The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC UTILITIES

D.P.U. 19-16 FEBRUARY 27, 2020

Petition of New England Power Company Pursuant to G.L. c. 164, § 72, for Approval to Construct and Operate a New 115 kV Overhead Transmission Loop Line in Methuen, Massachusetts, to the New Hampshire Border.

APPEARANCES:

Marisa L. Pizzi, Esq.
National Grid USA Service Company, Inc.,
d/b/a National Grid
40 Sylvan Road
Waltham, MA 02451

and

David Rosenzweig, Esq.
Erika Hafner, Esq.
Keegan Werlin LLP
99 High Street, Suite 2900
Boston, MA 02110

FOR: New England Power Company d/b/a National Grid
Petitioner

TABLE OF CONTENTS

I. INTRODUCTION

A. Description of Proposed Project

On February 1, 2019, New England Power Company ("NEP" or "Company"), a subsidiary of National Grid, filed a petition ("Petition") with the Department of Public Utilities ("Department") pursuant to G.L. c. 164, § 72, seeking approval to construct a new 0.82-mile 115 kilovolt ("kV") overhead transmission loop line (the "New Loop Line") within an existing right-of-way ("ROW") that extends from a transmission tap point on the G-133W main line in Methuen, Massachusetts, to the New Hampshire border (the "Project"). The Department docketed the filing as D.P.U. 19-16.

The Project is a component of the electric system upgrades proposed by Liberty Utilities (Granite State Electric) Corp. d/b/a/ Liberty Utilities ("Liberty"), the local electric distribution supplier in the Salem, New Hampshire area, to address reliability and asset condition issues on its system and to provide for anticipated load growth (Exh. NG-1(A) at 1-1, 1-2). After completing a planning study of transmission and distribution system needs in Salem, New Hampshire ("Salem Area Study"), Liberty identified a need for additional transmission resources to reliably serve its Salem-area customers (Exh. NG-1(A) at 1-2).[1] As a result, Liberty requested that NEP (its sole existing provider of, and means of access to, the New England bulk power

---

[1] The Company stated that, as Liberty's transmission supplier, NEP has an obligation under Schedule 21 of the ISO-NE Open Access Transmission Tariff ("OATT"), to plan, construct, operate, and maintain its Local Network in accordance with Good Utility Practice and its planning obligations under Attachment K ("Regional System Plan Process") of the ISO-NE OATT (Exh. DPU-N-10). NEP stated that it would provide two independent sources of transmission under circumstances where it determines, upon engineering review, that two independent sources of transmission are consistent with its planning obligations under Schedule 21 (Exh. DPU-N-10).

electric transmission system) install a new 115 kV/13.2 kV transformer (the "New Transformer") at its existing Golden Rock Substation in Salem, New Hampshire ("Substation"), and to provide a second 115 kV transmission supply to the Substation (Exh. NG-1(A) at 1-2).

The Project would replace NEP's existing G-133W 115 kV tap line ("Existing Tap") serving the Substation with the New Loop Line along the Company's existing ROW in Methuen ("Existing ROW Route") (Exh. NG-1(A) at 1-2). The New Loop Line would continue a short distance in Salem, New Hampshire, where it will loop in and out of the Substation (Exh. NG-1(A) at 1-2). To support the New Loop Line, NEP would replace twelve single-circuit, davit-arm structures with thirteen new weathered steel monopole structures on concrete caisson foundations (Exh. NG-1(A) at 1-2). The new double circuit monopoles would have similar heights and would be located adjacent to existing structures (Exh. NG-1(A) at 1-2). The Company anticipates that Project construction would start in early 2020 (Exh. NG-1(A) at 1-3; Tr. 1, at 10).

Regarding community outreach, NEP conducted an introductory briefing for municipal officials on October 9, 2018 (Exh. DPU-G-1). The Company also mailed fact sheets to abutters within 300 feet of the Project ROW (id.). Company representatives also conducted door-to-door outreach with businesses and Project abutters between November and December 2018 (id.). Finally, the Company held an information session for residents of the Spicket Commons and Hampshire Road Condominiums on March 13, 2019 (id.). NEP indicated that the City of Methuen ("City") is supportive of the Project and did not express any concerns (Exh. DPU-G-3). The Company has committed to providing notice of the construction activity schedule, has set up

a website, and will distribute a toll-free number for citizens to call with concerns or questions during construction (Exh. DPU-G-4).

Figure 1. Project Location

Source: Exh. NG-1(A) att. C, fig. 1-2

The project grade cost estimate for the New Loop Line is $7.0 million (+/-10%) (Exh. DPU-G-2(S1)).[2] The new facilities will be qualified as localized pool transmission facility(s) ("PTF") under ISO New England ("ISO-NE") Schedule 12C (Exh. NG-1(A) at 1-3). Project costs would be recovered through local network service ("LNS") rates collected from distribution companies served by NEP (e.g., Liberty and Massachusetts Electric Company ("MECo"), a distribution subsidiary of National Grid) (Tr. 1, at 44-46).

B. Procedural History

On March 28, 2019 the Department issued an Order of Notice requiring NEP to publish a notice of adjudication and public hearing. Pursuant to the Order of Notice, the Department required the Company to provide information in Spanish and English regarding the Company's filing and the public comment hearing. The Company provided Notice to the Mayor of Methuen, the Methuen City Council, the Methuen City Clerk, the Methuen Zoning Board, the Methuen Planning Division, the Methuen Conservation Commission, the Methuen Department of Public Works, all persons owning real estate abutting the property to be used for the Project, owners of properties opposite the property across any public or private street or way, and abutters to abutters within three hundred feet of the right-of-way. On April 29, 2019, the Department conducted a duly noticed public hearing at Methuen High School. The Department did not receive any requests for intervention in the proceeding.

The Department issued 87 information requests to the Company. The Department conducted evidentiary hearings on July 17 and July 24, 2019. At the hearings, the Company

---

[2] The cost of the Project will be recovered from NEP's local transmission network customers, including MECo and some municipal electric companies (Tr. 1, at 44-46).

presented the following witnesses: (1) David Klinch, principal at Epsilon Associates; (2) Dave Cannon, project manager for National Grid; (3) Gaston Ngarukiye, transmission line engineer at National Grid; (4) Corey Schutzman, a consultant with BSC Group working for National Grid on environmental issues; (5) Chuanjiang Zhu, transmission planner for National Grid; (6) Michael Thompson, an account manager at National Grid; (7) Joel Rivera, manager of geographic information systems and electric system planning at Liberty; and (8) Christopher Long, a consultant on electric and magnetic fields and principal scientist at Gradient.

The Company submitted a brief on August 14, 2019. The record consists of 122 exhibits, including nine responses to record requests.

