THE STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION

PETITION OF PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE FOR LICENSE TO CONSTRUCT AND MAINTAIN ELECTRIC LINES OVER AND ACROSS THE WARNER RIVER IN WEBSTER, THE BLACKWATER RIVER IN HOPKINTON, AND THE CONTOOCOOK RIVER AND THE ROLFE CANAL IN CONCORD, NEW HAMPSHIRE.

TO THE PUBLIC UTILITIES COMMISSION:

Public Service Company of New Hampshire ("PSNH"), a public utility engaged in the generation, transmission, distribution and sale of electricity in the State of New Hampshire, hereby petitions the Public Utilities Commission ("Commission"), pursuant to RSA 371:17, for a license to construct and maintain electric lines over and across four separate crossings of the public waters of the Warner River in the Town of Webster, the Blackwater River in the Town of Hopkinton, and the Contoocook River and the Rolfe Canal in the City of Concord, New Hampshire, and in support of its petition states as follows:

1. In order to meet the reasonable requirements of service to the public, PSNH is proposing to construct, and to operate and maintain, a new overhead electric utility line which will cross over the Warner River in the Town of Webster, the Blackwater River in the Town of Hopkinton, and the Contoocook River and the Rolfe Canal in the City of Concord, New Hampshire. The new line will be designated as a part of PSNH's 34.5 kV 317 line. The existing PSNH 317 line currently leaves PSNH's Oak Hill Substation in Concord, and terminates at Unitil's Penacook Substation in Concord. It then resumes at PSNH's former Davisville Substation site in Webster (where PSNH now has switchgear configured on distribution pole plant), from which it then runs northwesterly to PSNH's Bradford Substation in Bradford. When completed, the new line will form a new connecting segment of the 317 line, running between Unitil's Penacook Substation and the former PSNH Davisville Substation site.

2. This new 317 line segment is needed because the existing PSNH 311 line, which feeds load west of the former Davisville Substation, is projected to exceed its thermal rating under certain contingencies due to load growth projections. The installation of the new 317 line will relieve that condition by allowing the shifting of load off the 311 line. Completion of this new segment of the 317 line will also improve reliability by providing an additional source of power to feed the 311 load from PSNH's Oak Hill Substation in Concord, and will enhance switching capability and flexibility among the area's substations to respond to outages.

3. The location of the four proposed new crossings of the Warner River, Blackwater River, Contoocook River and Rolfe Canal are all shown on the attached location map, marked as Exhibit 1. The existing 317 line, which currently crosses the Warner River before heading northwesterly to the Bradford Substation, will be rebuilt in

a new double circuit configuration with the new 317 line crossing.[1] The other new crossings will all be new single circuit construction.[2]

4. The design and proposed construction of each of the crossings are shown on the attached PSNH Distribution Business Plan and Profile Drawings entitled "Distribution Line Work, 317 Line; Webster, Concord & Hopkinton, New Hampshire", marked as Exhibits 2 (Warner River), 3 (Blackwater River), 4 (Contoocook River) and 5 (Rolfe Canal), respectively. Applicable pole and connection details are shown on Exhibits 6 and 7.

5. The required technical information provided in this petition is based on the 2007 National Electrical Safety Code (NESC) C2-2007 and conforms to the NESC 2012 update.

6. A more detailed description of the construction of each of the crossings is as follows:

A. Warner River Crossing

- The proposed Warner River crossing will occur between two round-wood structures with a span length of approximately 230 feet. The 317 line will be built comprised of three 795 AAC phase conductor wires and one 19#8 Alumoweld messenger wire arranged in a Hendrix 3-phase configuration. The existing 317 line crossing at this location will also be rebuilt using the Hendrix 3-phase configuration to create a double circuit structure. At the crossing the messenger wire will serve as the neutral wire for each of the 317 lines. The structure on the east side of the river, number 204, is a double Hendrix tangent structure, constructed with a single class H3, 50' western red cedar (WRC) pole. The structure on the west side of the river, number 205, is a double Hendrix tangent structure, constructed with a single class H3, 50' western red cedar (WRC) pole. The construction details for these structures are shown on Exhibit 7.

B. Blackwater River Crossing

- The proposed Blackwater River crossing will occur between two round-wood structures with a span length of approximately 232' feet. The 317 line will be built comprised of 477 ACSR 18/1 phase conductor wires and a 4/0 AWG 6/1 neutral. The

[1] Due to either oversight or the application of navigability or other crossing license criteria at the time of original construction, the existing 317 line crossing of the Warner River has not been previously licensed by the Commission. The rebuild of this crossing will be licensed under this petition.

[2] At the Contoocook River crossing location, there is currently an overhead, de-energized and dead-ended crossing of a former Contoocook Electric line which was discontinued by PSNH years ago, but which still remains in place across the River; this existing equipment will be entirely removed to make room for the new 317 line crossing of the Contoocook.

structure on the east side of the river, number 166, is a vertical angle structure, constructed with a single class 2, 65' WRC pole. The structure on the west side of the river, number 167, is a single arm tangent structure, constructed with a single class 1, 50' WRC pole. The phase conductors roll from vertical to horizontal configuration over the Blackwater River.

