

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

In re The Narragansett Electric Company :
d/b/a National Grid and Clear River Energy LLC : Docket No. SB-2017-01
(Burrillville Interconnection Project) :

Pre-Filed Testimony of

James Durand, PWS

In support of the Joint Application of

The Narragansett Electric Company d/b/a National Grid

and Clear River Energy LLC

August 24, 2018

EXECUTIVE SUMMARY

Jamie Durand is an Environmental Project Manager for Power Engineers. He has approximately twenty-nine years of experience in performing natural resource surveys, environmental licensing and permitting, and environmental compliance monitoring. Mr. Durand's testimony focuses on the existing environmental conditions and potential natural and social environmental impacts from the Burrillville Interconnection Project ("Project"), and the mitigation that will be employed during the construction of the Project. Mr. Durand also responds to comments and questions that were noted in the advisory opinions from the Rhode Island Department of Environmental Management, Burrillville Planning Board, and the Burrillville Building Inspector. Mr. Durand opines that majority of the impacts would be limited to short-term construction impacts; and permanent or longer-term affects from the Project will be mitigated. Considering the limited impacts that are consistent with previous transmission line projects, he concludes that the proposed Burrillville Interconnection Project will not cause unacceptable harm to the environment and the impacts are within standards for acceptable environmental impacts approved by the State on previous projects.

1 **Q. Have you previously testified before the Energy Facility Siting Board?**

2 A. Yes, I testified before the EFSB for The Narragansett Electric Company d/b/a National
3 Grid's ("TNEC") Interstate Reliability Project, the Providence River 115 kV Cable
4 Relocation Project, and the T7 115kV Transmission Line Reconductoring Project.

5 **Q. Are you familiar with TNEC's and Clear River Energy LLC's ("CRE") Burrillville
6 Interconnection Project (the "Project")?**

7 A. Yes, I prepared and compiled the Environmental Report ("ER") submitted for the Project
8 and have also contributed to the preparation of the Rhode Island Department of
9 Environmental Management ("RIDEM") Freshwater Wetlands permit application and
10 Section 401 Water Quality Certificate application, and the U.S. Army Corps of Engineers
11 ("ACOE") Section 404/10 permit application for the Project.

12 **Q. Are you familiar with the environmental conditions of the Project Right of Way
13 ("ROW")?**

14 A. Yes, I have studied the Project ROW consisting of existing transmission line ROW from
15 the Sherman Road Switching Station to the proposed Clear River Energy Center
16 generation facility ("CREC"). I supervised the field data collection, wetland and
17 watercourse delineations, vernal pool surveys, and mapping for the majority of the
18 Project ROW. I also participated in and reviewed the constructability field reviews along
19 the entire length of the ROW and at the switching station site.

20 **Q. Please summarize the environmental conditions in the Project ROWs.**

1 A. The environmental assessment actually extended beyond the Project ROWs to a Study
2 Area consisting of a 5,000-foot-wide corridor extending 2,500 feet on either side of the
3 centerline of the proposed transmission line (3052 Line). The existing natural
4 environmental conditions of the Study Area are described in Chapter 6 and portions of
5 Chapter 7 of the ER and can be summarized as follows:

6 Geology and Surficial Geology – The Study Area is comprised of predominantly
7 glacial till, with pockets of glaciofluvial deposits known as outwash deposits and ice
8 contact deposits interspersed throughout. Glacial till is material carried and directly
9 deposited by glacial ice with little or no reworking by running water. Therefore, this
10 material is not well sorted and the stones are not well rounded. Glacial till is non-
11 stratified glacial drift consisting of clay, silt, sand, stones, and boulders transported and
12 deposited by glacial ice. Glaciofluvial deposits, often referred to as glacial outwash, were
13 deposited by the abundant meltwater which flowed from the shrinking glacier.

14 Glaciofluvial deposits are typically composed of well-rounded stones and sorted silt, sand
15 and gravel deposited in recognizable layers by glacial meltwater. Significant areas of
16 glacial outwash are located in almost every town and city in the State. Some of these
17 areas are capped with windblown deposits of silt, known as loess. The boundary between
18 areas of till and outwash deposits is often characterized by an abrupt change in slope.

19 Soils – There are 30 named soil series that were mapped by the Natural Resources
20 Conservation Service within the Study Area. The majority of these soils are moderately
21 well to well drained. Five of the soil series present within the Study Area are poorly to

1 very poorly drained. There are 16 soil series that are considered susceptible to erosion
2 due to the slope of the landscape and soil texture.

3 Surface Water Resources – The Study Area is located within the Clear River sub-
4 basin of the Lower Blackstone River watershed. The Clear River flows in a north to south
5 direction across the TNEC ROW east of Wallum Lake Road (Route 100). Round Top
6 Brook and Chockalog Brook also cross the TNEC ROW and are both included in the
7 Clear River sub-basin of the Lower Blackstone River watershed. Round Top Pond is
8 located approximately one mile to the northwest of the Study Area and Wilson Reservoir
9 is located approximately one mile to the east of the Study Area. Tributaries of Dry Arm
10 Brook run in a north/northeast direction to the northeast and east of the Project. Western
11 portions of the Study Area fall within the Upper Five Mile River Watershed. The major
12 surface water resources and classifications within the Study Area and water resources
13 crossed by the Project include Chockalog River, Round Top Brook, Big Round Top
14 Pond, Little Round Top Pond, unnamed tributaries to Wakefield Pond, tributaries to
15 Wilson Reservoir, Card Machine Brook, Mowry Brook, Clear River, Dry Arm Brook,
16 Round Pond and tributaries thereto.

17 Groundwater Resources - Groundwater resources within the Study Area are
18 depicted on Figure 6-4. The majority of the groundwater resources in the Study Area,
19 approximately 89 percent, are classified by the RIDEM as GA (RIDEM designates
20 approximately 71 percent of groundwater Rhode Island as GA), and approximately 1.0
21 percent of the groundwater resources in the Study Area are classified as GAA. GAA

1 groundwater resources are known or presumed to be suitable for drinking water use
2 without treatment and are either a part of the state’s major stratified drift aquifers that are
3 capable of serving as a significant public supply source, or are a RIDEM delineated
4 wellhead protection area. The area designated as GAA is located outside of and at the
5 southern edge of the Project ROWs. The balance of groundwater resources in the Study
6 Area are located in Massachusetts and were not evaluated for the purposes of this
7 description. A portion of the Study Area is located within Burrillville Zone A-80 which
8 is an Aquifer Overlay Zone, but the ROW is not in this area.

9 Vegetation – The Study Area contains a variety of vegetative cover types typical
10 of Southern New England, including terrestrial and aquatic habitat types, such as
11 oak/pine and hemlock forest, old field community, upland scrub-shrub community,
12 managed lawns/grasslands, agricultural and pasture fields, and freshwater wetlands.

13 Wetlands – A total of 81 freshwater wetlands were identified and delineated
14 within the Project ROW. The wetland boundaries were mapped by POWER and have
15 been used in planning, configuring and permitting the proposed facilities. The freshwater
16 wetland classifications present include pond, swamp, marsh/emergent wetland/wet
17 meadow, river/perennial wetland, stream/intermittent stream, riverbank area,
18 shrub/forested wetland, floodplain, area subject to flooding (“ASSF”), special aquatic site
19 (vernal pool), palustrine forested wetland, palustrine emergent wetland, and palustrine
20 open water. A total of 14 perennial watercourses and 28 intermittent streams were
21 mapped within the Project ROW.

