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June 14, 2019

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Bill Hinkel
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22 State House Station
Augusta, ME 04333-0022

RE: NECEC – Post-Hearing Brief and Proposed Findings of Fact of Central Maine Power Company

Dear Jim and Bill:

Enclosed is the Post-Hearing Brief and Proposed Findings of Fact of Central Maine Power Company. Pursuant to Procedural Orders, we are sending, via overnight delivery, the following:

- Original and 4 copies of CMP's Pre-Filed Direct Testimony for the DEP;
- Original and 9 copies of CMP's Pre-Filed Direct Testimony for LUPC.

Thank you.

Sincerely,



Matthew D. Manahan

Enclosure

cc: Service Lists (via email)

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

and

STATE OF MAINE
LAND USE PLANNING COMMISSION

IN THE MATTER OF

CENTRAL MAINE POWER COMPANY)
NEW ENGLAND CLEAN ENERGY CONNECT)
#L-27625-26-A-N/#L-27625-TG-B-N/)
#L-27625-2C-C-N/#L-27625-VP-D-N/)
#L-27625-IW-E-N)

CENTRAL MAINE POWER COMPANY)
NEW ENGLAND CLEAN ENERGY CONNECT)
SITE LAW CERTIFICATION SLC-9)
Beattie Twp, Merrill Strip Twp, Lowelltown Twp,)
Skinner Twp, Appleton Twp, T5 R7 BKP WKR,)
Hobbs town Twp, Bradstreet Twp,)
Parlin Pond Twp, Johnson Mountain Twp,)
West Forks Plt, Moxie Gore,)
The Forks Plt, Bald Mountain Twp, Concord Twp)

POST-HEARING BRIEF AND PROPOSED FINDINGS OF FACT
OF CENTRAL MAINE POWER COMPANY

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**POST-HEARING BRIEF AND PROPOSED FINDINGS OF FACT
OF CENTRAL MAINE POWER COMPANY**

Pursuant to the Maine Department of Environmental Protection (DEP or Department) rules governing licensing hearings,¹ as well as the procedural orders of the DEP and the Maine Land Use Planning Commission (LUPC),² Central Maine Power Company (CMP) hereby files this post-hearing brief, which includes the attached proposed findings of fact, regarding CMP's applications for a Site Location of Development Act (Site Law) permit, a Natural Resources Protection Act (NRPA) permit, and a Federal Water Pollution Control Act Section 401 Water Quality Certification (collectively, Applications) for the New England Clean Energy Connect (NECEC) Project (NECEC Project or the Project).

I. POST-HEARING BRIEF RELEVANT TO DEP HEARING TOPICS

A. BACKGROUND

The NECEC Project is a High Voltage Direct Current (HVDC) transmission line and related facilities capable of delivering up to 1,200 MW of Clean Energy Generation³ from the

¹ DEP Reg. Ch. 3 § 23.

² Joint Eleventh Procedural Order ¶ 3.d. (“The request to allow the parties to address licensing criteria other than the hearing topics in post-hearing briefs and findings of fact is granted. Parties may provide legal arguments, based on information in the agencies’ overall record, on all topics relevant to the Department and Commission’s licensing criteria.”); Joint Seventh Procedural Order ¶ I.6.c. (“Parties may not submit any evidence or comments after the close of the actual hearing. The parties will have the opportunity to submit post-hearing briefs, proposed findings of fact, and reply briefs in accordance with a schedule which will be set forth by the Department’s Presiding Officers at the close of the hearing.”); Joint Fourth Procedural Order ¶ 3 (“Parties will have an opportunity to submit post-hearing briefs and proposed findings of fact. This will be due after the transcript of the hearing has been produced and disseminated to the parties.”).

³ The Massachusetts RFP defines “Clean Energy Generation” as “(i) firm service hydroelectric generation from hydroelectric generation alone; (ii) new Class I Renewable Portfolio Standard (“RPS”) eligible resources that are firm up with firm service hydroelectric generation; or (iii) new Class I RPS eligible resources.” Massachusetts RFP at A, available at <https://macleanenergy.files.wordpress.com/2017/03/83d-rfp-and-appendicesfinal.pdf>.

Canadian border to the New England Control Area,⁴ which was proposed and selected in response to the Request for Proposals for Long-Term Contracts for Clean Energy Projects (RFP) issued by the Massachusetts Department of Energy Resources and the Electric Distribution Companies of Massachusetts.⁵

CMP filed with DEP and LUPC extensive application materials, including the Site Law and NRPA Applications themselves; an amendment to each of those Applications; responses to multiple information requests, intervenor comments, and comments from public agencies; pre-filed direct, rebuttal, and supplemental testimony; and responses to post-hearing information requests by the DEP. Because there were only a handful of topics that DEP and LUPC determined are “most significant and contentious” and thus warranted “an in-depth examination” at the hearing,⁶ for the convenience of DEP, this initial post-hearing brief will focus only on those topics.

Those topics ordered by the DEP⁷ are:

1. Scenic Character and Existing Uses
 - i. Visual Impact Assessment and Scenic/Aesthetic Uses
 - ii. Buffering for Visual Impacts
 - iii. Recreational and Navigational Uses
2. Wildlife Habitat and Fisheries
 - i. Endangered Species – Roaring Brook Mayfly, Spring Salamanders
 - ii. Brook Trout Habitat
 - iii. Habitat Fragmentation
 - iv. Buffer Strips around Cold Water Fisheries

⁴ The New England Control Area includes the transmission system administered by ISO-New England, the regional transmission organization (RTO), located in Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont, but does not include the transmission system in northern Maine (i.e., Aroostook County and parts of Penobscot and Washington counties).

⁵ Fitchburg Gas & Electric Light Company d/b/a Unitil, Massachusetts Electric Company and Nantucket Electric Company d/b/a National Grid, NSTAR Electric Company and Western Massachusetts Electric Company d/b/a Eversource (collectively, the Distribution Companies).

⁶ See, e.g., DEP First Procedural Order ¶¶ 18-19; LUPC First Procedural Order ¶ B.6; DEP Second Procedural Order ¶ 7; LUPC Second Procedural Order ¶¶ III.A-C.

⁷ DEP Second Procedural Order ¶ 7.

3. Alternatives Analysis
4. Compensation and Mitigation
 - i. Cold Water Fisheries Habitat
 - ii. Outstanding River Segment
 - iii. Wetlands

B. DEP REVIEW CRITERIA RELEVANT TO THE HEARING TOPICS

Inherent in the DEP’s review of the evidence presented in this matter is an analysis of the reasonableness of any Project impacts. In other words, adverse impact is not determinative. Rather, DEP must consider whether such impact is reasonable, and must grant the requested permits where the applicant has shown no unreasonable adverse impact.

1. Site Law Review Criteria and Implementing Regulations

The Site Law requires that the DEP shall approve a development proposal where, among other standards, “[t]he developer has made adequate provision for fitting the development harmoniously into the existing natural environment and that the development will not adversely affect existing uses, scenic character, air quality, water quality or other natural resources in the municipality or in neighboring municipalities.”⁸ DEP’s Chapter 375 regulations, which implement this statutory standard, dictate that the Department may find “adverse effect” on scenic character⁹ and wildlife habitat and fisheries, and require mitigation, for example, only

⁸ 38 M.R.S. § 484(3).

⁹ Because Chapter 375 Section 14 could be interpreted to require evaluation of scenic impacts beyond impacts to “scenic resources,” which are defined in Chapter 315 as public natural resources or public lands, DEP Ch. 315 §§ 5(H), 10, CMP evaluated impacts to scenic and aesthetic uses on both public and private lands. CMP’s evaluation of such uses from private lands was challenged by Group 5 as outside the scope of the Department’s review. *See* Direct Testimony of Mike Novello; *see also* Hearing Day 2 Transcript 103:20-104:3 (Novello). CMP is mindful that many private landowners do not wish for the DEP to consider whether this or any other project will have an unreasonable adverse effect on the scenic character of those portions of the surrounding area that are privately held. *Id.*; *see also* Segal Rebuttal at 3-4.

CMP reserves the right to argue that the DEP’s Site Law Chapter 375.14 provision requiring that the DEP must consider the “scenic character of the surrounding area” is unconstitutionally vague and that review of impacts to scenic and aesthetic uses must be limited to scenic resources as that term is defined in the NRPA rules. Without such a limitation, or any clarifying provisions in the Site Law or Site Law rules, developers cannot know with reasonable clarity what they must do

where such adverse effect is “unreasonable.”¹⁰ Similarly, the Site Law incorporates a reasonableness standard in any alternatives analysis conducted for a proposed transmission line development, providing that the DEP must consider proposed alternatives to the project’s proposed location that “may lessen its impact on the environment . . . without unreasonably increasing its cost.”¹¹

2. NRPA Review Criteria and Implementing Regulations

The NRPA provides that the applicant must demonstrate that “[t]he activity will not unreasonably interfere with existing scenic, aesthetic, recreational or navigational uses.”¹² In making its determination as to whether adverse impacts to existing scenic and aesthetic uses¹³ are unreasonable, the DEP’s regulations provide that it must consider whether the applicant’s activity design is visually compatible with its surroundings, incorporating environmentally

under the Site Law to ensure no unreasonable impact on the scenic character of a wholly subjective area surrounding a project. There is no way to quantify a project’s “visual surroundings” without express designations such as those set forth in Chapter 315. *See, e.g., Kosalka v. Town of Georgetown*, 752 A.2d 183, 186-87 (Me. 2000) (finding an ordinance provision that requires a development to “conserve natural beauty” void for vagueness); *Cope v. Inhabitants of Brunswick*, 464 A.2d 223, 227 (Me.1983) (finding compliance with the “health, safety and welfare of the public and the essential character of the area” not sufficiently specific); *Shapiro Bros. Shoe Co. v. Lewiston–Auburn Shoeworkers Protective Ass’n*, 320 A.2d 247, 253 (Me.1974) (holding that the public should not have to guess at the meaning of a statute “leaving them without assurance that their behavior complies with legal requirements”). In any event, the evidence shows that CMP meets this broad standard of Site Law Chapter 375, as well as the narrower scenic resources standard of Chapter 315, as described below. *See also* Site Law Application § 6.0; Segal Rebuttal at 3-4, 11-19; Exhibit CMP-5-B.

¹⁰ *See, e.g.,* Ch. 375 §§ 14; 15(B)(2), 15(D). *See also In re Spring Valley Development*, 300 A.2d 736, 751 (Me. 1973) (interpreting the Site Law and finding that “[w]hile most such developments may be expected to ‘affect’ the environment adversely to the extent that they add to the demands already made upon it, it is the unreasonable effect upon existing uses, scenic character and natural resources which the Legislature seeks to avoid by empowering the Commission to measure the nature and extent of the proposed use against the environment’s capacity to tolerate the use.”).

¹¹ 38 M.R.S. § 487-A(4).

¹² 38 M.R.S. § 480-D(1).

¹³ The DEP’s review of impact to scenic and aesthetic uses is limited to “scenic resources,” which are the typical points from which an activity in, on, over, or adjacent to a protected natural resource is viewed. DEP Ch. 315 §§ 3, 4, 10.

sensitive design principles and components according to planning and siting, design, and offset strategies.¹⁴ The DEP bases its determination of impact on the following visual elements of the landscape: landscape compatibility, scale contrast, and spatial dominance.¹⁵ It also considers evidence that buffer strips will shield adjacent uses from unsightly developments.¹⁶

With regard to wildlife habitat and fisheries, NRPA and DEP's regulations implementing NRPA also require DEP to grant a permit where the activity's impact will not be unreasonable.¹⁷ So too does a reasonableness inquiry inhere in the DEP's review of proposed alternatives. Alternatives, generally, must be "practicable,"¹⁸ which means that they must be "[a]vailable and feasible considering cost, existing technology and logistics based on the overall purpose of the project."¹⁹ The Law Court has concluded, however, that it is improper to treat a practicable alternative as determinative; rather, "it must instead consider the practicable alternatives as part of determining reasonableness: 'Whether a proposed project's interference with existing uses is reasonable depends on a multiplicity of factors, one of which is the existence of a practicable alternative. A balancing analysis inheres in any reasonableness inquiry.'"²⁰ This balancing analysis also is integral to the Department's review of CMP's proposed compensation and

¹⁴ DEP Ch. 315 § 8.

¹⁵ DEP Ch. 315 § 9.

¹⁶ DEP Ch. 315 § 8(B).

¹⁷ 38 M.R.S. § 480-D(3); DEP Ch. 335 §§ 3(A), (C).

¹⁸ DEP Ch. 310 §§ 5(A), (D); DEP Ch. 310 § 9; DEP Ch. 315 § 9; DEP Ch. 335 § 3(A).

¹⁹ DEP Ch. 310 § 3(R); DEP Ch. 315 § 5(D); DEP Ch. 335 § 2(D).

²⁰ *Uliano v. Bd. of Env'tl. Prot.*, 977 A.2d 400, 410 (Me. 2009) (quoting *Uliano v. Bd. of Env'tl. Prot.*, 876 A.2d, 19 (Me. 2005)); see also 38 M.R.S. § 480-D(8), which requires that, for any proposed activities that cross an outstanding river segment, "the applicant shall demonstrate that no reasonable alternative exists which would have less adverse effect upon the natural and recreational features of the river segment."

mitigation, the method, location, and amount of which varies with the unique differences in habitat type and location.²¹

C. DISCUSSION

For the reasons discussed below, in the Applications, and the additional materials in the record, the proposed Project satisfies all applicable review criteria, specifically with respect to the four hearing topics and subtopics.

1. Scenic Character and Existing Uses

CMP has made adequate provision for fitting the Project harmoniously into the existing natural environment and the development will not adversely affect scenic character in the municipality or in neighboring municipalities, and the activity will not unreasonably interfere with existing scenic and aesthetic uses. CMP has made adequate provision for buffer strips.²² The Project design takes into account the scenic character of the surrounding area, the Project has been located, designed, and landscaped to minimize its visual impact to the fullest extent possible, the Project has been designed and landscaped to minimize its visual impact on the surrounding area, and the Project provides for the preservation of existing elements of the development site which contribute to the maintenance of scenic character.

a) Visual Impact Assessment and Scenic/Aesthetic Uses

CMP made great effort to fit the Project harmoniously into the existing natural environment by siting it such that the Project's route and design avoids or minimizes potential visual and other environmental impacts on scenic and other natural resources.²³ CMP's rigorous approach to siting achieved this harmonious fit through consideration of a wide range of factors, including: ownership patterns, conserved lands, stream crossings, location of existing rights of

²¹ DEP Ch. 310 § 5(C); DEP Ch. 335 § 3(D).

²² Hearing Day 1 Transcript at 357:14-24 (Segal).

²³ Exhibit CMP-5-B; *see also* Hearing Day 3 Transcript at 191:1-12 (Christopher).

way, clearing requirements, transmission line length, wetlands, significant vernal pools, deer wintering areas, inland waterfowl and wading bird habitats, public water supplies, and significant sand and gravel aquifers.²⁴

CMP also employed numerous mitigation measures to avoid unreasonable adverse effect on existing uses and scenic character, including co-locating the majority (more than 70%) of the transmission line in current right-of-way (ROW), locating Segment 1 of the transmission line in private timberland that continues to be actively harvested, proposing self-weathering steel monopole structures to reduce visibility, proposing non-specular conductors at Rock Pond to reduce visibility, reducing structure heights near Moxie and Beattie ponds, maintaining vegetation at certain road crossings and river and stream crossings,²⁵ developing buffer screening plans, and proposing tapered vegetation in certain locations.²⁶ Accordingly, scenic and aesthetic users of the Project area, who are well accustomed to the sights, sounds, and smells of active forest management in the area, will experience no adverse impact to their use and enjoyment of the Project area.²⁷

²⁴ Segal Direct at 20-22.

²⁵ CMP also provided the DEP with pole and tree height information in response to DEP Project Manager Jim Beyer's May 9, 2019 request for information on whether topographic changes between the proposed structure locations and the streams being crossed in five areas identified by Mr. Beyer would allow CMP to leave in place existing vegetation. *See also* Hearing Day 6 Transcript at 493:13-494:3. All five crossing locations that Mr. Beyer suggested can accommodate 35'-tall vegetation with limited impact to currently proposed structure heights. Three of the five crossings (Moxie Stream, South Branch Moose River, and Tomhegan Stream) require no structure height increases to accommodate 35'-tall vegetation along the entire span, one span requires one structure to increase in height by 10.5' (area near Wilson Hill Pond and Tobey Pond), and the remaining span requires one structure to increase in height by 5.5' (area near Spencer Road). The two spans where the 35'-tall vegetation is not possible for short distances along the span can accommodate up to 25'-tall vegetation in those locations. *See* CMP Response to MDEP May 9, 2019 Additional Information Request, Attachment B.

²⁶ Segal Direct at 22-27; Segal Rebuttal at 3.

²⁷ Dwyer Direct at 3.

Indeed, the Visual Impact Assessment of Terrence J. DeWan & Associates concluded that the Project will not unreasonably interfere with existing scenic and aesthetic uses of a scenic resource and will not have an unreasonable adverse effect on the scenic character of the surrounding area. This conclusion is based on the explicit and objective regulatory requirements of the Department's Chapters 315 and 375.14.²⁸ The visual impact statements made by the intervenors that oppose the Project, conversely, are entirely subjective.²⁹

b) Buffering for Visual Impacts

CMP sited the transmission line portion of the Project to maximize the use of natural buffers such as topography and intervening vegetation, proposed to create and maintain visual buffer strips, and also sited more than 70% of the Project in existing transmission line corridors.³⁰ Similarly, substations³¹ and horizontal directional drill (HDD) termination stations are proposed in areas where similar infrastructure already exists or where the stations will be screened from adjacent uses by topography, intervening vegetation, and/or a visual buffer planting plan.³² CMP therefore has adequately buffered the Project for potential visual impacts.³³

²⁸ Site Law Application § 6.0; Hearing Day 1 Transcript at 298:2-299:6 (DeWan); Segal Direct; Segal Rebuttal; DeWan Supplemental; Exhibit CMP-5-B; Exhibit CMP-5-C; Exhibit CMP-5.1-A; Exhibit CMP-6.2-A.

²⁹ Hearing Day 3 Transcript at 91:18-92:25 (Merchant).

³⁰ Mirabile Direct at 5-7, 11; Goodwin Direct at 5; *see also* Site Law Application Exhibit 10-1: New England Clean Energy Connect Plan for Protection of Sensitive Natural Resources During Initial Vegetation Clearing (VCP) and Exhibit 10-2: New England Clean Energy Connect Post-Construction Vegetation Management Plan (VMP) (updated January 30, 2019).

³¹ Merrill Road Converter Station (Lewiston), Larrabee Road Substation (Lewiston), Crowley's Substation (Lewiston), Surowiec Substation (Pownal), Fickett Road Substation (Pownal), Raven Farm Substation (Cumberland), Coopers Mills Substation (Windsor), and Maine Yankee Substation (Wiscasset).

³² Goodwin Direct at 5; *see also* Aug. 13, 2018 visual buffer planting plan and Dec. 8, 2018 visual buffer planting plan.

³³ Hearing Day 1 Transcript at 357:14-24 (Segal).

CMP took specific care to buffer the Project from other uses and resources within the LUPC's Recreation Protection (P-RR) subdistricts in which the Project is proposed.³⁴ While one transmission line structure would have been visible from Beattie Pond as the Project was originally proposed, CMP submitted an application modification to the DEP and LUPC on January 25, 2019 that, at the request of LUPC staff, reduced the height of this structure to further buffer the Project from Beattie Pond.³⁵ Furthermore, the self-weathering steel will minimize contrasts with the surrounding wooded hillside and none of the structures will be seen against the sky.³⁶ Accordingly, the redesigned structures will be considerably less visually prominent, if noticeable at all, to recreational users on the pond.³⁷

CMP's underground crossing of the upper Kennebec River, proposed in an amendment to the Applications on October 19, 2018, will be undetectable to the Kennebec river-running community, and CMP will maintain forested buffers on both sides of the river such that there are no views of transmission line structures or overhead conductors, or of either termination station, from the river.³⁸

Where the Appalachian Trail (AT) intersects the Project, it does so within an existing CMP corridor containing a 115kV transmission line.³⁹ While the location of the trail throughout this 3,500-foot section of existing transmission line corridor prevented CMP from entirely

³⁴ Segal Rebuttal at 24; Group 4 Warren Direct at 4-5.

³⁵ Mirabile Direct at 7-8; Segal Direct at 32; Goodwin Direct at 6, 9; Exhibit CMP-2-E.

³⁶ Segal Direct at 32.

³⁷ Segal Direct at 32.

³⁸ Mirabile Direct at 8; Goodwin Direct at 6, 9; Segal Direct at 32; Dwyer Direct at 4; Segal Rebuttal at 10-11; Exhibit CMP-2-F.

³⁹ Site Law Application § 25.3.1.3; Berube Direct at 15-16; Goodwin Direct at 9-10; Segal Direct at 32.

avoiding impacts within the P-RR subdistrict,⁴⁰ the use of the AT in these locations is not incompatible with transmission lines,⁴¹ as evidenced by both the existing use of the corridor by AT hikers and by the easement from CMP allowing such use and by which the National Park Service (NPS) agreed to the construction by CMP of additional above ground electric transmission lines.⁴² Indeed, “[t]he Appalachian Trail has crossed the existing transmission line since its construction in the 1950s, and the transmission line is a landmark noted in Trail Guides.”⁴³ The existing transmission line predates the AT at this location, and the earlier AT route on the south end of Moxie Pond followed Troutdale Road for 2.25 miles.⁴⁴ Accordingly, the historic setting of the AT at this location is not one of secluded wilderness or broad vistas; 12 existing transmission structures are visible from the first crossing, seven are visible from the

⁴⁰ Segal Direct at 33. As stated in its May 7, 2019 letter to Mr. Beyer, CMP is willing to relocate the AT so that it crosses the CMP transmission line corridor only once in the vicinity of Troutdale Road, eliminating two existing crossings. Before CMP could commit to such a condition, though, the National Park Service (NPS) would need to agree to it, and CMP would need to acquire, on behalf of NPS, the necessary property interests in the new location. CMP has secured rights to a parcel that would allow a reroute that eliminates two of the transmission line crossings. However, because this reroute would pass by one or two camps, the Maine Appalachian Trail Club (MATC) prefers the existing two crossings of the transmission line corridor. CMP will continue to explore all options to find a new route that is satisfactory to MATC and NPS. In the interim, CMP is working with MATC on an interim relocation that will eliminate two crossings but will approach the edge of the new NECEC corridor. Provided this interim alignment is ultimately acceptable to MATC and NPS, CMP will pay for the cost of the realignment, including any appropriate buffer plantings. CMP’s long-term goal is to secure a permanent re-route acceptable to both MATC and NPS, and CMP is willing to commit the necessary funds to this end. See May 7, 2019 letter from M. Manahan to J. Beyer RE: NECEC – Preservation of Historic Sites.

⁴¹ Goodwin Rebuttal at 2; Freye Rebuttal at 2-3; Segal Rebuttal at 7-9.

⁴² Exhibit CMP-9-B.

⁴³ October 2018 SEARCH submission to MHPC.

⁴⁴ *Id.*

second crossing, and 15 are visible from the third crossing.⁴⁵ The Project will add additional transmission structures, but the character of the AT in this location will not change.⁴⁶

Furthermore, CMP proposed mitigation to adequately buffer the Project, including vegetative buffers along the east and west sides of Troutdale Road where the new corridor crosses the road, which is co-located with the AT in this area, and is able to buffer the Project at the other crossings with similar plantings.⁴⁷ Moreover, co-location minimizes visual impact, as alternative alignments of the Project would result in crossings of the AT in one or more locations where there are no existing transmission line corridors.⁴⁸ CMP also reduced structure heights along the length of Moxie Pond to further minimize visual impacts from viewpoints from the AT on the summits of Pleasant Pond Mountain and Bald Mountain and from Moxie Pond.⁴⁹

c) Recreational and Navigational Uses

The Project creates no interference with the recreational and navigational uses of the surrounding area.⁵⁰ Indeed, CMP's existing transmission line corridors are widely utilized year-round for private and commercial recreational activities including hunting, fishing, foraging, hiking (including on the AT within existing corridor), biking, skiing, snowmobiling, birding, and boating.⁵¹

For example, the co-location of new transmission line within a CMP-owned corridor crossed by the AT is consistent with the existing use and with hikers' expectation of crossing a

⁴⁵ *Id.*

⁴⁶ Additionally, as SEARCH noted in its October 2018 submission to MHPC, "[t]he setting in this area would be classified as developed, with the trail paralleling a road for part of the section and several houses in the vicinity."

