

THE STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION

PETITION OF UNITIL ENERGY SYSTEMS FOR LICENSE TO CONSTRUCT AND MAINTAIN ELECTRIC LINES OVER AND ACROSS THE HAMPTON RIVER IN HAMPTON, NEW HAMPSHIRE.

TO THE PUBLIC UTILITIES COMMISSION:

Unitil Energy Systems Inc., a corporation duly organized and existing under the laws of the State of New Hampshire and engaged in the distribution of electric energy in said State (hereinafter called the Petitioner), respectfully represents that:

1. In order to meet the requirements for reasonable service to the public, it is necessary for the Petitioner to install new structures on the east and west sides of the Hampton River (Tide Mill Creek) for the relocation of its 34,500 volt electric circuit known as the 3353 line, located in the town of Hampton, NH. The existing line is in need of upgrade due to age and condition. We are requesting relocation of the line instead of rebuilding it in its present location as its current location in the salt marsh makes it significantly difficult and costly to repair. The electrical improvements proposed are intended to allow for timelier and more economical repairs and maintenance of the line as well as reduce reliability exposure to Hampton Beach area residents and businesses.
2. The new crossing over the Hampton River in Hampton, NH as shown on the attached plan (Exhibit 1) has been designed and will be constructed in accordance with the 2012 National Electrical Safety Code (NESC).
3. The crossing is located adjacent to where the Hampton River passes under NH101 approximately 2,700' (straight line distance) west of Church Street and 2,450' east of Landing Road in Hampton, NH. (See Exhibit 3).
4. The location of the new structures will create a three hundred (300) foot crossing span. Each of the single pole crossing structures will be located within the New Hampshire Department of Transportation (NHDOT) limited access right-of-way (LAROW) of NH101 in accordance with the project Use & Occupancy agreement. (See Exhibit 1).
5. There will be two (2) spacer cable circuits in an over-under configuration and one neutral conductor crossing the river. The phase conductors are 477 KCM AA, 19 strand compact, 35kV Spacer Cable, supported by a 7#6 Alumoweld messenger wire and will have 18" spacing. There will be 8'6" spacer between messenger wires of the spacer cable circuits. The neutral conductor is 336.4 KCM AA, 19 strand (Tulip) and will be 9'6" below the lowest messenger wire. (See Exhibit 2).
6. The new pole line along Route 101 will be joint owned with Fairpoint Communications. Fairpoint may have aerial cables crossing the Hampton River on these poles, but they are unsure at the time of this petition. If

Fairpoint decides to cross Hampton River, they shall petition separately for a crossing.

7. All conductors have been shown on Exhibit 1 to show the maximum sag conditions in reference to the river.
8. According to table 235-5 in the NESC the minimum distance between phase conductors and neutral or grounded conductors (including spacer cable messenger) will be 20.5" which is less than the 31" shown on Exhibit 1.
9. The Petitioner will construct, maintain and operate the clearance of the wire crossing over the river at a height no less than is required by the 2012 National Electrical Safety Code (NESC, Table 232-1) which is 17 feet for the phase conductors (22kV phase to ground), and 14 feet for the neutral conductor. The minimum height over the river is depicted on the attached profile drawing (Exhibit 1). These clearances were determined from the NESC definitions due to the area of the Hampton River where the crossing will take place being deemed non-navigable, by UES, for sailboats due to the proximity and limited vertical clearance from the bridge deck to the water surface where NH 101 crosses the river adjacent to the line crossing.
10. The 100 year flood level was established based upon FEMA flood zone maps for that area (Zone AE). This elevation is based on the nation Geodetic Vertical Datum of 1929 (NAVD 1929). For the purposes of calculating clearance the 100-year flood elevation was used since it was readily available. This is higher than the 10-year flood elevation required by NESC and provides a conservative clearance requirement. (See Exhibit 4).
11. A New Hampshire Division of Environmental Services (NHDES) wetlands and non-site specific permit is required for temporary and permanent wetland impacts associated with the line construction. Permit 2014-02743 was approved on 12/29/2014. A NHDOT Use & Occupancy Agreement will also be required for the project. This application has been submitted to NHDOT and is pending approval.
12. No abutters on either side of the river will be affected since the land on either side is located within the NHDOT LAROW which encompasses the crossing.
13. The Petitioner believes that a new license hereby petitioned for may be granted without affecting any public rights in said waters. Minimum safe line clearances above the Hampton River (Tide Mill Creek) and affected shoreline will be maintained at all times. The use and the enjoyment by the public of the River will not be diminished in any material respect as a result of the relocated overhead line crossing.

Wherefore the Petitioner requests:

That the Commission render judgment granting the Petitioner a license to construct and maintain electric lines over and across the public waters identified in the petition.

Dated at Hampton, New Hampshire this 28 day of January, 2015.

Respectfully submitted,



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