environment, and
- (4) the facility 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.<sup>43</sup>

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 an advisory opinion as to the need for the Project.<sup>44</sup> The PUC conducted a hearing on September 27, 2016, during which it heard from four National Grid witnesses<sup>45</sup> and Gregory L. Booth, P.E., President of Power Services, Inc., a consultant to the Division of Public Utilities and Carriers (Division) who had been retained to review the need for and cost of the Project.

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<sup>39</sup> *Id.* at 18-21.

<sup>40</sup> Neither of those individuals intervened in this proceeding.

<sup>41</sup> Hr'g Tr. at 20.

<sup>42</sup> *Id.* at 20-21.

<sup>43</sup> SB-2016-01, Order No. 91 at 8-11.

<sup>44</sup> The need for the Project had been addressed in Section 3.0 of the Environmental Report and in Appendix A in the ER. Ex. No. NGrid-1B.

<sup>45</sup> National Grid presented Messrs. McIntyre and Fiku as well as David Campilii and Carlos Perez-Perez.

In its findings, the Commission stated that:

It is in the public interest of the State of Rhode Island to have a highly reliable utility system. We count on such a system to maintain safe and comfortable homes, businesses and schools and we require a reliable electric grid to maintain a strong economy. National Grid's proposed Aquidneck Island Reliability Project is necessary to meet the current reliability needs and future load growth needs. The proposed Project represents the most cost effective approach to meeting that need.<sup>46</sup>

The need for the Project was also summarized by Messrs. Fiku and McIntyre in their prefiled testimony to the EFSB.<sup>47</sup> Based on the PUC's unequivocal advisory opinion on the issue of need, the Board concluded that the Project is needed in order to meet ISO-NE reliability standards based on projected load growth in the region coupled with aging and obsolete equipment in the substation.

The second issue 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.<sup>48</sup>

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.<sup>49</sup> The Company

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<sup>46</sup> Board Ex. No. 4 at 10 (Nov. 2, 2016).

<sup>47</sup> National Grid Ex. Nos. 13A at 4-5, 13B at 4-6.

<sup>48</sup> SB-2016-01, Order No. 91 at 8-10, 14.

<sup>49</sup> *Id.* at 9.

estimated the cost of the Project to be \$63.9 million.<sup>50</sup> In its Advisory Opinion, the PUC noted that Messrs. Fiku, Perez-Perez, and Campilii had testified to the alternatives for the Project including a “No-Build” alternative, alternate overhead routes and configurations, underground alternatives and non-transmission alternatives.<sup>51</sup> Mr. McIntyre had discussed the alternative locations for the new Jepson Substation.<sup>52</sup> The Division had presented its consultant, Gregory L. Booth. The PUC noted that Mr. Booth had “indicated that he would absolutely recommend building the substation on the proposed site.”<sup>53</sup>

The PUC concluded that the proposed configuration represents the most cost-effective pricing for Rhode Island ratepayers, because a large portion of the transmission related costs will be regionalized.<sup>54</sup> 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 eight agencies and officials: the Middletown and Portsmouth Town Councils, Middletown and Portsmouth Zoning Boards of Review, the Middletown and Portsmouth Building Officials, the Rhode Island Historical Preservation and Heritage Commission, and the Rhode Island Department of Transportation (RIDOT). The Portsmouth Planning Board found the Project and its components to be consistent with the Towns Comprehensive Plan.<sup>55</sup> The Portsmouth Town Council voted to

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<sup>50</sup> National Grid Ex. Nos. 1B, Section 4.6; 13A at 7.

<sup>51</sup> National Grid Ex. Nos. 1B, Section 2.4; 13A at 5-7.

<sup>52</sup> Board Ex. No. 4 at 7-8; National Grid Ex. No. 13B at 7-8.

<sup>53</sup> Board Ex. No. 4 at 9.

<sup>54</sup> *Id.* at 6.

<sup>55</sup> Board Ex. No. 2.



approve the application for a sound variance subject to certain restrictions.<sup>56</sup> The Portsmouth Zoning Board granted National Grid's request for a special use permit for an access driveway to the new Jepson Lane Substation. It also granted National Grid's request for a dimensional variance for the height of the towers, conditioned on National Grid guaranteeing that no pole will hit an existing house in the event of failure and providing copies to the Town of all environmental studies and results relating to the new and existing substations on Jepson Lane.<sup>57</sup> The Portsmouth Building Inspector did not issue an advisory opinion.