⁴⁷ Mirabile Direct at 8; Segal Direct at 33.

⁴⁸ Goodwin Direct at 10; Segal Direct at 33.

⁴⁹ Goodwin Direct at 10.

⁵⁰ Dwyer Rebuttal at 2; Group 4 Christopher Direct at 3; Group 4 Warren Direct at 3-4.

⁵¹ CMP September 4, 2018 AIR Response; Dwyer Rebuttal at 2; Tribbet Rebuttal at 7; Group 4 Warren Direct at 3-4.

transmission line corridor in the associated P-RR subdistrict.⁵² Further, when the NPS acquired by easement the portions of the trail that cross CMP's existing transmission line corridor, it anticipated and agreed to the construction of additional above ground electric transmission lines, and related clearing, in that CMP-owned corridor.⁵³ This agreement establishes that the addition of overhead transmission lines at the AT in that location would not unreasonably interfere with uses of that trail.

Furthermore, because recreational and navigations users of Segment 1 are “well accustomed to the sights, sounds, and smells of active forest management on an industrial scale,” similar impacts from a new transmission line corridor will in no way affect recreational and navigational uses, including those areas within the LUPC's P-RR subdistrict.⁵⁴ As Group 7 witness Christopher noted, “rafters along Maine's primitive waterways, including the upper Kennebec and Penobscot Rivers usually begin their trips close to hydro facilities that include Harris Station along the Kennebec River, as well as McKay Station along the Penobscot River. For those rafting, fishing, or boating downstream of McKay Station, these persons are accustomed to not only seeing the large hydro-electric facilities, but also transmission lines that run in close proximity to, and even cross, the Penobscot River. These users are generally appreciative of the benefit offered by hydro-electric dams, transmission lines, and related electricity infrastructure.”⁵⁵

⁵² Goodwin Rebuttal at 20; Segal Rebuttal at 8-9.

⁵³ Exhibit CMP-9-B; Freye Rebuttal at 2-3.

⁵⁴ Dwyer Direct at 3; Group 4 Christopher Direct at 3, 4.

⁵⁵ Christopher Direct at 3-4.

2. Wildlife Habitat and Fisheries

Through extensive consultations and coordination with the Maine Department of Inland Fisheries and Wildlife (MDIFW) to the satisfaction of that agency,⁵⁶ and by careful evaluation of Project impacts, CMP avoided and minimized, and developed proposed compensation and mitigation to address, impacts to endangered species and brook trout habitat, avoided, minimized, and compensated for habitat fragmentation, and proposed adequate buffer strips around cold water fisheries.⁵⁷ The evidence thus shows that the Project will not unreasonably harm the Roaring Brook Mayfly, Northern Spring Salamander, or brook trout habitat, and that adequate provision has been provided for buffer strips around cold water fisheries. Similarly, CMP's vegetation management practices make practical and appropriate provision for the maintenance of wildlife travel lanes and connectivity of adjacent habitats; are consistent with techniques promoted by the United States Environmental Protection Agency and other federal agencies to minimize impacts to wildlife and habitat; and will not result in unreasonable disturbance or harm resulting from habitat fragmentation.

a) Endangered Species – Roaring Brook Mayfly, Spring Salamanders

In its March 15, 2018 environmental permit review letter to DEP Project Manager Jim Beyer, MDIFW identified the presence of Roaring Brook Mayfly, a state threatened species, and

⁵⁶ Johnston Rebuttal at 7-9; Exhibit CMP-4.1-A. This comprehensive consultation process has allowed MDIFW to provide final comments on the NECEC Project Compensation Plan, in response to a March 11, 2019 email and attachments from CMP requesting “that MDIFW confirm that the attached clarification materials address all of MDIFW’s remaining concerns, and that MDIFW is satisfied that the latest (January 30, 2019) NECEC Project Compensation Plan, as supplemented by these attached clarifications, provides satisfactory mitigation of the NECEC Project’s impacts.” In its March 18, 2019 response, DIFW thanked CMP “for the March 11 email as a follow-up to address the Department remaining resource impact concerns for the NECEC project,” and noted DIFW’s appreciation for CMP’s “willingness to work with us to finalize the complex fish and wildlife resource issues.” DIFW said that CMP’s response and explanations were “sufficient to allow DEP to apply applicable natural resource law to the permitting process.” Exhibit CMP-4.1-A.

⁵⁷ Mirabile Direct at 9; Goodwin Direct at 11.

the likely presence of Northern Spring Salamander, a special concern species, within the NECEC Project area.⁵⁸ Following the completion of extensive field surveys, laboratory samples, assumption of presence of the species where unknown, and review by MDIFW, MDIFW determined two locations, Mountain Brook in Johnson Mountain Township and Gold Brook in Appleton Township, to be ecologically significant.⁵⁹ Accordingly, and upon consultation with MDIFW, CMP revised its proposal to incorporate taller structures and avoid clearing by allowing full height canopy within the 250-foot riparian management zone for Mountain Brook and Gold Brook.⁶⁰

For all other streams with presence of Northern Spring Salamander and/or Roaring Brook Mayfly, assumed or known, MDIFW agreed that CMP's vegetation management practices and a contribution of approximately \$470,000 to the Maine Endangered and Non-game Wildlife Fund would adequately protect the habitat and species.⁶¹

Finally, CMP expanded riparian buffers for vegetation management and maintenance activities to 100 feet for cold water fishery streams, threatened or endangered species streams, all perennial streams in the new corridor (Segment 1) of the Project, and all outstanding river segments crossed aurally by the Project.⁶² For all other water bodies, DEP and MDIFW recommended, and CMP proposed, an expanded buffer of 75 feet.⁶³ CMP incorporated these changes into Exhibit 10-1 VCP and Exhibit 10-2 VMP of CMP's amended Site Law application,

⁵⁸ Goodwin Direct at 11-12. Note that that species of "special concern" are not protected under the Maine Endangered Species Act (Maine ESA), but are administrative categories established by policy for planning and information purposes. Goodwin Direct at 12.

⁵⁹ Goodwin Direct at 13.

⁶⁰ Mirabile Direct at 9; Goodwin Direct at 13; Exhibit CMP-2-G; Exhibit CMP-3-F.

⁶¹ Mirabile Direct at 9, 29; Goodwin Direct at 13.

⁶² Mirabile Direct at 10; Goodwin Direct at 19-20.

⁶³ Mirabile Direct at 10; Goodwin Direct at 20.

filed with the DEP on January 30, 2019.⁶⁴ CMP also has committed to no herbicide use within the new corridor portion (Segment 1) of the Project.⁶⁵

b) Brook Trout Habitat

CMP does not agree that brook trout habitat is a “significant wildlife habitat,”⁶⁶ given that brook trout are pervasive in the Project area, and the populations in some of the streams over which the Project passes are natural and self-supporting (particularly those populations associated with the smaller, colder streams that are sustained by groundwater input).⁶⁷ Indeed, brook trout have no special legal or regulatory protections in Maine.⁶⁸ Furthermore, with the exception of culvert removals and replacements intended to improve habitat quality and connectivity proposed as part of CMP’s Compensation Plan, the Project will have no direct impact (i.e., in-stream construction) on brook trout habitat.⁶⁹

Nevertheless, and despite the pervasiveness of this cold water species and the evidence of a *de minimis* impact to brook trout habitat,⁷⁰ CMP has proposed widened riparian buffers of 100 feet for all cold water fishery streams (as determined by MDIFW), which include brook trout habitat,⁷¹ and has proposed to use no herbicides within the Segment 1 corridor,⁷² as well as additional protective measures that ensure no unreasonable disturbance or harm to this habitat.⁷³

⁶⁴ Goodwin Direct at 20.

⁶⁵ Mirabile Supplemental at 5.

⁶⁶ 38 M.R.S. § 480-B(10).

⁶⁷ Goodwin Direct at 14. Of the 743 waterbodies located within the NECEC corridor, MDIFW identified 223 as containing brook trout (*Salvelinus fontinalis*). Mirabile Direct at 10; Goodwin Direct at 13.

⁶⁸ Hearing Day 4 Transcript 144:7-23 (Reardon).

⁶⁹ Goodwin Direct at 14.

⁷⁰ Goodwin Direct at 14; Johnston Rebuttal at 2-4.

⁷¹ Mirabile Direct at 10; Johnston Rebuttal at 4-5.

⁷² Mirabile Supplemental at 5; Hearing Day 6 Transcript at 327:18-328:17 (Mirabile).

⁷³ Mirabile Direct at 10-11.

CMP also provided, in response to the DEP's May 9, 2019 Additional Information Request, information demonstrating that the five crossing locations Mr. Beyer suggested can accommodate 35'-tall vegetation with limited impact to currently proposed structure heights.⁷⁴ Three of the five crossings (Moxie Stream, South Branch Moose River, and Tomhegan Stream) require no structure height increases to accommodate 35'-tall vegetation along the entire span, one span requires one structure to increase in height by 10.5' (area near Wilson Hill Pond and Tobey Pond), and the remaining span requires one structure to increase in height by 5.5' (area near Spencer Road). The two spans where the 35'-tall vegetation is not possible for short distances along the span can accommodate up to 25'-tall vegetation in those locations.

c) Habitat Fragmentation

CMP has minimized and avoided habitat fragmentation impacts by co-locating the majority (more than 70%) of the transmission line within existing corridors and locating the remainder of the transmission line primarily within areas already subject to and fragmented by intensive industrial forestry practices.⁷⁵ The evidence demonstrates that maintained transmission line ROWs are compatible with, coexist with, and support healthy and productive habitat such as significant vernal pools,⁷⁶ and do not result in fragmentation that would adversely affect “umbrella species” such as the pine marten.⁷⁷

Nevertheless, CMP has taken mitigating steps to address any fragmenting effects of the Segment 1 corridor, including implementing vegetation management practices that are wildlife-friendly and promote early successional habitat throughout its corridors, and allowing for taller

⁷⁴ See CMP Response to DEP May 9, 2019 Additional Information Request Attachment B.

⁷⁵ Mirabile Direct at 11; Goodwin Direct at 15-16; Goodwin Rebuttal at 3-4; Giumarro Supplemental at 11-12.

⁷⁶ Goodwin Rebuttal at 5-6; Emond Rebuttal at 4-6; Exhibit CMP-12-B.

⁷⁷ Giumarro Supplemental; Hearing Day 6 Transcript at 236:6-23 (Giumarro).

vegetative growth to be maintained in select locations of the NECEC ROW to address species-specific concerns.⁷⁸

CMP's vegetation management practices will avoid the hard edge impact generally associated with habitat fragmentation and negative impacts on species resiliency by creating a soft edge that maintains landscape permeability and establishes areas of dense shrubby vegetation and taller vegetation where topographic conditions allow (e.g., steep ravines), thereby providing a vegetation bridge for wildlife movement across the NECEC corridor.⁷⁹ Further, CMP's integrated vegetation management (IVM) practices require riparian buffers, ranging from 75 to 100 feet in width measured from the top of bank, to be maintained on both sides of all stream crossings in a manner that will allow taller non-capable vegetation to persist, promoting the movement of wildlife across the corridor and increasing habitat connectivity in these areas.⁸⁰

In addition to the minimization and avoidance of habitat fragmentation through co-location and IVM practices, CMP will retain and maintain taller vegetation in select locations to address habitat fragmentation concerns identified through consultation with MDIFW, including deer travel corridors in the upper Kennebec Deer Wintering Area (DWA) and in Rusty Blackbird habitat in Johnson Mountain Township and Parlin Pond Township.⁸¹ CMP also provided the DEP with pole and tree height information in response to DEP Project Manager Jim Beyer's May 9, 2019 request, which demonstrates that the five crossing locations that Mr. Beyer

⁷⁸ Goodwin Direct at 15-16.

⁷⁹ Mirabile Direct at 12; Goodwin Direct at 17; Goodwin Rebuttal at 18; Emond Rebuttal at 8-9.

⁸⁰ Goodwin Direct at 17; *see also* See CMP Response to MDEP May 9, 2019 Additional Information Request Attachment B, Cross-Section Typical Wildlife Travel Corridor.

⁸¹ Goodwin Direct at 19; Goodwin Rebuttal at 14-15; Exhibit CMP-3-G; Exhibit CMP-3-H.

suggested can accommodate 35'-tall vegetation with limited modifications to currently proposed structure heights.⁸²

d) Buffer Strips around Cold Water Fisheries

While CMP does not agree that cold water fisheries are “significant wildlife habitat,”⁸³ given the rich and significant cold water fisheries in the area, the Project proposal includes several measures to avoid, reduce, minimize, and compensate for unavoidable impacts to these important fisheries, including:

- Preserving 12.02 linear miles of cold water streams, including 7.9 miles of habitat and frontage along the Dead River;
- Replacing missing, non-functional and improperly installed culverts - both within the Project footprint and outside of the Project - to reconnect isolated cold water fishery habitat to downstream areas, and funding \$200,000 for culvert replacements on properties not controlled by CMP;
- Donating \$180,000 to the Maine Endangered and Nongame Wildlife Fund, to pay for additional mitigation for unavoidable cold water fishery impacts; and
- Performing stream crossings by heavy equipment during construction through the installation of equipment spans with no in-stream disturbances; streams will not be forded by heavy equipment.⁸⁴

So too has CMP proposed, in consultation with DEP and MDIFW, riparian buffers for vegetation management and maintenance activities of 100 feet for cold water fishery habitats, outstanding river segments crossed aurally by the Project, threatened or endangered species water bodies, and all perennial streams in the new corridor of the Project.⁸⁵ For all other water bodies, DEP and MDIFW recommended an expanded buffer of 75 feet.⁸⁶ CMP accepted those

⁸² See CMP Response to MDEP May 9, 2019 Additional Information Request Attachment B, Cross Section Typical Wildlife Travel Corridor; Hearing Day 6 Transcript 325:15-326:15 (Mirabile).

⁸³ 38 M.R.S. § 480-B(10).

⁸⁴ Mirabile Direct at 14-15.

⁸⁵ Mirabile Direct at 15-16; Goodwin Direct at 19-20.

⁸⁶ Goodwin Direct at 20.

recommendations and incorporated them into its January 30, 2019 filing with the DEP.⁸⁷ Group 4 made much ado at the hearing about email correspondence subsequently entered into the record between MDIFW's Bob Stratton and DEP's Jim Beyer, in which Mr. Stratton discussed the classification of certain streams in the Waterbody Crossing Table in CMP's Site Law Application Exhibit 7-7.⁸⁸ However, this is irrelevant, as it does not affect CMP's commitment to apply 100-foot riparian buffers to all brook trout streams.⁸⁹ Furthermore, MDIFW has noted that CMP's Compensation Plan satisfies its fish and wildlife resource issues.⁹⁰ Additionally,

⁸⁷ Goodwin Direct at 20.

⁸⁸ Hearing Day 6 Transcript at 273:10-280:1 (Reardon, Goodwin, Johnston). While it does not appear that the January 22, 2019 (4:23 PM) email from MDIFW's Bob Stratton to DEP's Jim Beyer (Group 4 Exhibit 22-JR) was forwarded to the service list in this proceeding, it was posted on the DEP's website for this proceeding on February 4, 2019.

⁸⁹ Hearing Day 6 Transcript at 308:18-310:3, 324:19-325:14 (Goodwin); Johnston Rebuttal at 7-8. CMP further notes that the Water Body Crossing Table that Mr. Reardon attached to his testimony as Group 4 Exhibit 23-JR was not forwarded to the service list (nor was it posted to DEP's website) until February 4, 2019 – i.e., after CMP had submitted its updated Compensation Plan on January 30, 2019. Instead, CMP updated its Site Law Application Exhibit 7-7 that was filed on January 30 (along with its revised Compensation Plan) with the Water Body Crossing Table that was attached to a January 22, 2019 (8:26 AM) email from MDIFW's Bob Stratton to DEP's Jim Beyer, which was the most recent information from MDIFW that CMP had in its possession at that time. Subsequent to CMP's filing of its updated Compensation Plan on January 30, 2019, MDIFW's Bob Stratton sent DEP's Jim Beyer an email on February 1 (5:10 PM) stating, "Upon preliminary review of the 1/30/19 Revised Compensation Plan, MDIFW finds that the proposed package of three conservation parcels (Grand Falls, Lower Enchanted, Basin Tracts) with stream habitats and associated buffers, and monetary contributions (\$180,000 to Maine Nongame Wildlife Fund, \$200,000 for aquatic passage upgrades) appears to adequately address and mitigate for impacts based on MDEP's 1/22/19 guidance, updated brook trout information, and MDIFW's consistent recommendations for 100-foot vegetated buffers for all intermittent and perennial streams and associated floodplain wetlands. MDIFW looks forward to further discussions to finalize the details." That email was posted to the DEP's website on February 4, 2019.

⁹⁰ In response to a March 11, 2019 email and attachments from CMP requesting "that MDIFW confirm that the attached clarification materials address all of MDIFW's remaining concerns, and that MDIFW is satisfied that the latest (January 30, 2019) NECEC Project Compensation Plan, as supplemented by these attached clarifications, provides satisfactory mitigation of the NECEC Project's impacts." In its March 18, 2019 response, DIFW thanked CMP "for the March 11 email as a follow-up to address the Department remaining resource impact concerns for the NECEC project," and noting DIFW's appreciation for CMP's "willingness to work with us to finalize the complex fish and wildlife resource issues." DIFW said that CMP's response

undisturbed buffers also will be maintained on both the east (for 1,450 feet) and west (for 1,160 feet) sides of the upper Kennebec River in the vicinity of the HDD crossing.⁹¹

These expanded riparian buffers will protect water quality, minimizing ground disturbance and the potential for sediments or herbicides to enter cold water fisheries (and other streams); minimize insolation and water temperature increases; and retain wildlife travel corridors within riparian zones.⁹² CMP therefore has made adequate provision for buffer strips around cold water fisheries, given that water bodies within or adjacent to the Project will be adequately protected from sedimentation and surface runoff by buffer strips, and these buffer strips will provide adequate space for movement of wildlife between important habitats. The Project will not unreasonably harm cold water fisheries.

3. Alternatives Analysis

CMP conducted a thorough analysis of alternatives to the Project, as set forth in its Applications, pre-filed testimony, and live testimony at the hearing. This evidence demonstrates that a less environmentally damaging practicable alternative to the Project, which meets the Project's purpose, does not exist. No proposed alternatives to the proposed location and character of the transmission line would lessen its impact on the environment or the risks it would engender to the public health or safety, without unreasonably increasing its cost. Where the Project crosses an outstanding river segment as identified in title 38, section 480-P, the evidence demonstrates that no reasonable alternative exists which would have less adverse effect upon the natural and recreational features of those river segments.

and explanations were "sufficient to allow DEP to apply applicable natural resource law to the permitting process." Exhibit CMP-4.1-A.

⁹¹ Mirabile Direct at 16.

⁹² Mirabile Direct at 16.

a) Alternative Route Analysis

The Applications describe the lack of any practicable alternative that would meet the project purpose and have less environmental impact, pursuant to the NRPA standards⁹³ and Section 404(b)(1) Guidelines,⁹⁴ as well as the LUPC criteria,⁹⁵ and also describe the process by which alternatives were developed and evaluated to identify a technically and economically sound solution that avoids and minimizes environmental impacts to achieve the least environmentally damaging practicable alternative, including undergrounding the Project at its upper Kennebec River crossing.⁹⁶

The alternative route analysis that CMP performed for the Project considered the entirety of the new HVDC line, which will run from the Canadian border to an interconnection point at Larrabee Road Substation in Lewiston (Segments 1, 2, and 3), and associated substation upgrades.⁹⁷ CMP did not conduct an alternative route analysis for the remaining Project components (i.e., Section 62/64 115kV rebuilds (Segment 4) and the new Section 3027 345kV line (Segment 5)) because those components are proposed in existing CMP corridors and thus any route alternatives would occur in new corridors and would not lessen project impact on the environment.⁹⁸

While the three routes that CMP analyzed would meet the Project's purpose of delivering clean energy generation from Québec to New England, two of the routes would result in more

⁹³ DEP Ch. 310 § 5; DEP Ch. 315 § 9; DEP Ch. 335 § 3.

⁹⁴ 40 C.F.R. § 230.10(a)(2).

⁹⁵ LUPC Ch. 10.23(I)(3)(d)(8).

⁹⁶ NRPA Application § 2.0; NRPA Application Amendment for the Kennebec River Horizontal Directional Drill § 2.0; Site Law Application § 25.3.1; Site Law Application Amendment for the Kennebec River Horizontal Directional Drill § 25.3.1.1.

⁹⁷ Mirabile Direct at 17; Berube Direct at 4-5; *see also* NRPA Application § 2.3.

⁹⁸ Mirabile Direct at 17; Berube Direct at 4-5; *see also* DEP Ch. 310 § 5; DEP Ch. 335 § 3.

environmental impact than the proposed route for the NECEC corridor, and are not practicable.⁹⁹ CMP also considered the no-action alternative (i.e., not constructing the NECEC Project), but that alternative would not meet the Project's purpose and need of allowing CMP to deliver 1,200 MW of clean energy generation from Quebec to New England at the lowest cost to ratepayers.¹⁰⁰

So too did CMP consider alternatives to crossing the five outstanding river segments that the Project as proposed will cross. As described in the Applications and in CMP's testimony, CMP's alternatives analysis demonstrates that no reasonable alternative exists which would have less adverse effect upon the natural and recreational features of the river segment for each outstanding river segment the transmission line will cross.¹⁰¹ This is because there are no reasonable alternatives to undergrounding the upper Kennebec River crossing that would have less adverse effect on that river segment, and because all other outstanding river segment crossings are within existing transmission line corridors, so any alternatives would be in new corridors and would significantly and unreasonably increase clearing and visual impact for those crossings.¹⁰² Crossing at a new location (i.e., a crossing that is not co-located within an existing transmission line corridor) would have a greater adverse impact on the river, and is therefore not reasonable, because such crossing would be a new crossing location. By using the existing ROW, additional clearing in the four outstanding river segments crossed aurally by the Project will be limited to a typical width of 75 feet and impacts will be concentrated in locations where transmission lines already cross the rivers.¹⁰³ Nor is undergrounding at the four outstanding

⁹⁹ NRPA Application §§ 2.3.2.2 and 2.3.2.3; Mirabile Direct at 18-21; Berube Direct at 6-9.

¹⁰⁰ NRPA Application § 2.3.1; Berube Direct at 4.

¹⁰¹ Site Law Application Amendment for the Kennebec River Horizontal Directional Drill § 25.3.1.1; Segal Direct at 35; Berube Direct at 11-12.

¹⁰² Segal Direct at 35; Berube Direct at 11-12.

¹⁰³ Segal Direct at 35.

river segments crossed aerially by the Project a reasonable alternative, given the prohibitive cost and existing overhead transmission lines at those locations.¹⁰⁴

Further, in response to environmental review comments from MDIFW, CMP will retain 100-foot riparian buffers at all outstanding river segments, which will minimize views of the corridor for anglers, duck hunters, boaters, and other recreational users.¹⁰⁵ Given the minimal visual impact on these outstanding river segments, CMP has demonstrated that no reasonable alternative exists which would have less adverse effect upon the natural and recreational features of the outstanding river segments it crosses.

