

STATE OF NEW HAMPSHIRE

Inter-Department Communication

NHPUC 7JUL'16PM2:00

DATE: July 7, 2016

AT (OFFICE): NHPUC

FROM: Robert J. Wyatt *RJW*
Assistant Director - Safety Division

SUBJECT: DE 16-544, Until Energy Systems Inc.
Petition for a License to Rebuild and Maintain Electric Lines over and across
the Merrimack River in Concord, New Hampshire
Staff Recommendation

TO: Debra Howland, Executive Director
Randall Knepper, Director, Safety Division
Tom Frantz, Director, Electric Division
Les Stachow, Assistant Director, Electric Division
John Clifford, Staff Attorney, Legal Division

The Safety Division review of the above petition consisted of the following elements:

- Petition contents and history
- Applicable State statutes
- Review of existing crossing(s) already licensed by the PUC
- Review of land ownership of existing pole structures
- Review of NESC code requirements as described in Puc 300 rules
- Review of public need and public impact, including applicability of other State regulations
- Conclusions and Recommendations

1. Petition contents and history.

On May 4, 2016, Until Energy Systems, Inc. ("UES" or "the Company") filed a petition to rebuild and maintain electric lines over and across the Merrimack River at Sewalls Falls Road in the city of Concord, NH. On July 1, 2016, UES filed additional supporting information to supplement what had been provided with the petition.

In support of its petition UES provides the following:

- UES is a wholly-owned subsidiary of Until Corporation, a New Hampshire corporation and public utility holding company. UES is a retail electric distribution

utility with operating systems in the seacoast and capital regions in New Hampshire (Petition at #1);

- UES provided four exhibits with the petition that provide schematics of the line plan and profile, pole top designs, an overview map of the surrounding area and the FEMA Flood Zone Map of the Sewalls Falls Road water crossing location (Petition at #2);
- the new crossing is on Unitil circuit 4W3, as illustrated in UES Exhibits 1 and 2, has been designed and will be rebuilt with all conductors using 336 ACSR Merlin cable, 4,000 LBS MDT in accordance with the requirements of NESC for lines operated at 22 kV (Phase-to-Ground) (Petition at #4; UES filed updates to Exhibits 1 and 2 on July 1, 2016);
- the UES crossing design will use standard cross arm construction, as it is today; water crossing poles 66 and 67 will be replaced with 65 foot H1 poles; phase conductors over water will be dead-ended on poles 66 and 67; and the neutral conductor will be replaced to match the phase conductor (336 ACSR, Merlin);
- the proposed crossing design exceeds the NESC, which has a line clearance requirement set at the 10-year flood level. UES has designed its line clearance for this project to use the 100-year flood water elevation (see UES Exhibit 4 for a copy of the FEMA flood insurance Study Map, Panel 0339E, Zone AE (Petition at #12);
- the NESC minimum clearance requirement above the water for open supply conductors up to 22kV phase to ground is 28.5 feet at locations suitable for sail boating, and 26 feet for the neutral conductor. (Petition at #11; NESC 2012, page 98, Table 232-1, row 7b.; NESC 2012, note 18, page 100);
- the NESC minimum clearance requirement above a roadway for open supply conductors up to 22kV phase to ground is 18.5 feet above the water at locations suitable for sail boating, and 16 feet for the neutral conductor. (Petition at #11; NESC 2012, page 98, Table 232-1, row 7b.; NESC 2012, note 18, page 100);
- the proposed UES crossing design shows an updated minimum neutral line clearance of 19 feet above the roadway and 41 feet above the 100-year flood elevation, with phase conductors being a minimum of 11 feet higher than neutral (petition at #11; UES updated Exhibit 1, Profile View, July 1, 2016);
- the UES crossing design includes three open supply conductors configured in a horizontally constructed circuit at the highest section of each structure and one neutral conductor (petition at #6). Under design conditions and maximum sag, the phase conductors will be no closer than approximately 34.8 inches at mid-span (total span = 457 feet; petition at #5) from the neutral conductor (Exhibit 1, Profile View);
- in addition to its conductors, UES has allocated adequate space below its neutral conductor at each structure to accommodate the requirements of Fairpoint Communications Inc. for its aerial telecommunication cable installations. UES notes that Fairpoint will petition the Commission separately for its crossing license (petition at #7);
- UES owns permanent easements on each side of the river. Pole-setting locations and construction for this crossing will be within the boundaries of the easements. Copies of the easements have been provided by UES (see copies of the easements included with UES supplemental information filed as Attachments 1 and 2 on July 1, 2016).

2. New Hampshire statute referenced in petition.

TITLE XXXIV: CHAPTER 371 PROCEEDINGS TO ACQUIRE PROPERTY OR RIGHTS

Rights in Public Waters and Lands

371:17 Licenses for New Poles. – *Whenever it is necessary, in order to meet the reasonable requirements of service to the public, that any public utility should construct a pipeline, cable, or conduit, or a line of poles or towers and wires and fixtures thereon, over, under or across any of the public waters of this state, or over, under or across any of the land owned by this state, it shall petition the commission for a license to construct and maintain the same. For the purposes of this section, "public waters" are defined to be all ponds of more than 10 acres, tidewater bodies, and such streams or portions thereof as the commission may prescribe. Every corporation and individual desiring to cross any public water or land for any purpose herein defined shall petition the commission for a license in the same manner prescribed for a public utility.*

Source. 1921, 82:1. PL 244:8. RL 294:16. 1951, 203:48 par. 17. 1953, 52:1, eff. March 30, 1953. 2013, 82:1, eff. June 19, 2013.

