

THE STATE OF NEW HAMPSHIRE  
BEFORE THE  
PUBLIC UTILITIES COMMISSION

DE 08-003

REVISED PETITION OF NEW ENGLAND POWER COMPANY  
D/B/A NATIONAL GRID  
FOR LICENSES TO CONSTRUCT AND/OR MAINTAIN ELECTRIC AND  
COMMUNICATION LINES OVER  
AND ACROSS PUBLIC WATERS IN THE TOWNS OF  
WALPOLE AND SURRY, NEW HAMPSHIRE

TO THE PUBLIC UTILITIES COMMISSION:

New England Power Company d/b/a National Grid (“NEP”), a public utility engaged in the transmission of electricity in the State of New Hampshire, hereby petitions the Public Utilities Commission (“Commission” and/or “PUC”), pursuant to RSA 371:17, for a license to construct and maintain electric and communication<sup>1</sup> lines over and across the public waters of the Connecticut River and the Cold River in the Town of Walpole, New Hampshire and the Ashuelot River in the Town of Surry, New Hampshire. This revised petition is intended to replace the previously filed petition in this proceeding. In support of its petition, NEP states as follows:

1. In order to meet the reasonable requirements of service to the public, NEP operates and maintains the I-135N 115kV transmission line between Flagg Pond Substation in Fitchburg, Massachusetts and Bellows Falls Substation No. 14 in Rockingham, Vermont. The I-135N line was constructed in 1927. The line crosses the Connecticut River between the Bridge Street crossing to the north and the discharge

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<sup>1</sup> These communication lines are for system operation and security and are not available to the public. The communication lines are embedded in the Optical Ground Wire (OPGW), which replaces the existing shield wire. The communications channels are required for the relay and protection equipment that is an integral part of the transmission system.

from the Bellows Falls Hydroelectric Station to the south. This area of the Connecticut River only receives flow during high flow periods because the water is diverted through the generation station on a daily basis.<sup>2</sup> The line also crosses the Cold River approximately 2,400 feet northwest of the Route 12A Bridge. The I-135N Line also crosses the Ashuelot River in Surry, New Hampshire. The exact locations of the crossings are shown on plans which are attached to the following Appendices: A: Connecticut River; B: Cold River; and C: Ashuelot River.

2. Construction and maintenance of what is now known as the I-135N line was approved by the then New Hampshire Public Service Commission ("PSC") in Order No. 2,471 dated October 6, 1932. The I-135N crossing of the Connecticut, Cold and Ashuelot Rivers has not been previously licensed by the Commission.<sup>3</sup>

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<sup>2</sup> After crossing the Connecticut River, the I-135N line shares the same double circuit towers with the J-136N line for a distance of approximately 52 miles.

<sup>3</sup> On October 20, 1947, the PSC requested all electric and telephone utilities to provide certain information with respect to the crossing of public waters. A list of rivers constituting "public waters" was provided and it included the Connecticut River. In response to the PSC inquiry, Bellows Falls Hydro Electric Corporation filed a list of its crossings including the I-135N Connecticut River crossing at Walpole. By letter dated February 17, 1948 the Commission engineer indicated "Your understanding that these crossings do not constitute crossings over 'public waters' as defined in Revised Laws of New Hampshire is noted and you are advised that your Company need take no further action in this matter until such time as you hear further from the commission." Also, pursuant to the PSC's October 20, 1947 letter, Connecticut River Power Company filed a similar report of its crossings, together with plans which included the Ashuelot River crossing by the I-135 line, indicating the Company's understanding that the crossing was not of a public water. In 1953, the Commission once again ordered public utilities to obtain authority for all existing crossings for which previous authority had not been granted. See PUC Order No. 6,217 (1953). In that order, the Commission stated that "the portions of those streams which are commonly used for navigation are prescribed as public waters" under RSA 371:17. NEP provided the Commission with a list of river crossings, including the I-135N Connecticut and Ashuelot River crossings, but explained to the Commission that none of the rivers listed were commonly used for navigation. In 1955, the Commission granted licenses for seven of the crossings that NEP had identified but did not require that the I-135N line crossing at the Connecticut and Ashuelot Rivers be licensed. See PUC Order No. 6,664 (1955). Since 1955, NEP has relied upon the Commission's determination and has not sought licenses for these crossings. However, in recent orders, the Commission has "prescribed" numerous crossings to be crossings over and across public waters without regard to whether these waters are navigable. See PUC Order No. 24,661 (2006); PUC Order No. 24,570 (2005); PUC Order No. 24,523 (2005); PUC Order No. 23,480 (2000). Accordingly, NEP is petitioning the Commission for a license to reconstruct and maintain electric and communication lines over and across the Connecticut, Cold and Ashuelot Rivers in Walpole, New Hampshire as part of its proposed reconductoring project.