1 Wildlife – The Project ROW provides a variety of aquatic and terrestrial habitats.
2 The wildlife assemblages present within the Project ROW vary according to habitat
3 characteristics. Many animal species use the habitats provided along the Project ROW as
4 their homes, feeding and breeding grounds, migration corridors or nurseries, and many
5 plant species adapt to the growing conditions provided within the managed portions of
6 the ROW. The maintained landscape on the existing ROW provides important scrub-
7 shrub successional habitat for regionally common species, as well as an assortment of
8 state-listed rare species. Communications with the Rhode Island Natural History Survey
9 and the Rhode Island Natural Heritage Program, and subsequent field surveys, resulted in
10 the identification of five state-listed plant species, and the observation of one state-listed
11 species of reptile. Consultations with the U.S. Fish and Wildlife Service indicated the
12 potential occurrence of one Federal-listed mammal, but follow-up consultation with the
13 RIDEM, Division of Fish and Wildlife confirmed that the specific habitat characteristics
14 of this species were not known to occur in the Project ROWs.

15 Air Quality – The status of the State Implementation Plan developed by the
16 RIDEM to meet the National Ambient Air Quality Standards is discussed in detail in
17 Section 6.9, Page 6-26 of the ER.

18 Noise –The Study Area is characterized predominantly by rural and suburban
19 environments, with some commercial land uses, where ambient sound levels are
20 influenced by diverse factors such as vehicular traffic, commercial and industrial

1 activities, and outdoor activities typical of both rural and developed environments.

2 Receptors to noise include residences and designated recreational areas.

3 **Q. Have you evaluated the potential impacts of the Project?**

4 A. Yes, I and other Project personnel from POWER have evaluated the potential
5 environmental impacts associated with the construction and operation of the Project. The
6 impact analysis was performed in the following steps:

- 7 • A desk-top analysis and literature search was performed to assess the existing
8 environment within and immediately surrounding the transmission line ROW. As
9 noted above, a Study Area consisting of a 5,000-foot-wide corridor extending
10 2,500 feet on either side of the centerline of the proposed transmission line (3052
11 Line) was evaluated for both natural and human/social criteria.
- 12 • Field surveys within the ROWs were performed to identify and delineate
13 freshwater wetlands, watercourses, vernal pools, state-listed rare species habitats,
14 cultural resources and other natural characteristics and features. This information
15 was incorporated onto environmental constraints mapping.
- 16 • Following the desk-top analysis, field delineation, and preliminary design,
17 comprehensive constructability reviews were conducted by a team of biologists,
18 engineers, archaeologists and contractors to evaluate the locations of proposed
19 structures and access roads. Proposed structure locations and other Project-related
20 facilities were adjusted based on engineering requirements, construction

1 feasibility, wetlands and watercourses, vernal pools, cultural resources and other
2 field considerations on a case-by-case basis.

- 3 • TNEC applied the three-tiered approach of avoiding, minimizing and mitigating
4 project-related impacts. Mitigation strategies are addressed in the ER and
5 compensatory wetland mitigation is in development.

6 **Q. Please summarize the types of environmental impacts you have reviewed.**

7 A. Environmental impacts that can be anticipated from the Project are described in Chapter
8 8 of the ER and can be summarized as follows:

9 Geology and Surficial Geology – The Project will have negligible impacts on
10 bedrock and surficial geologic resources. Bedrock may be encountered during installation
11 of the pole structures. If bedrock is encountered, the pole structures may be anchored to
12 the bedrock, depending on the depth to and quality of the rock. If the bedrock is
13 inadequate as a pole footing, it will be drilled, excavated or otherwise removed to the
14 required depth and a concrete footing will be installed. Excess rock generated from
15 excavation may be stockpiled at approved locations along the ROW, with landowner’s
16 permission, used to build barriers to inhibit unauthorized all-terrain vehicular use, or
17 removed from the site.

18 Soils – In general, the construction of the Project will result in some localized
19 changes in topography on the ROW to build level construction work pads for the
20 installation of the new structures, and to improve existing access roads or to build new
21 access routes on the ROW in order to provide safe passage for construction personnel and

1 equipment. Soil handling and stockpiling, and soil erosion and sediment controls and
2 other appropriate construction best management practices (BMPs) will be implemented in
3 accordance with National Grid's *Environmental Guidance (EG-303) Right-of-Way*
4 *Access, Maintenance, and Construction Best Management Practices* and the *Rhode*
5 *Island Soil Erosion and Sediment Control Handbook*.

6 Surface Water Resources - Any impacts to surface waters will be minor and
7 temporary. To the greatest extent feasible, access roads in uplands will be used to gain
8 access to structure locations. Where upland access is unavailable, surface waters will be
9 spanned with the use of temporary swamp mat bridges. Soil erosion and sediment
10 controls will be installed in conjunction with work activities in close proximity to surface
11 waters. National Grid's *Spill Prevention and Response Plan* will be adhered to in regard
12 to any inadvertent release to the environment.

13 Groundwater Resources - Potential impacts to groundwater resources within the
14 transmission ROW as a result of construction are expected to be negligible. Equipment
15 used for construction will be properly inspected, maintained and operated to reduce the
16 chances of spill occurrences. Refueling equipment will be required to carry spill
17 containment and prevention devices. Refueling of mobile equipment will only occur in
18 upland areas. Temporary dewatering may occur during drilling and excavation for some
19 of the structure foundations. Proper dewatering methods in accordance with National
20 Grid's EG-303 will be adhered to including placing and operating pumps within
21 secondary containment devices.

1 Vegetation - The objective of National Grid's vegetation management program is
2 to maintain safe access to its transmission facilities and to promote the growth of
3 vegetative communities that are compatible with the operation and maintenance of the
4 transmission lines. National Grid implements an Integrated Vegetation Management
5 approach along its ROW to maintain early successional cover types that provide habitat
6 for native species of fauna and flora. Tree clearing is required to meet the horizontal and
7 vertical clearance requirements for the new and relocated 345 kV transmission lines,
8 which will result in clearing ranging from approximately 55 to 85 feet in width along the
9 TNEC ROW, and clearing of a 150 foot wide corridor for the CREC ROW.
10 Approximately 64 acres of upland forest will be cleared within the TNEC and CREC
11 ROWs and will result in a conversion of forested habitat to scrub-shrub and emergent
12 habitats.

13 Wetlands – A comprehensive constructability field review was performed in an
14 attempt to avoid and minimize impacts to wetlands and water resources within the ROW.
15 This review included siting new pole structures in upland areas to the extent feasible and
16 proposing access road improvements in uplands, again to the extent feasible. Due to the
17 length of the Project and varying landscapes traversed by the Project, it is not feasible to
18 avoid all wetland impacts. Construction of the Project will result in temporary,
19 permanent, and secondary impacts to wetlands. Temporary impacts (~8.29 acres) involve
20 the installation of temporary construction work pads (swamp mats) or swamp mat access
21 roads where practicable upland alternative access roads are unavailable. Permanent

1 wetland impacts (~0.18 acres) will result from the installation of new pole structures
2 where practicable upland alternative locations are unavailable, or where access road
3 improvements or the installation of permanent rock fords result in permanent fill.

4 Secondary impacts (~10.2 acres) will result from the removal of trees from forested
5 wetlands and the permanent conversion of forested cover type to scrub-shrub or emergent
6 cover types.

7 Clearing crews will follow forestry BMPs during mobilization and demobilization on the
8 ROWs. Construction BMPs call for soil erosion and sediment controls to be installed
9 immediately following vegetation removal activities where soils have been disturbed or
10 where clearing and mowing presents a risk of soil erosion. The soil and erosion controls
11 will be supplemented prior to construction-related earth-disturbing activities. TNEC will
12 also implement best management practices in compliance with the RIDEM *Wetland BMP*
13 *Manual: Techniques for Avoidance and Mitigation*. Temporary wetland impacts will be
14 restored by removal of the temporary construction matting and restoring the existing
15 contours and hydrology to the greatest extent practicable. A draft compensatory wetland
16 mitigation plan has been developed to mitigate for the temporary, permanent, and
17 secondary wetland impacts. The Applicants will consult with the federal, state and local
18 agencies and officials to finalize the overall mitigation plan for the Project.