Finally, CMP considered whether there are any alternative sites to the crossings of the Project in the P-RR subdistrict.¹⁰⁶ At Beattie Pond, CMP attempted to negotiate an alternative alignment south of the Beattie Pond P-RR subdistrict through Merrill Strip Twp., but the landowner required compensation of approximately 50 times fair market value for that property, so that alternative is not practicable.¹⁰⁷ The AT crosses the Project within an existing CMP corridor containing a 115kV transmission line.¹⁰⁸ Co-location of the transmission line within the existing transmission line corridor is the least environmentally damaging practicable alternative, and undergrounding the transmission line at these crossings is not practicable.¹⁰⁹

¹⁰⁴ Mirabile Direct at 26; Goodwin Direct at 24-25; Segal Direct at 3, 34-36; Berube Direct at 11-12; Bardwell Rebuttal at 23-24.

¹⁰⁵ Segal Direct at 35.

¹⁰⁶ NRPA Application § 2.0; NRPA Application Amendment for the Kennebec River Horizontal Directional Drill § 2.0; Site Law Application § 25.3.1; Site Law Application Amendment for the Kennebec River Horizontal Directional Drill § 25.3.1.1; Berube Direct at 13-16; Freye Rebuttal at 2-6.

¹⁰⁷ Site Law Application § 25.3.1.1; Mirabile Direct at 21; Berube Direct at 13-16; Goodwin Direct at 8-9.

¹⁰⁸ Site Law Application § 25.3.1.3; Mirabile Direct at 22; Berube Direct at 15-16; Freye Rebuttal at 4.

¹⁰⁹ Freye Rebuttal at 2-6.

b) Undergrounding Analysis

In addition to its analysis of alternate routes for the Project, CMP also analyzed whether undergrounding certain portions or the entirety of the Project is a less environmentally damaging practicable alternative to the proposed overhead HVDC transmission line.¹¹⁰ It was so obvious that undergrounding would not meet the Project purpose or otherwise be practicable that CMP did not initially include it as an alternative in the application materials filed with DEP and LUPC.¹¹¹ In other words, had additional portions of the Project been buried, the Project would not have moved forward.¹¹² Nevertheless, CMP conducted a thorough underground alternative analysis in response to the testimony of witnesses in Intervenor Groups 2, 6, and 8.¹¹³

As described in the pre-filed and live testimony of several CMP and intervenor witnesses, the extremely high cost, logistical difficulties, visual impact, negligible environmental benefits, increased risk and adverse impacts during construction, and potential adverse impacts during operation render any additional undergrounding not practicable.¹¹⁴ Indeed, numerous intervenor witnesses testified that undergrounding is not a preferred alternative due to their concerns with the environmental and visual impacts of undergrounding.¹¹⁵ Crucially, burying any additional portion of the NECEC HVDC line underground in the 54-mile new corridor of Segment 1 is not

¹¹⁰ Bardwell Rebuttal at 2-3; Bardwell Supplemental at 2-13.

¹¹¹ Bardwell Rebuttal at 3; Hearing Day 6 Transcript at 347:20-348:23 (Tribbet).

¹¹² Hearing Day 1 Transcript at 248:12-15 (Dickinson); Hearing Day 2 Transcript 146:8-150:7 (Dickinson); Hearing Day 6 Transcript at 441:15-442:5 (Dickinson).

¹¹³ See Bardwell Rebuttal; Tribbet Rebuttal; Bardwell Supplemental.

¹¹⁴ Bardwell Rebuttal at 3-16, 23-27; Tribbet Rebuttal at 5; Freye Rebuttal at 5-6; Bardwell Supplemental at 2-8; Hearing Day 1 Transcript at 265:16-266:12, 266:13-23, 289:20-290:9 (Mirabile); Hearing Day 3 Transcript at 192: 12-14 (Warren); Hearing Day 6 Transcript at 341:5-344:22, 431:7-432:4 (Bardwell); Hearing Day 6 Transcript at 346:23-347:1 (Tribbet); Hearing Day 6 Transcript at 432:5-12 (Achorn); Hearing Day 6 Transcript at 445:7-447:12 (Paquette); Exhibits CMP-11-A through CMP-11.1-G.

¹¹⁵ Publicover Supplemental at 2-3; Hearing Day 5 Transcript at 94:13-95:14, 97:16-98:15 (Cutko); Hearing Day 6 Transcript at 61:4-25, 78:23 (Publicover); Hearing Day 6 Transcript at 72:12-14 (Reardon). See also Bardwell Rebuttal at 21-27.

reasonable or feasible because the costs and logistics of doing so would defeat the purpose of the Project.¹¹⁶ In other words, the alternative of burying the transmission line is not practicable because it would result in the NECEC not moving forward.¹¹⁷

Putting cost aside, the underground proposals offered by the intervenors in this proceeding are not practicable for other reasons as well. For example, Group 4 witness Publicover alleges that CMP could bury the NECEC transmission line along the edge of the Spencer Road.¹¹⁸ But Spencer Road is not a public road, and its private owners specifically did not want a transmission line located along the Spencer Road because such a transmission line, whether overhead or underground, would limit the landowner's ability to ditch, blast, create, and use landings, operate heavy equipment, or relocate the road.¹¹⁹

Nor is there any other corridor available that connects to Québec in the upper Kennebec River area, other than the proposed route.¹²⁰ While there is a distribution line from Harris Dam to the village of Jackman (the Jackman Tie Line or JTL), the JTL is entirely roadside and does not connect to Québec.¹²¹ Contrary to Intervenor Group 2 witness Caruso,¹²² the JTL instead terminates in Jackman about 16 miles from the Canadian border and would require new corridor through the towns of Jackman and Moose River as well as additional corridor along Route 201, a state and federally designated scenic byway, for the entire distance from Jackman to West Forks

¹¹⁶ Dickinson Rebuttal at 2-3, 9-10, 13; Tribbet Rebuttal at 5; Tribbet Supplemental at 4-6; Hearing Day 1 Transcript at 285:13-287:3 (Dickinson).

¹¹⁷ Dickinson Rebuttal at 13; Hearing Day 1 Transcript at 248:12-15 (Dickinson); Hearing Day 6 Transcript at 441:15-442:5 (Dickinson).

¹¹⁸ Publicover Direct at 19-20.

¹¹⁹ Freye Rebuttal at 5; Freye Supplemental at 5-6.

¹²⁰ Freye Supplemental at 2-4.

¹²¹ Freye Rebuttal at 6.

¹²² E. Caruso Direct at 6.

Plantation.¹²³ In addition, the JTL corridor between Harris Dam and Route 201 would need to be expanded through two conservation easements and across the State-owned Cold Stream Forest.¹²⁴ Burying the transmission line along Route 201 is further unavailable due to lack of sufficient space within the highway limits,¹²⁵ safety constraints with co-locating with the existing overhead distribution line,¹²⁶ and the restrictions placed on such burial and the installation of splicing vaults by the MDOT,¹²⁷ in addition to the cost, safety, and environmental issues of doing so.¹²⁸

Specific to the Project's crossing of the P-RR subdistrict at Beattie Pond, undergrounding the line in this area would consist of installing termination stations just outside of the P-RR subdistrict and connecting them with approximately 1.2 miles of direct buried cables, including three jointing locations and crossings of two wetlands by approximately 1,000-foot long HDD installations.¹²⁹ Underground construction would require clearing and continuous surface disruption in the P-RR subdistrict and would cost approximately \$15.3 million, \$13.2 million of which would be an incremental additional cost to the Project when removing associated overhead transmission line costs.¹³⁰ In addition to this incremental cost, this short underground cable segment of the NECEC HVDC transmission line at Beattie Pond would require construction of additional access points and would create operational problems for CMP

¹²³ Freye Rebuttal at 7; Bardwell Supplemental at 12.

¹²⁴ Freye Rebuttal at 7.

¹²⁵ Freye Supplemental at 4; Hearing Day 6 Transcript at 487:1-19 (Bardwell).

¹²⁶ Freye Supplemental at 5.

¹²⁷ Bardwell Rebuttal at 10; Bardwell Supplemental at 12.

¹²⁸ Freye Rebuttal at 7-8.

¹²⁹ Bardwell Rebuttal at 19.

¹³⁰ Bardwell Rebuttal at 19; Exhibit CMP-11-F.

including limited winter accessibility and protracted service restoration timelines.¹³¹

Undergrounding the transmission line in this area would not be practicable, especially when the practicable and reasonable alternative of shortening the pole previously visible from Beattie Pond has been proposed and does not result in an unreasonable impact.

Undergrounding also is not practicable at the AT crossings. An underground alternative would require construction of termination stations within sight of the trail, along with a trenchless crossing of the AT, approximately 3,500 feet long, at a cost of approximately \$28.9 million, \$28 million of which would be an incremental additional cost to the Project when removing associated overhead transmission line costs.¹³² Furthermore, construction activities would last approximately 10 months and would require HDD rigs powered by an external diesel-powered hydraulic power plant that generate noise of approximately 110 decibels continuously while in operation.¹³³ Additionally, the easement allowing the AT in CMP's corridor includes provisions for additional overhead lines, but does not contemplate underground installations, so CMP would need to seek such rights from the NPS to allow underground installation.¹³⁴ Given the presence of the existing transmission line corridor, the very high cost of undergrounding in this location, and the fact that the underground alternative would have additional environmental and public impacts, undergrounding in this location is not practicable.

¹³¹ Bardwell Rebuttal at 19-20.

¹³² Bardwell Rebuttal at 17-18; Exhibit CMP-11-E.

¹³³ Bardwell Rebuttal at 18.

¹³⁴ Bardwell Rebuttal at 18; Freye Rebuttal at 2-3; Hearing Day 6 Transcript at 396:10-19, 429:14-15 (Freye).

c) Taller Structures and Tapering Analysis

CMP evaluated the alternatives of taller poles and/or tapering to minimize visual impact and of taller poles and/or tapering to provide habitat connectivity.¹³⁵ CMP's analysis determined that, to the extent that additional tapering or taller transmission structures are being evaluated for habitat protection or other environmental considerations,¹³⁶ tapering would be preferable to taller transmission poles in all locations identified by the interveners because of the potential for greater visual impacts associated with taller structures when viewed from lakes and ponds, roads, or elevated viewpoints,¹³⁷ as well as because of cost, safety, reliability, and environmental impact considerations.¹³⁸

¹³⁵ CMP has proposed tapered vegetation management in certain areas (Upper Kennebec deer wintering area, south of Coburn Mountain, and the shoulder of Tumbledown Mountain) and the use of taller structures to allow full height vegetation to remain at Gold Brook and Mountain Brook. Tapering is being specifically proposed to mitigate for potential visual impacts from Coburn Mountain and the shoulder of Tumbledown Mountain (as seen from Rock Pond), and CMP further is able to taper at Troutdale Road to similarly mitigate for potential visual impacts along the AT. The taller structures being proposed at Gold Brook to address habitat issues resulted in greater Project visibility from Rock Pond; this was mitigated by tapering vegetation on the shoulder of Tumbledown Mountain to soften the edges of the transmission corridor (as depicted in the photosimulation from Rock Pond). DeWan Supplemental at 1-2. Tapering would consist of the maintenance of the wire zone as it is currently proposed in Exhibit 10-1 and 10-2 of CMP's Site Law application (revised January 30, 2019), with taller trees being allowed to grow outside of the wire zone. Goodwin Supplemental at 2; Mirabile Supplemental at 1-3; See CMP Response to MDEP May 9, 2019 Additional Information Request Attachment B.

¹³⁶ Neither tapering nor taller structures are necessary or appropriate, given that CMP's consultation with the MDIFW and the inclusion of MDIFW's recommendations into CMP's proposed Compensation Plan demonstrates that there will be no unreasonable impact or adverse effects to wildlife due to diminished habitat connectivity. Thus, although taller vegetation and associated habitat would benefit some species, CMP has demonstrated that its proposed clearing and vegetation management practices will not cause an unreasonable impact or an adverse effect. Goodwin Supplemental at 2.

¹³⁷ DeWan Supplemental at 2-6; Goodwin Supplemental at 2; Exhibit CMP-6.2-A.

¹³⁸ Goodwin Supplemental at 2; Hearing Day 6 Transcript at 232:11-14 (Johnston).

Furthermore, taller poles and tapering would provide minimal, if any, habitat connectivity benefits in the shifting mosaic of forest surrounding Segment 1,¹³⁹ which “contains a fairly limited amount of mature forest”¹⁴⁰ and would have “limited effectiveness” with regard to pine marten habitat¹⁴¹ and brook trout habitat.¹⁴² As the evidence demonstrates, “intermediate-age” and “mature” forest habitat is, at best, marginally and intermittently present along the 150-foot-wide Segment 1 corridor, rendering travel corridors potential bridges to nowhere, as taller structure heights and travel corridors would not provide links between habitat patches that are not directly proximal to the corridor.¹⁴³

If the nine areas of habitat that Group 6’s TNC witnesses presented in their direct testimony actually represent mature forest in areas that would be consistently maintained in a mature forested state for the life of the Project, then there could be a benefit from tapering to minimize the effects on habitat.¹⁴⁴ Thus – again assuming TNC’s nine areas of habitat represent mature forest that would be consistently maintained – the tapering methods proposed in CMP’s Compensation Plan, combined with the tapering proposed at select perennial stream and riparian

¹³⁹ Giumarro Supplemental at 2-13; Hearing Day 6 Transcript at 241:17-242:1, 295:6-25 (Mirabile); Hearing Day 6 Transcript 102:12-103:8 (Publicover); Hearing Day 6 Transcript at 133:22-134:6 (Simons-Legaard).

¹⁴⁰ Hearing Day 4 Transcript at 79:10-16 (Publicover).

¹⁴¹ Publicover Supplemental at 4; Hearing Day 4 Transcript at 66:14-67:5 (Publicover); Hearing Day 6 Transcript at 62:12-22, 78:20 (Publicover).

¹⁴² Reardon Supplemental at 7; Hearing Day 4 Transcript at 131:8-12 (Reardon); Hearing Day 4 Transcript at 72:24-73:1 (Reardon).

¹⁴³ Giumarro Supplemental at 2-13; Hearing Day 6 Transcript at 237:21-240:11 (Giumarro); Hearing Day 6 Transcript at 128:17-129:17 (Simons-Legaard); Hearing Day 6 Transcript at 146:2-25 (Wood); Hearing Day 6 Transcript at 102:12-103:8 (Publicover).

¹⁴⁴ Giumarro Supplemental at 12-13; Goodwin Supplemental at 5.

areas,¹⁴⁵ could appropriately and adequately address the habitat fragmentation concerns the intervenors have raised.¹⁴⁶

Taller structures are not practicable in any location, as allowing full height canopy by using taller structures may present negative safety, environmental, reliability, and cost concerns, which tapering does not present.¹⁴⁷ So too do they present greater environmental impact, as an increase in pole height to allow for the full-height vegetation would cause an otherwise direct embed structure to instead require a caisson foundation to support additional loads from this height increase (e.g., larger permanent footprint, additional equipment required to transport concrete, etc.).¹⁴⁸ These full-height vegetation areas would have more environmental impact during construction to accommodate the additional equipment required.¹⁴⁹

Group 4 witness Reardon incorrectly suggests that alternative measures, such as taller poles to maintain full height trees, were not but should have been evaluated with regard to brook trout.¹⁵⁰ To the contrary, CMP consulted with MDIFW beginning in May 2017, numerous times during development of the Applications, and in multiple consultation working sessions since the Applications were filed in September 2017.¹⁵¹ CMP and MDIFW reviewed an extensive list of priority resources,¹⁴⁸ but MDIFW identified no resources or particular areas that would require taller vegetation to address brook trout or cold water fishery concerns.¹⁵²

¹⁴⁵ Goodwin Supplemental at 5.

¹⁴⁶ Giumarro Supplemental at 13; Goodwin Supplemental at 5; Publicover Supplemental at 3-4; Hearing Day 3 Transcript 119:14-24 (Merchant); Hearing Day 4 Transcript at 117:16-118:7 (Publicover).

¹⁴⁷ Goodwin Supplemental at 3-4.

¹⁴⁸ Achorn Supplemental at 2; Hearing Day 6 Transcript at 345:19-346:5 (Achorn).

¹⁴⁹ Achorn Supplemental at 2-3; Hearing Day 6 Transcript at 346:5-12 (Achorn).

¹⁵⁰ Reardon Direct at 14.

¹⁵¹ Johnston Rebuttal at 6.

¹⁵² Johnston Rebuttal at 7.

Furthermore, the structure relocations recommended by Group 4 witness Reardon in the Gold Brook – Rock Pond¹⁵³ area are impractical from both an environmental and visual standpoint, and would result in the corridor being more visible from Rock Pond.¹⁵⁴ Nor does his testimony regarding the Cold Stream and Tomhegan Stream crossing locations accurately consider the physical and land ownership constraints that exist.¹⁵⁵ Consequently, the taller pole structures to maintain full height trees suggested by Group 4 do not constitute a less environmentally damaging practicable alternative to the Project as currently proposed.

4. Compensation and Mitigation

CMP carefully and thoughtfully designed and sited the Project in a manner that avoids and minimizes impacts to the greatest extent possible and, where impacts are unavoidable, has proposed mitigation measures and provided a robust and comprehensive compensation plan, which not only accounts for lost functions and values, but significantly exceeds the requirements of NRPA. Indeed, CMP's Compensation Plan achieves a no-net-loss of ecological functions and values through a combination of: use of the In-Lieu-Fee (ILF) Program used by the DEP and the U.S. Army Corps of Engineers (USACE) as a compensatory mitigation option for permit applicants; preservation of regionally significant natural resources; and implementation of a number of wildlife habitat enhancement projects.¹⁵⁶ Compensation of unavoidable NECEC Project impacts has been offered in multiple forms and for numerous purposes. Offered in-lieu fees total \$3.074 million and other compensation fees total \$2.085 million.¹⁵⁷ Lands proposed for permanent preservation total nearly 2,800 acres.¹⁵⁸ Provisions for tapering of transmission

¹⁵³ Reardon Direct at 12-14.

¹⁵⁴ Freye Rebuttal at 8-10.

¹⁵⁵ Freye Rebuttal at 11-12.

¹⁵⁶ Goodwin Direct at 22; Goodwin Rebuttal at 11; Exhibit CMP-3-J.

¹⁵⁷ Exhibit CMP-3-J.

¹⁵⁸ Mirabile Direct at 30; Exhibit CMP-3-J.

corridor vegetation at two locations - Coburn Mountain and Gold Brook - increase vegetation maintenance costs by more than \$22,000 per year, and maintenance of winter deer travel corridors in the upper Kennebec River deer wintering area increase vegetation management costs by more than \$9,000 per year.¹⁵⁹ The evidence shows that this Plan meets, and in the case of compensation for wetlands and other impact types exceeds, the applicable compensation requirements.

a) Cold Water Fisheries Habitat

CMP worked with DEP and MDIFW to determine appropriate and practical compensatory mitigation for impacts to cold water fisheries that cannot be otherwise avoided or mitigated. During the application process, CMP responded to the guidance provided by DEP and MDIFW and provided a robust, multifaceted Compensation Plan that uses various compensation tools as mitigation for cold water fishery impacts.¹⁶⁰ CMP worked closely with those agencies to determine the appropriate mitigation for those impacts and incorporated their recommendations into its proposal.

CMP's Compensation Plan proposes a variety of mitigation and compensation measures that address impacts to cold water fisheries, including 100-foot cold water fishery resource buffers, preservation of 12.02 linear miles of streams, a \$180,000 contribution to the Maine Endangered and Nongame Wildlife Fund, and implementation of the Culvert Replacement Program, such that the Project will not result in an unreasonable disturbance of this habitat.¹⁶¹ Undisturbed buffers also will be maintained on both the east (for 1,450 feet) and west (for 1,160

¹⁵⁹ Mirabile Direct at 32.

¹⁶⁰ Johnston Rebuttal at 11.

¹⁶¹ Mirabile Direct at 24; Goodwin Direct at 22-24; Johnston Rebuttal at 10-11.

feet) sides of the upper Kennebec River in the vicinity of the HDD crossing.¹⁶² CMP has adequately mitigated and compensated for impacts to cold water fisheries habitat.

b) Outstanding River Segments

CMP minimized impact to the five outstanding river segments that the Project is proposed to cross by crossing under the upper Kennebec River using HDD technology, and by co-locating the HDVC line within existing transmission line corridors for the remaining four crossings.¹⁶³ CMP also proposed to retain 100-foot riparian buffers along each of the four outstanding river segment aerial crossings, as well as vegetation clearing and management practices that adequately mitigate impacts to those outstanding river segments.¹⁶⁴ And, as noted above, undisturbed buffers also will be maintained on both the east (for 1,450 feet) and west (for 1,160 feet) sides of the upper Kennebec River in the vicinity of the HDD crossing.¹⁶⁵ These riparian buffers will protect water quality, minimizing ground disturbance and the potential for sediments or herbicides to enter cold water fisheries (and other streams); minimize insolation and water temperature increases; retain wildlife travel corridors within riparian zones; and help retain the outstanding river segments' natural and recreational values.¹⁶⁶

To compensate for the 850 feet of outstanding river frontage that will be permanently impacted by forest conversion during construction of the Project, CMP's Compensation Plan includes land preservation of three tracts along the Dead River.¹⁶⁷ These tracts collectively will add 1,053.5 acres to Maine's conserved lands and provide protection in perpetuity for 7.9 miles

¹⁶² Mirabile Direct at 25.

¹⁶³ Mirabile Direct at 26; Goodwin Direct at 24.

¹⁶⁴ Mirabile Direct at 26-27.

¹⁶⁵ Mirabile Direct at 27.

¹⁶⁶ Mirabile Direct at 27.

¹⁶⁷ Goodwin Direct at 25.

of river frontage along the Dead River, an outstanding river segment, an amount that far exceeds the 850 feet of river frontage that will be impacted by the Project.¹⁶⁸

c) Wetlands

CMP located and designed the Project to avoid as many wetlands as possible, but because of the pervasive nature of wetlands in Maine, the NECEC Project unavoidably crosses wetlands. Some unavoidable fill of wetlands (ranging from approximately 30 to 185 square feet of permanent fill per structure for those structures unavoidably located in wetlands) will result from structures, soil mounding associated with pole placement, and, where necessary, concrete foundations.¹⁶⁹ This small loss of wetland area from the structure fill (approximately 0.150 acres in total) equates to a negligible loss of wetland functions and values relative to the remaining wetland area at each structure site.¹⁷⁰ The Merrill Road Converter Station, Fickett Road Substation, and HDD termination stations will have permanent wetland impacts from fill of approximately 3.130 acres, 1.328 acres, and 0.259 acres, respectively.¹⁷¹ Of this 4.868 acres of permanent wetland fill, fill in wetlands of special significance (WOSS) and in non-WOSS wetlands totals 4.561 acres and 0.307 acre, respectively.¹⁷² The 4.561 acres of direct fill in WOSS includes wetland areas in significant vernal pool habitat (SVPH) and inland waterfowl and wading bird habitat (IWWH).¹⁷³

CMP's Compensation Plan proposes to use the preservation of lands of comparable habitat to compensate for permanent fill within wetlands.¹⁷⁴ CMP's proposed 123.65 acres of

¹⁶⁸ Goodwin Direct at 25.

¹⁶⁹ Goodwin Direct at 25.

¹⁷⁰ Goodwin Direct at 25-26.

¹⁷¹ Goodwin Direct at 26.

¹⁷² Goodwin Direct at 26.

¹⁷³ Goodwin Direct at 26.