II. REQUEST FOR AUTHORITY TO CONSTRUCT AND USE TRANSMISSION LINE PURSUANT TO G.L. c. 164, § 72

A. Standard of Review

General Laws c. 164, § 72 requires, in relevant part, that an electric company seeking approval to construct a transmission line must file with the Department a petition for:

> authority to construct and use ... a line for the transmission of electricity for distribution in some definite area or for supplying electricity to itself or to another electric Company or to a municipal lighting plant for distribution and sale ... and shall represent that such line will or does serve the public convenience and is consistent with the public interest .... The [D]epartment, after notice and a public hearing in one or more of the towns affected, may determine that said line is necessary for the purpose alleged, and will serve the public convenience and is consistent with the public interest.[3]

---

[3] Pursuant to G.L. c. 164, § 72, the electric company must file with its petition a general description of the transmission line, a map or plan showing its general location, an estimate showing in reasonable detail the cost of the line, and such additional maps and information as the Department requires.

The Department, in making a determination under G.L. c. 164, § 72, considers all aspects of the public interest. Boston Edison Company v. Town of Sudbury, 356 Mass. 406, 419 (1969). All factors affecting any aspect of the public interest and public convenience must be weighed fairly by the Department in a determination under Section 72. Town of Sudbury v. Department of Pub. Utils., 343 Mass. 428, 430 (1962).

In evaluating petitions filed under G.L. c. 164, § 72, the Department examines (1) the need for, or public benefits of, the present or proposed use; (2) the present or proposed use and any alternatives identified; and (3) the environmental impacts or any other impacts of the present or proposed use. NSTAR Electric Company d/b/a Eversource Energy, D.P.U. 18-21, at 58 (2019); New England Power Company d/b/a National Grid, D.P.U. 12-02, at 37-38 (2012); Boston Edison Company, D.T.E. 99-57, at 3-4 (1999). The Department then balances the interests of the general public against the local interests and determines whether the line is necessary for the purpose alleged and will serve the public convenience and is consistent with the public interest. Save the Bay, Inc. v. Department of Public Utilities, 266 Mass. 667, 680 (1975); Town of Truro v. Department of Public Utilities, 365 Mass. 407 (1974); NSTAR Electric Company, D.P.U. 07-60/07-61, at 2-6 (2008).

B. Public Convenience and Public Interest

1. Need for or Public Benefits of the Proposed Use

a. Company Description

Liberty distributes electricity to approximately 16,000 customers within the Salem Area, which includes the Town of Salem, New Hampshire, small parts of Windham and Derry, New Hampshire, and a small area of Methuen, Massachusetts ("Salem Area") (Exh. NG-1(A) at 1-3 and 2-1). Liberty owns and operates certain sub-transmission facilities including four 23 kV

circuits and four 23 kV/13.2 kV substations which provide service to the Salem Area (Exhs. NG-1(A) at 2-2; DPU-N-2). Golden Rock Substation's 115 kV/23 kV transformer functions as the main supply for the Salem Area (Exhs. NG-1(A) at 2-2; DPU-N-2). NEP stated that, although that substation is primarily served by the Existing Tap, it has backup supply from two 23 kV MECo circuits connected to the West Methuen Substation (Exhs. NG(1) at 2-2; DPU-N-13).

NEP reported that the Salem Area base load is expected to grow from the 2016 peak of 71.96 MW to 74.23 MW by 2021, and 77.66 MW by 2031 (Exhs. NG-1(A) at 2-3; NG-1(A) att. A at 19). In addition, a multi-use redevelopment project at the former Rockingham Park racetrack in Salem, named Tuscan Village, is expected to add 17 MW of spot load and increase the overall Salem Area load to approximately 90 MW by 2021 (Exh. NG-1(A) at 2-3; Tr. 1, at 37). As a result of the anticipated load growth, Liberty completed its Salem Area Study to identify system requirements for meeting existing and future capacity requirements of the Salem Area (Exh. NG-1(A) at 2-2; Tr. 1, at 15). The Salem Area Study used Liberty's existing distribution planning criteria to evaluate system capacity and reliability compliance (Exh. NG-1(A) att. A at 7).[4]

Liberty's Salem Area Study identified potential criteria violations which could occur as a result of load growth and asset conditions (Exh. NG-1(A) 2-3 to 2-4). In addition to thermal

---

[4] Liberty's criteria dictate that feeders and transformers remain within 75 percent of normal ratings at all times, and supply lines remain within 90 percent of normal ratings at all times (Exh. NG-1(A) att. A at 20). The criteria require that Liberty, in the event of an N-1 contingency, be capable to return interrupted load to service via system reconfiguration through switching, installation of temporary equipment, such as mobile transformers or generators, and/or by repair of a failed device (Exh. NG-1(A) att. A at 20).

overloads on distribution feeders, the Salem Area Study concluded that, during single contingency (N-1) events, the loss of supply or a transformer at the Substation would result in 12 MW of unserved load, a projection which violates Liberty's distribution planning criteria (Exh. NG-1(A) att. A at 8; Tr. 1, at 38). NEP reported that the Project and the other sub-transmission system upgrades were proposed in the Salem Area Study as the most economical solution (Exh. NG-1(A) att. A at 7; Tr. 1, at 16).

To resolve the load at risk and serve load growth, Liberty proposed, among other things, the addition of a 115 kV/13.2 kV transformer at the Substation and a new transmission line to supply it (Exh. NG-1(A) att. A at 9; Tr. 1, at 16). NEP stated that the New Loop Line would have an in-line breaker to separate it into two lines, thus providing two independent 115 kV supplies to the Substation (Exh. DPU-N-2). NEP explained that when a contingency occurs on one section of the G-133W, opening of the in-line breaker could isolate the fault and reduce overall restoration time, thereby improving the reliability of supply at the Substation (Exh. DPU-N-2).

The Salem Area Study also reviewed the asset conditions of Liberty's sub-transmission facilities and recommended that at least two Liberty-owned 23 kV/13.2 kV substations (Barron Avenue No. 10 and Salem Depot No. 9) be retired and replaced by modern distribution facilities (Exhs. NG-1(A) att. A at 17; DPU-N-4).[5] NEP explained that, in aggregate, the Barron Avenue

---

[5] Liberty stated that the Barron Ave No. 10 substation was initially constructed in the early 1960s, and presents asset concerns, including an outdated control system, high failure rates on reclosers, and various other components which no longer can be supported with spare parts (Exh. NG-1(A) att. A at 17). The Salem Depot No. 9 substation, initially constructed in the 1950s, has several components mounted on wood poles with low clearance, raising reliability and maintenance concerns (Exh. NG-1(A) att. A at 17).

No. 10 and Salem Depot No. 9 substations supply approximately 40 megavolt-amperes of distribution load (Exh. DPU-N-8). In accordance with the Salem Area Study and to maintain reliable service to customers in the vicinity of Barron Avenue No. 10 and Salem Depot No. 9 substations, Liberty proposed new distribution feeders out of the Substation, replacing the retired distribution capacity (Exh. DPU-N-8). NEP stated that the new distribution feeders could be served by the new 115 kV/13.2 kV transformer at the Substation (Exh. DPU-N-8).

NEP stated that the terms of the FERC-approved ISO-NE OATT Schedule 21 require NEP to provide Liberty with adequate transmission capacity to meet Liberty's existing and projected load requirements (Exh. NG-1(A) at 2-1; Tr. 1, at 13-14). The Company explained that it reviewed Liberty's proposal as part of Liberty's formal request to ISO-NE for additional transmission resources (Tr. 1, at 18-19). To assess Liberty's request, the Company modeled the anticipated load growth using NEP planning criteria (id., at 33-34). NEP confirmed that under its analyses of projected loads and transmission requirements, the existing Substation could not reliably serve the expected distribution needs following the retirement of the Liberty's sub-transmission facilities (id., at 33-34, 38).