19 Wildlife – During construction, temporary displacement of wildlife may occur
20 due to the presence of vegetation removal, tree clearing, and construction equipment.
21 Construction at individual transmission structures will occur at discrete areas and may

1 involve some localized impacts on avian breeding for areas proximate to the structure
2 sites. Construction activities are not anticipated to occur across the entire ROW
3 simultaneously, thereby reducing the construction-related disturbances to wildlife
4 utilization of the ROWs.

5 Tree removal along the ROWs will increase the scrub-shrub and emergent vegetation
6 habitats. Based on some of the published literature, the creation of additional shrub-land
7 habitat along the maintained ROWs would represent a long-term positive effect on
8 disturbance and scrub-shrub dependent species, since shrub-land habitat is otherwise
9 declining in New England. Scrub-shrub birds and other disturbance-dependent species
10 are now more dependent than ever on human activities to maintain the habitat required
11 for their survival. Transmission line ROWs are considered a major source of shrub-land
12 habitat.

13 TNEC has developed procedures for work in the vicinity of state-listed species habitats to
14 avoid and/or minimize adverse impacts to these localized populations.

15 Air Quality – Any impacts from fugitive dust will be of short duration and
16 localized. Crushed stone aprons will be installed at all access road entrances to public
17 roadways. Quantities of earth to be moved will be concentrated at pole structures and
18 along access roads and work pads. Exposed soils will be wetted and stabilized to
19 minimize air-borne particulate matter as appropriate. Dust suppression methods will be
20 used during drilling operations to minimize dust generation. Emissions produced by
21 construction equipment will be short-term and not generally considered significant.

1 TNEC will direct its contractors to equip diesel-powered non-road construction
2 equipment with emission control devices (to the extent that they are commercially
3 available). Vehicle idling will be minimized during the construction phase of the Project.
4 TNEC will direct the contractors to use ultra-low sulfur diesel fuel in its diesel-powered
5 off-road construction equipment of over 50 horsepower.

6 Noise – The existing, long-term ambient noise levels will not be altered by the
7 proposed transmission lines or switching station modifications. Construction-related
8 noise may affect certain receptors including residences and designated recreational areas.
9 However, construction-related noise resulting from the operation of construction
10 equipment and vehicles along the ROW will be temporary and intermittent, lasting only
11 for the duration of the construction period. Noise will result from the operation of
12 construction equipment and vehicles along the ROW. Proper mufflers will be installed on
13 construction equipment to facilitate control of noise levels generated during construction.
14 Construction-related noise may affect certain receptors including residences and
15 designated recreational areas.

16 While most transmission lines do not generate appreciable noise during normal
17 operations, 345 kV transmission lines may be audible under certain weather conditions.
18 Any operational noise associated with the proposed new transmission line would be
19 infrequent and attenuate quickly with distance from the transmission line.

20 **Q. Have you prepared soil erosion and sediment control plans in compliance with state**
21 **regulations and/or local ordinances?**

1 A. Yes, we have prepared and submitted to the RIDEM an application for a *Rhode Island*
2 *Pollutant Discharge Elimination System (RIPDES) Storm Water Associated with*
3 *Construction Activity* permit and a Storm Water Pollution Prevention Plan, which
4 includes the soil erosion and sediment control plans for the Project.
5 Additionally, we have submitted the Storm Water Pollution Prevention Plan and Soil
6 Erosion and Sediment Control Plan to the Town of Burrillville Building Inspector to
7 fulfill the requirements of the Town's Soil Erosion and Sediment Control Ordinance
8 (Chapter 12, Article II).

9 **Q. You mentioned having worked on the IRP. Were there any lessons learned**
10 **regarding mitigating construction impacts over the course of that project?**

11 A. Yes. I worked on the IRP from the planning phase to the application phase and through
12 the construction and post-construction phases.
13 Some of the lessons learned included: 1) requiring the contractor to develop a wet soils
14 management plan for handling saturated soils during drilling operations; 2) requiring the
15 contractor to prepare a snow and ice management plan for addressing the removal and
16 disposal of snow and ice during winter conditions; and 3) preparing grading plans in
17 advance of construction for work pads and access routes that may require extensive earth
18 work.

19 Town of Burrillville Planning Board Advisory Opinion

20 **Q. Are you familiar with the Town of Burrillville Planning Board's Advisory Opinion?**

21 A. Yes.

1 **Q. Do you agree with the Planning Board’s opinion that the Project is not consistent**
2 **with the Town of Burrillville’s Comprehensive Plan?**

3 A. No.

4 **Q. Please explain the basis for your disagreement.**

5 A. First, and most notably, the Burrillville Planning Board offered a favorable advisory
6 opinion for the IRP, which was a considerably larger project that occurred on the same
7 TNEC ROW. I presume that the Planning Board’s negative advisory opinion offered for
8 the BIP derives from its view that the generation facility is “unnecessary and misplaced”
9 and the Board feels the same about the proposed 150-foot-wide CREC ROW corridor.
10 While the placement of the generation facility is beyond the scope of this proceeding, it is
11 my opinion that the Planning Board and its consultant overstate the potential impact of
12 the Burrillville Interconnection Project, as discussed below.
13 Second, Chapter 7, Economic Development of the Comprehensive Plan speaks favorably
14 about utility infrastructure, acknowledging that “Burrillville has certain characteristics
15 which should be considered advantages in promoting economic development,” including
16 the “[p]resence of large utility companies, and electric, and associated distribution and
17 transmission lines.” Third, the BIP will be collocated with the existing TNEC ROW for
18 6.0 miles – utilizing existing easements and fee-owned lands and thereby reducing
19 environmental, land use and social impacts associated with a new ROW. Lastly, the 0.8-
20 mile CREC ROW will be located on a larger piece of land comprised of several
21 privately-owned parcels for which an easement agreement exists between Clear River

1 Energy LLC and the owner of a large energy company (Enbridge/Algonquin Gas
2 Transmission) located in the town. The parcels are crossed by the existing natural gas
3 pipeline ROW and abuts the natural gas compressor station. The development of the
4 CREC ROW will not eliminate all wildlife habitat features but result in a conversion of
5 habitat type, and many species are resilient and adapt to anthropomorphic features in the
6 landscape where food, cover and unobstructed movement is available.

7 **Q. Do you agree with the Planning Board's opinion that it could not determine traffic**
8 **impacts since a traffic study was not provided?**

9 A. No. A traffic study was not required by the Town of Burrillville for the IRP (which was
10 a larger scale project) and therefore it was not anticipated that the town would be seeking
11 such a plan for the BIP. For the IRP, TNEC required its contractors to develop traffic
12 management plans, which proved effective in ensuring safe operations along the local
13 roadways. During construction of the IRP, the project team notified the town officials and
14 the Burrillville Police and Fire Departments on the status of construction. The IRP team
15 was able to maneuver construction vehicles and equipment, including the delivery of
16 hundreds of steel poles to various locations along the local roadways to the ROW without
17 any reported major incidents. For this Project, traffic management plans and police
18 details will be prepared by TNEC, as needed, for crossing of state and local roadways.
19 Ensuring public safety and the safety of the construction crews is a paramount concern
20 for National Grid and CRE (collectively, the "Companies").

1 **Q. Do you agree with the Planning Board’s opinion that natural resources will not be**
2 **adequately protected?**

3 A. No. Impacts on the natural environment from construction of the Project will be avoided
4 to maximum extent feasible and any unavoidable impacts on the natural environment will
5 be mitigated through ROW restoration and stabilization. Further, if approved by the
6 regulatory agencies, impacts will be compensated for by the purchase and preservation of
7 the approximately 150-acre Sweet Hill Farm property located in Burrillville adjacent to
8 the approximately 1,850-acre Black Hut Management Area.

9 **Q. Have you reviewed the Fitzgerald & Halliday Report, December 2017 that is**
10 **referenced in the Planning Board’s advisory opinion?**

11 A. Yes.

12 **Q. Do you have any comments on the Fitzgerald & Halliday Report?**

13 A. Yes, I would like to offer the following responses and clarifications to the Fitzgerald &
14 Halliday (F&H) Report.