¹⁷⁴ Mirabile Direct at 28; Goodwin Direct at 26.

wetland preservation of comparable habitat types was calculated at a ratio of 30:1, significantly more than 8:1 ratio required by the DEP and the 20:1 ratio required by USACE.¹⁷⁵

For wetlands within SVPH and IWWH, CMP's Plan proposes using the ILF Program. The ILF for permanent wetland fill in IWWH and SVPH was calculated using the ILF Program's wetland compensation formula for WOSS (resource multiplier of two), and exceeds the compensation requirements for wetlands under NRPA. The fee proposed to compensate for permanent wetland fill in SVPH is \$244,669 and in IWWH is \$1,165.18.¹⁷⁶

D. CONCLUSION

The voluminous evidence in this matter, including the Site Law and NRPA Applications; an amendment to each of those Applications; responses to multiple information requests, intervenor comments, and comments from public agencies; pre-filed direct, rebuttal, and supplemental testimony; and responses to post-hearing information requests by the DEP clearly demonstrates that CMP has made adequate provision for fitting the Project harmoniously into the existing natural environment and that the Project will not adversely affect existing uses, scenic character, air quality, water quality or other natural resources in the municipality or in neighboring municipalities. The evidence further shows that the Project will not unreasonably interfere with existing scenic, aesthetic, recreational or navigational uses.

Nor is there any practicable alternative to the Project that would have less visual impact and would be less damaging to the environment, and no alternative to the proposed location and character of the Project that would lessen its impact on the environment or the risks it would engender to the public health or safety, without unreasonably increasing its cost. Where the Project is proposed to cross outstanding river segments, the evidence shows that no reasonable

¹⁷⁵ Goodwin Direct at 26-28.

¹⁷⁶ Goodwin Direct at 26-28.

alternative exists which would have less adverse effect upon the natural and recreational features of the river segment.

For all these reasons, the DEP should grant CMP's applications for Site Law and NRPA permits for the NECEC Project, and adopt CMP's proposed findings of fact, attached hereto as Attachment A.

II. POST-HEARING BRIEF RELEVANT TO LUPC HEARING TOPICS

A. BACKGROUND

The NECEC Project is a High Voltage Direct Current (HVDC) transmission line and related facilities capable of delivering up to 1,200 MW of Clean Energy Generation¹⁷⁷ starting at the Canadian Border in Beattie Twp. and connecting to the New England Control Area¹⁷⁸ through the new Merrill Road Converter Station and existing Larrabee Road Substation in Lewiston, Maine. It was proposed and selected in response to the Request for Proposals for Long-Term Contracts for Clean Energy Projects issued by the Massachusetts Department of Energy Resources and the Electric Distribution Companies of Massachusetts.¹⁷⁹

The Project is composed of five segments, two of which are in LUPC territory. Segment 1 includes 53.5 miles of new HVDC transmission line corridor in a 150'-wide cleared corridor within a 300'-wide right of way (ROW) supported by single pole self-weathering steel structures with an average height of 100'.¹⁸⁰ The new HVDC transmission line corridor will be located in Beattie Twp., Lowelltown Twp., Skinner Twp., Appleton Twp., T5 R7 BKP WKR, Hobbstown Twp., Bradstreet Twp., Parlin Pond Twp., Johnson Mountain Twp., West Forks Twp., Moxie Gore, and The Forks Pt.¹⁸¹ Segment 2 includes approximately 18.17 miles of HVDC

¹⁷⁷ The Massachusetts RFP defines “Clean Energy Generation” as “(i) firm service hydroelectric generation from hydroelectric generation alone; (ii) new Class I Renewable Portfolio Standard (“RPS”) eligible resources that are firm up with firm service hydroelectric generation; or (iii) new Class I RPS eligible resources.” Massachusetts RFP at A, available at <https://macleanenergy.files.wordpress.com/2017/03/83d-rfp-and-appendicesfinal.pdf>.

¹⁷⁸ The New England Control Area includes the transmission system administered by ISO-New England, the regional transmission organization, located in Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont, but does not include the transmission system in northern Maine (i.e., Aroostook County and parts of Penobscot and Washington counties).

¹⁷⁹ Fitchburg Gas & Electric Light Company d/b/a Unitil, Massachusetts Electric Company and Nantucket Electric Company d/b/a National Grid, NSTAR Electric Company and Western Massachusetts Electric Company d/b/a Eversource (collectively, the Distribution Companies).

¹⁸⁰ Site Law Application Section 6.1.

¹⁸¹ Site Law Application Section 6.1.

transmission line to be co-located within an existing 115kV transmission line corridor in The Forks Plt., Bald Mountain Twp., and Concord Twp..¹⁸² The portion of the co-located HVDC transmission line, which runs along Moxie Pond and in the vicinity of the AT crossing, will be supported by single pole self-weathering steel structures ranging from 75' to 105' in height.¹⁸³

CMP filed with DEP and LUPC extensive application materials, including the Site Law and NRPA Applications themselves;¹⁸⁴ an amendment to each of those Applications; responses to multiple information requests, intervenor comments, and comments from public agencies; pre-filed direct, rebuttal, and supplemental testimony; and responses to post-hearing information requests from DEP. Because there were only a handful of topics that DEP and LUPC determined are “most significant and contentious” and thus warranted “an in-depth examination” at the hearing,¹⁸⁵ for the convenience of the LUPC, this initial post-hearing brief will focus only on those topics as they relate to LUPC’s certification criteria.

The LUPC determined that its portion of the public hearing would be “focused on its allowed use determination and specifically on the topic of whether the proposed Project is an allowed use within the P-RR subdistrict,”¹⁸⁶ and ordered that the hearing topics are limited to (1) Scenic Character and Existing Uses and (2) Alternatives Analysis.¹⁸⁷ LUPC’s Presiding Officer clarified that “[f]or consideration in certifying to the Department whether the Project is an allowed use within the Recreation Protection (P-RR) subdistricts in which it is proposed, testimony provided under the Scenic Character and Existing Uses topic area must be relevant to

¹⁸² Site Law Application Section 6.1.

¹⁸³ Site Law Application Section 6.1.

¹⁸⁴ Site Law Application Section 25.0 addresses LUPC Certification; NRPA Application Section 2.4.1 addresses the LUPC site-specific alternative analysis.

¹⁸⁵ *See, e.g.*, DEP First Procedural Order ¶¶ 18-19; LUPC First Procedural Order ¶ B.6; DEP Second Procedural Order ¶ 7; LUPC Second Procedural Order ¶¶ III.A-C.

¹⁸⁶ LUPC First Procedural Order ¶ 6.

¹⁸⁷ LUPC Second Procedural Order ¶ III.C.

the Commission’s evaluation of whether the ‘use can be buffered from those other uses and resources within the subdistrict with which it is incompatible,’ including buffering for visual impacts and recreational and navigational uses within a P-RR subdistrict. Similarly, testimony provided under the Alternatives Analysis topic area must be relevant to the Commission’s evaluation of whether the applicant has shown by substantial evidence that ‘there is no alternative site which is both suitable to the proposed use and reasonably available to the applicant’ for portions of the Project within a P-RR subdistrict.”¹⁸⁸

B. LUPC REVIEW CRITERIA RELEVANT TO THE HEARING TOPICS

Because the Project crosses the P-RR subdistrict in three locations (near Beattie Pond in Beattie and Lowelltown Twps., beneath the Kennebec River in Moxie Gore, and at the AT in Bald Mountain Twp.), the LUPC must certify that the Project meets its special exception criteria,¹⁸⁹ as well as any land use standards not otherwise considered by the DEP (i.e., vehicular access, lighting, subdivision review, activities in flood prone areas, dimensional requirements, vegetation clearing, and signs).¹⁹⁰

Utility facilities are “expressly allowed” uses in the P-RR subdistrict, by special exception, provided that they meet the following special exception criteria: (a) there is no alternative site which is both suitable to the proposed use and reasonably available to the applicant; (b) the use can be buffered from those other uses and resources within the subdistrict with which it is incompatible; and (c) such other conditions are met that the LUPC may reasonably impose.¹⁹¹ In determining whether an alternative is “reasonably available,” LUPC

¹⁸⁸ LUPC Third Procedural Order ¶ I.A.

¹⁸⁹ CMP reiterates and preserves its argument that the LUPC cannot deny certification based on one or both of the special exception criteria, given that the DEP reviews the same criteria (buffering and alternatives) in issuing Site Law and NRPA permits.

¹⁹⁰ 38 M.R.S. § 489-A-1(2)(D); *see also* Site Law Application § 25.4.

¹⁹¹ LUPC Ch. 10.23(I)(3)(d)(8).

considers the reasonableness of alternatives in terms of their relative benefits, including cost.¹⁹² In other words, the LUPC considers reasonableness not just in terms of what is available via acquisition of property rights, but also in terms of whether an available alternative is “reasonable” or “suitable” when comparing its impacts to the proposed alternative’s impacts, or lack thereof.

For example, in a recent utility permit proceeding concerning a 500-foot underwater cable to the applicants’ island lot,¹⁹³ LUPC considered the reasonableness of utilizing that alternative in making its determination of whether an alternative is “reasonably available.” It noted at the outset, in its “Alternative Analysis,” the following:

The only alternative to installing a submerged utility cable would be to install the cable overhead. This alternative would be considerably higher in cost of installation and would result in an unfavorable visual impact on the area. In addition, the 500 feet of cable would need to be supported approximately mid-length, necessitating installation of a utility pole in the lake bottom. Further, the overhead transmission cable would represent a hazard to aircraft that utilize an existing sea-plane base located in Spencer Cove.¹⁹⁴

It then outlined the special exception review criteria,¹⁹⁵ and made the following finding specific to the alternative site criterion:

Specifically, a potential overland route to bring electric power to the island is not a reasonable alternative for the applicants given the cost and the adverse visual and safety impact to the surrounding area.¹⁹⁶

In short, LUPC considers the reasonableness of utilizing alternatives in terms of the costs and benefits of the proposed alternative.

¹⁹² See also SLC-5 Certification ¶10 (finding that there is no alternative site which is both suitable to the proposed use and reasonably available to the applicant precisely because none of the alternatives provided any benefit above the chosen site) available at: http://www.maine.gov/dacf/lupc/projects/site_law_certification/slc5.pdf.

¹⁹³ Amendment A to ULP 178, available at: <http://www.maine.gov/dacf/lupc/signedpermits/ulp178a.pdf>.

¹⁹⁴ *Id.* at Permit ¶ 12.

¹⁹⁵ *Id.* at Permit ¶ 15.

¹⁹⁶ *Id.* at Permit Conclusions ¶ 2.

C. DISCUSSION

For the reasons stated below and in the Applications and the additional materials in the record, the proposed Project satisfies all applicable special exception review criteria, and specifically with respect to the two hearing topics established by the LUPC.

1. Scenic Character and Existing Uses

The Project will be sufficiently buffered from other uses and resources, and meets the LUPC's special exception criteria for the P-RR subdistrict. CMP made great effort to fit the Project harmoniously into the existing natural environment by siting it such that the Project's route and design avoids or minimizes potential visual and other environmental impacts on scenic and other natural resources.¹⁹⁷ CMP also employed numerous mitigation measures to avoid unreasonable adverse effects on existing uses and scenic character, including siting the Project to maximize the use of natural buffers such as topography and intervening vegetation, siting more than 70% of the Project in existing transmission line corridors, locating Segment 1 of the transmission line in private timberland that continues to be actively harvested, proposing visual buffer strips and tapered vegetation in certain locations,¹⁹⁸ proposing self-weathering steel monopole structures to reduce visibility and enhance visual compatibility, and reducing structure height near Beattie pond. Indeed, the Visual Impact Assessment prepared by Terrence J. DeWan & Associates concluded that the Project will not unreasonably interfere with existing scenic and aesthetic uses and will not have an unreasonable adverse effect on the scenic character of the surrounding area. This conclusion is based on the explicit and specific regulatory requirements

¹⁹⁷ Exhibit CMP-5-B; *see also* Hearing Day 3 Transcript at 191:1-12 (Christopher).

¹⁹⁸ Mirabile Direct at 5-7, 11; Goodwin Direct at 5; Segal Direct at 22-27; Segal Rebuttal at 3; *see also* Site Law Application Exhibit 10-1: New England Clean Energy Connect Plan for Protection of Sensitive Natural Resources During Initial Vegetation Clearing (VCP) and Exhibit 10-2: New England Clean Energy Connect Post-Construction Vegetation Management Plan (VMP) (updated January 30, 2019).

of the Department's Chapters 315 and 375.14.¹⁹⁹ The visual impact statements made by the intervenors that oppose the Project, conversely, are entirely subjective.²⁰⁰

Specifically with respect to LUPC, the Project will be adequately buffered from other uses and resources within the P-RR subdistrict.²⁰¹ First, with respect to Beattie Pond, while one transmission line structure would have been visible from Beattie Pond as the Project was originally proposed, CMP submitted an application modification to the DEP and LUPC on January 25, 2019 that, at the request of LUPC staff, reduced the height of this structure to further buffer the Project from Beattie Pond.²⁰² The self-weathering steel of the structures near Beattie Pond will minimize contrast with the surrounding wooded hillside, and none of the structures will be seen against the sky.²⁰³ The redesigned structures will be considerably less prominent, if noticeable at all, to recreational users on the pond.²⁰⁴

Additionally, the NECEC corridor creates no new access to Beattie Pond, and current landowner policy does not allow public vehicle access beyond a point 0.6 mile from the pond, making the Project compatible with existing uses of the pond.²⁰⁵ The Project will be located at a distance greater than the existing developed road access, will not include permanent improvements that promote more intensive use or development of the pond, and will not be visible from the pond. Therefore, there will be no permanent improvements in access that could

¹⁹⁹ Site Law Application § 6.0; Hearing Day 1 Transcript at 298:2-299:6 (DeWan); Segal Direct; Segal Rebuttal; DeWan Supplemental; Exhibit CMP-5-B; Exhibit CMP-5-C; Exhibit CMP-5.1-A; Exhibit CMP-6.2-A.

²⁰⁰ Hearing Day 3 Transcript at 91:18-92:25 (Merchant).

²⁰¹ Segal Rebuttal at 24; Group 4 Warren Direct at 4-5.

²⁰² Mirabile Direct at 7-8; Segal Direct at 32; Goodwin Direct at 6, 9; Exhibit CMP-2-E.

²⁰³ Segal Direct at 26, 32.

²⁰⁴ Segal Direct at 26, 32.

²⁰⁵ Dwyer Direct at 3-4.

lead to more intensive use or development of Beattie Pond, which is the basis for the subdistrict designation.

Second, with respect to the upper Kennebec River, CMP's underground crossing of the upper Kennebec River, proposed in an amendment to the Application on October 19, 2018, will be undetectable to the Kennebec river-running community, and CMP will maintain forested buffers on both sides of the river such that there are no views of transmission line structures or overhead conductors, or of either termination station, from the P-RR subdistrict.²⁰⁶

Third, with respect to the Appalachian Trail (AT), the Project crosses the P-RR subdistrict in two of three AT crossing locations²⁰⁷ within an existing CMP corridor containing a 115kV transmission line.²⁰⁸ The location of the trail throughout this 3,500-foot section of existing transmission line corridor prevented CMP from avoiding impacts within the subdistrict.²⁰⁹ However, the use of the AT in these locations is not incompatible with

²⁰⁶ Mirabile Direct at 8; Goodwin Direct at 6, 9; Segal Direct at 32; Dwyer Direct at 4; Segal Rebuttal at 10-11; Exhibit CMP-2-F.

²⁰⁷ Exhibit Applicant-Cross-1; CMP also proposed vegetative buffers along the east and west sides of Troutdale Road where the new corridor crosses the road, which is co-located with the AT in this area but is not located in the P-RR. Mirabile Direct at 8; Segal Direct at 33. Even if the portion of the AT that crosses the CMP corridor along Troutdale Road were within the P-RR subdistrict, the proposed buffering adequately buffers the Project from uses along that road, and the transmission line is not incompatible with the AT in that location, as discussed below.

²⁰⁸ Site Law Application § 25.3.1.3; Berube Direct at 15-16; Goodwin Direct at 9-10; Segal Direct at 32.

²⁰⁹ Segal Direct at 33. As stated in its May 7, 2019 letter to Mr. Beyer, CMP is willing to relocate the AT so that it crosses the CMP transmission line corridor only once in the vicinity of Troutdale Road, eliminating two existing AT crossings, so there would be only a single P-RR subdistrict crossing. Before CMP could commit to such a condition, though, the National Park Service (NPS) would need to agree to it, and CMP would need to acquire, on behalf of NPS, the necessary property interests in the new location. CMP has secured rights to a parcel that would allow a reroute that eliminates two of the transmission line crossings. However, because this reroute would pass by one or two camps, the Maine Appalachian Trail Club (MATC) prefers the existing crossings of the transmission line corridor. CMP will continue to explore all options to find a new route that is satisfactory to MATC and NPS. In the interim, CMP is working with MATC on an interim relocation that will eliminate two crossings but will approach the edge of the new NECEC corridor. Provided this interim alignment is ultimately acceptable to MATC and

transmission lines,²¹⁰ as evidenced by both the existing use of the corridor by AT hikers and the easement from CMP allowing such use, by which the National Park Service (NPS) agreed to the construction by CMP of additional above ground electric transmission lines.²¹¹

With respect to existing use of the AT by hikers, the co-location of the new transmission line within a CMP-owned ROW crossed by the AT is consistent with hikers' expectation of crossing a transmission line corridor in the associated P-RR subdistrict.²¹² Indeed, "[t]he Appalachian Trail has crossed the existing transmission line since its construction in the 1950s, and the transmission line is a landmark noted in Trail Guides."²¹³ The existing transmission line predates the AT at this location, and the earlier AT route on the south end of Moxie Pond followed Troutdale Road for 2.25 miles.²¹⁴ Accordingly, the historic setting of the AT at this location is not one of secluded wilderness or broad vistas; 12 existing transmission structures are visible from the first crossing, seven are visible from the second crossing, and 15 are visible from the third crossing.²¹⁵ The Project will add additional transmission structures, but the character of the AT in this location will not change.²¹⁶

With respect to the easement from CMP allowing such use and by which NPS agreed to the construction by CMP of additional above ground electric transmission lines, when NPS

NPS, CMP will pay for the cost of the realignment, including any appropriate buffer plantings. CMP's long-term goal is to secure a permanent re-route acceptable to both MATC and NPS, and CMP is willing to commit the necessary funds to this end. See May 7, 2019 letter from M. Manahan to J. Beyer RE: NECEC – Preservation of Historic Sites.

²¹⁰ Goodwin Rebuttal at 2; Freye Rebuttal at 2-3; Segal Rebuttal at 7-9.

²¹¹ Exhibit CMP-9-B.

²¹² Goodwin Rebuttal at 20; Segal Rebuttal at 8-9.

²¹³ October 2018 SEARCH submission to MHPC.

²¹⁴ *Id.*

²¹⁵ *Id.*

²¹⁶ Additionally, as SEARCH noted in its October 2018 submission to MHPC, "[t]he setting in this area would be classified as developed, with the trail paralleling a road for part of the section and several houses in the vicinity."

acquired by easement the portions of the trail that cross CMP's existing transmission line ROW, it anticipated and agreed to the construction of additional above ground electric transmission lines, and related clearing, in that CMP-owned ROW.²¹⁷ The agreement establishes that the addition of overhead transmission lines at the AT in that location would not unreasonably interfere with uses of that trail.

Furthermore, CMP proposed mitigation to adequately buffer the Project, including vegetative buffers along the east and west sides of Troutdale Road where the new corridor crosses the road, which is co-located with the AT in this area, and is able to buffer the Project at the other crossings with similar plantings.²¹⁸ Moreover, co-location minimizes visual impact, as alternative alignments of the Project would result in crossings of the AT in one or more locations where there are no existing transmission line corridors.²¹⁹ Nor does the Project create interference with the recreational and navigational uses of the surrounding area.²²⁰ Indeed, CMP's existing transmission line corridors are widely utilized year-round for private and commercial recreational activities including hunting, fishing, foraging, hiking (including on the AT within existing corridor), biking, skiing, snowmobiling, birding, and boating.²²¹

2. Alternatives Analysis

CMP conducted a thorough analysis of alternatives to the Project, as set forth in its Applications, pre-filed testimony, and live testimony at the hearing. This analysis demonstrates that there is no alternative site to the Project's three P-RR subdistrict crossings that is both suitable to the proposed use and reasonably available to CMP.

²¹⁷ Exhibit CMP-9-B; Freye Rebuttal at 2-3.

²¹⁸ Mirabile Direct at 8; Segal Direct at 33.

²¹⁹ Goodwin Direct at 10; Segal Direct at 33.

²²⁰ Dwyer Rebuttal at 2; Group 4 Christopher Direct at 3; Group 4 Warren Direct at 3-4.

²²¹ CMP September 4, 2018 AIR Response; Dwyer Rebuttal at 2; Tribbet Rebuttal at 7; Group 4 Warren Direct at 3-4.

a) Alternative Route Analysis

The Applications describe the lack of any alternative sites pursuant to the LUPC criteria,²²² and also describe the process by which alternatives were developed and evaluated to identify a technically and economically sound Project route that is both suitable to the proposed use and reasonably available to the applicant, including undergrounding the Project at its upper Kennebec River crossing.²²³

The alternative route analysis that CMP performed for the Project considered the entirety of the new HVDC line, which will run from the Canadian border to an interconnection point at Larrabee Road Substation in Lewiston (Segments 1, 2, and 3), and associated substation upgrades.²²⁴ While the three routes that CMP analyzed would meet the Project's purpose of delivering clean energy generation from Québec to New England, two of the routes would result in more environmental impact than the proposed route for the NECEC corridor, and are not suitable to the proposed use and reasonably available to CMP.²²⁵ CMP also considered the no-action alternative (i.e., not constructing the NECEC Project), but that alternative would not meet the Project's purpose and need of allowing CMP to deliver 1,200 MW of clean energy generation from Quebec to New England at the lowest cost to ratepayers.²²⁶

CMP specifically considered whether there are any alternative sites to the crossings of the Project in the P-RR subdistrict that are both suitable to the proposed use and reasonably available

²²² LUPC Ch. 10.23(I)(3)(d)(8).

²²³ NRPA Application § 2.0; NRPA Application Amendment for the Kennebec River Horizontal Directional Drill § 2.0; Site Law Application § 25.3.1; Site Law Application Amendment for the Kennebec River Horizontal Directional Drill § 25.3.1.1.

²²⁴ Mirabile Direct at 17; Berube Direct at 4-5; *see also* NRPA Application § 2.3.

²²⁵ NRPA Application §§ 2.3.2.2 and 2.3.2.3; Mirabile Direct at 18-21; Berube Direct at 6-9.

²²⁶ NRPA Application § 2.3.1; Berube Direct at 4.

to CMP.²²⁷ At Beattie Pond, CMP attempted to negotiate an alternative alignment south of the Beattie Pond P-RR subdistrict through Merrill Strip Twp., but the landowner required compensation of approximately 50 times fair market value for that property, so that alternative is not reasonably available to CMP.²²⁸ Re-routing north of the pond to avoid the P-RR subdistrict would result in approximately two miles of additional corridor and associated vegetation clearing, and would lead to potentially higher visibility from the pond, due to the higher elevations associated with Caswell Mountain. Accordingly, the environmental and aesthetic impacts of either alternative site would be greater, particularly given the lack of adverse impact on Beattie Pond in the currently proposed Project location. As noted above, CMP has reduced the structure height at Beattie Pond such that the redesigned structure will be considerably less prominent, if noticeable at all, to recreational users on the pond and no Project structure will be visible against the sky.²²⁹ The NECEC corridor does not create new access to Beattie Pond, and the Project will be located at a distance greater than the existing developed road access.²³⁰ Alternative sites do not present the same benefits, so are neither suitable nor reasonably available.

At the upper Kennebec River crossing, the proposed transmission line within the horizontal directional drill (HDD) crossing is entirely underground as it passes below the P-RR subdistrict, and the termination stations on either side of the river are located outside the P-RR

²²⁷ NRPA Application § 2.0; NRPA Application Amendment for the Kennebec River Horizontal Directional Drill § 2.0; Site Law Application § 25.3.1; Site Law Application Amendment for the Kennebec River Horizontal Directional Drill § 25.3.1.1; Berube Direct at 13-16; Freye Rebuttal at 2-6.

²²⁸ Site Law Application § 25.3.1.1; Mirabile Direct at 21; Berube Direct at 13-16; Goodwin Direct at 8-9.