3. In order to improve the reliability of NEP's electric transmission system in southwestern New Hampshire, NEP proposes to re-conductor the I-135N line. The I-135N re-conducting is a high priority project because it eliminates low voltage and thermal capacity limitations identified in the ISO-NE Regional System Plan. Presently, a low voltage situation occurs as the result of a double circuit tower outage on the I-135S and J-136S lines on the system between the Flagg Road Substation and Pratts Junction. Currently, the low voltage problem is managed by load shedding.

4. The over 80 year old I-135N line consists of 4/0 copper phase conductors (some sections have been replaced with 336.4 kcmil ACSR conductors), and a 7/16" HS galvanized steel shieldwire. The line is supported by double circuit galvanized lattice steel towers with grillage foundations, and a few single circuit lattice steel towers. Each lattice tower has been analyzed for structural adequacy based on individual wind and weight span, and National Grid's Standard Loading Conditions. As required by the National Electric Safety Code (NESC), the Special Wind Region along the Connecticut River in NH was considered, and was found not to be a factor. The analysis shows that the lattice towers can be reinforced and reused. Some members within each of the lattice towers will be replaced with slightly larger members (1/8" thicker) or higher grade steel members as shown in Figure 1, attached. A few of the lattice towers require additional weight in the form of concrete collars which will be installed below grade around the tower legs, as shown in Figure 2, attached.

The I-135N line will be re-conducted with 795 kcmil ACSR, 26/7, "Drake" phase conductors at a rating of 140°C. One of the two 7/16" HS galvanized steel shieldwires

(the one on the I-135N line side) will be replaced with a new shieldwire containing fiber optics (OPGW), equivalent to 3/8" extra high strength galvanized steel.

5. Based on the research and field inspection of its consulting engineer, Vanderweil Engineers, it has been determined that the associated water bodies at the Connecticut River, Cold River, and Ashuelot River crossings are not suitable for sailboating. See NESC, Table 232-1. See "Site Review of The Connecticut River Crossing, The Cold River Crossing, And The Ashuelot River Crossing – Identification of Clearance Issues" (September 2008) prepared by Vanderweil Engineering which is attached as Appendix D.<sup>4</sup>

6. NEP only needs the licenses petitioned for in this proceeding in order to commence the reductoring over the Connecticut, Cold and Ashuelot River crossings.

7. NEP owns permanent easements for its lines and facilities on both sides of the public water bodies at the proposed crossing locations. The proposed work will be conducted within the scope of these easements.

8. The specific technical information necessary to evaluate the I-135N river crossings is contained in Appendices A, B and C.

9. NEP submits that the licenses petitioned for herein may be exercised without substantially affecting the rights of the public in the public waters of the Connecticut, Cold and Ashuelot Rivers. Minimum safe line clearances above the

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<sup>4</sup> The Vanderweil "Site Review of The Connecticut River Crossing, The Cold River Crossing, And The Ashuelot River Crossing – Identification of Clearance Issues" (September 2008) is submitted in support of the determination that the affected crossings are not suitable for sailboating. However, as described in Appendix C, the "Design High Water" for the Ashuelot River/Surry Lake Impoundment which is used to calculate the minimum clearances is 560 feet as construed from the Relocation Agreement with the Army Corps (See Appendix D at D-6).

surface of the rivers and affected shorelines will be maintained at all times. The use and enjoyment by the public of these three rivers will not be diminished in any material respect as a result of the overhead line crossings. In fact, the I-135N line has been in service in the same location for over 80 years, and has not diminished in any material respect the use and enjoyment of these rivers by the public.

WHEREFORE, NEP respectfully requests that the Commission:

A. Find that the licenses petitioned for herein may be exercised without substantially affecting the public rights in the public waters which are the subject of this petition;

B. Grant NEP licenses to construct and maintain the I-135N electric and related communication lines over and across the public waters of the Connecticut and Cold Rivers in Walpole, New Hampshire, and the Ashuelot River in Surry, New Hampshire, as specified in the petition;

C. Issue an Order Nisi and orders for its publication; and

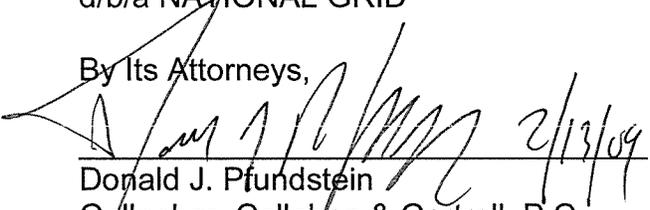
D. Grant such other relief as is just and proper.

Dated at Concord this 13th day of February, 2009.

Respectfully submitted,

NEW ENGLAND POWER COMPANY  
d/b/a NATIONAL GRID

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