15 1. Major Topics of Discussion

16 a. Incomplete Review – F&H complains of data gaps and appear to opine on the
17 Project’s impacts on biodiversity based solely on their review of the Environmental
18 Report (ER). The ER, however, was prepared in accordance with the guidelines and
19 requirements of the RI EFSB Rules of Practice and Procedure, and not to serve as a
20 report solely on biodiversity. The ER addresses existing wildlife habitats and
21 anticipated impacts and mitigation; however, more detailed information on these

1 topics is the subject of other supporting state and federal permit applications, which
2 will be reviewed and acted upon by the jurisdictional agencies with appropriate
3 expertise. It appears that F&H did not review these applications and, thus, lacks a
4 complete understanding of the environmental assessments performed for this Project.
5 Those permit applications include the FWW/Section 401 WQC/RIPDES application
6 filed with the RIDEM and the Section 404 application filed with the USACE, New
7 England District. For example the wetland and watercourse delineations were
8 previously reviewed and accepted by the USACE and RIDEM. These federal and
9 state permit applications include additional detailed assessments of wetlands,
10 watercourses, vernal pools/Special Aquatic Sites (obligate vernal pool species
11 including invertebrates), federal and state rare species consultations, conversion of
12 palustrine forested wetlands (PFO1/4) to palustrine scrub-shrub (PSS) and palustrine
13 emergent (PEM) wetlands, and impacts and mitigation measures.

- 14 i. “Deforestation” - Tree clearing and vegetation removal on the ROW will
15 result in habitat conversion, not deforestation, as F&H erroneously
16 conclude in their report. I view the term deforestation to mean the total
17 removal of all trees, removal of stumps and root structures, denuding the
18 area of any vegetation cover and ultimately adversely impacting the
19 underlying soil. The Project involves the removal of trees within the
20 boundaries of the existing TNEC ROW, followed by the implementation
21 of a vegetation management program, which allows vegetation to establish

1 on the ROW, with the exception of taller vegetation that may interfere
2 with the overhead lines. The wider ROW will still provide a number of
3 vegetative cover types and wildlife habitat. Clearing along the 6.0 miles
4 of TNEC ROW will not result in development of a new ROW within
5 interior forest blocks. Moreover, in reviewing the 2015 Rhode Island
6 Wildlife Action Plan (RI WAP), the proposed 0.8-mile CREC ROW
7 would not represent a break in the un-fragmented forest block because
8 existing gas pipeline and electric transmission corridors (and presumably
9 the new 0.8-mile corridor) are included in existing areas of mapped un-
10 fragmented forest meaning these existing corridors are not viewed as a
11 major detriment to wildlife movements or migrations. Additionally, there
12 are no paved or other impervious surfaces proposed within the ROWs, and
13 I would disagree with the F&H statement that the Project will result in
14 habitat loss; it will result in some habitat conversion but not a net loss of
15 available habitat.

16 ii. Invertebrate Fauna – A discussion on vernal pool invertebrates is
17 addressed in the Project vernal pool report. No permanent impacts to
18 streams are proposed except for the rock fords proposed along the CREC
19 ROW. ESS Group did perform macro-invertebrate studies for the streams
20 along the CREC ROW. Wild indigo (*Baptista tinctorum*), a host plant to
21 the Frosted Elfin butterfly, may likely occur on sections of the ROW and

1 again is benefited from the regular vegetation maintenance cycle
2 implemented by TNEC. Wild indigo is not in itself a rare plant species
3 listed by the Rhode Island Natural History Survey (RINHS). Other species
4 of Lepidoptera (i.e., butterflies and moths) benefit from the maintained
5 ROW. When we consulted with the RINHS, they did not list other state-
6 listed species of Lepidoptera. The Rusty Patched Bumble Bee (Federally
7 endangered species) is not mapped as occurring in Rhode Island (as of this
8 date). TNEC's ROW Vegetation Management Plan (VMP) promotes
9 habitats and host species (wildflowers and flowering shrubs) for
10 pollinators such as the Rusty Patched Bumble Bee. TNEC is a collaborator
11 in the North American Pollinator Protection Campaign (NAPPC) to
12 promote stable, low growth native habits for pollinators including
13 Lepidoptera and Hymenoptera (i.e., sawflies, wasps, bees, and ants); and
14 promotes the growth of such species as wild indigo on the ROW. F&H
15 stated that exclusion of invertebrate data from the Application is a
16 significant omission. Invertebrate data, including the Project vernal pool
17 report, is included in other federal and state permit applications, and was
18 therefore addressed.

- 19 iii. Herpetofauna – A separate vernal pool report has been prepared for the
20 Project addressing herpetofauna, including obligate vernal pool species.
21 We are not proposing any direct impacts to vernal pools. One of F&H's

1 contentions is that the Project will adversely impact breeding of obligate
2 vernal pool species. Contrary to this contention, the Companies are not
3 proposing to clear vernal pools or work within vernal pools. Further,
4 during construction of the IRP, we observed obligate vernal pool species
5 breeding within the open canopy of the ROW. This, in part, demonstrates
6 that certain forest dwelling species will migrate to these pools that have an
7 open canopy. Turtle training is presented to the contractors, and the
8 contractor is required to install turtle crossing signs; install turtle barriers
9 (as necessary); and qualified personnel conduct turtle sweeps, as part of
10 the construction of the Project. Gaps in the erosion controls can be and are
11 established to allow for herpetofauna migration and movements across the
12 ROW. The exposed area of sandy habitat observed by F&H adjacent to
13 Round Top Brook was created as part of the wetland restoration efforts for
14 the IRP approved by the USACE to provide turtle nesting habitat adjacent
15 to the stream.

16 iv. Avifauna – A breeding bird survey was completed for the IRP and
17 included the 6.0 mile section of TNEC ROW and was applied to this
18 Project. Similar to F&H observations, we have observed the pileated
19 woodpecker on the TNEC ROW, and the omission of this species in the
20 bird inventory was not intentional. The list of avian species presented in
21 the ER is meant as a representative list and not a comprehensive list. The

1 pileated woodpecker has actually been observed creating holes and
2 cavities in some of the wood poles along the ROW and along the fringes
3 of the ROW, indicating that this species is utilizing the ROW as habitat.
4 To address F&H's comment on forest fragmentation, the RI WAP
5 includes existing ROWs within identified forest blocks. The proposed tree
6 clearing would result in expansion of the cleared width of the existing
7 ROW and not in habitat fragmentation. F&H also mentions the effects on
8 passerine birds from urbanization. The TNEC ROW is an existing
9 maintained corridor. Expanding the cleared width will not increase
10 urbanization or eliminate habitat as suggested by F&H. F&H states the
11 direct mortality of avifauna is expected from collisions. Although avian
12 collisions with transmission lines may occur in the New England states,
13 the lack of documented cases in the literature suggest that collision rates in
14 this region are significantly less than in the western states. This may be
15 due to the presence of a forest canopy with transmission structure height at
16 or near canopy height in New England ROWs, versus more open exposure
17 associated with desert/plain environments.
18 F&H further references birds killed by electrocution. In accordance with
19 the Avian Power Line Interaction Committee ("APLIC") guidelines, all of
20 the new structures that will be installed as part of the Project are "avian
21 safe." They will be steel H-frame, steel monopole or three-pole structures

1 that provide adequate vertical and horizontal conductor separation distance
2 to protect raptors likely to be present within the ROW, and even those
3 unlikely to be present, such as the bald eagle. In addition, TNEC has kept
4 an internal database of bird fatalities along its transmission and
5 distribution lines since 2002 and is now tracked in National Grid's
6 incident management system, and has not recorded any electrocution of
7 raptors in the Project corridor. Therefore, the Project is not expected to
8 pose a significant risk to raptors or larger birds of prey from contact with
9 the overhead conductors.

