STATE OF RHODE ISLAND AND PROVIDENCE PLANTATION

ENERGY FACILITY SITING BOARD

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

Pre-Filed Rebuttal Testimony of

Daniel McIntyre, P.E.

March 24, 2017

Q. Please state your full name and business address.

A. My name is Daniel McIntyre. My business address is 40 Sylvan Road, Waltham, Massachusetts 02451.

Q. Have you previously filed testimony in this matter?

A. Yes, I filed prefiled testimony in this docket on March 3, 2017.

Q. Have you reviewed the prefiled testimony of Steven M. Cabral that was filed on behalf of the Town of Middletown?

A. Yes.

Q. Would you please summarize the construction phases for the proposed new Jepson Substation?

A. The substation construction work will be done in a progression of activities which will likely proceed in the following manner:

1. Vegetation clearing;
2. Installation of erosion and sediment controls;
3. Relocation of the existing 69 kV transmission line to the north of the substation site;
4. Site preparation including the retaining wall construction and fence installation;
5. Installation of foundations and equipment support structures;
6. Installation of electrical equipment;
7. Connection of the new 115 kV transmission lines into the station and removal of the 69 kV transmission bypass; and

8. Restoration of the site including installing pavement and remaining landscaping.

We intend to install the landscaping along the southern property as soon as the fence is constructed. The timing of construction with the planting seasons may affect this work. Upon putting the new substation in service, work will commence on removal of the existing Jepson Substation and restoration of that site.

National Grid will retain the services of an environmental monitor throughout the entire construction phase of the project. The purpose of the environmental monitor will be to perform site inspections, ensure compliance with all applicable permit conditions, maintain adherence to National Grid policies, and monitor effectiveness of and propose modifications to erosion and sediment controls.

Q. Are soil erosion controls included in the construction process?

A. Yes, these controls are noted in Section 4.3.1 of the Environmental Report ("ER") and were described in greater detail on the plans ("Site Plans") and reports submitted to the Town of Middletown on November 8, 2016 in connection with National Grid's applications to the Middletown Planning Board and Zoning Board of Review (Site Plans are attached as Attachment DM-5). We also provided a complete copy of the documents to Mr. Cabral. Updated versions of the Site Plans were submitted to the Rhode Island Department of Environmental Management ("RIDEM") as part of National Grid's Freshwater Wetlands Application.

Q. Does site preparation include clearing the land for the substation?

A. Yes. It also includes the area needed for the temporary relocation of the 63 Line and distribution work required for the new substation.

Q. Is it fair to call the cleared land the "construction area"?

A. Yes.

Q. How would you characterize the construction area?

A. ER Figure 2-3 shows the area where the substation will be constructed. The majority of the area is previously disturbed as evidenced by the transmission lines, low shrub and tree growth, meadow and remnants of a paved driveway from a previous use before National Grid's ownership. The rest of the construction area, particularly to the north of the construction area and along the southern property line, is dense overgrown shrubs with trees which could be characterized as wooded.

Q. On page 3, line 86 of Mr. Cabral's testimony, he references the construction area for the proposed Jepson Substation site as being 5 acres and later on page 5, line 148 he references it as being 5.6 acres. Would you please confirm the acreage of the construction area for the proposed Jepson Substation?

A. Construction of the new Jepson Substation and temporary relocation of the 63 Line will disturb 5.1 acres.

Q. How much of this area is wooded?

A. Approximately 1.5 acres of the 5.1 acre construction area are wooded and will be cleared. It should be noted that we are not clearing all of the trees on the eastern portion of the property where the substation is proposed. The limit of disturbance established around

the substation construction area (5.1 acres) is intended to preserve existing trees along the southern property line and a wooded area to the north of the substation.

Q. Does the proposed Project include the restoration of the construction areas outside of the substation yard?

A. Yes. Although 5.1 acres will be disturbed by construction, the substation itself is only 3 acres. Most of the area, approximately 1.8 acres, outside the fence enclosure disturbed during construction will be restored with landscaping. The remaining 0.3 acres of the construction area includes the two driveway entrances and the access road to the existing transmission and distribution lines leaving the substation to the west. Details of the restoration are shown on the Landscape Plan (See Attachment DM-6) and Oblique Rendering (See Attachment DM-7).