²²⁹ Mirabile Direct at 7-8; Segal Direct at 32; Goodwin Direct at 6, 9; Exhibit CMP-2-E.

²³⁰ Dwyer Direct at 3-4.

subdistrict.²³¹ Thus, because there will be no impact within the P-RR subdistrict in this location, there is no alternative that is suitable to the proposed use and reasonably available to CMP; any alternative would have greater adverse impacts, making it unreasonable compared to the proposed crossing.

At the AT, the Project crosses the P-RR subdistrict in two locations²³² within an existing CMP corridor containing a 115kV transmission line.²³³ Given the co-location of the proposed Project, there is no alternative site both suitable to the proposed use and reasonably available to CMP. A crossing of the AT cannot be avoided, and co-location of new transmission line within a CMP-owned corridor crossed by the AT is consistent with the existing use and with hikers' expectations of crossing a transmission line corridor in the associated P-RR subdistrict.²³⁴ As noted above, "[t]he Appalachian Trail has crossed the existing transmission line since its construction in the 1950s, and the transmission line is a landmark noted in Trail Guides."²³⁵ The existing transmission line predates the AT at this location, and the earlier AT route on the south end of Moxie Pond followed Troutdale Road for 2.25 miles. Accordingly, the historic setting of the AT at this location is not one of secluded wilderness or broad vistas, and the character of the AT in this location will not change.²³⁶ Further, when the NPS acquired by easement the portions of the trail that cross CMP's existing transmission line corridor, it anticipated and agreed to the

²³¹ NRPA Application Amendment for the Kennebec River Horizontal Directional Drill § 2.0; Site Law Application Amendment for the Kennebec River Horizontal Directional Drill § 25.3.1.1; Mirabile Direct at 22-23; Berube Direct at 14-15.

²³² Exhibit Applicant-Cross-1.

²³³ Site Law Application § 25.3.1.3; Mirabile Direct at 22; Berube Direct at 15-16; Freye Rebuttal at 4.

²³⁴ Goodwin Rebuttal at 20; Segal Rebuttal at 8-9.

²³⁵ October 2018 SEARCH submission to MHPC.

²³⁶ Additionally, as SEARCH noted in its October 2018 submission to MHPC, "[t]he setting in this area would be classified as developed, with the trail paralleling a road for part of the section and several houses in the vicinity."

construction of additional above ground electric transmission lines, and related clearing, in that CMP-owned corridor.²³⁷ This agreement establishes that the addition of overhead transmission lines at the AT in that location would not unreasonably interfere with uses of that trail. An AT crossing of the Project outside of the existing corridor would not be reasonably available, given the current use of CMP's property where the AT would cross the Project within the P-RR subdistrict.

b) Undergrounding Analysis

In addition to its analysis of alternate routes for the Project, CMP also analyzed whether undergrounding certain portions or the entirety of the Project is a less environmentally damaging practicable alternative to the proposed overhead HVDC transmission line, and whether such burial in P-RR subdistricts is suitable to the proposed use and reasonably available to CMP.²³⁸ The evidence shows that undergrounding is not a viable alternative under any applicable review standard. Indeed, it was so obvious that undergrounding would not meet the Project purpose or otherwise be suitable or reasonably available, that CMP did not initially include it as an alternative in the application materials filed with DEP and LUPC.²³⁹ In other words, had additional portions of the Project been buried, the Project would not have moved forward.²⁴⁰ Nevertheless, CMP conducted a thorough underground alternative analysis in response to the testimony of witnesses in Intervenor Groups 2, 6, and 8.²⁴¹

As described in the pre-filed and live testimony of several CMP and intervenor witnesses, the extremely high cost, logistical difficulties, visual impact, negligible environmental benefits,

²³⁷ Exhibit CMP-9-B; Freye Rebuttal at 2-3.

²³⁸ Bardwell Rebuttal at 2-3; Bardwell Supplemental at 2-13.

²³⁹ Bardwell Rebuttal at 3; Hearing Day 6 Transcript at 347:20-348:23 (Tribbet).

²⁴⁰ Hearing Day 1 Transcript at 248:12-15 (Dickinson); Hearing Day 2 Transcript 146:8-150:7 (Dickinson); Hearing Day 6 Transcript at 441:15-442:5 (Dickinson).

²⁴¹ See Bardwell Rebuttal; Tribbet Rebuttal; Bardwell Supplemental.

increased risk and adverse impacts during construction, and potential adverse impacts during operation render any additional undergrounding not suitable or reasonably available.²⁴² Indeed, numerous intervenor witnesses testified that undergrounding is not a preferred alternative due to their concerns with the environmental and visual impacts of undergrounding.²⁴³ Crucially, burying any additional portion of the NECEC HVDC line underground in the 54-mile new corridor of Segment 1 is not suitable or reasonably available because the costs and logistics of doing so would defeat the purpose of the Project.²⁴⁴ In other words, the alternative of burying the transmission line is not suitable or reasonably available because it would result in the NECEC not moving forward.²⁴⁵

Putting cost aside, the underground proposals offered by the intervenors in this proceeding are neither suitable nor reasonably available. For example, Group 4 witness Publicover alleges that CMP could bury the NECEC transmission line along the edge of the Spencer Road, though it is unclear how this proposal would avoid the three P-RR subdistricts.²⁴⁶

²⁴² Bardwell Rebuttal at 3-16, 23-27; Tribbet Rebuttal at 5; Freye Rebuttal at 5-6; Bardwell Supplemental at 2-8; Hearing Day 1 Transcript at 265:16-266:12, 266:13-23, 289:20-290:9 (Mirabile); Hearing Day 2 Transcript 146:8-150:7 (Dickinson); Hearing Day 3 Transcript at 192:12-14 (Warren); Hearing Day 6 Transcript at 341:5-344:22, 431:7-432:4 (Bardwell); Hearing Day 6 Transcript at 346:23-347:1 (Tribbet); Hearing Day 6 Transcript at 432:5-12 (Achorn); Hearing Day 6 Transcript at 445:7-447:12 (Paquette); Exhibits CMP-11-A through CMP-11.1-G.

²⁴³ Publicover Supplemental at 2-3; Hearing Day 5 Transcript at 94:13-95:14, 97:16-98:15 (Cutko); Hearing Day 6 Transcript at 61:4-25, 78:23 (Publicover); Hearing Day 6 Transcript at 72:12-14 (Reardon). *See also* Bardwell Rebuttal at 21-27.

²⁴⁴ Dickinson Rebuttal at 2-3, 9-10, 13; Tribbet Rebuttal at 5; Tribbet Supplemental at 4-6; Hearing Day 1 Transcript at 285:13-287:3 (Dickinson).

²⁴⁵ Dickinson Rebuttal at 13; Hearing Day 1 Transcript at 248:12-15 (Dickinson); Hearing Day 2 Transcript 146:8-150:7 (Dickinson); Hearing Day 6 Transcript at 441:15-442:5 (Dickinson).

²⁴⁶ Publicover Direct at 19-20. Group 4 never stated how the Project would get to Spencer Road. If it followed Spencer Road from Route 201 to Québec, the Beattie Pond P-RR subdistrict may be avoided, though a portion of the road appears within the P-RR subdistrict at Beattie Pond. However, simply following Spencer Road would not eliminate the Kennebec River P-RR zone or the AT P-RR zone. The only way to avoid all three P-RR zones would be to locate the Project in Route 201 starting in Moscow and then in Spencer Road, which is not possible given the Route 201 restrictions discussed below.

Furthermore Spencer Road is not a public road, and its private owners specifically did not want a transmission line located along the Spencer Road because such a transmission line, whether overhead or underground, would limit the landowner's ability to ditch, blast, create, and use landings, operate heavy equipment, or relocate the road.²⁴⁷

Nor is there any other corridor available that connects to Québec in the upper Kennebec River area, other than the proposed route.²⁴⁸ While there is a distribution line from Harris Dam to the village of Jackman (the Jackman Tie Line or JTL), the JTL is entirely roadside between West Forks Plt and Jackman, and does not connect to Québec.²⁴⁹ Contrary to Intervenor Group 2 witness Caruso,²⁵⁰ the JTL instead terminates in Jackman, about 16 miles from the Canadian border and would require new corridor through the towns of Jackman and Moose River as well as additional corridor along Route 201, a state and federally designated scenic byway, for the entire distance from Jackman to West Forks Plantation.²⁵¹ In addition, the JTL corridor between Harris Dam and Route 201 would need to be expanded through two conservation easements and across the State-owned Cold Stream Forest.²⁵² Burying the transmission line along Route 201 is further unavailable due to lack of sufficient space within the highway limits,²⁵³ safety constraints with co-locating with the existing overhead distribution line,²⁵⁴ and the restrictions placed on

²⁴⁷ Freye Rebuttal at 5; Freye Supplemental at 5-6.

²⁴⁸ Freye Supplemental at 2-4.

²⁴⁹ Freye Rebuttal at 6.

²⁵⁰ E. Caruso Direct at 6.

²⁵¹ Freye Rebuttal at 7; Bardwell Supplemental at 12.

²⁵² Freye Rebuttal at 7.

²⁵³ Freye Supplemental at 4; Hearing Day 6 Transcript at 487:1-19 (Bardwell).

²⁵⁴ Freye Supplemental at 5.

such burial and the installation of splicing vaults by the MDOT,²⁵⁵ in addition to the cost, safety, and environmental issues of doing so.²⁵⁶

CMP did consider, and ultimately amended its Applications to include, an HDD underground routing of the Project under the upper Kennebec River. As explained in the amendments to the Application and at the hearing, undergrounding at the upper Kennebec River is suitable and reasonably available to CMP.²⁵⁷

Undergrounding the line in the P-RR at Beattie Pond would consist of installing termination stations just outside of the P-RR subdistrict and connecting them with approximately 1.2 miles of direct buried cables, including three jointing locations and crossings of two wetlands by approximately 1,000-foot long HDD installations.²⁵⁸ Underground construction would require clearing and continuous surface disruption in the P-RR subdistrict and would cost approximately \$15.3 million, \$13.2 million of which would be an incremental additional cost to the Project when removing associated overhead transmission line costs.²⁵⁹ In addition to this additional cost, this short underground cable segment of the NECEC HVDC transmission line at Beattie Pond would require construction of additional access points and would create operational problems for CMP including limited winter accessibility and protracted service restoration timelines.²⁶⁰ Undergrounding the transmission line in this area would not be suitable to the proposed use, and is not reasonably available, especially given that the impact from the shortened structure previously visible from Beattie Pond will be so minor.

²⁵⁵ Bardwell Rebuttal at 10; Bardwell Supplemental at 12.

²⁵⁶ Freye Rebuttal at 7-8.

²⁵⁷ Site Law Application Amendment Section 25.3.1.1; Day 2 Transcript 125:1-18 (Goodwin), 130:5-22 (Berube), 136:6-139:8 (Dickinson).

²⁵⁸ Bardwell Rebuttal at 19.

²⁵⁹ Bardwell Rebuttal at 19; Exhibit CMP-11-F.

²⁶⁰ Bardwell Rebuttal at 19-20.

Undergrounding also is not suitable to the proposed use, and is not reasonably available to CMP, at the AT crossings within the P-RR subdistrict. An underground alternative would require construction of termination stations within sight of the trail, along with a trenchless crossing of the AT, approximately 3,500 feet long, at a cost of approximately \$28.9 million, \$28 million of which would be an incremental additional cost to the Project when removing associated overhead transmission line costs.²⁶¹ Furthermore, construction activities would last approximately 10 months and would require HDD rigs powered by an external diesel-powered hydraulic power plant that generate noise of approximately 110 decibels continuously while in operation.²⁶² Additionally, the easement allowing the AT in CMP's corridor includes provisions for additional overhead lines, but does not contemplate underground installations, so CMP would need to seek such rights from the NPS to allow underground installation.²⁶³ Given the presence of the existing transmission line corridor, the very high cost of undergrounding in this location, and the fact that the underground alternative would have additional environmental and public impacts, undergrounding is not suitable to the proposed use and is not reasonably available to the applicant within this P-RR subdistrict.

D. CONCLUSION

The voluminous evidence in this matter, including the Site Law and NRPA Applications; an amendment to each of those Applications; responses to multiple information requests, intervenor comments, and comments from public agencies; pre-filed direct, rebuttal, and supplemental testimony; and responses to post-hearing information requests by the DEP clearly demonstrates that there is no alternative site which is both suitable to the proposed use and

²⁶¹ Bardwell Rebuttal at 17-18; Exhibit CMP-11-E.

²⁶² Bardwell Rebuttal at 18.

²⁶³ Bardwell Rebuttal at 18; Freye Rebuttal at 2-3; Hearing Day 6 Transcript at 396:10-19, 429:14-15 (Freye).

reasonably available to CMP, and that the use can be buffered from those other uses and resources within the P-RR subdistricts with which it is incompatible.

For all these reasons, the LUPC should certify to the DEP that the NECEC Project is an allowed use in the P-RR subdistrict, and adopt CMP's proposed findings of fact, attached hereto as Attachment B.

Dated this 14th day of June, 2019.



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A. ATTACHMENT A: DEP PROPOSED FINDINGS OF FACT

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

IN THE MATTER OF

CENTRAL MAINE POWER COMPANY)	
NEW ENGLAND CLEAN ENERGY CONNECT)	
#L-27625-26-A-N/#L-27625-TG-B-N/)	FINDINGS OF FACT
#L-27625-2C-C-N/#L-27625-VP-D-N/)	
#L-27625-IW-E-N (Approval))	

Pursuant to the provisions of 38 M.R.S. 480-A et seq. and Sections 481 et seq., and Section 401 of the Federal Water Pollution Control Act, the Department of Environmental Protection has considered the application of CENTRAL MAINE POWER COMPANY with the supportive data, agency review comments, comments from members of the public, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROJECT DESCRIPTION:

Central Maine Power Company's (CMP's) proposed New England Clean Energy Connect (NECEC) Project (NECEC Project or the Project) is a High Voltage Direct Current (HVDC) transmission line and related facilities capable of delivering up to 1,200 MW of electric generation from the Canadian border to the New England Control Area in response to the Request for Proposals for Long-Term Contracts for Clean Energy Projects dated March 31, 2017 and issued by the Massachusetts Department of Energy Resources and the Electric Distribution Companies of Massachusetts. The Maine Public Utilities Commission, in Docket No. 2017-00232, issued a Certificate of Public Convenience and Necessity for the Project on May 3, 2019.

The Project is composed of the following components:

Segments 1, 2, & 3 – HVDC Components and Associated Upgrades

- New 145.3-mile +/-320kV HVDC transmission line from the Canadian border to a new converter station located north of Merrill Road in Lewiston;
- New 1.2-mile 345kV to +/-320kV transmission line from the new Merrill Road Converter Station to the existing Larrabee Road Substation;
- Partial rebuild of 0.8 mile of 34.5kV Section 72 AC transmission line outside of the Larrabee Road Substation to make room in the corridor for the 1.2-mile 345kV transmission line;
- New 345kV to +/-320kV HVDC 1200MW Merrill Road Converter Station;
- Addition of 345kV transmission line terminal at the existing Larrabee Road Substation;

Segment 4 – 345kV STATCOM Substation and 115kV Rebuilds

- New 345kV +/-200MVAR STATCOM Fickett Road Substation;
- New 0.3-mile 345kV AC transmission line from the existing Surowiec Substation in Pownal to a new substation on Fickett Road in Pownal;
- Rebuild 16.1 miles of 115kV Section 64 AC transmission line from the existing Larrabee Road Substation to the existing Surowiec Substation;

- Rebuild 9.3 miles of 115kV Section 62 AC transmission line from the existing Crowley’s Substation in Lewiston to the existing Surowiec Substation;

Segment 5 – New 345kV Transmission Line and Associated Rebuilds

- New 26.5-mile 345kV AC transmission line from the existing Coopers Mills Substation in Windsor to the existing Maine Yankee Substation in Wiscasset;
- Partial rebuild of 0.3 mile of 345kV Section 3025 transmission line between Larrabee Road Substation and Coopers Mills Substation;
- Partial rebuild of 0.8 mile of 345kV Section 392 transmission line between Maine Yankee Substation and Coopers Mills Substation; and,
- Partial rebuild of 0.8 mile each of 115kV Section 60/88 transmission line outside of Coopers Mills Substation.

Additional equipment installation and upgrades will be required at Larrabee Road Substation (Lewiston), Crowley’s Substation (Lewiston), Surowiec Substation (Pownal), Raven Farm Substation (Cumberland), Coopers Mills Substation (Windsor), and Maine Yankee Substation (Wiscasset).

Transmission Lines: The Project’s transmission line components include two basic forms: building new lines and rebuilding existing lines.

New Transmission Lines. The Project will include a total of approximately 201.1 miles of new or rebuilt transmission lines constructed within approximately 193 miles of transmission line corridor. Of this, approximately 139.5 miles is existing corridor, and approximately 53.5 miles is new corridor. New transmission lines will be built in locations where existing transmission line infrastructure does not exist or was determined to be inadequate to meet the needs of the proposed electrical load. The new transmission line equipment includes approximately 145.3 miles of new HVDC line and 28 miles of new 345kV line. The transmission line components of the Project will consist of construction of approximately 28% in new corridor; 49% co-located in existing corridor requiring widening; and 23% in existing corridor with no widening required.

- A. Section 3006: +/- 320kV High Voltage Direct Current Transmission Line. A new 145.3-mile High Voltage Direct Current transmission line, “Section 3006,” located in Segments 1, 2, and 3 of the Project, will be constructed from Beattie Twp on the Canadian border to a new converter station north of Merrill Road in Lewiston. A portion of Section 3006, from Beattie Twp to The Forks Plt (approximately 53.5 miles), will be located within a 150-foot wide cleared transmission line corridor in a previously undeveloped, 300-foot-wide right-of-way (ROW). Section 3006 crosses one fragile mountain area (i.e. greater than 2,700 feet in elevation), Coburn Mountain, in Johnson Mountain Twp. From The Forks Plt to Wyman Hydropower Station in Moscow, Section 3006 will be located within an existing, partially developed 300-foot-wide ROW (Section 222, approximately 21.9 miles). From Wyman Hydropower Station in Moscow to a new DC to AC converter station in Lewiston, Section 3006 will be located within an existing, partially developed 400-foot-wide ROW (Sections 63, 278 and 200, approximately 71.5 miles). Section 3006 will rely on a mix of direct embed and self-supporting tubular steel single and double pole structures.
- B. Section 3007: 345kV Transmission Line. A new, approximately 1.2-mile 345kV transmission line, “Section 3007,” located in Segment 3 of the Project, within an existing,

partially developed 400-foot-wide transmission line corridor (Section 200), will be constructed to connect the Merrill Road Converter Station to the existing Larrabee Road Substation. The conductor will be supported primarily by wood frame structures in a two-pole H-frame configuration. Based on final detailed design requirements, CMP also may use steel, round wood, and/or laminated wood structures that may be direct embedded or self-supporting on foundations.

- C. Section 3005: 345kV Transmission Line. A new, approximately 0.3-mile 345kV transmission line, “Section 3005,” located in Segment 4 of the Project, partially within existing corridor, will be constructed to connect Fickett Road Substation to Surowiec Substation.
- D. Section 3027: 345kV Transmission Line. A new, approximately 26.5-mile 345kV transmission line, “Section 3027,” located in Segment 5 of the Project, will be constructed within the existing 270-foot-wide transmission line corridor from Coopers Mills Substation in Windsor to Maine Yankee Substation in Wiscasset.

Rebuilding Existing Transmission Lines. Rebuilding existing lines may be required to: (i) replace structures that are approaching the end of their service life, (ii) increase a line’s capacity, (iii) reconfigure to create additional space within an existing corridor, or (iv) limit electrical outages. In some cases, the rebuild will consist of relocating a transmission line section by rebuilding the line at a different location within the same existing corridor. In doing so, adequate space is then created for an additional transmission line in the same corridor without the need for corridor expansion. The relocated line may be rebuilt in a different configuration: for example, an H-frame double pole structure may be replaced with a single pole structure. All rebuilds will be operated at the same voltage as the original lines. Rebuilding or reconstruction of existing transmission lines within the same ROW is exempt from the Site Location of Development Act (Site Law) under 38 M.R.S. § 488. Approximately 0.8 mile of 34.5kV and 26.2 miles of 115kV and 1.1 miles of 345kV transmission line will be rebuilt as part of NECEC, all within existing corridors.

- A. Section 72: 34.5kV Transmission Line Rebuild. Approximately 0.8 mile of the existing 34.5kV “Section 72” transmission line, located in Segment 3 of the Project, will be rebuilt just outside of the existing Larrabee Road Substation. This rebuild will provide space in the corridor to allow for the new 345kV Section 3007 line between the Merrill Road Converter Station and Larrabee Road Substation. The conductor will be supported primarily by wood pole structures in a monopole configuration. This work is a rebuild only, and is therefore exempt from review under the Site Law.
- B. Section 62 and Section 64: 115 kV Transmission Line Rebuilds. Approximately 16.1 miles of the existing “Section 64” 115kV transmission line, located in Segment 4 of the Project, will be rebuilt between Larrabee Road Substation in Lewiston and Surowiec Substation in Pownal, and approximately 9.3 miles of the existing Section 62 115kV transmission line will be rebuilt between Crowley’s Substation in Lewiston and Surowiec Substation in Pownal. For both sections, the conductor will be supported primarily by wood framed structures in a single pole configuration. Based on the final detailed design requirements, CMP also may use steel, round wood, and/or laminated wood structures that may be direct embedded or self-supporting on foundations. As part of these rebuilds, the existing H-frame structures will be replaced with single pole structures to maximize

available space within the corridor. This work consists of rebuild only, and is therefore exempt from review under the Site Law.

- C. Section 3025: 345kV Transmission Line Rebuild. Approximately 0.3 mile of the existing “Section 3025” transmission line, located in Segment 5 of the Project, will be partially rebuilt, just outside of the existing Coopers Mills Substation. This rebuild will create space in the corridor for the new 345kV Section 3027 line between Maine Yankee Substation and Coopers Mills Substation. The conductor will be supported primary by H-frame wood pole structures. This work is a rebuild only, and is therefore exempt from review under the Site Law.
- D. Section 392: 345kV Transmission Line Rebuild. Approximately 0.8 mile of the existing “Section 392” transmission line located in Segment 5 of the Project will be partially rebuilt, just outside of the existing Coopers Mills Substation. This rebuild will create space in the corridor for the new 345kV Section 3027 line between Maine Yankee Substation and Coopers Mills Substation. The conductor will be supported primary by H-frame wood pole structures. This work is a rebuild only, and is therefore exempt from review under the Site Law.
- E. Section 60 and Section 88: 115kV Transmission Line Rebuilds. Approximately .8 mile of both the existing “Section 60” and “Section 88” transmission lines, located in Segment 5 of the Project, will be rebuilt (for a total of approximately 0.6 mile of rebuilt line), just outside of the existing Coopers Mills Substation. This rebuild will create space in the corridor for the new 345kV Section 3027 line between Maine Yankee Substation and Coopers Mills Substation. The conductor will be supported primary by wood pole structures in a monopole configuration. This work is a rebuild only, and is therefore exempt from review under the Site Law.

Substations: The substations of the NECEC are a combination of DC to AC conversion equipment; dynamic voltage support and reactive compensation equipment (STATCOM); switching and voltage step-down equipment arranged to interconnect the various transmission lines and reduce transmission voltage from 345kV to 115kV and/or from 115kV to 34.5kV; and termination stations on either side of the horizontal directional drilling (HDD) crossing beneath the Upper Kennebec River. The Project will involve eight substations, including the development of an AC to DC converter station and new STATCOM substation. Six substations will have equipment upgrades and installations that will not require yard expansion.

New Substation Facilities.