10 F&H questioned whether surveys were completed for owl roosts or raptor
11 nests. These specific surveys were not completed, however prior to tree
12 clearing, the environmental compliance monitors assigned to the Project
13 along with the tree clearing crews will inspect the areas in advance of tree
14 clearing to identify any trees or nests of concern. As an example, during
15 the tree clearing for IRP, we delayed clearing in a section of ROW until
16 we could confirm that an older raptor nest was no longer being inhabited.

17 v. Small Mammals – F&H again refers to deforestation in relation to Project-
18 related impacts on small mammals. The term deforestation is being
19 incorrectly applied to the proposed activities on the ROWs. Habitat
20 conversion will result, including on the CREC ROW, but not a net loss of
21 habitat as could occur with complete deforestation. The Northern long-

1 eared bat (NLEB) is the only federally-listed species potentially present in
2 the Study Area, but no known hibernacula or roosting trees were identified
3 by the USFWS or RIDEM Division of Fish and Wildlife. Nevertheless,
4 TNEC and CRE have committed to avoiding tree clearing during the
5 period between June 1 to July 31, outside of the USFWS designated pup
6 season for the NLEB, which is consistent with the recommendation
7 provided by a representative of the RIDEM. The New England Cottontail
8 was a USFWS candidate species. The USFWS states that New England
9 Cottontails rely exclusively on early successional habitats often associated
10 with utility ROWs or other areas where disturbance has stimulated the
11 growth of shrubs and other plants.

12 F&H also refers to large specimen or “wolf” trees that provide valuable
13 wildlife habitat. F&H did not identify locations for any specific wolf trees
14 that may have been observed on the ROW, and we did not observe any, so
15 there is no specific location to respond to. In general, the Companies
16 cannot preserve wolf trees within the clearance limits of the overhead
17 lines, as these generally larger wolf trees could pose a hazard to the
18 transmission facilities, but TNEC can and will make efforts to preserve
19 some structural habitat features in uplands on the ROWs. Nonetheless,
20 TNEC and CRE are committed to preserving and/or introducing large

1 woody debris, snags and cavity trees in wetlands and along stream
2 channels to maintain habitat structure.

3
4 vi. Larger Mammals – Larger carnivores mentioned by F&H such as the
5 bobcat, gray fox and fisher have all been either directly observed on the
6 ROW or signs of these species have been identified. During the
7 construction of the IRP, a bobcat was observed travelling down one of the
8 temporary swamp mat access routes. F&H claims that some individuals
9 may abandon their habitat and the ROW to seek new territory. It is unclear
10 what information F&H is relying upon to claim that larger predators will
11 abandon the habitat within and along the ROW.

12 vii. Rare, Threatened and Endangered Species – The Rhode Island Natural
13 History Survey (RINHS) and RIDEM identified five state-listed plants for
14 which field surveys were completed to document the locations of these
15 populations. In consultation with permitting agencies, the Companies will
16 take steps necessary to avoid or mitigate impacts to these plants.

17 b. ROW Vegetation Management – During operation, TNEC and CRE will
18 implement the same VMP, which is based upon an Integrated Vegetation
19 Management approach. The VMP is a FERC-mandated program that promotes
20 low growth aimed at maintaining the reliability of the bulk transmission lines. The
21 VMP promotes successional habitats utilized by an assemblage of fauna and

1 colonized by a diversity of flora. The VMP includes: 1) mechanical controls –
2 hand cutting, mowing, selective pruning; 2) chemical controls – selective foliar
3 treatments, low volume basal treatments, cut stump treatments; and 3) biological
4 controls by maintaining a climax community of low scrub-shrub vegetation. The
5 VMP is to be implemented after construction and no herbicides are proposed to be
6 used during construction of the Project. For the IRP, TNEC provided the Town
7 information regarding the herbicides used, their dilution ratio, the average rate of
8 herbicide application, and the limited spray and no-spray zones. Application of
9 chemical controls will be judicious and selective in keeping with the principles of
10 Integrated Vegetation Management.

11 The F&H report stated that a concern would be spreading of wood chips on the
12 site that would prevent regrowth of herbaceous vegetation and shrub seedlings
13 after construction. The use of wood chips as a soil stabilizer on steep, exposed
14 slopes is one method of erosion control. TNEC and CRE, as with other projects,
15 will direct the clearing crew and construction contractor not to spread wood chips
16 greater than 3 inches deep. Wood chips can provide soil stabilization and also
17 provide some organic material back into the soil. We achieved greater than 75
18 percent vegetation coverage after construction of the IRP using wood chips as one
19 of the BMPs.

20 2. Clarifications – The below comments are provided in response to additional items
21 raised in the F&H Report.

- 1 a. The documents reviewed by F&H included a Storm Water Erosion and
2 Sedimentation Control Plan prepared by HDR. This was prepared for the CREC
3 facility. POWER prepared a separate RIPDES SWPPP for the BIP.
- 4 b. The ROW restoration comparison offered by F&H only takes into account one
5 complete growing season for the TNEC ROW. The final ROW restoration for IRP
6 was completed in 2016 and within 2-3 growing seasons we expect greater
7 coverage and diversity of plant species to establish on the ROW.
- 8 c. The installation of soil erosion controls (E/C) immediately after vegetation
9 removal worked effectively on the IRP. Installing E/C prior to vegetation removal
10 results in the E/Cs being dislodged. E/Cs will be installed immediately following
11 vegetation removal where soils have been disturbed or present an erosion risk.
- 12 d. Wash stations for cleaning of swamp mats are not proposed. Obtaining a source of
13 water and managing the discharge of water can introduce difficulties during
14 implementation. Instead, contractors will be required to clean the equipment and
15 swamp mats with brushes and then to sign Certification Forms for the delivery
16 and placement of clean construction equipment and swamp matting.
- 17 e. The importation of clean fill referenced in the ER relates more to subsoil and
18 stone brought in as backfill for structures, as opposed to surficial materials.
- 19 f. TNEC will train contractors and field personnel on environmental, rare species,
20 cultural resources, community outreach and safety issues prior to the
21 commencement of construction.

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RIDEM's Advisory Opinion

Q. Have you reviewed RIDEM's advisory opinion?

A. Yes.

Q. Do you agree with RIDEM's analysis on the benefit of the cleared ROW corridor?

A. I agree with some of their observations, and disagree with others. Additional tree clearing along the existing TNEC ROW is required to install the new proposed transmission line structures and overhead conductors. This tree clearing along a maintained ROW provides benefits to some plant and animal species, including some state-listed species, but may also be detrimental to other species, as described by the RIDEM in their advisory opinion. TNEC's ROWs are one of the primary remaining early successional ecological communities in Rhode Island and throughout areas of New England, which provide breeding, nesting and feeding grounds for an assemblage of wildlife species.

I acknowledge the RIDEM's conclusions about the loss of forested habitat along the transmission line corridor and understand their opinions about preserving large open tracts of continuous, un-fragmented blocks of forested land. As it relates to the Project, however, clearing along the TNEC ROW will occur within an existing ROW dedicated to use by transmission facilities. The TNEC ROW is partially encumbered by existing transmission lines and structures, and the new proposed transmission line will not result in the conveyance or disposition of conservation land or other protected areas into use by transmission infrastructure.

1 The tree removal and ROW management activities proposed within the existing TNEC
2 ROW will extend the maintained portion of the ROW from approximately 55 to 85 feet
3 into the adjacent forest and convert it to scrub-shrub and emergent habitat types. The
4 resulting change in habitat type may be beneficial for a number of ecological reasons.
5 Maintained ROWs provide an opportunity for the establishment of scrub-shrub, old field
6 or forbs successional plant communities within the landscape. Maintaining a low scrub-
7 shrub community along the ROW has a dual benefit; it helps TNEC provide safe and
8 reliable electric transmission while providing habitat for certain wildlife species and
9 habitats that are becoming scarce in New England.