NEP stated that the additional transformer and New Loop Line are needed to reliably serve the load in the Salem Area (id.). The Company prepared a System Impact Study at the request of ISO-NE (Exh. NG-1(A) at 2-4). The System Impact Study showed no adverse impact on the transmission grid from the Project; the Company stated that the ISO-NE Reliability Committee reviewed and approved NEP's System Impact Study (Exh. NG-1(A) at 2-4; Tr. 1, at 28-29; RR-DPU-1).

b. Analysis and Findings

Based on the expected demands for electricity from proposed major residential and commercial development, Liberty anticipates increased load requirements in the Salem Area. The record also shows that Liberty needs to retire several sub-transmission distribution facilities due to asset conditions. Liberty's distribution planning criteria would be violated by either thermal overloads on its distribution feeders or the loss of supply or a transformer at the Golden Rock Substation, which would result in 12 MW of unserved load. The record shows that, given the reliance of Liberty's system on the Golden Rock Substation, NEP accepted Liberty's request for a second source of power to the Substation as a solution to ensure reliable continued service in the Salem Area.

NEP confirmed that the New Loop Line and 115 kV/23 kV transformer at the Substation are needed to serve load growth in the Salem Area. As Liberty's provider under the FERC-approved ISO-NE OATT and Schedule 21, NEP is required to provide Liberty with adequate transmission capacity to meet Liberty's existing and projected load requirements. The record shows that the Project would resolve Liberty's need for additional capacity and allow Liberty to proceed with its distribution level upgrades throughout the Salem Area. Accordingly, the Department finds that there is need for the Project and that the construction and operation of the Project is consistent with the public interest.

2. Alternatives Explored

NEP evaluated three transmission approaches before selecting the proposed Project approach.[6] The Company then considered two routes for the transmission line and two structure configurations within the transmission corridor (Exh. NG-1(A) at 3-1). Liberty explained that the transmission was required, rather than a non-transmission alternative, because load growth expected in Salem is about 20 MW, which exceeds Liberty's energy efficiency ("EE") and distributed generation resources in terms of magnitude, timing, and reliability (Exh. DPU-PA-1).

a. Alternative Transmission Approaches

NEP evaluated two transmission approaches in addition to the New Loop Line, including an additional radial tap within the Project ROW and a loop line from Pelham, New Hampshire (Exh. NG-1(A) at 3-1).

i. Second Radial Tap

The first alternative approach considered would add an additional 115 kV tap alongside the existing tap line instead of replacing the latter with a loop from G-133W (Exh. NG-1(A) at 3-2). The second radial tap would also serve a second transformer at the Golden Rock Substation like the Project, but without an in-line breaker connecting the two lines in a loop (Exh. NG-1(A) at 3-2). The Company contends that this approach is inferior because both transformers would still be served by line G-133W, and thus, any fault between East and West Methuen would affect both transformers at the Substation (Exh. NG-1(A) at 3-2). The Company indicated that with comparable cost and environmental impacts, the Project is superior because

---

6 The Company stated that a no-build alternative was not an option under its FERC tariff to provide Liberty with required transmission capacity (Exh. NG-1(A) at 3-1).

of added reliability from splitting G-133W into two different transmission sources (Exh. NG-1(A) at 3-3).

ii. Pelham Loop Line

In the second transmission approach, a new transmission line would connect the Golden Rock Substation to the Pelham No. 14 Substation located 5.6 miles away in New Hampshire, instead of to the G-133W Line (Exh. NG-1(A) at 3-3). Like the Project, this approach would also provide an additional independent source of power to the Golden Rock Substation (Exh. DPU-PA-6).

NEP stated that the main drawback of this approach is the lack of an available direct ROW between the two substations (Exh. NG-1(A) at 3-3). Instead, the Company would need to construct a line for 10.3 miles along existing overhead transmission line ROWs, or install 6.2 miles of underground cable (Exh. NG-1(A) at 3-3). Further, the Company stated that either the overhead or the underground cable routing options would require additional easements and property rights to create enough space for the Pelham Loop Line (Exh. DPU-PA-7). In addition, the Company indicated that this approach would require substantial upgrades at the substation in Pelham, which would have to be expanded for additional breakers and buses (Exh. NG-1(A) at 3-3; Tr. 1, at 65). The Company would need to site and construct additional buildings to house underground to overhead transition circuitry at both substations (Tr. 2, at 248-250).

NEP stated that the overhead version of this alternative would result in much greater impacts to wetlands, protected species habitats, floodplains, and vegetated lands than the Existing ROW Route because of its substantially larger footprint; these impacts would occur in Dracut, Methuen, and New Hampshire (Exh. NG-1(A) at 3-3 to 3-4). The Company stated that the underground version of this alternative would impact traffic during the construction period

and require moving existing underground utilities and trimming trees along the Existing ROW Route (Exh. NG-1(A) at 3-4).

NEP calculated that constructing the overhead interconnection option would cost considerably more than the Project – approximately $35.1 million, excluding easement acquisition or substation upgrades (Exh. DPU-PA-8). The Company added that the underground interconnection option would be even more expensive because it involves trenching (Tr. 1, at 69). The Company estimated that the additional construction and permitting activities associated with the underground option could result in a three-year delay to the Project completion date (Exh. DPU-PA-7). According to the Company, both alternative transmission approaches are untenable because of cost, timeliness of completion, and environmental impacts (Company Brief at 17-18).

b. Transmission Route Options

After selecting the New Loop Line as its preferred approach, NEP assessed two transmission routes: (1) the Existing ROW Route and (2) a route along the adjacent Methuen Rail Trail ("Rail Trail Route") (Exh. NG-1(A) at 3-6). The Rail Trail Route follows a 70-foot-wide, one-mile-long inactive railroad corridor, now used as a rail trail, with 0.85 miles within Massachusetts and 0.17 miles in New Hampshire, and would traverse an existing paved parking lot south of Golden Rock Substation, 900 feet along Hampshire Road, 0.7 miles along the rail trail and through an open field to Line G-133W (Exh. NG-1(A) at 3-7). The railroad corridor is owned by Massachusetts Bay Transportation Authority and managed by the City (Exh. NG-1(A) at 3-6). It includes forested land, the rail trail (paved in 2018), and a 23 kV overhead sub-transmission line that runs along its eastern edge (Exh. NG-1(A) at 3-6; Tr. 1, at 71). The corridor is bordered by undeveloped land comprising extensive wetland systems and some

forested land separating it from commercial and industrial developments in the east (Exh. NG-1(A) at 3-6).

The Rail Trail Route would require widening the railroad corridor to 100 feet to accommodate both the new 115 kV transmission line and the existing 23 kV line (Tr. 1, at 70). The Company described this bordering land as having significant grade changes in some locations (Exh. NG-1(A) at 3-6). Thus, NEP would have to grade the land in addition to clearing mature forests and filling wetlands in the undeveloped areas, resulting in permanent impacts for two acres of forest and 1.5 acres of wetlands (Exh. NG-1(A) at 3-7; Tr. 1, at 72).