Q. Are you familiar with the topography of the proposed site?

A. Yes. I have reviewed the survey of the site that was prepared by Garofalo & Associates, Inc. dated May 1, 2015 that was included with the Site Plans. The survey shows the property sloping away from Jepson Lane towards the wetlands in the middle of the property at approximately a 6.5% grade.

Q. Were the finished grades for the proposed substation submitted to the Town of Middletown?

A. Yes. The finished grades were shown on the Site Plans.

Q. Please describe the finished topography for the proposed new Jepson Substation.

A. As shown on C-3 of Attachment DM-5, the proposed yard will be a 1% slope from Jepson Lane toward the wetlands in the center of the property, over a distance of about

350 feet. This is being accomplished by cutting existing grades 2 to 3 feet along the eastern fence line at Jepson Lane and filling 12 to 16.5 feet along the western fence line.

Q. Will the substation yard will be at the same grade as Jepson Lane?

A. No. The substation yard will be approximately 1 to 3 feet below Jepson Lane depending on location. The elevation of Jepson Lane starts at 184 feet above sea level at the southern driveway entrance, increases to elevation 187 feet above sea level near the center of the yard and then drops back to 186 feet above sea level at the main driveway entrance (northern curb cut). The elevation of the proposed fence line along Jepson Lane varies from 183 to 184 feet above sea level.

Q. On page 3 lines 89 through 90 of his prefiled testimony, Mr. Cabral states that the grade changes require a 440 foot long retaining wall along the western edge of the substation. Are you familiar with the retaining wall he is referring to?

A. Yes.

Q. Would you please summarize the need for the retaining wall.

A. As explained above, the substation yard will be graded at a fairly level 1% slope which requires the grade to be raised at the west side of the substation yard. This is generally accomplished by construction of a 2 horizontal to 1 vertical embankment slope from outside the fence line to the existing grade. In the interest of limiting impacts to the wetland resources, the alternative of a retaining wall was selected.

Q. Please describe the location and dimensions of the retaining wall.

A. The wall is located primarily along the western side of the substation. It is 530 feet long and varies in height from 0 at the southern and northern ends to a maximum of 16.5 feet

along the wetland resources. Its starting point is where the proposed screening wall ends as shown on Sheet C-2 of Attachment DM-5.

Q. On page 4 lines 92 through 93 of his prefiled testimony, Mr. Cabral states that "[n]o details of the twenty (20) foot tall Sound Wall were contained in the Project documents." Would you please describe when and where information on the proposed wall was provided to the Town of Middletown.

A. The wall location is shown on the Site Plans that were provided to the town. In addition, the visual simulations were included with my prefiled testimony to the Public Utilities Commission ("PUC"), copies of which were provided to the Town of Middletown as part of the PUC proceedings and the proceedings before the Middletown Technical Review Committee. In addition, photographs of typical installations showing the wall aesthetics were provided at the Technical Review Committee and at the Middletown Planning Board and Zoning Board of Review hearings.

Q. Please summarize the height and location of the proposed screening wall.

A. As currently proposed, the wall would be 300 feet long and 20 feet high. It would be located at the fence line of the substation and replaces the chain link fence along its length. The wall would start about 55 feet off Jepson Lane and end at the point where the retaining wall starts. The proposed grade change along the wall length would be zero closest to Jepson Lane and a 6 foot increase at the opposite end of the wall.

Q. What is the purpose of the proposed wall along the southern property line?

A. The wall is being proposed as a screening wall to supplement the landscaping and provide complete and immediate screening of low level equipment in the substation yard

to the southern abutters. The attached renderings show the effect of the wall from a viewpoint on Jepson Lane looking northwest (Attachment DM-8) and the view with and without the wall looking northeast from the backyard of Mr. Smith's property at 519 Jepson Lane (Attachments DM-9A, DM-9B, and DM-9C). In addition, the wall provides attenuation of the sound level to well below the Town of Middletown's noise ordinance limits. However, as noted on page 18, line 20 to page 19, line 7 of my prefiled testimony, the sound attenuation is not needed as the expected increase over ambient noise would be in the range barely perceptible to the human ear.