C. Contoocook River Crossing
   - The proposed Contoocook River crossing will occur between two three-pole wood structures with a span length of approximately 572' feet. The 317 line will be built comprised of 477 ACSR 18/1 phase conductor wires and a 4/0 AWG 6/1 neutral. The structure on the east side of the river, number 82, is a horizontal angle structure, constructed with three class 1, 85' WRC poles. The structure on the west side of the river, number 83, is a horizontal angle structure, constructed with three class 1, 85' WRC poles. Due to soil conditions, the structure on the west side of the river (structure 83) will be embedded an additional 5'.

D. Rolfe Canal Crossing
   - The proposed Rolfe Canal crossing will occur between two wood structures with a span length of approximately 308' feet. The 317 line will be built comprised of 477 ACSR 18/1 phase conductor wires and a 4/0 AWG 6/1 neutral. The structure on the east side of the river, number 77, is a single arm tangent structure, constructed with a single class 2, 60' WRC pole. The structure on the west side of the river, number 78, is a vertical angle structure, constructed with a single class 2, 60' WRC pole. The phase conductors roll from horizontal to vertical configuration over the Rolfe Canal.

7. The 10 year flood Water elevation for each of the crossings has been determined as follows:

A. The Warner River crossing is identified in Volume 2 of the Flood Insurance Study for Merrimack County, New Hampshire, Flood Profile 93P effective date April 19, 2010 issued by the Federal Emergency Management Agency (FEMA). Additional information is found in the Flood Insurance Rate Map, Merrimack County, New Hampshire (all jurisdictions) panel 501 of 705, Map Number 33013C0501E, with and effective date of April 19, 2010. The 10-year flood elevation for the river in this location is approximately 358 feet. This elevation is based on the North American Vertical Datum of 1988 (NAVD 88).

B. The Blackwater River crossing is identified in volume 2 of the Flood Insurance Study for Merrimack County, New Hampshire, Flood

Profile 01P effective date April 19, 2010 issued by the Federal Emergency Management Agency (FEMA). Additional information is found in the Flood Insurance Rate Map, Merrimack County, New Hampshire (all jurisdictions) panel 502 of 705, Map Number 33013C0502E, with and effective date of April 19, 2010. The 10-year flood elevation for the river in this location is approximately 357.25 feet. This elevation is based on the North American Vertical Datum of 1988 (NAVD 88).

C. The Contoocook River crossing is identified in volume 2 of the Flood Insurance Study for Merrimack County, New Hampshire, Flood Profile 18P effective date April 19, 2010 issued by the Federal Emergency Management Agency (FEMA). Additional information is found in the Flood Insurance Rate Map, Merrimack County, New Hampshire (all jurisdictions) panel 338 of 705, Map Number 33013C0338E, with and effective date of April 19, 2010. The 10-year flood elevation for the river in this location is approximately 346 feet. This elevation is based on the North American Vertical Datum of 1988 (NAVD 88).

D. The Rolfe Canal crossing is identified in volume 2 of the Flood Insurance Study for Merrimack County, New Hampshire, Flood Profile 89P effective date April 19, 2010 issued by the Federal Emergency Management Agency (FEMA). Additional information is found in the Flood Insurance Rate Map, Merrimack County, New Hampshire (all jurisdictions) panel 338 of 705, Map Number 33013C0338E, with and effective date of April 19, 2010. The 10-year flood elevation for the river in this location is approximately 344.5 feet. This elevation is based on the North American Vertical Datum of 1988 (NAVD 88).

8. The required clearance calculations for each of the crossings are attached to this petition as Appendices A (Warner River), B (Blackwater River), C (Contoocook River) and D (Rolfe Canal), respectively.

9. New Hampshire Department of Environmental Services (NHDES) permits are necessary specifically for the construction of the Contoocook River crossing to allow for tree clearing, temporary and permanent wetland impacts, and for impacts to the NHDES Protected Shoreland. The Wetland permit application has been submitted to NHDES, and the Shoreland permit has been submitted to NHDES as a Permit By Notification.

10. The proposed crossings have been designed and will be constructed, maintained and operated by PSNH in accordance with the NESC.

11. Each of the crossings is located and will be installed within easements owned by PSNH on both sides of the public water bodies involved.

12. PSNH submits that the license petitioned for herein may be exercised without substantially affecting the rights of the public in the public waters of the Warner River, the Blackwater River, the Contoocook River, and the Rolfe Canal. Minimum safe line clearances above the river surfaces and affected shorelines will be maintained at all times. The use and enjoyment by the public of the rivers will not be diminished in any material respect as a result of the overhead line crossings.

WHEREFORE, PSNH respectfully requests that the Commission:

a. Find that the license 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 PSNH a license to construct and maintain electric lines over and across the public waters specified in the petition; and

c. Issue an Order Nisi and orders for its publication.

Dated at Manchester this 23rd day of July, 2014.

Respectfully submitted,

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