10 TNEC is an active member and participant of the North American Pollinator Campaign
11 Rights-of-Way Task Force whose objective is to manage ROWs to promote the growth of
12 flowering plants. Native pollinators including honey bees and butterflies that have been
13 reportedly on the decline. ROW corridors can be managed to establish grassland habitat,
14 open meadows and shrub habitats that provide food and shelter for native pollinators.

15 The scientific literature suggests that indirect impacts to forest interior dwelling species
16 may extend 100 feet from the nearest disturbance, while other scientific literature
17 suggests indirect impacts may extend beyond 100 feet. Following the line of thought that
18 indirect effects extend 100 feet from the edge of the disturbance, the wildlife species
19 inhabiting the fringes of the existing TNEC ROW extending a minimum of 100 feet into
20 the forest, likely are not interior forest dwelling species. Due to the presence of the
21 existing ROW corridor and resulting edge habitat (valuable for many other wildlife

1 species), forest interior specialists are not likely to value the habitat within or adjacent to
2 the existing ROW.

3 As a linear ROW, the Project corridor creates valuable edge habitat within a broad range
4 of landscapes and site conditions. The ROW intersects forests, wetlands, agricultural
5 fields, residential, and other open spaces. As a result, the Project will not result in a
6 significant change in land use and many of the wildlife species inhabiting these areas
7 include typical suburban dwelling species, acclimated to the presence of the powerline
8 corridor. A number of sources also indicate that wildlife will use ROWs as migration
9 corridors.

10 TNEC's proposed tree clearing widths range from 55 to 85 feet wide, which would affect
11 the forest fringe and not the existing forest interior. I recognize that the tree clearing
12 would extend the affected fringe into the undisturbed forest, but much of the land use
13 adjacent to the ROWs are forested or open spaces where wildlife habitats extend beyond
14 the boundaries of the ROWs. Much of the TNEC ROW in this portion of Burrillville
15 abuts adjacent forested lands including lands held in open space by the town and the
16 State.

17 I do recognize that the amount of tree clearing proposed is significant and creating a new
18 150-foot corridor, such as the CREC ROW, can have an effect on the wildlife species
19 inhabiting the forest interior and that is why the Project proponents are inventorying and
20 evaluating mitigation, including acquisition of a large tract of land for preservation in
21 perpetuity.

1 I agree that the proposed 0.8-mile CREC ROW will create a new corridor of scrub-shrub
2 habitat and emergent plant communities. However, the CREC ROW would not represent
3 a break in the un-fragmented forest block. As noted above, the area included in the
4 Wildlife Action Plan notwithstanding the presence of existing utility corridors,
5 suggesting that these corridors are not viewed as a major detriment to wildlife
6 movements or migrations. CRE’s consultant, ESS Group, reaches the same conclusion:
7 “Clearing and construction associated with the Facility Site will result in the loss of
8 habitat currently used by a variety of bird, mammal, reptile, and amphibian species. As
9 previously noted the proposed CREC site is located on private property within a semi-
10 contiguous forest patch greater than 500 acres (as designated in the RI WAP). However,
11 CRE has designed this Project to minimize impacts to habitat and wildlife as much as
12 reasonably possible, to provide as much protection as reasonably possible to existing
13 habitat.”¹ The Project referenced in ESS’ testimony includes the CREC site and 0.8-mile
14 CREC ROW. Further, the Biological Inventory prepared by ESS Group summarizes that
15 “the proposed Project would result in the loss of habitat currently used by a variety of
16 bird, mammal, reptile, and amphibian species. However, existing breaks in flow or
17 connectivity already exist within adjacent un-fragmented forest blocks; therefore, the
18 Project would not create a barrier for wildlife species across the landscape. As previously
19 noted, the proposed CREC site is located on private property within a semi-contiguous

¹ Ringler, J. 2017. Pre-filed Direct Testimony. Docket No. SB-2015-06.

1 forest patch greater than 500 acres (as designated in the RI WAP).”² I believe that the
2 field studies completed by ESS Group were performed to profession standards in the field
3 of biology.

4 As recently as 2013-2014, RIDEM approved applications associated with the IRP (EFSB
5 Docket SB-2012-01), which involved tree clearing on average of approximately 85 feet
6 in width along this alignment of the TNEC ROW.

7 Building Inspector’s Advisory Opinion

8 **Q. Have you reviewed the Building Inspector’s Advisory Opinion dated March 10,**
9 **2018?**

10 A. Yes. The Building Inspector provided two advisory opinions. The first concerned
11 whether the project would comply with Burrillville Soil Erosion and Sediment Control
12 Ordinance. The second advisory opinion concerned whether the Project would meet the
13 requirements of other applicable Burrillville Ordinances.

14 **Q. What was the Building Inspector’s opinion on the Project’s compliance with**
15 **Burrillville Erosion and Sediment Control Plan?**

16 A. He stated that the Soil Erosion and Sediment Control (SESC) Plan filed for the Project
17 appears to comply with the town’s ordinance. He noted that he expects “National Grid
18 will utilize the same conscientious attitude they have utilized in the past...” To that end,
19 if and when the Project receives approval from the RIDEM RIPDES Program, any
20 special conditions listed in the RIPDES permit would be incorporated into the SESC Plan

² Ringler, J. 2017. Pre-filed Direct Testimony. Docket No. SB-2015-06.

1 filed with the town. It is my expectation that the same due diligence and response to any
2 erosion or storm water issues caused by the Project would be addressed immediately, as
3 was done for the IRP.

4 The Building Inspector did question the estimates on the area of temporary and
5 permanent disturbances. The impact numbers provided in the SESC Plan are estimates
6 based on the constructability reviews completed for the Project. Project-related impacts
7 are categorized in various types including: permanent impacts related to earth disturbance
8 (e.g., new transmission line structures, structure work pads and access road spurs);
9 temporary impacts to support construction (e.g., temporary swamp matting, wire pulling
10 pads); and secondary impacts (e.g., tree clearing and conversion of vegetative cover
11 types). The Building Inspector is correct in that the development of the new CREC ROW
12 corridor will result in approximately 14.5 acres of new land disturbance, and
13 approximately 56 acres of new land disturbance on the TNEC ROW. The remainder of
14 the Project-related land disturbance would occur within the limits of the existing,
15 maintained TNEC ROW.

16 **Q. Please explain how the total disturbed area was calculated.**

17 A. The total new land disturbance was calculated by summing the cumulative impacts from
18 the three ROW alignments that comprise the Project ROWs, as follows:

19 Segment 1 (CREC ROW) - 0.8 mile x 150 feet of tree clearing (CREC ROW) =
20 ~14.5 acres

1 Segment 2 (TNEC ROW) - 1.6 miles x 55 feet of tree clearing on north side of
2 ROW = ~10.6 acres

3 Segment 3 (TNEC ROW) - 4.4 miles x 85 feet of tree clearing on south side of
4 ROW = ~45.4 acres

5 Total disturbance from the Project = ~70.5 acres

6 The Burrillville Soil Erosion and Sediment Control Ordinance requires applicants to
7 provide estimates of each phase of construction. For clarification our SESC Plan
8 inaccurately estimates ~20 acres of proposed tree clearing but instead should have listed
9 ~42 acres. The 42 acre estimate represents the area of forest to be cleared excluding any
10 overlapping construction-related impacts, such as access routes, work pads and
11 structures. This increase in the acreage estimate does not change the approach detailed in
12 the SESC Plan or require modifications to any of the other permit applications that were
13 filed. The 70.5 acre estimate of total clearing for the combined TNEC and CREC ROWs
14 is still accurate. The SESC Plan also presents ~18 acres total of temporary and permanent
15 impacts for the purposes of access road improvements, work pads and installation of
16 structures. The ~18 acres of ground/soil disturbance is consistent with the ~17.9 acres
17 presented in the estimates in the RIPDES CGP application form referenced below. The
18 ~18 acres is listed again in the SESC in response to a line item asking for area to be
19 disturbed (i.e., soil disturbance), and this ~18 acres should not be double-counted.
20 The RIPDES CGP application form identifies a total site area of ~347 acres, which
21 accounts for the entire ROW width and length of the project, including some

1 modifications required at the existing Sherman Road Switching Station. The SESC Plan
2 also identifies a site area to be disturbed of ~17.9 acres, which accounts for soil
3 disturbing activities such as access road improvements, construction of work pads and
4 installation of transmission structures.