Q. Are you familiar with Mr. Cabral's assertion that the existing substation can be operated and maintained in its current location.

A. Yes, he is referring to a statement in Section 3.3.2 of the ER about the current asset conditions of the substation.

Q. Do you agree with his assertion?

A. I agree with the statement in the ER that reads "[w]hile it is possible to operate and maintain the existing substation in this location, it is not an ideal location for new substation equipment." This is the last sentence of the summary of the asset condition studies that detailed all of the items requiring repair or replacement at the substation. I agree with the statement that the existing property is not an ideal location for a substation because it is located next a water supply reservoir and because it is in Zone "A" of Portsmouth's Watershed Protection District. As for the possibility of operating and maintaining the existing substation in this location, the statement in the ER concerns

maintaining the current configuration with all of its flaws and has nothing to do with upgrading the existing substation to accept the proposed 115 kV lines.

Q. Can the existing substation be upgraded to accept the new 115 kV transmission lines?

A. No.

Q. Why isn't it possible to upgrade the existing substation?

A. The existing substation is designed to accept 69 kV transmission lines and transform that voltage to 4 kV, 13 kV and 23 kV for distribution to customers. The new substation will be operated at 115 kV which requires different size equipment and larger safety clearances.

Q. Do you agree with Mr. Cabral's assertion on page 7, lines 260 through 261 of his prefiled testimony that a construction scheme is necessary to fully evaluate an alternative site?

A. No. Detailed construction plans are not required to evaluate alternative sites. A qualitative review of the parcel size and location, known environmental resources, and zoning of each site is performed to compare the various sites and how these factors would affect the permitting and construction of a substation. If a fatal flaw to project development is discovered during the review, there is no further consideration of the site. For this reason, a detailed design and estimate of cost of each alternative site was not performed for this level of analysis.

Q. Did National Grid reject the use of the existing parcel because of costs or difficulty to construct?

A. No. As noted in my prefiled testimony, the Public Utilities Commission Docket No. 4614 – Response No. R-II-1, and the ER, the site was rejected because of space

constraints, construction complexities, proximity to a water supply reservoir, proximity to an abutter, an electrical layout with limitations for long term operation and maintenance activities, and greater visual impacts. Renderings of Option 1 – Re-Use of Existing Jepson Substation Parcel, Attachment DM-10, demonstrate the proximity to the abutter and the greater visual impacts:

1. Oblique Rendering;
2. Street-Level Rendering;
3. Jepson Lane – View to the North – Existing View;
4. Jepson Lane – View to the North – Rendering;
5. Jepson Lane – View to the Southeast – Existing View; and
6. Jepson Lane – View to the Southeast – Rendering.

The site was rejected without a detailed constructability analysis because an alternative site existed that was clearly superior with respect to all of the issues mentioned above. Additional analysis of the construction complexities or cost would not resolve the issues associated with the congested substation layout, proximity to a water supply reservoir, proximity to abutters, and visual impacts.

Q. Does this complete your testimony?

A. Yes.

ATTACHMENTS

DM-5	Site Plans – Aquidneck Island Reliability Project Issued: October 14, 2016
DM-6	Landscape Plan
DM-7	Oblique Rendering
DM-8	Rendering of Proposed Substation from Jepson Lane looking northwest (5-7 years maturity)
DM-9A	Renderings of Proposed Substation from Mr. Smith's Backyard looking northeast (existing conditions)
DM-9B	Renderings of Proposed Substation from Mr. Smith's Backyard looking northeast (landscape screening at 5 years maturity and no screening wall)
DM-9C	Renderings of Proposed Substation from Mr. Smith's Backyard looking northeast (landscape screening at 5 years maturity and screening wall)
DM-10	Renderings of Option 1 – Re-Use of Existing Jepson Substation Parcel