The Middletown Town Council approved National Grid's requested relief from the town noise ordinance with conditions.<sup>58</sup> The Middletown Zoning Board denied National Grid's requests for a special use permit and for a dimensional variance for the twenty-foot screening wall. The Zoning Board approved the petition for a dimensional variance for the eight-foot barbed wire fence.<sup>59</sup> Both the Middletown Planning Board and the Middletown Building Inspector issued negative Advisory Opinions. The Planning Board found that National Grid did not demonstrate compliance with the Town's stormwater management ordinance, did not address the proposed clearing and filling of land within the 100-foot wetland buffer or the impact on the rural roadside character, and did not provide an analysis on actual sound levels from similar installations and one that factored in the impact of the proposed sound wall around the perimeter of the substation.<sup>60</sup> The Middletown Building Inspector found that National Grid's soil erosion and sediment control plan did not comply with its ordinance, National Grid's stormwater management plan did not meet Middletown's stormwater management ordinance, and the

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<sup>56</sup> Board Ex. No. 1.

<sup>57</sup> Board Ex. No. 3.

<sup>58</sup> Board Ex. No. 11.

<sup>59</sup> Board Ex. No. 10.

<sup>60</sup> Board Ex. No. 8.

Company's plans did not meet the requirements of the Town's comprehensive plan.<sup>61</sup> The Rhode Island Historical Preservation and Heritage Commission submitted an Advisory Opinion noting no objection to the Project. It concluded that, based on its review, the proposed Project will have no adverse impact on historic properties.<sup>62</sup>

Finally, the Board considered whether a waiver from certain laws would be justified. The Act authorizes the Board to grant waivers from the requirements of laws, regulations, and ordinances that, in the absence of the Act, would apply to a Project. The standard for granting a waiver is that "public health, safety, welfare, security and need for the proposed facility justifies [the] waiver."<sup>63</sup> In deciding whether to grant a waiver, the Board is guided by the General Assembly's legislative findings in the Act. In particular, the General Assembly recognized that the overlapping jurisdiction among so many agencies created the potential for conflicting decisions to be issued over different aspects of the siting process.<sup>64</sup>

National Grid requested a waiver from the Town of Portsmouth Zoning Board of Review condition that the new transmission line structures be designed in a way that would prevent a failed structure from falling on an existing home. Mr. Fiku provided unrebutted testimony that the structures are designed not to fail.<sup>65</sup> He provided that in the event a structure were to fall, the tension from the attached wires would cause the structure to collapse along the transmission line alignment and within the right-of-way.<sup>66</sup> Based on this unrebutted testimony, the Board finds that a waiver of this condition is justified. Because the Town of Middletown and National Grid were able to come to agreement on the design of the substation yard and the outstanding issues

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<sup>61</sup> Board Ex. No. 9.

<sup>62</sup> Board Ex. No. 7.

<sup>63</sup> R.I. Gen. Laws § 42-98-11(b)(2).

<sup>64</sup> R.I. Gen. Laws § 42-98-1(b).

<sup>65</sup> National Grid Ex. 13A at 14.

<sup>66</sup> *Id.* at 15.

regarding the stormwater management and soil erosion and control ordinances, the Board does not need to address these two issues or grant a waiver from the Town of Middletown's requirements.

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.<sup>67</sup>

National Grid provided an extensive analysis of the environmental impact of the Project in its Environmental Report, 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). Ms. Moberg 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.<sup>68</sup> Specifically, she contributed to the Environmental Report, which described the geology, soils, water resources, vegetation, wetlands, wildlife, air quality, and noise conditions of the Study Area.<sup>69</sup> After summarizing the conditions, she described the impact analysis that she and other Project personnel had performed.<sup>70</sup> She then summarized the potential impacts of the Project on the resources she had described previously.<sup>71</sup>

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<sup>67</sup> 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.

<sup>68</sup> National Grid Ex. No. 13C.

<sup>69</sup> National Grid Ex. No. 13C at 1; National Grid Ex. No. 1B, Sections 6.0-9.0.

<sup>70</sup> National Grid Ex. No. 13C at 3.

<sup>71</sup> *Id.* at 4.