NEP also estimated that the Rail Trail Route would cost approximately $6.7 million, plus costs associated with obtaining property rights, which the Company characterized as considerable, as well as restoration of the paved trail (Exh. NG-1(A) at 3-9). The Company anticipated that costs could escalate because of possible soil contamination below the inactive railroad bed (Exh. NG-1(A) at 3-10). Furthermore, the Company indicated that this route would inconvenience the public by preventing use of the rail trail during construction and impose visual impacts for some businesses on the east side of the corridor relating to tree removal necessary for construction of the line (Exh. NG-1(A) at 3-8).

NEP estimated that the constructing the transmission line along the Methuen Rail Trail could cause a multi-year delay to Project completion because of the need to acquire easements and to coordinate construction activities with the City (Exhs. NG-1(A) at 3-10; DPU-PA-10; DPU-PA-12). The Company indicated that these anticipated delays would prevent the construction of the transmission interconnection option from meeting Liberty's need in a timely fashion (Company Brief at 23). Based on cost, environmental impacts, and timeliness of Project

completion, NEP argued that the Existing ROW Route is preferable to the Rail Trail Route (Company Brief at 23-24, citing Exh. NG-1(A) at 3-11).

c. Structure Configuration

NEP considered two configurations for structures for the New Loop Line in the transmission corridor, both using monopole structures (Exh. NG-1(A) at 3-12). The Company selected a single line of double-circuit poles as its preferred Project configuration, rather than installing two new parallel lines of monopoles (Exh. NG-1(A) at 3-11). Installing two lines of monopoles would require the Company to expand the existing transmission corridor by a total 50 feet (Exh. NG-1(A) at 3-12). In addition, the parallel monopoles would be located approximately 30 and 60 feet from the expanded eastern edge of the corridor and the existing 23 kV line would be relocated 20 feet west to avoid encroaching on residential and apartment complexes and maintain a separation distance of 30 feet from the New Loop Line (Exh. NG-1(A) at 3-12 - 3-14). The parallel monopole approach would require installing three times as many structures and foundations as the Project, and also require clearing mature trees as part of the corridor expansion, resulting in visual impacts for the residential abutters (Exh. NG-1(A) at 3-15).

NEP acknowledged that installation of separate structures would provide greater reliability because loss of a single structure would then only affect one line (Exh. NG-1(A) at 3-14). However, the Company reported that the alternative would result in greater wetlands, floodplain, soil disturbance, and construction traffic impacts and higher construction costs, estimated at $8.8 million (Exhs. NG-1(A) at 3-15; DPU-PA-18). The Company maintained that selecting the parallel monopole configuration would prevent it from delivering transmission to Liberty in a timely fashion because of the construction of additional structures and acquisition of

new easements (Exhs. NG-1(A) at 3-15; DPU-PA-19). The Company concluded that additional environmental impacts and financial cost of the parallel monopole approach outweigh the reliability benefit of having separate structures (Company Brief at 27).

d. Analysis and Findings

NEP evaluated three alternative options to provide additional transmission capacity to the Golden Rock Substation: (1) installing a second radial tap from Methuen; (2) installing a loop line from Pelham, New Hampshire; and (3) constructing the Project. The record shows that the additional radial tap approach would have environmental impacts and costs similar to the Project but would not provide the enhanced reliability offered by having two separate sources of transmission (Exh. NG-1(A) at 3-3). The Company demonstrated that the Pelham Loop Line alternative requires a long overhead or underground route with relatively high environmental impacts and costs (Exh. NG-1(A) at 3-3 to 3-4; Tr. 1, at 69). Further, based on Liberty's review of non-transmission alternatives to the Project, alternatives such as energy efficiency are not available at a scale that could serve anticipated load growth (Exh. DPU-PA-1).

Next, the Company evaluated routes for its selected transmission approach. Based on a comparison of environmental impacts and costs, the Company demonstrated that the Company's proposed use of existing transmission corridor for the Project is preferable to the using the Rail Trail Route (Exh. NG-1(A) at 3-11).

Finally, the Company considered parallel monopole configurations within the transmission corridor along the Existing ROW Route. Any incremental reliability benefit of placing the line on two sets of structures is outweighed by environmental impacts and costs associated with the difficulties in expanding the ROW and installing additional structures (Exhs. NG-1(A) at 3-14 to 3-15).

Accordingly, the Department finds that the Company's decision to pursue the Project rather than the alternatives is reasonable and provides the best option to meet the identified need balancing reliability, environmental impacts, and cost considerations.

3. Impacts of the Proposed Use

a. Construction

NEP indicated that the Project would take approximately twelve months to construct (Exh. NG-1(A) at 1-3; Tr. 1, at 10). The Company described the construction process as follows: (1) preparation of work areas; (2) construction of foundations; (3) assembly of transmission line structures; (4) stringing of new conductors; (5) removal of existing tap line structures; (6) installation of lightning shield wires; and (7) restoration of corridor (Exh. NG-1(A) at 4-3). NEP reported that it would implement its best management practices ("BMPs") for construction, which are aligned with state regulations for rights of way management (333 CMR 11.00) (Exh. NG-1(A) at 1-5; Tr. 1, at 160). The Company also committed to hire an environmental monitor to ensure compliance with all requirements and the Company BMPs, and NEP will require its construction contractor to designate a supervisor responsible for environmental oversight (Exhs. NG-1(A) at 4-7 to 4-8; DPU-T-2; DPU-LU-1).

NEP stated that it would access the Project ROW from Hampshire Road through existing easements at Spicket Commons and Estes Express Lines at the northern end, and through an existing 100-foot wide easement at the Massachusetts Society for the Prevention of Cruelty to Animals ("MSPCA") Nevins Farm location at the southern end (Exhs. NG-1(A) at 4-4; DPU-CM-5). The Company anticipated that construction parking, staging, and laydown would be within its existing easements and land (Exh. NG-1(A) at 4-2).

NEP indicated that no new construction roads would be created to access work sites along the ROW (Exh. DPU-CM-2; Tr. 1, at 112-113). The Company explained that workers would travel the Project site on temporary access ways and construction mats (Exh. NG-1(A) at 4-4). Construction mats would be used to provide access across wetlands to prevent wetland disturbance and provide stable platforms for construction equipment (Exh. NG-1(A) at 4-3 to 4-4). The Company stated that the construction mats would be plates made of wood, plastic or steel, and NEP would remove them when construction is complete (Exh. DPU-CM-6). The Company indicated that the areas would be mulched after the mats are removed (Exhs. NG-1(A) at 4-4; DPU-CM-2; Tr. 2, at 213). The Company also reported that it would use construction matting and gravel for grading or truck ramps, if required (Tr. 2, at 211-213).