5 Vehicles and equipment will make use of the existing system of gravel access roads
6 within the TNEC ROW and will use select locations for work pads and wire pulling pads.
7 Temporary swamp matting will be installed where access or limited work is required in
8 wetlands. Additionally, I believe the SESC Plan filed for the Project addresses the
9 requirements of the town's ordinance. If and when the Project receives approval from the
10 RIDEM RIPDES Program, any special conditions listed in the RIPDES permit would be
11 incorporated into the SESC Plan filed with the town.

12 **Q. Did the Building Inspector have any additional comments with respect to the**
13 **Erosion and Sediment Control Plan?**

14 A. Yes. The Building Inspector reiterated his position on the siting of the Clear River
15 Energy Center. I cannot respond to his comment as I was not involved in siting of the
16 proposed generation facility and that is beyond the scope of this joint application.

17 Conclusion

18 **Q. In conclusion, based upon your knowledge of the Project as proposed by TNEC and**
19 **CRE, do you have an opinion as to whether the Project will cause unacceptable**
20 **harm to environment?**

21 A. Yes, I do.

1 **Q. What is that opinion?**

2 A. In my opinion, the Project will not cause unacceptable harm to the environment and the
3 impacts are within standards for acceptable environmental impacts approved by the State
4 on previous projects. This opinion is based on the level of pre-construction review the
5 Project has received and the commitments made by TNEC and CRE to avoid, minimize
6 and mitigate impacts to environmental resources. The Project will result in short-term,
7 localized impacts during construction of the Project, but is not anticipated to cause long-
8 term adverse impacts to the natural and human environment for the following reasons:

- 9 1. the Project will largely occur within an existing, established ROW where existing
10 transmission line facilities already exist;
- 11 2. the proposed tree clearing on the TNEC ROW will expanded the cleared width of the
12 existing ROW resulting in a transition to a scrub-shrub habitat and emergent plant
13 communities that are beneficial to a wide array of wildlife species;
- 14 3. construction-related disturbances on the ROW will be restored and stabilized by
15 TNEC;
- 16 4. CRE is proposing a compensatory wetland mitigation plan that provides mitigation
17 for wetland and upland impacts. The plan incorporates the purchase and long-term
18 preservation of the Sweet Hill Farm property located off of East Avenue (Route 107)
19 that consists of approximately 150 acres of open space located adjacent to the
20 RIDEM managed Black Hut Management Area in Burrillville; and

1 5. TNEC and CRE will retain the services of full-time environmental compliance
2 monitors whose primary responsibility will be to oversee the construction activities to
3 maintain compliance with federal, state and local environmental permit requirements.

4 **Q. Does this conclude your testimony?**

5 A. Yes, it does.

The Narragansett Electric Company
d/b/a National Grid and Clear River Energy LLC
Burrillville Interconnection Project
EFSB Dkt. No. SB-2017-01
Witness: James Durand, PWS

ATTACHMENTS

JD-1

Vitae of James Durand, PWS



JAMES (“JAMIE”) DURAND

ENVIRONMENTAL PROJECT MANAGER

YEARS OF EXPERIENCE

29

EDUCATION

- B.S., Natural Resources Science, Concentration in Wildlife Biology, University of Rhode Island, 1988
- M.S., Coursework Soil Science, University of Massachusetts
- M.S., Coursework Soil Science, University of New Hampshire

SPECIAL TRAINING

- U.S. Army Corps of Engineers Wetlands Delineator Certification Program Training
- 40-Hour General On-Site Staff Certification Program, Hazardous Waste Operator and Emergency Response

CERTIFICATION

- Professional Wetland Scientist #891
- New Hampshire Certified Wetland Scientist #174
- Associate Certified Wildlife Biologist
- New England Regional Soil Science Certificate

AFFILIATIONS

- Registered Professional Soil Scientist - Society of Soil Scientists of Southern New England

EXPERIENCE SUMMARY

Mr. Durand is a project manager and environmental scientist with extensive experience in the energy and facilities fields. Mr. Durand's background includes natural resource field surveys, environmental impact assessments, environmental permitting and licensing and environmental compliance monitoring. He brings experience in routing studies, environmental feasibility studies and fatal flaw analyses to the industry. He is responsible for managing complex, multidisciplinary and multi-state projects, conducting constructability reviews, managing field studies, writing environmental reports, preparing permit applications at the federal, state, and local levels, and representing clients at agency meetings and hearings. He has provided expert witness testimony in front of the Massachusetts Energy Facilities Siting Board, the Connecticut Siting Council, and the Rhode Island Energy Facility Siting Board. Mr. Durand brings knowledge of the permitting and licensing requirements for electrical transmission lines, natural gas pipelines (FERC 7(c) filings), and facilities ancillary to these energy projects. He has completed projects sited onshore and offshore, including impact assessments on freshwater and coastal/ marine resources. His scientific expertise encompasses wetland ecology, soil science, and wildlife biology. He has experience with electric transmission, substation and natural gas pipeline projects in New England and the Northeast.

National Grid, Southeastern Massachusetts & Rhode Island (SEMA-RI) Area Program Solutions, Massachusetts and Rhode Island

Environmental Project Manager coordinating the evaluation of approximately 70 miles of 16 separate electric transmission lines and 13 substation improvement projects to address system reliability needs identified by the Independent System Operator of New England. Preparation of environmental siting, licensing and permitting assessments for individual project components to determine environmental constraints, permitting requirements and potential fatal flaws. Performing environmental due diligence and routing analysis for potential overhead and underground transmission solutions, in consultation with engineering, real estate, stakeholder relations and legal project team members. Managing biological field programs, data collection and the development of environmental constraints mapping. Established environmental and engineering criteria for evaluation and comparative analysis of candidate solutions. Preparing state siting and licensing applications, federal, state and local environmental permit applications and environmental compliance monitoring programs.

The Narragansett Electric Company d/b/a National Grid, sea2shore: The Renewable Link, Rhode Island

Environmental Project Manager assisting The Narragansett Electric

Company (TNEC) to secure all remaining environmental permits, approvals and pre-construction commitments for the installation of approximately 20 miles of 34.5 kV bi-directional submarine transmission cable from mainland Rhode Island in the town of Narragansett to the town of New Shoreham (Block Island), approximately 1 mile of underground cable on Block Island and approximately 5 miles of underground cable in Narragansett.

Responsible for the preparation of environmental bid documents; permit preparation and agency consultation for supplemental marine surveys; consultation with federal, state, and local regulatory agencies; and coordination with project fishery liaison. Preparation of pre-construction filings and reports with the Bureau of Ocean Energy Management (BOEM), National Marine Fisheries Service (NMFS), U.S. Army Corps of Engineers, Rhode Island Coastal Resources Management Council, and the Rhode Island Department of Environmental Management. Assisting TNEC with Environmental Compliance Monitoring during marine cable-lay installation, an onshore HDD, a land-sea HDD, and terrestrial installation of the cable, including coordination with the contractors, project fishery liaison, protected species observers, third party environmental compliance monitor, and regulatory agencies.

The Narragansett Electric Company d/b/a National Grid Sherman Road Switching Station Rebuild Project, Rhode Island

Environmental Project Manager for the reconstruction and expansion of a 115/345 kV switching station, as a component to The Narragansett Electric Company's Interstate Reliability Project. Managed environmental field surveys, alternatives analysis, development of wetland mitigation program, storm water management design, and erosion and sediment control plan. Secured federal, state and local licenses and permits including approvals from the U.S. Army Corps of Engineers, Rhode Island Energy Facility Siting Board, Rhode Island Department of Environmental Management, and town of Burrillville Zoning and Planning Boards. Coordinated with McPhee and McPhee's subcontractors to provide environmental compliance monitoring during construction, including implementation of the Project Environmental Field Issue (environmental compliance plan).