- A. Merrill Road Converter Station: 345kV to +/- 320kV HVDC 1200MW. A new DC to AC converter station is proposed north of Merrill Road in Lewiston, approximately 1.2 miles north of Larrabee Road Substation. The converter station will occupy approximately 7 acres on a site directly adjacent to an existing transmission line corridor.
- B. Fickett Road Substation: 345kV +/-200 MVAR STATCOM. The proposed Fickett Road Substation will be located directly across Allen Road from the existing Surowiec Substation and will occupy approximately 6.12 acres adjacent to Fickett Road in Pownal. Substation construction will include the installation of a 345kV +/-200MVAR STATCOM, the installation of three 345kV 100MVAR capacitor banks, and related bus

and site work. This new substation will be in a field currently occupied by existing 345kV and 115kV transmission lines.

- C. Two termination stations, the Moxie Gore Termination Station and the West Forks Termination Station, will be required on either side of the HDD crossing beneath the Upper Kennebec River. Each termination station will be passive and will contain no sound or light emitting equipment. Both sites will be nearly identical in size and structure (each designed with a minimal footprint of 135 feet by 135 feet), and will occupy approximately 0.77 acre and 0.72 acre, respectively.

Substation Modifications and Upgrades. Modifications are proposed to the existing Coopers Mills Substation in Windsor, Crowley's Substation in Lewiston, Larrabee Road Substation in Lewiston, Maine Yankee Substation in Wiscasset, Surowiec Substation in Pownal, and Raven Farm Substation in Cumberland.

- A. Coopers Mills Substation. Modifications to the Coopers Mills Substation will include 345kV bus work and circuit breaker installations to reposition the existing Larrabee Road Substation and Maine Yankee Substation 345kV transmission lines; the addition of a terminal for the new 345kV transmission line to Maine Yankee Substation; and the addition of a +/-200 MVAR STATCOM.
- B. Crowley's Substation. Modifications to the Crowley's Substation will include the replacement of a 115kV switch and bus wire.
- C. Larrabee Road Substation. Modifications to the Larrabee Road Substation will include a 345kV line terminal expansion, requiring the addition of a 345kV line termination structure, a 345kV circuit breaker, disconnect switches, instrument transformers, surge arrestors, bus work modifications, support structures, foundations, modifications to the existing protection and control system, and network upgrades. The existing T1 transformer will be replaced with three single-phase autotransformers with a total nameplate rating of 600MVA (from 448MVA) to mitigate thermal overloads under contingency conditions.
- D. Maine Yankee Substation. Modifications to the Maine Yankee Substation will include upgrading the existing 345kV bus arrangement to breaker and a half configuration through the addition of a 345kV three-circuit breaker bay, the relocation of the existing Coopers Mills 345kV line, the addition of a terminal for the new 345kV line from Coopers Mills Substation, and the repositioning of the existing 345kV line from Surowiec Substation.
- E. Surowiec Substation. Modifications to the Surowiec Substation will include the addition of a terminal for the new 345kV transmission line from the proposed Fickett Road Substation, the addition of a new dead-end A-frame structure, and the addition of a new 345kV circuit breaker.
- F. Raven Farm Substation. Modifications to the Raven Farm Substation will include the addition of a 345/115kV 448MVA autotransformer, associated bus work, and termination of the existing 115kV Sections 164, 164A, and 165 transmission lines at the substation.

2. TITLE, RIGHT OR INTEREST:

The applicant demonstrated title, right, or interest (TRI) in the properties proposed for development or use by submitting copies of deeds and easements, and, although not required, maps depicting and identifying the parcels on or over which the Project is proposed to be located and for which CMP has documented TRI. The Department finds that the documentation

submitted by the applicant is credible and demonstrates a right to the reasonable use of the properties, and adequate duration and terms for that use, for the proposed Project sufficient for the processing of this application.

The Department finds that the applicant demonstrated sufficient TRI in all of the properties that are proposed for development or use.

3. FINANCIAL CAPACITY:

The total cost of the Project is estimated to be \$950 million. The financial strength of CMP and its parent companies AVANGRID, Inc. (AVANGRID) and Iberdrola SA ensures that CMP will be able to attract the capital needed to finance the NECEC Project on financially viable and favorable terms. CMP Group, Inc. owns 100 percent of outstanding shares of CMP's common stock. CMP Group, Inc. is a wholly-owned subsidiary of Avangrid Networks, Inc., which in turn is a wholly-owned subsidiary of AVANGRID, a New York corporation listed on the New York Stock Exchange (NYSE: AGR). AVANGRID is a diversified energy and utility holding company with more than \$30 billion in assets and operations in more than 27 states across the United States.

CMP plans to finance the full cost of the NECEC Transmission Project. CMP will use short- and long-term debt financing including AVANGRID's significant existing credit facilities, and equity funding sourced through retained earnings and capital contributions from AVANGRID, if necessary, to finance the Project. The NECEC RFP response includes a Transmission Service Agreement (TSA) under which CMP's revenue requirements for the NECEC Project will be recovered from the Electric Distribution Companies of Massachusetts over the Power Purchase Agreement (PPA) term. With the firm revenue stream provided under the TSA, these sources of capital will be more than sufficient for CMP to finance the NECEC Project.

The Department finds that the applicant has demonstrated adequate financial capacity to comply with state environmental standards.

4. TECHNICAL ABILITY:

CMP provided resume information for key persons involved with the Project and a list of projects it has successfully constructed. CMP also retained the services of Burns & McDonnell, Boyle Associates, Terrence J. DeWan & Associates, Search, Inc., MCBER, Daymark, Power Engineers, TetraTech, Gilman and Briggs, and Dirigo Partners, Ltd., all of which are professional firms with expertise in various areas appropriate for this Project, to assist in the design and engineering of the Project.

The Department finds that the applicant has demonstrated adequate technical ability to comply with Department standards.

5. NOISE:

Transmission Lines

For electric transmission lines, audible noise is relative to conductor (wire) size. CMP has selected conductor sizes that under ideal, dry conditions are designed to be nearly noise free; under adverse weather conditions (e.g., very high humidity and storm conditions) these same

conductors may emit a slight crackling sound. CMP modeled noise levels for conductors based on conservative assumptions and program defaults for conditions relating to the operation of existing transmission lines and to the operation of new 345kV and 320kV DC transmission lines. CMP used the Bonneville Power Administration (BPA) Corona and Field Effects Program to calculate the expected audible noise from the transmission lines. Based on the BPA model results for the Project, all sound levels produced by new and/or upgraded transmission lines associated with the NECEC Project are expected to remain within the levels allowed by the Department. CMP calculated that the transmission line conductor noise levels at the edges of the various ROWs, in fair weather conditions, will be well below the applicable noise standards, with the maximum typical levels at the edge of ROW expected to be approximately 28 dBA. This level is generally negligible, and the noise in general will attenuate quickly as distance from the edges of the ROW increases.

CMP's modeling results for foul weather/wet conditions show that additions and upgrades to the transmission lines associated with the Project would generally produce modest increases in noise levels at the edges of ROW. This noise would attenuate quickly as distance increases due to the frequency components of the noise generated (higher frequency noise dissipates quickly with distance). The maximum sound produced by a typical conductor at the closest edge of ROW, under foul weather/wet conditions, is expected to be approximately 41 dBA (comparable to a quiet office). The distances provided are from the center of the structures, or basically from the line itself, to the edge of the ROW. The distance from the line to the edge of the ROW will vary along the transmission line path. The worst-cast (closest) distance the line could be to the edge of the ROW is 75 feet, which corresponds to approximately 41 dBA sound level generated by the 345kV transmission line under foul weather conditions. However, while louder levels of audible noise could occur during foul weather, it would generally be masked by the background noise caused by rain and wind.

Substations.

Three existing substations associated with the Project – Maine Yankee Substation in Wiscasset, Surowiec Substation in Pownal, and Crowley's Substation in Lewiston – will be adding equipment such as transmission line terminal structures that are needed to permit the interconnection of the NECEC. These substations do not require noise studies, as the modifications would not install significant noise emitting equipment or increase overall noise levels in the surrounding area. Two proposed new substations – Merrill Road Converter Station in Lewiston and Fickett Road Substation in Pownal – will include the installation of noise producing equipment, and thus warrant noise studies. Three existing substations – Larrabee Road Substation in Lewiston, Coopers Mills Substation in Windsor, and Raven Farm Substation in Cumberland – are proposed to install new noise producing equipment and thus also warrant noise studies. There will be no sound-emitting equipment at the two termination stations at the HDD crossing of the Upper Kennebec River.

- A. Merrill Road Converter Station. CMP prepared a detailed noise study to assess the potential noise impacts associated with the proposed Merrill Road Converter Station. The study included identification of nearby protected locations, an ambient noise monitoring program to identify baseline conditions, detailed computer noise modeling, and compliance with DEP and local noise standards. The City of Lewiston noise ordinance limits noise at residential properties to 50 dBA during the day and night. The DEP limits sound at protected areas to 50 dBA at night, with a 5 dBA penalty when tonal sounds are present. The City of Lewiston regulation will be followed at all points along

the property lines. The ambient noise monitoring program, conducted continuously over three days and two nights, revealed that the daytime hourly average sound levels were greater than 45 dBA, and the nighttime hourly average sound level was greater than 35 dBA. As such, the areas surrounding the converter station would not be defined as quiet areas under MDEP's noise standard. The Project noise is limited to 50 dBA, per the City of Lewiston noise ordinance, along the adjacent property lines. The noise modeling study revealed that by installing equipment capable of meeting the modeled sound levels, no additional noise control measures would be required to achieve compliance with the Lewiston noise standards for the modeled operating conditions. Accordingly, construction and operation of the proposed Merrill Road Converter Station will comply with the applicable City of Lewiston noise standards at all residential property lines.

- B. Fickett Road Substation. CMP prepared a detailed noise study to assess the potential noise impacts associated with operation of the Fickett Road Substation with the new STATCOM equipment installed. The study included identification of nearby protected locations, an ambient noise monitoring program to identify baseline conditions, detailed computer noise modeling, identification of required noise mitigation measures, and compliance with DEP noise standards. The new substation equipment's 40 dBA limitation at protected locations where a pure tone could be measured is consistent with DEP limits. The ambient noise monitoring program, conducted continuously over three days and two nights, revealed that the daytime hourly average sound levels were below 45 dBA. As such, the areas surrounding the substation are considered protected quiet areas. Project noise is limited to 45 dBA along the adjacent property lines, inclusive of a 5 dBA penalty added to measured levels when a tone is present. Properties near the cooling fans would not experience tonal noise and would have a limit of 45 dBA with no inclusion of a penalty for measured levels. The noise modeling study revealed that the new equipment would require no additional noise control measures to achieve compliance with the MDEP standards for the modeled operating conditions. The current substation operations are below the MDEP sound level requirements. Accordingly, construction and operation of the new Fickett Road Substation will comply with the applicable DEP noise standards.
- C. Larrabee Road Substation. CMP prepared a detailed noise study to assess the potential noise impacts associated with operation of the Larrabee Road Substation after modifications are made. The study included identification of nearby protected locations, an ambient noise monitoring program to identify baseline conditions, detailed computer noise modeling, identification of required noise mitigation measures, and compliance with DEP and local noise standards. The City of Lewiston's noise ordinance limits noise at residential properties to 50 dBA during the day and night. The ambient noise monitoring program, conducted continuously over three days and two nights, revealed that the daytime hourly average sound levels (at a location where the existing substation was not audible) were greater than 45 dBA, and the hourly nighttime sound level was greater than 35 dBA. As such, the areas surrounding the substation are not defined as quiet areas under DEP's noise standard, but are considered protected areas. Therefore, Project noise is limited to 50 dBA along the adjacent property lines. The noise modeling study revealed that the new equipment would require no additional noise control measures to achieve compliance with the City of Lewiston standards for the modeled operating conditions. The current substation operations are below the sound level requirements and the replacement autotransformers are expected to emit similar sound levels to the existing unit. Accordingly, construction and operation of the Larrabee Road

Substation are expected to comply with the applicable DEP and Lewiston noise standards.

- D. Coopers Mills Substation. CMP prepared a detailed noise study to assess the potential noise impacts associated with operation of the Coopers Mills Substation after modifications are made. The study included identification of nearby protected locations, an ambient noise monitoring program to identify baseline conditions, and detailed computer noise modeling. The DEP limits sound at protected quiet areas to 45 dBA at night, inclusive of a 5 dBA penalty added to measured sound levels when tonal sounds are present. The ambient noise monitoring program, conducted continuously over three days and two nights, revealed that the daytime hourly average sound levels were below 45 dBA and nighttime sound levels were below 35 dBA. As such, the areas surrounding the substation are protected quiet areas. Project noise is limited to 45 dBA along the adjacent property lines. A 5 dBA penalty is applied to measured values when a tone is present, in order to remain below the MDEP limit of 45 dBA. The noise modeling study revealed that the new equipment may require additional noise control measures to achieve compliance with the MDEP standards for the modeled operating conditions. Additional noise control measures will be implemented during detailed design as needed to achieve compliance with the MDEP noise standards. Noise mitigation will be applied to the sources in order to meet all property line sound level limits and may include, but not be limited to, specification of quieter equipment, sound barriers, and/or potential acquisition of property. Accordingly, construction and operation of the Coopers Mills Substation STATCOM, in combination with sound generated by the existing substation, will comply with the applicable DEP noise standards.
- E. Raven Farm Substation. CMP prepared a detailed noise study to assess the potential noise impacts associated with operation of the Raven Farm Substation after modifications are made. The study included identification of nearby protected locations, an ambient noise monitoring program to identify baseline conditions, detailed computer noise modeling, identification of required noise mitigation measures, and compliance with MDEP noise standards. The DEP limits sound at protected areas to 55 dBA at night, and requires a 5 dBA penalty be applied to measured tonal sounds. The ambient noise monitoring program, conducted continuously over three days and two nights, revealed that the daytime hourly average sound levels (the existing substation was not audible) were greater than 45 dBA and nighttime sound levels were greater than 35 dBA. As such, the areas surrounding the substation are protected areas, but are not defined as quiet areas under DEP's noise standard. Ambient noise in the area is dominated by the nearby Interstate 295, which is located approximately 2,000 feet from the center of the substation. Project modeled noise is limited to 45 dBA along the adjacent property lines, in order to remain below the MDEP limit of 50 dBA limit when a tone is present. The noise modeling study revealed that the new equipment would require no additional noise control measures to achieve compliance with the DEP standards for the modeled operating conditions. The current substation operations are below the State sound level requirements. Accordingly, construction and operation of the Raven Farm Substation will comply with the applicable DEP noise standards.

Construction.

Noise from construction equipment will be temporary during construction of the NECEC Project. Construction of the proposed Project is expected to involve site clearing, excavation, placement of concrete and the use of typical utility construction equipment and best practices. The construction contractor selected is expected to implement, where appropriate, construction

methods that maintain construction noise levels below the applicable maximum levels. Because the Project involves work on an existing power system that serves customers, there may also be times that work needs to be accomplished in part outside the specified working hours. Such work generally consists of activities that must occur continuously once begun (such as filling transformers with oil and horizontal directional drilling). The construction contractor will comply with all applicable noise level limits.

Based on its analysis of the evidence submitted by the applicant, the Department finds that the applicant has made adequate provision for the control of excessive environmental noise from the proposed Project.

6. SCENIC CHARACTER:

The NRPA and Chapter 315 require an applicant to demonstrate that a proposed activity will not unreasonably interfere with existing scenic and aesthetic uses of a scenic resource and only apply to activities in, on, over, or adjacent to a protected natural resource. More broadly, the Site Law and Chapter 375.14 require an applicant to demonstrate that the development will not have an unreasonable adverse effect on the scenic character of the surrounding area.

In order to assess such impacts to identified scenic resources, and other points of local sensitivity, the applicant submitted a visual impact assessment (VIA) for the Project area prepared by Terrence J. DeWan & Associates (TJD&A). The VIA assessed each segment and substation where visible changes will occur using standard visual impact assessment methodologies, following the methodology and standards described in NRPA Chapter 315 regulations and Site Law Chapter 375.14 regulations. TJD&A further reviewed and responded to the reports of the Department's peer reviewer, Dr. James Palmer, and worked with Dr. Palmer and the Department to their satisfaction with regard to the reasonableness of its visual impact assessment.

Transmission lines.

New structures will be set back as far from streams, rivers, and other areas of visual/habitat sensitivity as practicable. There are many areas where favorable growing conditions and CMP's maintenance procedures have resulted in effective stands of non-capable species near the roadside which act as visual buffers. Wherever practicable, existing vegetation will be preserved within the transmission line corridor by careful layout of access roads and monitoring of construction practices during the installation process.

In Segment 1, the primary mitigation measure being employed is to use self-weathering steel single poles to minimize visual contrast, especially when viewed from elevated viewpoints and where the structure is seen against a wooded backdrop. The new HVDC transmission line corridor is also primarily located in areas of commercial timber production which have been, and continue to be, periodically harvested. Due to a shortening of the pole heights near Beattie Pond, the Project will not be visible from Beattie Pond. Nonspecular conductors and tapering will be used at Rock Pond to reduce reflective qualities of the conductors when viewed from the most visually sensitive locations. Tapering will be used near Coburn Mountain to reduce Project visibility from the summit. At the Upper Kennebec River crossing, the Project will be buried and the termination stations will not be visible from the river.

In Segments 2 and 3, the primary mitigation measure being employed is to co-locate the HVDC transmission line within an existing corridor, rather than acquiring and developing an entirely separate transmission line corridor. This co-location strategy significantly reduces potential visual impacts. The HVDC structures will be made of self-weathering steel, which will result in minimal color contrast with the surrounding wooded landscape when viewed from elevated viewpoints and water bodies. The height of the HVDC structures on the western side of Moxie Pond has been minimized to the extent possible to reduce the contrast in scale and reduce potential visibility from Moxie Pond and the Appalachian Trail (AT). Where widening of the cleared corridor results in a longer duration of exposure to AT hikers (east of Baker Stream), a planting plan has been proposed that will adequately buffer the Project from that use. Similarly, a visual buffer planting plan has been proposed where the Project intersects Troutdale Road in the vicinity of Moxie Pond and the AT. Furthermore, CMP has proposed to re-locate the trail, which provides an increased buffer between the trail and the cleared portion of CMP's corridor.

Segment 4 and 5 have been designed to minimize additional clearing and the need for land acquisition by making the most effective use of existing corridors, existing structures, and rebuilding existing transmission lines, which results in no additional tree removal. The proposed single pole 115kV structures in Segment 4 will be made of wood, which will be similar to the existing structures and minimize contrast in color, line, form and texture. The proposed H-frame 345kV structures in Segment 5 will be made of wood, which will be similar to the existing structures and minimize contrast in color, line, form and texture.

Substations.

CMP employed two main mitigation strategies in the development of the site plans for the new and improved substations to reduce their potential visual impact and achieve a harmonious balance between the facilities and the surrounding landscape. These include upgrading existing substations within the existing facility footprint, which minimizes the need for additional clearing. Also, a Buffer Planting Plan was developed for the areas north and east of the Fickett Road Substation in Pownal to minimize views of the substation. The Merrill Road Converter Station has been sited to avoid visibility from public roads. The preserved vegetation around the station will screen it from view from Merrill Road. The two termination stations at the HDD crossing of the Upper Kennebec River will not be visible from any viewpoints, including the Kennebec River.

- A. Merrill Road Converter Station. The primary mitigation strategy used to minimize potential visual impacts from the Merrill Road Converter Station include siting the facility in a wooded area that provides the opportunity to preserve a significant vegetative buffer on all sides of the converter station and where there is minimal potential for public viewpoints or roads. The only potential impacts will be to snowmobile users.
- B. Fickett Road Substation. The proposed Fickett Road Substation has been sited within a landscape filled with electrical infrastructure in an area that requires minimal additional clearing and within a short distance from Surowiec Substation. Though there are no scenic resources impacted, the adjacent homes will have expanded views of the developed landscape. As part of NECEC, visual buffer plantings will be installed on the south side of Fickett Road to minimize adverse effects on the scenic character of the surrounding area. This additional buffer will also minimize views of the Surowiec Substation. Buffer plantings will take into consideration the need for proper setbacks, avoiding wetland impacts, limitations on planting within and adjacent to transmission line corridors, and visibility requirements for security around the proposed substation.

- C. Surowiec Substation. The primary mitigation strategy used to minimize potential visual impacts for the expansion to the Surowiec Substation was to locate the proposed components within the cleared/developed area north of the existing substation. No additional tree removal will be necessary.
- D. Larrabee Road Substation. The primary mitigation strategy used at the Larrabee Road Substation is to site the NECEC Project within the existing substation facility. No additional tree removal will be required. Mitigation (buffer plantings) completed for the Maine Power Reliability Program (MPRP) provides partial screening of the facility from the end of Larrabee Road. The Substation will not be visible from any public roads, with the exception of the end of Larrabee Road. Preserved vegetation surrounding the substation will screen the NECEC Project components from most public views.
- E. Coopers Mills Substation. The primary mitigation strategy used at the Coopers Mills Substation is to site the NECEC Project within the existing substation facility. No additional tree removal will be required. Mitigation (earth berms and preserved vegetation) completed for MPRP provides partial screening of the facility from Coopers Mills Road.
- F. Crowley's Substation. The primary mitigation strategy used at the Crowley's Substation is to upgrade within the existing substation. No additional tree removal will be required.
- G. Maine Yankee Substation. The primary mitigation strategy being employed at the Maine Yankee Substation is to expand this existing substation adjacent to an existing transmission line within an existing industrial area.
- H. Raven Farm Substation. The primary mitigation strategy used to minimize potential visual impacts for the expansion to the Raven Farm Substation is to locate the proposed components within the cleared/developed area west of the existing substation. No additional tree removal will be necessary. The existing planted earthen berm and buffer plantings will screen the majority of the expansion from Greely Road.

The Department finds that CMP has demonstrated that the proposed activity meets the standards for visual quality established under Chapter 315 and the Site Law's Chapter 375.14 (i.e., that the proposed activity will not unreasonably interfere with existing scenic and aesthetic uses, that the developer has made adequate provision for fitting the development harmoniously into the existing natural environment, and that the development will not adversely affect scenic character in the surrounding area).

7. WILDLIFE AND FISHERIES:

The NRPA requires an applicant to demonstrate that the proposed activity will not unreasonably harm any significant wildlife habitat, aquatic or adjacent upland habitat, travel corridor, freshwater, estuarine or marine fisheries, or other aquatic life. The pertinent regulation promulgated under the NRPA, Chapter 335, requires the applicant to demonstrate that a proposed activity will not unreasonably harm significant wildlife habitats, including significant vernal pool habitats, and high and moderate value inland wading bird and waterfowl habitats. Under the Site Law, an applicant must demonstrate that the development will not adversely affect wildlife and fisheries. The pertinent regulation promulgated under the Site Law, Chapter 375.15, requires the applicant to demonstrate that the development will not have an unreasonable adverse effect on wildlife and fisheries.

CMP consulted with the Maine Department of Inland Fisheries and Wildlife (MDIFW) and the United States Fish and Wildlife Service (USFWS), and requested that MDIFW conduct a Project

review and provide existing data on wildlife and fisheries resources, including the identification of significant habitats, rare or listed species, and significant communities that may be present on or within the Project area. CMP met extensively with the MDIFW to discuss the Project's effect on endangered species, brook trout habitat, habitat fragmentation, and buffer strips around cold water fisheries; avoidance of impacts to wildlife and fisheries; and compensation for unavoidable impacts. CMP also conducted resource surveys and verifications of natural resources surveys previously conducted by CMP, in 2015, 2016, 2017, and 2018, and conducted wildlife and fishery database searches to identify the existing wildlife and fishery resources associated with the NECEC, and to implement actions that protect wildlife and fish and their habitats.

This consultation resulted in CMP's Site Law Application Section 7, which demonstrates, along with the additional measures discussed below, that the Project will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic or adjacent upland habitat, travel corridor, freshwater, estuarine or marine fisheries or other aquatic life.