NEP described the existing vegetation within the ROW as shrubs and saplings compatible with accessing and maintaining electric transmission lines (Exh. NG-1(A) at 4-1). Therefore, NEP concluded that little or no mature tree clearing would be needed, but rather, only pruning of tall trees along the ROW to avoid damage to the transmission line and to maintain sight lines for wire pulling (Exh. NG-1(A) at 4-3). The Company added that small trees and shrubs within the ROW would be mowed as necessary for construction access, in a manner intended to allow regrowth (Exh. NG-1(A) at 4-3; Tr. 2, at 198-199).

NEP stated that erosion and sediment controls would separate construction and excavation stockpiles from environmentally sensitive areas such as wetlands, streams, drainage courses, roads, and adjacent properties (Exh. NG-1(A) at 4-4 to 4-5). According to the Company's BMP documents, these control devices include straw bales, siltation fencing, or chip bales (Exh. NG-1(A) at 4-4). The Company also stated that it would use sedimentation control

and dewatering for foundation-related excavation (Exh. NG-1(A) at 4-5). NEP reported that significant portions of the Project ROW flooded for extended periods in the spring and fall in 2017 and 2018 (Exh. DPU-CM-13). The Company observed that beaver activity contributes to flooding in this area (Tr. 2, at 215-216). The Company indicated that similar flooding events could impact construction work for structures numbered 4 through 8, beginning at the southern end of the transmission corridor (Exh. DPU-CM-13). To avoid delays in the Project schedule, NEP stated it could construct these structures in the summer, when flooding is less likely (Exh. DPU-CM-13).

NEP stated that the New Loop Line would use new 1590 thousand circular mil ("kcmil") conductors to match the conductor type on the main G-133W line (Exh. DPU-CM-12). The Company explained that using the original 795 kcmil conductors would lower the rating of entire main line (Exh. DPU-CM-12). The Company reported that the weight of the new conductors and double-circuit monopole structure require concrete caisson foundations (Exh. DPU-CM-9). The Company added that the caisson foundations would be approximately 20 to 30 feet deep, with diameters of 6 to 10 feet (Exh. NG-1(A) at 4-5). The Company asserted that soil properties in the area are not conducive for alternative foundation types (Exh. DPU-CM-9).

NEP stated that following installation of the foundations, the steel monopoles would be lifted into place with a crane in sections (Exh. NG-1(A) at 4-5). The Company indicated that it would recycle as much of the removed 115 kV structures as possible (Exh. NG-1(A) at 4-6).

NEP estimated that wire stringing would take two to three days using "ground line techniques" (Exh. NG-1(A) at 4-6; Tr. 1, at 103). The Company described this technique as physically bringing the rope to each structure and running it through stringing blocks

(Exh. NG-1(A) at 4-6). The Company indicated that two guard trucks would be used when pulling the rope and wire over Hampshire Road to allow traffic to pass (Exh. DPU-T-3; Tr. 1, at 101-102).

Finally, NEP stated that it would restore conditions in the ROW by removing construction debris, final grading, and stabilizing disturbed soils (Exh. NG-1(A) at 4-6). The Company would seed and mulch the disturbed areas to be consistent with native vegetation (Exh. NG-1(A) at 4-6; Tr. 1, at 155). The Company noted that holes remaining from removal of the direct buried structures of the previous line would be filled (Tr. 2, at 250). Where the existing structures use concrete foundations, these would be left in place with no additional restoration work (Tr. 1, at 98). The Company explained that the remaining foundations would have a low profile and be shielded by vegetation (Tr. 1, at 98). The Company stated that excess soils from construction would likely be sold to a sand and gravel company and that it did not expect to encounter contaminated soils during construction based on soil borings collected (Tr. 1, at 90-91, 97).

b. Land Use

The Project would be constructed within an existing overhead electric transmission line ROW in Methuen that has previously been cleared of vegetation from edge-to-edge (Exh. NG-1(A) at 1-2, att. C at figs 1-1 to 3-6). NEP stated that there would be no new acquisition of land required for the Project, although additional easement rights may be required to meet required clearances and to accommodate the New Loop Line south and north of Hampshire Road (Exhs. NG-1(A) at 1-3; DPU-CM-7). The Company stated that land use impacts would be minimal because the Project is located within an existing electric ROW and

would not require any properties along the ROW to change their present land use (Exh. NG-1(A) at 4-10; Tr. 1, at 150-151).

Near the ROW at New Hampshire-Massachusetts border, adjacent land uses include a condominium complex, an apartment complex, and several businesses (Exhs. NG-1(A) at 1-2; DPU-LU-2(1)). The ROW is bordered by the Spicket River, I-93 and Route 213 to the west, with no residential, commercial, or industrial development closer than 1,500 feet in those directions (Exh. NG-1(A) at 1-2, 1-3). To the east, there is 400 to 1,200 feet of undeveloped forested and scrub-shrub lands between the ROW and the Methuen Rail Trail (Exh. NG-1(A) at 1-3). The MSPCA's Nevins Farm is located southeast of the ROW (Exh. NG-1(A) at 1-3).

NEP stated that vegetation within the ROW would continue to be managed in accordance with the Company's Vegetation Management Plan to maintain clearance around electrical conductors and supporting structures (Exhs. NG-1(A) at 4-9; DPU-G-10; RR-DPU-6). NEP stated that vegetation management would consist of mechanical clearing and the selective application of herbicides (Exh. NG-1(A) at 4-9). Licensed applicators would use herbicides on select species; herbicides would not be applied within buffer zones associated with wells, surface waters, and agricultural areas (Exh. NG-1(A) at 4-9).

c. Visual

The new structures to be installed for the Project would be modern, low-profile monopoles with a weathered steel finish and would be at comparable heights to the existing 115 kV structures that would be removed as part of the Project (Exh. NG-1(A) at 4-13). The New Loop Line structures, with heights between 75 and 85 feet, would be slightly taller than the existing structures, which range between 55 and 85 feet (Exh. NG-1(A) at 4-13; DPU-V-3; RR-DPU-8). The Company stated that it would maintain the existing span lengths near Spicket

Commons to help reduce pole heights; however, pole heights in this area would still increase due to the greater phase spacing required for double circuit structures (Exhs. DPU-V-2; DPU-V-3; DPU-V-4, DPU-V-5; Tr. 2, at 236-237; RR-DPU-7).

The Company maintained that the new structures would not result in a marked difference in the existing views along the ROW and would, therefore, not have a negative effect on nearby abutters (Exh. NG-1(A) at 4-13, att. G). Only shrubs and saplings would be cleared from the ROW; therefore, NEP contends that the Project would not result in longer site distances along the ROW (Tr. 2, at 220-221).

d. Wetlands and Water Resources

The Company stated that potential wetland impacts from the Project's construction have been avoided and minimized by aligning the new transmission line along an existing ROW, using existing access ways, and avoiding the placement of structures and access ways in wetlands and waterbodies as practicable, but the Project would cause some temporary and permanent impacts to wetland resources within the ROW (Exh. NG-1(A) at 4-10 to 4-11). NEP stated that it anticipates approximately 237 square feet of permanent wetland impacts associated with the fill required for the placement of structures (Tr. 2, at 196). NEP reported that the Project has been approved by the Methuen Conservation Commission ("MCC") and that the Company committed to provide wetland mitigation at a two-to-one ratio as part of its Order of Conditions from the MCC (Exh. DPU-W-1; Tr. 2, at 195, 214).