The Narragansett Electric Company, New England Power Company, and the Connecticut Light & Power Company - Interstate Reliability Project - NEEWS Project, Rhode Island, Massachusetts and Connecticut

Environmental Project Manager responsible for managing the environmental field surveys, natural resource data collection and permitting for the installation of approximately 75 miles new 345 kV transmission line, reconstruction of 9 miles of existing 345 kV transmission line and reconstruction of two switching stations. This project was permitted jointly by three companies as a tri-state project. Responsibilities included federal (USACOE Section 404/10 permit), state (RIDEM Section 401, Freshwater Wetlands and RIPDES permits) and local soil and erosion control permitting, and preparing the environmental report (including evaluating underground alternatives) for filings with the Rhode Island Energy Facility Siting Board, Massachusetts Energy Facilities Siting Board and Connecticut Siting Council. Mr. Durand served as an expert witness for environmental-related issues during the RI EFSB and MA EFSB public hearings. Mr. Durand was responsible for coordinating constructability field reviews,

coordinating the other utilities including three interstate pipeline companies, developing compensatory wetland mitigation plans, stakeholder outreach and assisting National Grid with Section 106 consultations. Managing the Environmental Compliance Monitoring for The Narragansett Electric Company construction.

Connecticut Light & Power Company and Western Massachusetts Electric Company, NEEWS Project - Greater Springfield Reliability Project, Connecticut Interstate Reliability Project, Connecticut and Massachusetts

Project Manager responsible for managing the environmental field surveys, natural resource data collection and permitting for the installation of new 345 kV transmission lines, including expansion of existing substations and rebuilds of existing 115 kV transmission lines. Responsibilities included federal, state and local permitting, and filings with the Connecticut Siting Council and the Massachusetts Energy Facilities Siting Board.

National Grid – The Narragansett Electric Company, T7 115 kV Transmission Line Reconductoring Project, Rhode Island

Project Manager responsible for managing the environmental field surveys, natural resource data collection and permitting for the reconstruction and upgrade of an existing 115 kV transmission line. Responsibilities included federal, state and local permitting, and filings with the Rhode Island Energy Facility Siting Board.

The Connecticut Light & Power Company, Oxford 115 kV Substation Project, Connecticut

Project Manager responsible for managing the siting and permitting of a new 115 /13.8 kV electric power substation. Conducted field surveys, performed alternative site evaluation, rare species assessment, prepared environmental permit applications and documentation in support of Municipal Location Approvals, Municipal Consultation Filing, Connecticut Siting Council Filing, and U.S. Army Corps of Engineers Category 2 Programmatic General Permit Screening.

Tennessee Gas Pipeline Company, Northampton Expansion Project, Massachusetts

Project Manager for the preparation of FERC 7c Resource Reports, and federal and state environmental permitting for the newly proposed 2,000 horsepower electric motor-driven centrifugal compressor station (a.k.a. Southwick Compressor Station 260A), including an emergency generator; and a new mainline valve and pipeline interconnection with the existing Northampton Lateral.

Algonquin Gas Transmission, Ramapo Expansion Project, New York, New Jersey, and Connecticut

Project Manager responsible for managing a multi-scope and multi-state natural gas pipeline project in the States of Connecticut, New York and New Jersey. Project activities included the replacement and upgrade of 5.0 miles of pipeline, construction of a new meter station, modifications to three

compressor stations, and construction of the new compressor station. Managed the FERC 7c filing and all Federal, state, county and local environmental permit applications, including consultations with the NYSDEC regarding wetlands & watercourses, threatened and endangered species, and project impacts and mitigation.

The Connecticut Light & Power Company, Wilton 35A 115 kV Substation Project, Connecticut

Project Manager responsible for managing the siting and permitting of a new 115 /13.8 kV electric power substation. Conducted field surveys, performed alternative site evaluation, cultural resources data recovery efforts, prepared environmental permit applications and documentation in support of Municipal Location Approvals, Municipal Consultation Filing, Connecticut Siting Council Filing, and SHPO cultural resources management plan. Prepared Development and Management Plan for the construction of the substation.

Western Massachusetts Electric Company, Springfield 115 kV Underground Transmission Project, Massachusetts

Project Manager responsible for managing the environmental field surveys, natural resources data collection and permitting for the replacement installation of 115 kV underground cables, including the construction of a new switching station, in the Greater Springfield, MA area. Responsibilities included federal, state and local permitting, as well as filings with Massachusetts Energy Facilities Siting Board, Massachusetts Environmental Policy Act (MEPA) Unit and the Massachusetts Department of Environmental Protection.

National Grid, USA, Westford 115/13.2 kV Substation, Massachusetts

As Project Manager/Senior Wetland Scientist, responsible for siting, permitting and construction of the Westford 57 115 kV Electric Transmission Substation for Massachusetts Electric Company. Performed ecological and wetland surveys for siting of the proposed substation, including alternative site analysis. Conducted rare species (blue-spotted salamander) surveys, vernal pool evaluation and sampling, evaluation of terrestrial habitat via drift fences and pitfall traps, and design of mitigation measures. Additional services included assistance with the preparation of legal submittals to the DTE/EFSB and attendance at DTE public hearings. Prepared several permit applications for associated pole replacement projects and duct line installation for new and expanded electric distribution facilities. Worked on several New England Power Service Company electric transmission line upgrades involving feasibility studies, wetland delineation and resource area determinations, and preparation of notification packages for submittal to local municipal officials.

Tennessee Gas Pipeline Company, Northampton Expansion Project, Massachusetts

Project Manager for the preparation of FERC 7c Resource Reports, and federal and state environmental permitting for the newly proposed 2,000 horsepower electric motor-driven centrifugal compressor station (a.k.a. Southwick Compressor Station 260A), including an emergency generator;

and a new mainline valve and pipeline interconnection with the existing Northampton Lateral.

Algonquin Gas Transmission, Ramapo Expansion Project, New York, New Jersey, and Connecticut

Project Manager responsible for managing a multi-scope and multi-state natural gas pipeline project in the States of Connecticut, New York and New Jersey. Project activities included the replacement and upgrade of 5.0 miles of pipeline, construction of a new meter station, modifications to three compressor stations, and construction of the new compressor station. Managed the FERC 7c filing and all Federal, state, county and local environmental permit applications, including consultations with the NYSDEC regarding wetlands & watercourses, threatened and endangered species, and project impacts and mitigation.

Algonquin Gas Transmission, J-1 System 2005 Integrity Project, Massachusetts

Served as Project Manager in preparing Environmental Report accompanying Prior Notice Request for Authorization of Blanket Activity (FERC 45-day Prior Notice Filing) to the Federal Energy Regulatory Commission for the replacement of three existing sections of various diameter pipelines in the Cities of Medford and Everett, Massachusetts. Provided environmental construction oversight for the implementation of the project-specific Utility-Related Abatement Measure (“URAM”) Plan to address impacted groundwater and soil that would be encountered during construction.

The Connecticut Light & Power Company, Manchester-Hopewell 115 kV Transmission Line Upgrade Project, Connecticut

Served as Project Manager to conduct Federal and state wetland delineation and GPS survey along 6.5 miles of overhead electric transmission right-of-way in Manchester and Glastonbury, Connecticut. Performed reconnaissance surveys to inventory ecological communities and habitat types encountered along the right-of-way. Responsible for obtaining clearances from the Connecticut State Historic Preservation Office, Connecticut Natural Diversity Data Base, and U.S. Fish and Wildlife Service for N.U.'s proposed maintenance and rehabilitation of the 1767 transmission line.