In its March 15, 2018 environmental permit review letter to DEP Project Manager James Beyer, MDIFW identified the presence of Roaring Brook Mayfly, a state threatened species, and the likely presence of Northern Spring Salamander, a state special concern species, within the NECEC Project area. CMP subsequently conducted field surveys for these species in streams meeting habitat preferences set by MDIFW, i.e., streams draining slopes above 1,000 feet elevation mean sea level with coarse substrates and bordered by relatively undisturbed mixed or hardwood forest, within the NECEC corridor from the Maine/Quebec border through Johnson Mountain Twp. Burns & McDonnell evaluated all perennial water bodies within the survey area and submitted a subset of these water bodies (75 streams), including stream characterizations developed through evaluation of the original natural resource survey field data forms, to the MDIFW on August 7, 2018. Upon review of the data provided, as well as additional field surveys and evaluation of laboratory samples, MDIFW confirmed the presence of Roaring Brook Mayfly in two water bodies, Mountain Brook in Johnson Mountain Twp and Gold Brook in Appleton Twp. Accordingly, and upon consultation with MDIFW, CMP revised its proposal to incorporate taller structures and avoid clearing by allowing full height canopy within the 250-foot riparian management zone for Mountain Brook and Gold Brook. For all other streams with presence of Northern Spring Salamander and/or Roaring Brook Mayfly, assumed or known, MDIFW agreed that CMP's vegetation management practices and a contribution to the Maine Endangered and Nongame Wildlife Fund would adequately protect the habitat and species.

Of the 743 waterbodies located within the NECEC corridor, 379 have been identified by the MDIFW as containing brook trout (*Salvelinus fontinalis*). With the exception of culvert removals and replacements intended to improve habitat quality and connectivity proposed as part of CMP's Compensation Plan, the Project will have no direct impact (i.e., in-stream construction) on brook trout habitat. Nevertheless, CMP's Compensation Plan proposes a variety of mitigation and compensation measures that address impacts to cold water fisheries, including 100-foot cold water fishery resource riparian buffers, preservation of 12.02 linear miles of streams, a \$180,000 contribution to the Maine Endangered and Nongame Wildlife Fund, and implementation of the Culvert Replacement Program, such that the Project will not result in an unreasonable disturbance of this habitat.

CMP minimized and avoided habitat fragmentation impacts in several ways including co-locating the majority of the transmission line components within existing corridors and locating

the remainder of the transmission line components within areas already subject to intensive industrial forestry practices; implementing vegetation management practices that are wildlife friendly and promote early successional habitat throughout its corridors; and allowing for taller vegetative growth to be maintained in select locations of the NECEC ROW to address species-specific concerns. CMP also proposed travel corridors in the biologically significant Upper Kennebec Deer Wintering Area (DWA) and in Rusty Blackbird habitat in Johnson Mountain Twp and Parlin Pond Twp, and proposed preservation of seven tracts within the Upper Kennebec DWA. Through consultation with the MDIFW, CMP developed a series of ten deer travel corridors, ranging in size from 247 to 1,450 linear feet, which will allow full height or taller trees to persist in the ROW to promote habitat connectivity and minimize fragmentation of the Upper Kennebec DWA. Also, through consultation with MDIFW, CMP proposes to allow softwoods up to 15 feet in height to grow within the ROW in locations where it overlaps Rusty Blackbird habitat.

The construction and vegetation management practices described in Exhibit 10-1 VCP and Exhibit 10-2 VMP of CMP's September 27, 2017 Site Law application establish protections for stream buffers within the NECEC Project area. Riparian natural buffers or stream buffers were expanded from CMP's initial proposal in September 2017. In a meeting held between CMP, DEP, and MDIFW on January 22, 2019, DEP and MDIFW recommended that for CMP to adequately protect cold water fisheries, protections of riparian buffers for vegetation management and maintenance activities should be expanded to 100 feet for cold water fishery habitats, outstanding river segments, threatened or endangered species streams, and all perennial streams in the new corridor portion (Segment 1) of the Project. For all other water bodies, DEP and MDIFW recommended an expanded buffer of 75 feet. Based on this guidance, CMP incorporated these changes into Exhibit 10-1 VCP and Exhibit 10-2 VMP of CMP's amended Site Law application, filed with the DEP on January 30, 2019.

The Department finds that the Project will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic or adjacent upland habitat, travel corridor, freshwater, estuarine or marine fisheries or other aquatic life.

8. HISTORIC SITES:

In consultation with the Maine Historic Preservation Commission (MHPC), the applicant conducted cultural resource surveys on the Project area to identify significant historic sites within the Area of Potential Effect (APE) along the proposed transmission line corridors and the new or expanded substations.

MHPC concurred with the findings of the Phase I archeological survey report but determined that the Project would have an adverse effect on the barn at 40 Turmel Road, Livermore Falls; the potential historic district comprised of 1195 and 1294 Hilton Hill Road, Starks; Bowman Airfield, Livermore Falls; and the Appalachian Trail near Troutdale Road. The Department finds that the Project will not have an unreasonable adverse effect on preservation of these properties as historic sites, for the following reasons.

Barn at 40 Turmel Road, Livermore Falls. The barn at 40 Turmel Road, Livermore Falls is significant under National Register of Historic Places (NRHP) Criterion A for Agriculture and Criterion C for Architecture. Based on a review of historic aerial photographs and USGS

topographic maps, the existing transmission line corridor east of this property has existed since approximately 1930, when CMP acquired the corridor in connection with construction of Wyman Dam. On the 1941 USGS map for the Livermore, Maine quadrangle, a single transmission line is shown. A 1963 aerial photograph shows two parallel transmission lines and a substation (presently extant) 1,000 feet south of the barn at 40 Turmel Road. A third transmission line was added in approximately 2012 between the two existing transmission lines. The new NECEC transmission line will be located between two of the existing transmission lines.

The Project would not diminish the integrity or remove characteristics of the property that qualify it for NRHP eligibility under Criterion C. A transmission line has been part of the barn's historic setting for nearly eighty years, with two transmission lines for over 50 years. The presence of a transmission line to the east of the barn has not prevented it from being able to convey its agricultural significance under Criterion A nor prevented a determination of eligibility for NRHP listing. The addition of taller structures may present a cumulative impact that qualifies as an adverse effect under Section 106 of the NHPA, but does not result in an unreasonable effect on this property under the Site Law because the historic setting has included transmission lines for nearly 90 years.

Historic District Comprised of 1195 and 1294 Hilton Hill Road, Starks. The historic district at 1195 and 1294 Hilton Hill Road, Starks is significant under NRHP Criterion A for Agriculture and Criterion C for Architecture. The Project would not diminish the integrity or remove characteristics of the historic district that qualify it for NRHP eligibility under Criterion C. CMP's original finding of effect was an adverse effect on 1294 Hilton Hill Road (E. Gray Farm) and no adverse effect on 1195 (B.F. Hilton Farm) based on the proximity of the existing transmission corridor to each of the properties. The existing transmission lines have been part of the historic setting of both of these properties since approximately 1930, when CMP acquired the corridor in connection with construction of Wyman Dam. A 1953 aerial photograph also shows much more extensive areas of cleared pasture areas on the west side of Hilton Hill Road associated with these two properties than is present today.

While the pastoral setting and feeling of the historic district composed of these two dairy farms is important to conveying its significance under Criterion A, it has changed since the historic period and only in part due to the early 1950s transmission corridor. The addition of taller structures within the existing corridor may present a cumulative impact qualifying as an adverse effect under Section 106 of the NHPA, but does not impose an unreasonable adverse effect under the Site Law because this district has an altered historic setting and feeling that includes transmission lines since at least 1953.

Bowman Airfield, Livermore Falls. Bowman Airfield is significant under NRHP Criterion A for Transportation. Bowman Airfield was established in about 1960 and has hangars ranging in age from the 1960s to 1990s, and a 1960s-1970s era clubhouse. The 1941 USGS Lewiston, Maine quadrangle map shows a transmission line in the existing corridor. The original transmission line was built in approximately 1930, and a second transmission line was built in approximately 2012. The NECEC line will be on the west side of the corridor and will not impact the operation of the field. The existence of a transmission line adjacent to the airfield is a part of the property's historic setting. Therefore, the presence of the NECEC does not detract from the airfield's historic integrity of setting or feeling.

While the construction of additional structures with a greater height than the existing structures may incrementally impact the airfield's integrity of setting and feeling enough to be determined an adverse effect under Section 106 of the NHPA, it is not an unreasonable adverse effect under the Site Law because the adjacent transmission lines pre-dated the construction of the airfield and have always been part of its setting.

Appalachian Trail Near Troutdale Road. There are several reasons the Project will not have an unreasonable adverse effect on preservation of the AT as an historic site, or any adverse effect at all on its preservation as an historic site.

First, the character of the AT in this location will not change as a result of the Project, given the historic siting of the AT and given that the AT currently crosses the existing transmission line corridor three times. In its October 2018 submission, SEARCH stated that "The Appalachian Trail has crossed the existing transmission line since its construction in the 1950s, and the transmission line is a landmark noted in Trail Guides." The existing transmission line was constructed before the AT at this location and the earlier AT route on the south end of Moxie Pond followed Troutdale Road for 2.25 miles. The historic setting of the AT at this location is not one of secluded wilderness or broad vistas; 12 existing transmission structures are visible from the first crossing, seven are visible from the second crossing, and 15 are visible from the third crossing. The Project will add additional transmission structures, but the character of the AT in this location will not change.

Second, the AT runs along an existing road in this location, Troutdale Road. Troutdale Road is an access road for the many camps along Moxie Pond and a major haul road for the industrial timberland owners in several towns. In its October 2018 submission, SEARCH stated that "The setting in this area would be classified as developed, with the trail paralleling a road for part of the section and several houses in the vicinity." Thus, the AT in this location is already impacted by human development. In fact, the area of new clearing along the Troutdale Road is in a development zone.

Third, the AT also does not retain significant historic integrity in this location because of the historic re-routes, as recently as the late 1980s. In its October 2018 submission SEARCH stated that "The integrity of location as it relates to the significance of the Appalachian Trail is not a prioritized aspect, particularly in sections of previous reroutes." Thus, an incremental additional impact on the AT in this location will not adversely affect its historic integrity.

Fourth, the AT is located on CMP's land where it crosses the transmission line corridor, and the easement that allows the AT to be located there expressly allows CMP to construct additional transmission lines. The NPS knew this when it agreed to relocate onto CMP's land in the late 1980s. It therefore would not be reasonable to conclude that work expressly allowed by that easement, and anticipated by the NPS, can be considered to have an adverse impact.

Fifth, CMP has proposed a vegetative buffer planting plan to minimize the Project's impact on the AT. This plan will add plantings to both sides of the AT where it crosses the transmission line corridor, and is comprised of native species that will provide effective buffering and will be compatible with a transmission line corridor with respect to electrical safety and required clearances.

Sixth, CMP has proposed to re-locate the trail, which provides an increased buffer between the trail and the cleared portion of CMP's corridor, and thus will not adversely affect the AT's historic integrity.

Based on the surveys conducted by the applicant and the comments of MPHC and the applicant, the Department finds the proposed development will not have an adverse effect on the preservation of any historic sites or archeological resources either on or near the development site.

9. UNUSUAL NATURAL AREAS:

Numerous plant species in Maine are considered rare, threatened, or endangered (RTE), and are protected under the federal Endangered Species Act of 1973 (16 U.S.C. §§ 1531 et seq.) and/or Maine's Natural Areas Program (MNAP) statute (12 M.R.S. §§ 544, 544-B & 544-C). The Official Species List, obtained through the ECOS-IPAC website, identifies the possible presence of the federally threatened small whorled pogonia within the boundaries of the NECEC Project. MNAP further searched the Natural Areas Program's Biological and Conservation Data System files for rare or unique botanical features in the vicinity of the proposed Project site, and identified several rare botanical features documented on or within 1,000 feet of the NECEC. CMP incorporated MNAP's recommendations into its Compensation Plan, which was revised on January 30, 2019.

The Department finds that the proposed development will not have an adverse effect on the preservation of any unusual natural areas either on or near the development site.

10. BUFFER STRIPS:

In its analysis of whether an applicant has made adequate provision for fitting a proposed project harmoniously into the existing natural environment, as required under the Site law, the Department considers whether natural buffer strips are necessary to protect wildlife and water quality and as visual screens to protect existing uses. Chapter 375.9 of the Department's Rules outlines certain factors the Department may consider in making these determinations and provides that the Department may, as a term or condition of approval, establish any reasonable requirement to ensure that a developer has made adequate provision for the establishment of buffer strips.

Visual buffers are described above in Finding 6. This finding analyzes the proposed natural resource buffers and clearing guidelines for the Project, and finds that the use of vegetative buffers and mitigating construction techniques proposed will minimize the potential for soil erosion and sedimentation into water bodies and wetlands, minimize water temperature increase due to insolation, and protect riparian and other significant habitat values.

All Project transmission line corridors will be continuously vegetated with herbaceous plants and shrubs, but restrictions on clearing and maintenance within and immediately adjacent to protected and sensitive resources will allow a greater density of non-capable vegetation to remain in these areas. CMP will avoid disturbance of vegetation within these areas to the greatest extent practicable. Buffers bordering streams and rivers will be protected and maintained by selective clearing during construction and reduced cutting of vegetation during transmission line maintenance. All tree species capable of growing into the conductor safety

zone will be removed from the buffers during construction and prevented from re-establishing during periodic scheduled vegetation maintenance operations. These species are known as “capable species” and include, but are not limited to, fir, spruce, oaks, pines, maples, birches, poplar, elm, beech, and basswood. Selective transmission line corridor management incorporated into the NECEC Plan for Protection of Sensitive Natural Resources During Initial Vegetation Clearing (VCP, Site Law Application Exhibit 10-1) and CMP’s Post-Construction Vegetation Management Plan (VMP, Site Law Application Exhibit 10-2) further maintain ecological values of resources without sacrificing the operational safety of the electric transmission line and associated conductors. The VCP and VMP as revised include 100-foot riparian buffers for vegetation management and maintenance activities for cold water fishery streams, threatened or endangered species streams, all perennial streams in the Segment 1 new corridor, and for all outstanding river segments crossed aerially by the Project. CMP also has committed to no herbicide use within Segment 1 of the Project.

The Department finds that the applicant has made adequate provision for buffer strips provided that the applicant construct and maintain the Project in accordance with the NECEC VCP and VMP, as well as the applicant’s commitment to no herbicide use within Segment 1 of the Project.

11. SOILS:

CMP analyzed soils within the Project’s transmission line corridor and related substation facilities locations, provided descriptions of all soils identified along the NECEC corridor, provided Floodplain and Soils Series Maps depicting soils located along each Project Segment, and completed Class B high intensity soil surveys for the Merrill Road Converter Station, the Fickett Road Substation, and the proposed Moxie Gore and West Forks termination stations. Soil surveys for the existing substation facilities (Coopers Mills, Crowley’s, Larrabee Road, Maine Yankee, Surowiec, and Raven Farm) were not completed because all upgrades will be located within the existing fence lines or within areas where soils have previously been characterized.

CMP also developed a standard manual, “Environmental Guidelines for Construction and Maintenance Activities on Transmission Line and Substation Projects” (Environmental Guidelines), which it uses as a routine part of all transmission and substation projects, and which contains effective and proven erosion and sedimentation control requirements, standards, and methods that will be used to protect soil and water resources during construction of the various NECEC Project components. The manual is modeled after and is consistent with the DEP Maine Erosion and Sediment Control Best Management Practices (BMPs) dated March 2014, DEP’s Erosion and Sediment Control Law (38 M.R.S. § 420-C), DEP’s Chapter 500 (38 M.R.S. § 420-D), and Maine Forest Service (MFS) Slash Law (12 M.R.S. § 9333), and contains specific BMPs appropriate for electric transmission line and substation construction. Pursuant to the manual, CMP will minimize the extent and duration of soil disturbance, protect exposed soil by diverting runoff to stabilized areas or vegetated filter strips, install temporary and permanent erosion control measures, and implement an effective inspection and maintenance program.

Based on the information the applicant provided, the Department finds that proposed development will be built on soil types that are suitable to the nature of the undertaking. Nor will the activity cause unreasonable erosion of soil or sediment or unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.

12. STORMWATER MANAGEMENT:

- A. Transmission Lines. The NECEC does not require stormwater analysis for the transmission line components because they have been designed to minimize potential impacts to the environment and, as such, the permanent conversion of vegetated areas to impervious surfaces along the corridor will be limited to the transmission line structures themselves. Necessary clearing of the transmission line corridor will be limited to the removal of mature trees and capable species (i.e., trees capable of attaining heights that would cause safety/reliability problems due to their proximity to the conductors), as necessary, to allow placement of structures and to ensure adequate clearance between any vegetation and the conductors. The removal of understory vegetation and ground cover will be required only as needed to install structures, to create access to or within the corridor, and for puller/tensioner sites. Restoration activities following construction will restore site contours to pre-construction conditions and ensure that areas disturbed during construction will be revegetated. After construction, the corridor will be allowed to revegetate and will be maintained in an early successional state in accordance with CMP's Post-Construction Vegetation Management Plan.
- B. Existing Substations. Substations in this category are those substations with proposed equipment additions and a minimal amount of additional impervious area (e.g., concrete foundations). Per Chapter 500 criteria, these sites would not trigger a stormwater permit requirement if they were stand-alone applications. However, because the entire NECEC Project is jurisdictional under the Site Law, CMP described the proposed improvements at each location, and confirmed that each substation meets the requirements of the Basic Standards (Erosion and Sedimentation Control).
- C. New Substations. For the Merrill Road Converter Station, the Fickett Road Substation, and the HDD termination stations, CMP applied the applicable Chapter 500 standards. The General Standards for water quality treatment of stormwater runoff from the substation yards will be met in that all new yards will be constructed in accordance with the substation yard cross section specified in the CMP/MDEP agreement letter dated June 5, 2008. CMP also will meet the requirements of the Flooding, Phosphorus and Urban Impaired Stream Standards, as applicable.

13. WATER QUALITY:

Construction and maintenance of the NECEC Project transmission lines or the new substation facilities will not require use of groundwater, therefore there will be no impact to groundwater quantity. Potential sources of groundwater quality degradation differ during the construction, maintenance, and operation phases of transmission line and substation facilities, but CMP has proposed adequate measures to minimize these potential threats as set forth in CMP's Environmental Control Requirements for Contractors and Subcontractors - Oil and Hazardous Material Contingency Plan.

The Urban Impaired Streams Watersheds GIS data, updated February 6, 2016, demonstrates that no components of the Project will be constructed in or near an Urban Impaired Stream and/or

Watershed. Department Chapter 502-Direct Watersheds of Lakes Most at Risk from New Development and Urban Impaired Streams List, confirms these findings.

The evidence further shows that the Project will not unreasonably interfere with the natural flow of any surface or subsurface waters.

The Department finds that the proposed development will not pose an unreasonable risk that a discharge to a significant ground water aquifer will occur. Nor will the activity unreasonably interfere with the natural flow of any surface or subsurface waters, or violate any state water quality law, including those governing the classification of the State's waters.

14. WATER SUPPLY:

None of the NECEC Project's transmission lines will require water supply facilities. There are no individual wells proposed for the new Merrill Road Converter Station or the new Fickett Road Substation. The Coopers Mills, Larrabee Road, Raven Farm, and Surowiec substations have existing wells, and no modifications to the wells at those locations are needed. The existing water supply at each facility will be used, and all are sufficient to meet anticipated future needs. There are no water supply facilities associated with Crowley's Substation or Maine Yankee Substation, and none is proposed. No common wells or public water supply wells are proposed at any of the NECEC Project substations.

The Department finds that the applicant has made adequate provision for securing and maintaining a sufficient and healthful water supply.

15. WASEWATER DISPOSAL:

None of the NECEC Project's transmission line segments will require wastewater disposal facilities. There are no wastewater facilities or wastewater holding tanks proposed at the new Merrill Road Converter Station or the new Fickett Road Substation. Existing on-site wastewater disposal systems will continue to be used at the Coopers Mills, Larrabee Road, Raven Farm, and Surowiec substations. There are no wastewater holding tanks at Maine Yankee or Crowley's substations.

Based on the above information, the Department finds that the applicant has made adequate provision for wastewater disposal.

16. SOLID WASTE:

Solid waste generated from construction and demolition activities associated with the Project will be limited to minimal land clearing and construction debris. This debris is inert, non-hazardous material that will be handled in accordance with the Maine State Solid Waste Management and Recycling Law (38 M.R.S. §§ 2101 et seq.). CMP will monitor the disposal of all solid waste material, including documentation of waste streams. CMP will contract with a licensed waste hauler and solid waste will be managed at an appropriate and licensed facility.

Based on the above information, the Department finds that the applicant has made adequate provision for solid waste disposal.

17. FLOODING:

Transmission Lines. A total of 30 new Project transmission line structures will be installed in a 100-year flood zone. Because of the limited additional impervious surface associated with each transmission line structure, construction and maintenance of the proposed transmission lines will not cause or increase flooding or cause an unreasonable flood hazard to any neighboring structures. Furthermore, the Project will not negatively affect runoff infiltration relationships.

Substations. Surowiec Substation and the proposed Fickett Road Substation are partially located within FEMA designated 100-year flood zones. The Larrabee Road Substation, Crowley's Substation, Raven Farm Substation, Coopers Mills Substation, Maine Yankee Substation, and the proposed Merrill Road Converter Station are not located within a FEMA designated 100-year flood zone. Based on the available FEMA information, the two HDD termination stations are located within an unmapped area of Maine; however, there are no apparent flooding concerns for those locations. The Merrill Road Converter Station and the Fickett Road Substation will be designed and constructed at a final elevation such that their equipment will not be inundated during a 100-year flood event.

The Department finds that the activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties nor create an unreasonable flood hazard to any structure.

18. BLASTING:

Blasting may be required in order to install transmission line support structures, and/or for substation construction. For transmission line construction, blasting activity will be limited to the small volume of material needed to be removed to fit and plumb pole structures. Blasting that may be required for construction of substations will be achieved through blast detonation in delayed series that will result in no greater impact or vibration than those charges required for setting transmission line structures. CMP submitted a Blasting Plan with its Site Law Application that describes the proposed pre-blast procedure, the monitoring of surrounding properties and infrastructure, and all proposed safety measures, including those pertaining to transportation and use.

Based on the submitted information, the Department finds that the applicant has made adequate provision for blasting.

19. AIR EMISSIONS:

No degradation of air quality will result from construction and operation of the NECEC Project. Minimal, temporary influences on air quality as a result of construction activities may occur, such as from construction personnel commuter traffic, exhaust from construction vehicles, and temporary dust generated by construction activities. Given the limited duration of activities at any one location, the generally rural nature of the NECEC Project area and the existing uses of unpaved roads along the transmission line corridors (e.g., logging and associated trucking), any influences on overall air quality will be insignificant. CMP will employ best management construction practices to minimize emissions of fugitive dust.

Based on the above information, the Department finds that the applicant has made adequate provision for air emissions.

20. ODORS:

The clearing, construction, maintenance, and operation of the NECEC Project will not result in or create significant odors. Limited and short-term odors may be caused as a result of tree harvesting and the operation of construction equipment. Clearing of vegetation will be performed utilizing standard forestry equipment. A construction supervisor and environmental inspector will be on site to ensure that any brush burning that may occur will be closely supervised. All burning will be conducted in compliance with local and state open burning permit requirements. There are no odors generated by operation of electrical transmission lines or substations.

Based on the above information, the Department finds that the applicant has made adequate provision for odors.

21. WATER VAPOR:

The Project will not generate any water vapor during construction and operation. Therefore, the Project will not alter the existing cloud cover or rainfall characteristics of the area.

22. SUNLIGHT:

The Project will not block access to direct sunlight for any adjacent buildings that may utilize solar energy through active or passive solar systems. Based on the total area occupied by poles and conductors in a cleared transmission line corridor and the dispersed nature of substation and converter station equipment, the potential for shading of adjacent properties or structures is essentially nonexistent.

Based on the above information, the Department finds that the applicant has made adequate provision for sunlight.