The Company stated it would provide flood storage compensation for the structures installed in the 100-year flood plain of the Spicket River (Exh. DPU-W-2; Tr. 2, at 186). To provide such compensation, NEP would dig a minor depression at another location along the ROW to restore a volume equal to the structural bases installed in the floodplain

(Exh. DPU-W-2; Tr. 2, at 186-187). NEP explained that wetland loss mitigation and floodplain storage loss mitigation would occur in separate locations along the ROW (Tr. 2, at 187). According to the Company, the fill volumes are modest in relation to the total flood plain storage volume within the Project ROW, and following mitigation, the Company does not expect any increase in floodwater elevations or velocity, or a measurable impact on adjacent properties (Exh. DPU-W-2).

NEP stated that vegetation clearing, and the placement of construction mats would entail approximately 37,330 square feet of temporary wetland impacts (Exh. NG-1(A) at 4-10). The Company explained that vegetation clearing within wetland areas constitutes a conversion of cover types, which in this case would mainly consist of converting palustrine scrub-shrub wetlands to palustrine emergent wetlands (Tr. 2, at 198). NEP stated that temporary wetland impact restoration would involve removing worksite materials, smoothing out ruts, and replanting vegetation where necessary (Tr. 2, at 197). The Company expects that after Project construction, natural wetland vegetation would be allowed to regrow (Tr. 2, at 198-199).

While the Company stated that the Project would not require any wetland or waterway-related permits from Salem, New Hampshire, the Project would require a Self-Verification Notification Form to the U.S. Army Corps of Engineers and a 401 Water Quality Certificate from the MassDEP (Exhs. NG-1(A) at 4-11; DPU-W-1; Tr. 1, at 149-150). NEP indicated that specific mitigation measures would be included in those permit applications (Exhs. NG-1(A) at 4-11; DPU-W-1).

e. Traffic

The Company stated it would use both Hampshire Road and Broadway (Route 28) to access the northern and southern ends of the Project ROW, respectively (Exh. DPU-T-1). The

New Loop Line crosses only one public way (Exh. NG-1(1) att. C, fig. 1-2). While NEP does not foresee having to close Hampshire Road for the entire period of construction, the Company predicted that the road would be blocked at times to transport supplies and equipment and string wires across the road (Exh. NG-1(A) at 4-7). The Company also stated that traffic impacts would be mitigated by employing a police detail and scheduling wire stringing outside of peak hours (Exh. NG-1(A) at 4-7). NEP characterized traffic along Hampshire Road and Broadway during peak hours as steady but without significant back-ups in the vicinity of the Project ROW (Exh. DPU-T-1). The Company stated that it would schedule delivery of materials and equipment to avoid "high volume traffic" times (Exh. DPU-T-3). The Company added that it would create a traffic management plan and submit it for approval in both Methuen, Massachusetts and Salem, New Hampshire (Tr. 1, at 128-129).

f. Noise

NEP indicated that ambient noise levels in the Project area are dominated by noise from traffic adjacent highways and Hampshire Road (Exh. DPU-NO-1). According to the Company, the closest residential receptor is 75 feet away from the edge of the transmission corridor (Exh. DPU-NO-1(S1)). During construction, NEP does not plan to use any equipment, besides a rock drill, with noise values that exceeded 85 dBA measured 50 feet away (Exhs. NG-1(A) at 4-14; DPU-NO-7). The Company also found that shallow bedrock was not prevalent in the ROW, which means that construction would not require blasting or use loud equipment like impact hammers (Tr. 1, at 92, 119). NEP also asserts that noise impacts would be of limited duration, as construction activity would occur at a location for only a few weeks (Exh. NG-1(A) at 4-14).

NEP stated that its construction hours would be 7:00 a.m. to 7:00 p.m., Monday through Saturday, which complies with the City ordinance that excludes construction noise between 9 p.m. and 7 a.m. in residential areas (Exhs. DPU-NO-1; DPU-NO-5; DPU-NO-6). The Company also offered to limit construction activities in the vicinity of residential areas on Saturdays if requested an abutter (Exh. DPU-NO-6). The Company stated it would not need to work beyond 7 p.m., with the exception of wire pulling and concrete pouring (Exhs. DPU-CM-10; DPU-CM-11). The Company also indicated that it would obtain a permit from the City if it needs additional construction hours (Exh. NG-1(A) at 4-7). Nevertheless, the Company stated that these activities would have minimal noise impacts (Tr. 1, at 113).

NEP plans to minimize vehicle-related noise by limiting unnecessary vehicle and equipment idling time (Exh. NG-1(A) at 4-14). The Company stated that it would handle noise complaints first by contacting the complainant to collect more information, then consulting with its contractor for possible mitigation measures (Exh. DPU-NO-4). This process would be facilitated by a hotline and a liaison officer (Tr. 1, at 114-115, 125). NEP also declared that findings and actions would be shared with the complainant and noted that it would provide pre-construction notification to abutting residents (Exhs. DPU-NO-1; DPU-NO-4). Based on a sound level assessment for Project operation, the Company concluded that the proposed additional transformer at the Golden Rock Substation in New Hampshire would not contribute to a perceptible increase in noise over ambient nighttime conditions at residential areas in Massachusetts (Exh. DPU-NO-8(S1)).

g. Wildlife

The Company filed a project review request with MassWildlife's Natural Heritage & Endangered Species Program ("NHESP") (Exh. NG-1(A) at 4-12). Based on NEP's review of

available mapping, records, and correspondence, the Company stated that the Project would have no impact on protected species as the areas under construction in the Project ROW and adjacent lands do not include any known habitats for protected species (Exh. NG-1(A) at 4-12). As a result, the Company did not submit a notice of intent to the NHESP (Tr. 1, at 162).

The Company identified the potential for disturbance and abandonment of great blue heron nests near the ROW, and NEP would restrict activities that may produce significant noise in locations proximal to the heron colony on a seasonal basis (Exh. DPU-LU-4). Specifically, NEP committed to exclude certain activities such as rock drilling, use of dump trucks, and foundation construction activities from mid-April to the end of June between structures 3 and 5 (Exhs. DPU-LU-4; NG-1(A), att. C, fig. 1-5, at sheet 3-4). For construction activities that are less noisy and do not require extensive vehicular trips along the ROW, such as tower erection and preparation and conductor stringing, work would not be restricted during that period (Exhs. DPU-LU-4; NG-1(A), att. C, fig. 1-5, at sheet 3-4). The Company expects that the other construction activities mentioned above, with the potential to cause more disturbance, would be completed before or after the nesting period to reduce the probability for impacts to the great blue heron colony (Exh. DPU-LU-4).