Ms. Moberg testified that she supervised the preparation of the DEM wetlands application and the Army Corps of Engineers permit application.<sup>72</sup> Finally, Ms. Moberg expressed her opinion that the Project “will not result in significant or unacceptable harm to the natural environment.”<sup>73</sup> She provided that National Grid will implement a robust soil erosion and sediment control plan and deploy erosion and sediment control best management practices. Moreover, National Grid will have all activities overseen by an environmental monitor who will be given authority to stop work if necessary and will be responsible for daily reporting.<sup>74</sup>

Both Mr. McIntyre and Mr. Fiku discussed the public outreach in their prefiled testimony and during the public comment hearings.<sup>75</sup> Mr. Fiku noted that National Grid conducted an extensive community outreach effort, including in-person discussion with abutters, public meetings, and print and social media.<sup>76</sup>

Finally, the EFSB Rules of Practice and Procedure require an applicant seeking a license in connection with the construction or modification of transmission lines to 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.”<sup>77</sup> National Grid provided information on electric and magnetic fields in Section 7.8 of the Environmental Report (Description of Affected Social Environment) and in Section 8.16 (Impact Analysis). In addition, it included as Appendix B to the Environmental Report a paper entitled “Current Status of Research on Extremely Low Frequency Electric and Magnetic Fields

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<sup>72</sup> *Id.* at 1-2.

<sup>73</sup> *Id.* at 8.

<sup>74</sup> *Id.*

<sup>75</sup> Hr’g Tr. at 33-34 (Mar. 24, 2016); National Grid Ex. No. 13A at 17.

<sup>76</sup> National Grid Ex. No. 13A at 17-18.

<sup>77</sup> Energy Facility Siting Board Rules of Practice and Procedure, Rule 1.6(b)(12).

and Health: Rhode Island Transmission Projects – The Narragansett Electric Company d/b/a National Grid (March 9, 2015)” prepared by Exponent.<sup>78</sup>

In his prefiled testimony, National Grid witness Dr. William H. Bailey, of Exponent, described electric and magnetic fields. He described the sources of such fields and provided calculations of electric and magnetic field levels under existing conditions and after construction of the Project.<sup>79</sup> Dr. Bailey also discussed a number of standards for EMF exposure.<sup>80</sup> He testified that “at very high EMF levels, acute stimulation of nerves and muscles can result.”<sup>81</sup> He noted that 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.<sup>82</sup>

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

the studies reviewed 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.<sup>83</sup>

Dr. Bailey confirmed that National Grid’s design of the Project, intended to minimize the potential for increased EMF exposure, was consistent with the recommendations of the National Institute of Environmental Health Sciences and the WHO. He stated that

National Grid has proposed to rebuild and upgrade existing transmission lines on an existing right-of-way at a higher voltage to minimize the areal spread of EMF in the area and also proposed to optimize the phasing configuration of the upgraded

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<sup>78</sup> National Grid Ex. No. NGrid-2, Sections 7.8 and 8.16, Appendix B.

<sup>79</sup> National Grid Ex. No. 13E at 4 (Mar. 3, 2017).

<sup>80</sup> *Id.* at 9-10.

<sup>81</sup> *Id.* at 9.

<sup>82</sup> *Id.* at 9-10.

<sup>83</sup> *Id.* at 11.

lines to minimize the fields outside the right-of-way by promoting the mutual cancellation of fields from the lines.<sup>84</sup>

In his testimony, he also noted that after construction of the lines and the new substation, the electric fields at the edge of the right-of-way and entering the substation are reduced.<sup>85</sup> Finally, he pointed out that the Department of Health did not recommend any modifications to National Grid's proposed design to minimize magnetic fields.<sup>86</sup>

In the Preliminary Order, the Board requested that the Rhode Island Department of Health (DOH) 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 Facility" and that it also review and comment on the Exponent report. On November 7, 2016, DOH filed an Advisory Opinion. The Advisory Opinion stated that the proposed modifications will reduce the strength of EMF's adjacent to the right-of-way to levels which are much lower than even the most conservative international guideline.<sup>87</sup> DOH concluded that "the health impact of the proposed changes will be either negligible or slightly positive."<sup>88</sup>

At the request of National Grid, EDR prepared an assessment of the potential visibility and visual impact of the Project. The visual impact analysis (VIA) included "viewshed analysis, field evaluation, computer-assisted visual simulations, and the evaluation of the Project's visual contrast and overall impact by a panel of landscape architects."<sup>89</sup> In prefiled testimony, Messrs. Hecklau and Breitzka explained that, as a result of the analyses conducted in the visual impact assessment, they concluded that "the proposed Project will result in a modest increase in

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<sup>84</sup> *Id.* at 12.

<sup>85</sup> *Id.* at 8-9.

<sup>86</sup> *Id.* at 12-13.

<sup>87</sup> Board Ex. No. 6 at 6 (Nov. 7, 2016).