23. WETLAND IMPACTS:

The Project will cause unavoidable wetland impacts including direct impacts (temporary and permanent fill) and indirect impacts (conversion of forested wetlands to scrub-shrub wetlands).

For the 47.7 acres of temporary wetland fill, CMP proposed preservation of 57 acres of wetlands plus a \$154,500 in-lieu fee. For the 105.5 acres of permanent cover type conversion of forested wetlands, 3.8 acres of permanent fill in wetlands of special significance (WOSS), and 0.3 acre of permanent fill in non-WOSS wetlands, CMP proposed preservation of 440 acres of wetlands.

CMP's proposed compensation for temporary wetland impacts required by the U.S. Army Corps of Engineers (USACE) consists of the preservation of three compensation tracts – Flagstaff Lake Tract, Little Jimmie Pond-Harwood Tract, and Pooler Pond Tract – plus an in-lieu fee. Collectively, these tracts contain 511 acres of wetlands, and are offered to offset temporary fill in wetlands, and other wetland impacts, at the USACE-required ratios and using USACE-approved adjustments. CMP's proposed compensation for forested wetland conversion required by USACE, using the USACE ratio of 20:1 and the 15% adjustment, consists of 316 acres of wetland preservation.

Vernal pool impacts have been avoided on the NECEC Project to the maximum extent practicable; however, because of the large land area of vernal pools' critical terrestrial habitat (CTH), i.e., 250 feet beyond the pool depression for state-regulated significant vernal pools (SVPs) and 750 feet beyond the pool depression for USACE-jurisdictional vernal pools, impacts from fill and conversion of forested to scrub-shrub cover types within their CTH is unavoidable.

CMP's Compensation Plan includes the following fees to offset unavoidable impacts to protected and sensitive natural resources:

In-Lieu Fees

- \$154,500 (compensation for temporary wetland fill in PEM [palustrine emergent] wetlands)
- \$642,000 (compensation for significant vernal pool habitat impacts)
- \$253,000 (compensation for inland wading bird and waterfowl habitat impacts)
- \$2,025,000 (Army Corps jurisdictional vernal pool impacts)
- Total in-lieu fees = \$3,074,000

Other Compensation Fees

- \$1,225,000 (conversion of unique forest communities to shrub)
- \$470,000 (conversion from forested to shrub in Roaring brook mayfly (threatened) and Northern Spring salamander (special concern) conservation management areas)
- \$200,000 (culvert replacement program to enhance cold water fisheries habitat connectivity)
- \$180,000 (Maine Endangered & Nongame Wildlife Fund contribution)
- \$10,000 (Goldie's wood fern (special concern species) survey funding to Maine Natural Areas Program)
- Total Other Fees = \$2,085,000

Total Fees = \$5.159M

Conserved Land

- 1,022 acres (to offset wetland cover type conversion, temporary wetland fill in PEM, permanent fill in WOSS and non-WOSS)
- 1,051 acres containing 12.02 linear miles of stream, including 7.9 miles of frontage on the Dead River (outstanding river segment) (to offset cover type conversion impacts on outstanding river segments and cover type conversion impacts to cold water fisheries)
- 717 acres (within the Upper Kennebec Deer Wintering Area)

Total Conserved Land = 2,793 acres

For the 3.9 acres of permanent cover type conversion of wetlands in significant vernal pool habitat (SVPH) and 0.7 acre of permanent wetland fill in SVPH, CMP proposes a \$580,000 in-lieu fee. For the 2.6 acres of permanent cover type conversion of wetlands in inland wading bird and waterfowl habitat (IWWH) and 0.003 acre of permanent wetland fill in IWWH, CMP proposes a \$239,600 in-lieu fee.

Direct fill impacts to SVPs include 0.74 acre of wetland and 0.72 acre in upland. Indirect impacts within SVPs include 3.9 acres of permanent forested wetland conversion, and 29.6 acres

of permanent upland conversion. Using the DEP's in-lieu fee formula, CMP proposes a payment of approximately \$642,000 to offset these impacts.

The NECEC Project will result in direct fill and/or indirect (cover type conversion) impacts to 49 high value, 122 medium value, and 71 low-value USACE-jurisdictional vernal pools. CMP calculated that the existing average forested cover within the 750-foot CTH of these pools is 73.6%, and that post-construction, the average forested cover within these pools' CTH would be 68.9%, a reduction of 4.7%. Based on this, and based on data gathered and analyzed by TRC during the 2009 to 2015 MPRP project that demonstrates a *de minimis* impact of tree clearing on vernal pool productivity, application of the USACE's 2016 Compensatory Mitigation Guidance resulted in an in-lieu fee of approximately \$1.64 million to offset these impacts. In addition, CMP has calculated and offered a fee of approximately \$382,000 to offset direct (fill) impacts to these vernal pools, for a total fee of approximately \$2.02 million. The location, type, and amount of compensation that CMP has offered fully satisfies the DEP's rules and the USACE's Guidance.

Based on the above, as well as CMP's Compensation Plan, the Department finds that the applicant has adequately avoided and minimized impact to wetlands, and has proposed adequate compensation where such impacts are unavoidable.

24. OUTSTANDING RIVER SEGMENTS:

CMP minimized impact to the five outstanding river segments that the Project is proposed to cross by crossing the NECEC transmission line under the Upper Kennebec River using HDD technology, and by co-locating the HDVC line within existing transmission line ROWs for the remaining four crossings. Undisturbed buffers will be maintained on both the east (for 1,450 feet) and west (for 1,160 feet) sides of the Upper Kennebec River in the vicinity of the HDD crossing. CMP also proposes to retain 100-foot riparian buffers along each of these four outstanding river segment aerial crossings, as well as vegetation clearing and management practices that adequately mitigate impacts to these those outstanding river segments.

The Department finds that CMP has demonstrated that no reasonable alternative exists which would have less adverse effect upon the natural and recreational features of the river segment.

25. ALTERNATIVES:

CMP analyzed alternatives to the Project, including a no-action alternative, alternative routes for the entirety of the new HVDC line, alternatives to crossing the five outstanding river segments that the Project as proposed will cross, undergrounding certain portions of the Project, as well as alternatives of taller poles and/or tapering to minimize visual impact and of taller poles and/or tapering to provide habitat connectivity.

Based on the evidence provided, the Department finds that a less environmentally damaging practicable alternative to the Project, which meets the Project's purpose, does not exist, and that no proposed alternatives to the proposed location and character of the transmission line would lessen its impact on the environment or the risks it would engender to the public health or safety, without unreasonably increasing its cost. As stated in Finding 24, the Department finds that where the Project crosses outstanding river segments as identified in title 38, section 480-P, no

reasonable alternative exists which would have less adverse effect upon the natural and recreational features of those river segments.

26. LUPC CERTIFICATION:

The Maine Land Use Planning Commission certified to the Department that the NECEC Project, as proposed, is an allowed use within the subdistricts in which it is proposed and complies with the Commission's land use standards not considered by the Department in its Site Law review.

B. ATTACHMENT B: LUPC PROPOSED FINDINGS OF FACT

STATE OF MAINE
LAND USE PLANNING COMMISSION

IN THE MATTER OF

CENTRAL MAINE POWER COMPANY)
NEW ENGLAND CLEAN ENERGY CONNECT)
SITE LAW CERTIFICATION SLC-9)
Beattie Twp, Merrill Strip Twp, Lowelltown Twp,)
Skinner Twp, Appleton Twp, T5 R7 BKP WKR,) SITE LAW CERTIFICATION #SLC-9
Hobbs town Twp, Bradstreet Twp,)
Parlin Pond Twp, Johnson Mountain Twp,)
West Forks Plt, Moxie Gore,)
The Forks Plt, Bald Mountain Twp, Concord Twp)

1. Person Requesting Certification: Central Maine Power Company
83 Edison Drive
Augusta, Maine 04336
2. Accepted as Complete for Processing: October 13, 2017
3. Location of Proposal: Beattie Twp, Lowelltown Twp, Skinner Twp, Appleton Twp, T5 R7 BKP WKR, Hobbs town Twp, Bradstreet Twp, Parlin Pond Twp, Johnston Mountain Twp, West Forks Plt, Moxie Gore, The Forks Plt, Bald Mountain Twp (T2 R3), Concord Twp.
4. Current Zoning: General Development Subdistrict (D-GN)
Residential Development Subdistrict (D-RS)
General Management Subdistrict (M-GN)
Flood Prone Protection Subdistrict (P-FP)
Fish and Wildlife Protection Subdistrict (P-FW)
Great Pond Protection Subdistrict (P-GP)
Resource Plan Protection Subdistrict (P-RR)
Shoreland Protection Subdistrict (P-SL)
Wetland Protection Subdistrict (P-WL)
5. Permanent Project Area: Clearing of approximately 53.5 miles of new transmission line corridor located between Beattie Twp and The Forks Plt, and co-location of the Project within an existing transmission line corridor from The Forks Plt to Lewiston. To accommodate the new transmission line, approximately 18.17 miles of existing corridor located in The Forks Plt, Bald Mountain Twp, and Concord Twp will require the removal of capable vegetation for a width of 75 feet. There will be approximately 380 new transmission structures within LUPC jurisdiction.

INTRODUCTION

6. Pursuant to 12 M.R.S. § 685-B(1-A)(B-1) and 38 M.R.S. § 489-A-1(2), for development in the unorganized and deorganized areas reviewed by the Department of Environmental Protection (DEP or Department) and requiring a Site Location of Development Act (“Site Law”) permit, the Department may issue a Site Law permit only if it receives certification from the Land Use Planning Commission (“Commission” or “LUPC”) that the proposed development is an allowed use within the subdistrict or subdistricts for which it is proposed and the proposed development meets any land use standard established by the Commission that is not considered in the Department’s review. The following Findings and Conclusions constitute the Commission’s certification that the New England Clean Energy Connect Project (NECEC or Project), as proposed, is an allowed use in the subdistricts in which it is proposed and meets the applicable Land Use Standards that are not considered in the DEP’s review.

PROPOSAL

7. The NECEC Project is a High Voltage Direct Current (HVDC) transmission line and related facilities capable of delivering up to 1,200 MW of Clean Energy Generation from the Canadian border to the New England Control Area, which was proposed and selected in response to the Request for Proposals for Long-Term Contracts for Clean Energy Projects issued by the Massachusetts Department of Energy Resources and the Electric Distribution Companies of Massachusetts. Approximately 71.67 miles of the HVDC transmission line corridor will be located within LUPC’s jurisdiction.

TITLE, RIGHT, OR INTEREST

8. CMP elected to apply simultaneously to the DEP for a Site Law permit and to the Commission for certification. The DEP application was accepted as complete for processing on October 13, 2017. Pursuant to LUPC Reg. 4.11(e), the Commission will not evaluate whether CMP has title, right, or interest in the property proposed for development, but will instead rely on the Department’s title, right, or interest review.

CERTIFICATION OF ALLOWED USE

9. The Project is an allowed use in the subdistricts in which it is proposed. It is an allowed use by permit in the following subdistricts:

- General Development Subdistrict (D-GN)
- Residential Development Subdistrict (D-RS)
- General Management Subdistrict (M-GN)
- Flood Prone Protection Subdistrict (P-FP)
- Fish and Wildlife Protection Subdistrict (P-FW)
- Great Pond Protection Subdistrict (P-GP)
- Shoreland Protection Subdistrict (P-SL)

It is an allowed use by special exception in the following subdistricts:

- Recreation Protection Subdistrict (P-RR)
- Wetland Protection Subdistrict (P-WL)

The special exception criteria at sections 10.23,I,3,d and 10.23,N,3,d are:

a) “[T]here is no alternative site which is both suitable to the proposed use and reasonably available to the applicant.”

Within the P-RR subdistrict at Beattie Pond, there is no alternative site both suitable to the proposed use and reasonably available to the applicant. CMP attempted to negotiate an alternative alignment south of the Beattie Pond P-RR subdistrict through Merrill Strip Twp, but the landowner required compensation of approximately 50 times fair market value for that property. Re-routing north of the pond to avoid the P-RR subdistrict would result in approximately two miles of additional corridor and associated vegetation clearing, and would lead to potentially greater visibility from the pond, due to the higher elevations associated with Caswell Mountain. The lack of adverse impact on Beattie Pond in the currently proposed Project location, given the redesigned structure and lack of new access to Beattie Pond, demonstrate that there is no alternative that is suitable to the proposed use, and reasonably available to CMP.

Within the P-RR subdistrict at the upper Kennebec River, there is no alternative site both suitable to the proposed use and reasonably available to the applicant. The Project’s horizontal directional drill (HDD) crossing at this location would be entirely underground as it passes below the P-RR subdistrict. The termination stations on either side of the river are located outside of the P-RR subdistrict. CMP’s previously proposed overhead transmission line at this location is not suitable for the crossing of the P-RR because overhead conductors would be visible to rafters passing through or stopping in this portion of the river, and transmission line structures would be visible on the west side of the river with the overhead crossing. Nor are the CMP Land Alternative or the Brookfield Alternative suitable or reasonably available. Not only are portions of both alternatives subject to an existing conservation easement, but both the CMP Land Alternative and the Brookfield Alternative would result in greater environmental impacts than the HDD crossing due to greater transmission line length, and both would have a visual impact on recreational users of the Indian Pond area.

Within the P-RR subdistrict at the Appalachian Trail crossings, there is no alternative site both suitable to the proposed use and reasonably available to the applicant. Alternative siting of the transmission line would result in crossings of the Appalachian Trail in one or more locations where there are no existing transmission line corridors, and thus are neither suitable to the proposed use nor reasonably available to CMP. While not an alternative site, and thus not applicable to the special exception criteria, the Commission further notes that burying the Project at the Appalachian Trail crossings is not suitable or reasonably available to CMP, as doing so would be prohibitively expensive and would result in greater impact due to the necessary termination stations. Nor does CMP have property rights to do so, and the length of time and uncertainty in relying on the National Park Service to amend its easement and grant CMP undergrounding rights makes it unsuitable to the proposed use.

b) “[T]he use can be buffered from those other uses and resources within the subdistrict with which it is incompatible.”

Within the P-RR subdistrict at Beattie Pond, the Project can be buffered from those other uses and resources within the subdistrict with which it is or may be incompatible. The Project will be located at a distance greater than the existing developed road access, will not include permanent improvements that promote more intensive use or development of the pond, and will not be visible from the pond due to redesign of a transmission line structure. Therefore, there will be no permanent improvements in access that could lead to more intensive use or development of Beattie Pond, which is the basis for the subdistrict designation.

Within the P-RR subdistrict at the upper Kennebec River, the Project can be buffered from those other uses and resources within the subdistrict with which it is or may be incompatible. At this location, the NECEC will be buried underground. The HDD installation and the development of the termination stations will not be visible from the P-RR subdistrict and the underground crossing of the upper Kennebec River thus would have no impact on the P-RR subdistrict. Therefore, there will be no disruption for the users of the river, which is the basis for the subdistrict designation.

Within the P-RR subdistrict at the Appalachian Trail crossings, the Project is not incompatible with the other uses in the district because there currently exists a transmission line in the corridor that the Appalachian Trail crosses. Because the existing land use is transmission line corridor, there would be a negligible change in visual impact to hikers using the trail. Nevertheless, the Project can be buffered from those other uses and resources within the subdistrict with which it is or may be incompatible. The vegetation management plans and visual buffer planting plans submitted by CMP will adequately buffer the Project from other uses and resources within the subdistrict with which it is incompatible. Furthermore, CMP has proposed to re-locate the trail, which provides an increased buffer between the trail and the cleared portion of CMP's corridor.

c) “[S]uch other conditions are met that the Commission may reasonably impose in accordance with the policies of the Comprehensive Land Use Plan.” There are no other conditions necessary.

10. Therefore, the LUPC certifies to the DEP that the Project is an allowed use in the subdistricts in which it is proposed.

CERTIFICATION OF COMPLIANCE WITH LUPC LAND USE STANDARDS

11. Vehicular Access, Circulation and Parking.

A. Review Criteria. LUPC Land Use Standards § 10.24,B and § 10.25,D.

B. Project. There are approximately 125 miles of existing gravel roads primarily used for forest management that provide direct access to the Project from State Route 201 in Johnson Mountain Twp. The Project also is accessible from the following public roads: Lake Moxie Road in Moxie Gore, The Forks Plt, and Bald Mountain Twp, Ridge Road in Concord Twp, and Route 16 in Concord Twp. Because the Project is an HVDC transmission line right of way, vehicular traffic would result only during construction (short-term) and maintenance and repairs (infrequent). The Project will access construction areas only through public roads and existing land management roads. There will be no Level C road projects constructed in any P-RR subdistrict as a result of the Project. Temporary, unpaved access roads through sections of the new transmission line

corridor will be established for the clearing and construction phases of the Project. However, these access roads will be restored to pre-existing contours and revegetated once construction is complete and final restoration has been established. No new permanent roadways will be developed and construction and maintenance-related parking will primarily be in upland locations on the Project corridor or in existing developed areas. No on-street parking will be associated with this Project.

- C. Conclusions. The Commission concludes that CMP has demonstrated that the applicable criteria for vehicular access, circulation, and parking have been met.

12. Lighting.

- A. Review Criteria. LUPC Land Use Standards § 10.25,F.
- B. Project. There will be no operation of lights on transmission line structures installed in LUPC jurisdiction. Some temporary nighttime lighting may be necessary during construction of the Project. There will be no electrical service or permanent lighting installed at the HDD termination stations. During operation and maintenance activities in the termination stations technicians will use portable lighting, as needed.
- C. Conclusions. The Commission concludes that CMP has demonstrated that the applicable criteria for lighting have been met.

13. Land Division History.

- A. Review Criteria. LUPC Land Use Standards § 10.25,Q.
- B. Land Division History. Site Law Application Exhibit 25-2 is a 20-year land division history and associated maps demonstrating that none of the land divisions during that period created a subdivision. Project lands in Moxie Gore are not included in Exhibit 25-2. CMP acquired most of the 300-foot wide corridor located in Moxie Gore in a deed from T-M Corporation dated November 10, 1988 and recorded in the Somerset County Registry of Deeds in Book 1480, Page 89. This transaction was part of a land exchange and boundary line agreement with T-M Corporation in which CMP reconfigured part of its ownership that dated back to the early 1900s. The remainder of the proposed corridor in Moxie Gore crosses land along the Kennebec River that CMP currently owns. This land was also acquired by several deeds in the early 1900s. All other CMP lands in the unorganized territory have been owned by CMP for over 20 years with no divisions.
- C. Conclusion. Based on the materials supplied by CMP, no land divisions requiring subdivision approval from the Commission occurred during the preceding 20 years for any of the Project parcels. The Commission concludes that CMP has demonstrated that the applicable criteria for subdivision and lot creation have been met.

14. Activities in Flood Prone Areas.

- A. Review Criteria. LUPC Land Use Standards § 10.25,T.
- B. Project. The Project crosses one P-FP subdistrict in Appleton Twp. Concord Twp, rated as a minimal flood hazard area, is the only LUPC jurisdictional area mapped for flood hazard by FEMA. No transmission line structures will be installed within the P-FP subdistrict or within mapped 100 year floodplains within LUPC jurisdiction. Therefore, the installation of transmission line structures will not directly impact or increase the risk of flooding along the proposed Project route.
- C. Conclusion. The Commission concludes that the provisions of §10.25,T are not applicable to the Project.

15. Dimensional Requirements.

- A. Review Criteria. LUPC Land Use Standards §§ 10.26, D and 10.26, F. Because the only Project facilities proposed in LUPC jurisdiction are transmission structures (poles) and overhead wires, and the termination stations near the upper Kennebec River (which will include only electrical components and overhead wires), the dimensional requirements for lot size (§10.26, A), shoreline frontage (§10.26, B), road frontage (§10.26, C), and lot coverage (§10.26, E) do not apply to the Project.
- B. Minimum Setbacks. Section 10.26, D(2) states that the minimum setback for commercial or industrial development is 100 feet from minor flowing waters, P-WL1 wetlands, and water bodies less than 10 acres. The setbacks from water bodies greater than 10 acres and major flowing waters is 150 feet in all locations. Section 10.26, D, 3, states that project components must be set back 75 feet from traveled portions of roads used by the public for access; and 25 feet from side and rear property boundary lines. Because the design of the Project is constrained by both topography and the presence of natural resources and other features (e.g., roadways), and because the Project was designed to place transmission line structures such that they avoid natural resource impacts to the maximum extent practicable while maintaining necessary safety clearances for the overhead conductors, a number of poles do not conform with the defined setback in § 10.26, D(2). However, as described in the Site Law Application, the locations of those structures located less than the minimum setback distances in § 10.26, D(2) are consistent with § 10.26, G(5), which provides that an exception may be made to a setback requirement if the structure must be located closer due to the nature of its use. The termination stations near the upper Kennebec River will be positioned outside of the setback requirements.
- C. Maximum Structure Height. Section 10.26, F(1) states that the maximum structure height is 100 feet for commercial, industrial, and other non-residential uses involving one or more structures. Transmission line structure heights are determined during project design based on a number of parameters governed by the safety standards of the National Electrical Safety Code. Specifically, for safe operation of the line, the transmission line must be designed in a manner that provides adequate clearance from the ground to the maximum sag of the transmission line. Structure locations are placed, to the extent practicable, in a manner that avoids and spans protected natural resources. Additionally, topographic constraints, the presence of existing utilities, and the span length needed to place structures outside of sensitive areas often require transmission line structures to be taller than 100 feet. 96 of the approximately 380 transmission line structures in LUPC jurisdiction exceed the maximum structure height defined in § 10.26, F(2). However, transmission line structures are freestanding and contain no “floor area,” and thus the Commission grants its approval for NECEC transmission line structure heights to exceed 100 feet, pursuant to § 10.26, F(3). Infrastructure within the termination stations will be no taller than 100 feet.
- D. Conclusion. The Commission grants an exception to the setback requirements, pursuant to § 10.26, G(5), and approves transmission line structure heights in excess of 100 feet, pursuant to § 10.26, F(3).

16. Vegetation Clearing.

- A. Review Criteria. LUPC Land Use Standards § 10.27, B.
- B. Project. Approximately 150 feet of the 300-foot wide, 53.5-mile right-of-way will need to be cleared of capable vegetation from Beattie Township to the point at which it enters the existing transmission line corridor in The Forks Plt. Within the existing transmission

line corridor, a strip approximately 75 feet wide will be cleared of capable vegetation to accommodate the new transmission line. This includes approximately 18.17 miles of existing corridor located in The Forks Plt, Bald Mountain Twp, and Concord Twp. Due to the nature of the Project, the buffer strips identified in Section 10.27,B will be retained, but the Project cannot conform to the selective cutting requirements associated with the maintenance of vegetation (§10.27,B,2). However, vegetation clearing activities not in conformance with the standards of Section 10.27,B may be allowed upon issuance of a permit from the Commission provided that such types of activities are allowed in the subdistrict involved.

- C. Conclusion. Because the Commission has found that the Project is an allowed use in all subdistricts including those allowed by special exception, it will allow the buffers and CMP vegetation clearing and maintenance practices described in Site Law Exhibits 10-1 and 10-2 (revised January 30, 2019), and therefore concludes that the applicable criteria for Section 10.27,B have been met.

17. Signs.

- A. Review Criteria. LUPC Land Use Standards § 10.27,J.
- B. Project. The Project will not include any permanent signs within LUPC jurisdiction. Traffic control signs and directional signs related to Project construction will be limited and temporary, and that signage does not require a permit from the LUPC, provided such signs are in conformance with the requirements of Section 10.27, J(1) and (2).
- C. Conclusion. The Commission concludes that CMP has demonstrated that the applicable criteria for signage have been met.

FINAL CONCLUSION

18. Therefore, the Commission CERTIFIES to the Department of Environmental Protection that the NECEC Project, as proposed by Central Maine Power Company, is an allowed use within the subdistricts in which it is proposed and complies with the Commission's land use standards not considered by the Department in its Site Law review.