h. Historical and Archeological Resources

The Company commissioned an archeological sensitivity assessment for the Project (Exh. NG-1(A) at 4-12; Tr. 1, at 165). This assessment documented previously identified archaeological resources within the study area to assess the potential of the Project to contain these resources (Exh. NG-1(A) at 4-12, Tr. 1, at 165). While several previously recorded historic architectural resources and archeological sites are located within the study area, the study did not identify any within the ROW (Exh. NG-1(A) at 4-13). Therefore, the study recommended no

further archeological investigation (Exh. NG-1(A) at 4-13). The Company also conducted a thorough examination of the ground surface to identify potential above-ground artifacts, and the examination concluded that only areas of low archeological sensitivity are present along the Project ROW (Exhs. NG-1(A) at 4-12; DPU-LU-3).[7]

i. Air Impacts

The Company stated that it would comply with all applicable regulations regarding air quality and require its contractors to do so as well (Exh. NG-1(A) at 4-15). NEP indicated that the main sources of air quality impacts would be from construction equipment, motor vehicles and fugitive dust emissions from disturbed soil surface areas (Exh. NG-1(A) at 4-14). The Company stated that all diesel-powered non-road construction equipment will comply with US EPA Tier IV emissions standards or have federally verified emission control devices installed if they are rated at 50 horsepower or above and operated for 30 or more days for the Project (Exh. NG-1(A) at 4-15). The Company stated that they would abide by Massachusetts state law[8], limiting unnecessary vehicle idling to no more than five minutes (Exh. DPU-A-1). The Company also reported that it would communicate this requirement to its contractor along with regular reminders (Exh. DPU-A-1).

NEP confirmed that it would take measures to minimize transportation of dust off-site, including spraying water on earthwork and other dust-causing activities, sweeping pavements of

---

7 NEP noted that it maintains an unanticipated discovery plan which provides clear guidance as to what steps to take if construction crews encounter potential archeological resources such as stoneware or pottery (Tr. 1, at 168-169).

8 The Commonwealth's anti-idling law and regulations are set forth at G.L. c. 90, § 16A, G.L. c. 111, §§ 142A – 142M, and 310 CMR 7.11.

adjacent roadway surfaces close to entrances, and installing sediment tracking pads and gravel construction entrances at every access road (Exh. NG-1(A) 4-15). The Company also offered to implement further measures to reduce dust impacts, if required (Exh. NG-1(A) at 4-15).

j. Magnetic Fields

NEP modeled and compared magnetic field conditions at the edges of the ROW, with and without the Project (Exh. NG-1(A), app. H, at 1). To mitigate the additive effects of magnetic fields, NEP proposes to arrange the New Loop Line in symmetrical phasing in order to optimize the cancellation of magnetic fields (Tr. 1, at 156-157). The Company stated that it used the most conservative location of the lowest conductor sag to model magnetic field at different distances (Exh. NG-1(A) at 4-15). The Company indicated that the nearest residential structure is 88 feet away from the conductors (Exh. DPU-MF-2). The Company modeled magnetic field results based on the combination of expected transmission loads in 2021 in Salem and the final Tuscan Village load, presented in Table 1, below (Exhs. DPU-MF-3; NG-1(A) at 2-3). The Project results in higher current flows, increasing modeled magnetic fields (Exh. NG-1(A) at 4-16). The model showed that magnetic fields attenuate with distance such that magnetic fields under average loads at residences would be on the order of 5 milliGauss ("mG") (Exh. NG-1(A) at 4-16). The Company stated that modeled values are well below the guideline threshold of 2,000 mG from the International Commission on Non-Ionizing Radiation Protection for continuous public exposure (Exh. NG-1(A) at 4-16; Company Brief at 44).

Table 1. Summary of Modeled Edge-of-ROW Magnetic Field Values (2021)

Load Scenario	Western Edge-of-ROW (mG)		Eastern Edge-of-ROW (mG)	
	Without Project	With Project	Without Project	With Project
Annual average load level	3.0	5.1	8.6	34.1
Non-emergency peak load level	6.6	15.9	18.6	67.0

Source: Exh. RR-DPU-5.

k. Analysis and Findings

i. Land Use

NEP has demonstrated that the Project would be located within an existing electric utility ROW that has previously been cleared of vegetation from edge-to-edge, and the Project would not change present land uses (Exh. NG-1(A) at 1-2, att. C at figs 1-1 to 3-6). The Company would continue to manage the ROW according to its state-approved Vegetation Management Plan, which includes mechanical removal of vegetation and selective application of herbicides by licensed applicators (Exhs. NG-1(A) at 4-9; DPU-G-10; RR-DPU-6). Therefore, as proposed, the Department finds that land use impacts will be minimized.

ii. Visual

NEP plans to replace the existing structures with low-profile monopoles with a weathered steel finish (Exh. NG-1(A) at 4-13). The New Loop Line would require an increase in structure heights, from the current range between 55 and 85 feet to a proposed range between 75 and 85 feet (Exh. DPU-V-3). NEP represented that the increase in overall pole heights was due to the greater phase spacing required for double circuit structures (Tr. 2, at 234). Some shrub and sapling removal would be required; however, site distances and views along the ROW are not expected to change appreciably (Tr. 2, at 234; Exh. NG-1 (A), at 4-13). Accordingly, as proposed, the Department finds that potential visual impacts will be minimized.

iii. Wetlands and Water Resources

As proposed, the Project would require some permanent and temporary impacts to jurisdictional wetland areas associated with the fill required for the placement of structures and wetland cover type conversions (Exh. NG-1(A) at 4-10 to 4-11; Tr. 2, at 185). The Company would mitigate permanent wetland impacts at a two-to-one mitigation to loss ratio, as required by its Order of Conditions from the Methuen Conservation Commission (Exh. DPU-W-1; Tr. 2, at 195, 214). Temporary wetland impacts from vegetation clearing and the placement of construction mats for ROW access would be restored by removing all worksite materials, smoothing out ruts, and replant vegetation where necessary (Tr. 2, at 197-199). The loss of floodplain storage due to the placement of structure foundations would be compensated by creating an equal volume of flood storage space at a separate location along the ROW (Exh. DPU-W-2; Tr. 2, at 186-187). The Department finds that, as proposed, the wetlands and water resources impacts will be minimized.

iv. Traffic

The New Loop Line would be constructed on an off-road ROW and would cross only one public way (Exh. NG-1(1) att. C, fig. 1-2). NEP will submit a traffic management plan for approval to the City and the Town of Salem, New Hampshire (Tr. 1, at 128-129). The Company also described a series of mitigation measures it would employ to lessen the impacts of construction traffic in the vicinity of the Project (Exh. NG-1(A) at 4-7; DPU-T-3). With implementation of these measures, the Department finds that the Project-related traffic impacts will be minimized.

v. Noise

NEP would maintain construction hours of 7 a.m. to 7 p.m., Monday through Saturday (Exh. DPU-NO-6). Should the Company need to extend construction work beyond those hours and days (with the exception of emergency circumstances on a given day that necessitates work beyond such times), the Company shall seek written permission from the relevant City authorities prior to the commencement of such work and provide the Department with a copy of such permission. If such permission is not granted by the City, the Company may seek approval of the Department, and notify the Town.

The Company shall inform the City in writing within 72 hours of any work that continues beyond the hours allowed by the Department, or, if granted extended work hours in writing by the City or the Department, work that continues past the hours allowed by the City. The Company shall also send a copy to the Department, within 72 hours of receipt, of any authorization for an extension of work hours issued by the City. Furthermore, the Company shall keep a record of the dates, times, locations, and durations of all instances in which work continues beyond the hours allowed by the Department, or, if granted extended work hours in writing by the City or the Department, work that continues past the hours allowed, and it must submit such record to the Department within 90 days of Project completion.