371:20 Hearing; Order. – *The commission shall hear all parties interested; and, in case it shall find that the license petitioned for, subject to such modifications and conditions, if any, and for such period as the commission may determine, may be exercised without substantially affecting the public rights in said waters or lands, it shall render judgment granting such license. Provided, however, that such license may be granted without hearing when all interested parties are in agreement and in cases involving filings made under RSA 371:17-a and RSA 371:17-b. The executive director of the commission may issue licenses under RSA 371:17-a and RSA 371:17-b.*

Source. 1921, 82:1. PL 244:10. RL 294:18. 1951, 203:48 par. 20. RSA 371:20. 1967, 21:1, eff. May 7, 1967. 2013, 82:5, eff. June 19, 2013.

3. Review of existing license(s) and permissions previously granted by the PUC for these locations of the Merrimack River

Staff was able to find a license for the existing crossing and permission previously granted to Concord Electric Company by the Commission in docket D-E4054. NHPUC Order No. 7,907 provides sufficient details that Concord Electric Company filed a petition for thirteen licenses to construct and maintain water crossings at various locations in the Capital area. A public hearing was held on October 16, 1962, at which no opposition appeared. The Commission approved the petition, and all licenses were granted to Concord Electric Company on October 18, 1962. The order cites crossing description #3 as the crossing specific to this Sewalls Falls Road location, just south of the bridge, from Pole #66 on land of Concord Electric Company, easterly across the Merrimack River to Pole #14 on land now or formerly owned by Francis J. Faucher in Concord. The span distance was said to be 441 feet

and the height above the water was approximately 45 feet. In the supplemental information that UES filed to the instant proceeding on July 1, 2016 are copies of easements for the two properties identified above, from NHPUC Order No. 7,907.

4. Review of land ownership of existing pole structures.

In the supplemental information that UES filed to the instant proceeding on July 1, 2016 are copies of easements for the two properties identified above, from NHPUC Order No. 7,907. Staff notes that in the UES Petition and supporting documents for the proposed 2016 crossing, Pole #14 is not referenced, and assumed to have been previously replaced with Pole #67, as shown in UES Exhibits 1 and 2.

5. Review of NESC code requirements as described in Puc 300.

N.H. Code of Administrative Rules PART Puc 306 requires

(a) each utility shall construct, install, operate and maintain its plant, structures and equipment and lines, as follows:

(1) In accordance with good utility practice;

(2) After weighing all factors, including potential delay, cost and safety issues, in such a manner to best accommodate the public; and

(3) To prevent interference with other underground and above ground facilities, including facilities furnishing communications, gas, water, sewer or steam service.

(b) For purposes of this section, "good utility practice" means in accordance with the standards established by:

(1) The National Electrical Safety Code C2-2012...

In its petition, UES asserts that the 2012 National Electrical Safety Code C2-2012 was used in its designs for this project (Petition at #4).

The Safety Division reviewed the 13 supporting statements and information provided in the petition, in the Exhibits and in the follow up supplemental information. Staff found the design specifics provided to be in conformance with the applicable sections of the NESC code C2-2012. UES provided sufficient detail to verify that no potential safety hazards will result from the reconstruction of the river crossings associated with this project.

6. Review of public need and public impact.

UES states that in order to meet the requirements for reasonable and safe service to the public, it is necessary for the Company to rebuild structures on the east and west sides of the Merrimack River near the Sewalls Falls Bridge, located in the City of Concord, NH. The existing pole line must be reconstructed due to the Sewalls Falls Road Bridge replacement in 2016. The Company is requesting to increase the height of its lines over the water and improve construction of the structures. The electrical improvements proposed are intended to reduce reliability exposure to Concord residents and businesses (Petition at #3.).

UES states the proposed overhead line crossing is not expected to affect any public rights in said waters. Minimum safe line clearances above the Merrimack River and affected shoreline will be maintained at all times. UES also states the use and enjoyment by the public of the River will not be diminished in any material respect as a result of the rebuilt overhead line crossing (Petition at #13.).

Conclusions and Staff Recommendation:

Based on the results of its review of the Petition, the Exhibits and the supplemental information filed by UES to this docket and as summarized above, Staff recommends that the Commission:

- 1) require UES to construct, operate and maintain this crossing in conformance with NESC 2012 requirements;
- 2) find that the license to construct and maintain the structures on the east and west sides of the Merrimack River, just south of the Sewalls Falls Road Bridge, located in Concord, NH, and the operation and maintenance of the electric lines of Unitil circuit 4W3 over the Merrimack River at this location, may be exercised without substantially affecting public rights in the public waters;
- 3) require that any future alterations to this public water crossing conform to the NESC requirements and that detailed plans be submitted to the Commission no less than 60 days prior to any alterations;
- 4) grant UES a license to construct, operate and maintain electric lines over and across the public waters of the Merrimack River at Sewalls Falls Road in Concord, New Hampshire, as specified in the petition; and
- 5) issue an Order *Nisi* and orders for its publication.

SERVICE LIST - EMAIL ADDRESSES - DOCKET RELATED

Pursuant to N.H. Admin Rule Puc 203.11 (a) (1): Serve an electronic copy on each person identified on the service list.

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FILING INSTRUCTIONS:

- a) Pursuant to N.H. Admin Rule Puc 203.02 (a), with the exception of Discovery, file 7 copies, as well as an electronic copy, of all documents including cover letter with:**

DEBRA A HOWLAND
EXECUTIVE DIRECTOR
NHPUC
21 S. FRUIT ST, SUITE 10
CONCORD NH 03301-2429

- b) Serve an electronic copy with each person identified on the Commission's service list and with the Office of Consumer Advocate.**
- c) Serve a written copy on each person on the service list not able to receive electronic mail.**