<sup>88</sup> *Id.*

<sup>89</sup> National Grid Ex. No. 1D, Section 8.10.

transmission line visibility when compared to existing visibility. However, it is likely to have an effect on the visual/aesthetic character of some near foreground views within the study area.”<sup>90</sup>

They explained their conclusions in great detail.<sup>91</sup>

Messrs. Hecklau and Breitzka also noted that siting “the proposed lines within an existing transmission corridor significantly reduces adverse impacts by avoiding the need for additional right-of-way clearing and minimizing perceived change in land use.”<sup>92</sup> They also provided that the natural brown color of the self-weathering poles would blend well with the surrounding vegetation.<sup>93</sup> Further, they noted that removal of the existing Jepson Substation will reduce visual impacts.<sup>94</sup>

The Board thoroughly reviewed the extensive report from Exponent and testimony from Dr. Bailey on the issue of EMF.<sup>95</sup> Dr. Bailey’s conclusions were confirmed by the DOH.<sup>96</sup> Ms. Moberg’s testimony and the employment of an environmental monitor provided the Board with the assurance that National Grid will engage in continual mitigation measures to protect environmental resources.<sup>97</sup> Any issues regarding the environmental resources and impacts were resolved by the parties and, at the hearing the testimony of National Grid’s witnesses was uncontroverted. Additionally, the Statewide Planning Program specifically noted in its Advisory Opinion that the visual impacts caused by the Project will be very limited.<sup>98</sup> Based on the evidence before it, the Board determined that the Project, as proposed by National Grid, will not cause unacceptable harm to the environment.

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<sup>90</sup> National Grid Ex. No. 13D at 10.

<sup>91</sup> *Id.* at 10-12.

<sup>92</sup> *Id.* at 13.

<sup>93</sup> *Id.*

<sup>94</sup> *Id.*

<sup>95</sup> National Grid Ex. No. 1B, Appendix B (Dec. 29, 2015); National Grid Ex. 13E (Mar.3, 2017).

<sup>96</sup> Board Ex. No. 6 (Nov. 7, 2016).

<sup>97</sup> National Grid Ex. No. 13C (Mar. 3, 2017).

<sup>98</sup> Board Ex. No. 5 at 30 (Nov. 21, 2017).

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. In its Advisory Opinion, the Statewide Planning Program found the Project to be consistent with the State Guide Plan and made the following findings regarding the Project:

- that it is not likely to result in any significant population changes in either town.
- that it will not unfairly impact federally-protected populations.
- that there will be no significant impact to the number of housing units that exist with either town.
- that there will be little to no impact on school and library services.
- that there will be little to no impact on police, fire, and emergency services.
- that the visual impacts caused by the Project will be very limited.
- that it will have a positive impact on the State's economy
- that the construction will result in positive revenue benefits to the State.<sup>99</sup>

The Board also asked Statewide Planning to provide an advisory opinion on the consistency of the Project with the State Guide Plan. After conducting its rigorous analysis of the Project, the Statewide Planning Program concluded in its Advisory Opinion 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.<sup>100</sup>

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<sup>99</sup> *Id.*

<sup>100</sup> *Id.* at 30-31.



Based on this Advisory Opinion, the Board found that the Project will enhance the socioeconomic fabric of the State and consistent with the State Guide Plan.

## VI. *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 was provided with comprehensive testimony from National Grid witnesses on all aspects of the Project, as well as comments from members of the general public. Based on the Board's review of the record and its findings of fact, discussed above, the Board reached 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 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 needed and is the best and most cost-effective alternative. 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 lines 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 finds that the Project will comply with laws that would otherwise be applicable absent the Act. The Board finds that waiver of the Town of Portsmouth Zoning Board

of Review's requirement that National Grid guarantee that in the event of failure and falling, a pole not hit a house, is appropriate and well supported by the evidence in the record.

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

Based on the testimony of the witnesses and the other evidence, 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

**( 113 ) ORDERED:**

1. The application of The Narragansett Electric Company d/b/a National Grid for a license to construct the Aquidneck Island 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.

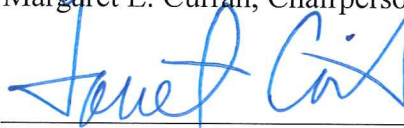
2. The Narragansett Electric Company d/b/a National Grid shall keep all abutters and individuals whose property will be accessed in the course of the Project apprised of the Project schedule with as much advance notice as possible.

DATED AND EFFECTIVE AT WARWICK, RHODE ISLAND ON JUNE 13, 2017  
PURSUANT TO AN OPEN MEETING DECISION ON JUNE 13, 2017. WRITTEN ORDER  
ISSUED AUGUST 18, 2017.

ENERGY FACILITY SITING BOARD



Margaret E. Curran, Chairperson



Janet Coit, Member



Parag Agrawal, Member



**NOTICE OF RIGHT OF APPEAL** PURSUANT TO R.I. GEN. LAWS 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.