The Department finds that construction noise impacts would be limited in duration and severity. NEP would not use equipment that exceeds 85 dBA or work outside of hours allowed by the City (Exhs. NG-1(A) at 4-14; Tr. 1 at 116). The record shows that the additional transformer would not contribute to a discernable increase in noise at the residential receptors (Exh. DPU-NO-8(S1)). With these measures, the Department finds that Project noise impacts will be minimized.

vi. Wildlife

The Project ROW and adjacent lands do not contain any known habitats for protected species (Exh. NG-1(A), at 4-12). In addition, the Company developed guidelines to limit construction activities on a seasonal basis to prevent the potential disturbance and abandonment of great blue heron nests near the Project ROW (Exh. DPU-LU-4). The Department directs the Company to comply with the proposed time-of-year restriction that prohibits significant noise producing activities such as rock drilling, use of dump trucks, and foundation construction between structures 3 and 5 from mid-April to the end of June of any year. Through compliance with this requirement and the guidelines developed, the Department finds that the potential impacts of the Project on wildlife will be minimized.

vii. Historical and Archeological Resources

Based on a study by the Company, archeological resources are not likely to be present within the ROW (Exh. NG-1(A) at 4-13). The Company has developed a plan to address any unanticipated discoveries that provides clear guidance if construction crews should encounter potential archeological resources (Tr. 1, at 168-169). With these safeguards, the Department finds that potential impact on historical and archeological resources will be minimized.

viii. Air

The Department finds that any air quality impacts would be temporary and limited to the period of construction for the Project. NEP identified measures that it will implement which will minimize these impacts during construction (Exhs. NG-1(A) at 4-15; DPU-A-1). With implementation of these measures, the Department finds that potential impacts on air quality associated with construction of the Project will be minimized.

ix. Magnetic Fields

NEP modeled magnetic field values at the edges of the ROW with and without the Project to identify the potential increase in magnetic fields associated with the construction and operation of the proposed Project (Exh. NG-1(A), app. H, at 1). While magnetic field values would increase, the predicted increases in magnetic fields are generally consistent with levels in projects previously approved by the Department. See NSTAR Electric Company d/b/a Eversource Energy, D.P.U. 18-21 (2019); New England Power Company, D.P.U. 14-128/14-129 (2015); NSTAR Electric Company, D.P.U. 14-08 (2015). Given the distance of residential structures from the edge of the ROW, magnetic field levels would drop significantly, to approximately 5 mG or less, under average load conditions (Exh. NG-1(A) at 4-16). In addition, the Company would arrange magnetic field phasing to optimize magnetic field cancellation (Tr. 1, at 156-157). The Department finds with implementation of these measures that magnetic field impacts will be minimized.

x. Conclusion

The Department concludes that through the Project's compliance with (1) all applicable federal, state, and local laws and regulations; (2) the avoidance, minimization, and mitigation measures that NEP has stated it will implement during Project construction; and (3) the Department's conditions as discussed above and set forth below, the impacts of the Project will be minimized.

C. Conclusion on Public Convenience and Public Interest

Based on the foregoing analysis of (1) the need for or public benefit of the proposed use; (2) alternatives explored; and (3) impacts of the proposed use, the Department finds that that the Project is necessary for the purpose alleged, the benefits of the Project to the general public

exceed the local impacts, and the Project will serve the public convenience and is consistent with the public interest.

III. SECTION 61 FINDINGS

MEPA provides that "[a]ny determination made by an agency of the Commonwealth shall include a finding describing the environmental impact, if any, of the project and a finding that all feasible measures have been taken to avoid or minimize said impact" ("Section 61 findings"). G.L. c. 30, § 61. Pursuant to 301 CMR 11.01(3), Section 61 findings are necessary when an Environmental Impact Report ("EIR") is submitted to the Secretary of Energy and Environmental Affairs ("Secretary") and should be based on such EIR. Where an EIR is not required, Section 61 findings are not necessary. 301 CMR 11.01(3). According to the Company, on December 17, 2018, the Company filed an Environmental Notification Form ("ENF") for the Project. On January 25, 2019, the Secretary issued a Certificate finding that the Project does not require the preparation of an EIR; the Project's environmental impacts will be avoided, minimized and/or mitigate to the extent practicable; and that no further MEPA review is required (Exh. NG-1, at attachment I). Accordingly, Section 61 findings are not necessary in this case.[9]

---

[9] The Department notes the requirements set forth in G.L. c. 30A, § 61, effective November 5, 2008, regarding findings related to climate change impacts. The Department notes that this Project would have low greenhouse gas emissions because it does not itself generate power. As such, the Project would have minimal direct emissions from a stationary source under normal operations and would have minimal indirect emissions from transportation sources limited to construction, occasional repair, or maintenance activities.

IV. ORDER

Accordingly, after due notice, hearing, and consideration, it is hereby

ORDERED: That the petition of New England Power Company, seeking approval to construct and operate a transmission line pursuant to G.L. c. 164, § 72, is granted; and it is

FURTHER ORDERED: That New England Power Company shall not conduct significant noise producing activities such as rock drilling, the use of dump trucks, and foundation construction between structures 3 and 5 from mid-April to the end of June of any year; and it is

FURTHER ORDERED: That New England Power Company and its contractors and subcontractors shall comply with all applicable federal, state, and local laws, regulations, and ordinances for which the Company has not received an exemption; and it is

FURTHER ORDERED: That New England Power Company shall obtain all other government approvals necessary for the Project; and it is

FURTHER ORDERED: That New England Power Company and its successors in interest shall notify the Department of any changes other than minor variations to the Project so that the Department may decide whether to inquire further into a particular issue; and it is

FURTHER ORDERED: That because the issues addressed in this Order relative to this Project are subject to change over time, construction of the Project shall commence within three years of the date of this Order; and it is

FURTHER ORDERED: That within 90 days of Project completion, New England Power Company shall submit a report to the Department documenting compliance with all conditions in this Order, noting any outstanding conditions yet to be satisfied and the expected date and status of such resolution; and it is

FURTHER ORDERED: That New England Power Company and its successors in interest shall comply with all other directives contained in the Order.

By Order of the Department

Matthew H. Nelson, Chair

Robert Hayden, Commissioner

Cecile M. Fraser, Commissioner

A true copy
Attest:

Mark D. Marini,
Secretary

An appeal as to matters of law from any final decision, order or ruling of the Commission may be taken to the Supreme Judicial Court by an aggrieved party in interest by the filing of a written petition praying that the Order of the Commission be modified or set aside in whole or in part. Such petition for appeal shall be filed with the Secretary of the Commission within twenty days after the date of service of the decision, order or ruling of the Commission, or within such further time as the Commission may allow upon request filed prior to the expiration of the twenty days after the date of service of said decision, order or ruling. Within ten days after such petition has been filed, the appealing party shall enter the appeal in the Supreme Judicial Court sitting in Suffolk County by filing a copy thereof with the Clerk of said Court. G.L. c. 25, § 5.