

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: August 15, 2012

AT (OFFICE): NHPUC

FROM: Randy Knepper, Director Safety Division



SUBJECT: Docket No. DE 10-193 John S. Derr and Thomas S. Derr
Petition for a License to Maintain Electric Lines Under
and Across Squam Lake in the Town of Center Harbor, New Hampshire

TO: Debra Howland, Executive Director
Tom Frantz, Director, Electric Division
Alex Speidel, Staff Attorney

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

- Petition contents and history
- Review of public need and public impact, including applicability of other State regulations
- Conclusions and recommendations



1. Petition contents and history.

- On July 26, 2010, Thomas S. Derr and John S. Derr filed a retroactive petition, pursuant to RSA 371:17, for license to establish and maintain previously installed electric lines under and across Squam Lake in the Town of Center Harbor, New Hampshire. The petitioned-for retroactive license would incorporate previously installed submarine crossings built in 1979 and in 1996, and thereby incorporate all current features of an updated submarine distribution service line from Center Harbor Neck to Kimball Island in Squam Lake. The New Hampshire Public Utilities Commission (Commission) had previously licensed a portion of this existing underwater crossing in Docket DE 79-124, Order No. 13,712, dated July 2, 1979.
- The petition has been made to satisfy the lack of a complete and recorded easement for the existing 1996 crossing in the current location, and to bring the Derrs' installations into full compliance with RSA 371:17 as of the present day. (The 1996 crossing was not petitioned for under RSA 371:17 at the time of its construction, on the basis of faulty advice given to the Derrs' by a contractor).
- John S. Derr is a trustee of the Kimball Island Trust. Kimball Island Trust is the owner of the properties that are impacted.

- John S. Derr and Thomas S. Derr have requested that the license for these crossings be granted, and have informed Staff that the submarine distribution service line will be conveyed to New Hampshire Electric Coop (NHEC) upon the Commission's granting of the license, so that future operation and maintenance of the service distribution line will be the responsibility of the New Hampshire Electric Coop.
- The service distribution line is comprised of 1/0 ASCR electric cable directly placed upon the bottom surface of Squam Lake in Center Harbor. Protection of the cable in areas that are shallow is accomplished by conduit as well as a concrete protective structure to prevent boaters, swimmers and other recreational users from coming in contact with the electric cable. The depth of Squam Lake varies between 1 ft and 30 ft along the approximate 1300 ft distance between Kimball Island and Center Harbor Neck.
- A New Hampshire Department of Environmental Services dredge and fill permit was approved for both underwater crossings on August 9, 2011. A review of the DES dredge and fill permit was used to supplement information of the petition and contains sketches of the installation that Staff found to be representative of the installation.
- Site visits to Kimball Island, a private island accessible only by boat, were postponed until 2012 because of the seasonal nature of the occupancy of the island and scheduling conflicts regarding the availability of Mr. Derr and Staff of the Safety Division.
- On June 27, 2012, Staff of the New Hampshire Public Utilities Commission performed an escorted site visit to verify the locations and descriptions of the existing crossings and to photo document said installations.
- The route from Center Harbor Neck is comprised of three underwater segments, labeled Segments 1, 2, and 3. Segment 1 consists of an underwater crossing from an above-ground pole owned by NHEC at Center Harbor Neck to Kimball Island to a pad mounted transformer on Kimball Island. The Segment 1 depth of Squam Lake varies between 1 ft and 30 ft along the approximate 1300 ft distance between Kimball Island and Center Harbor Neck. Segment 2 begins approximately 100 feet north of the pad mounted transformer and enters on the eastern side of Kimball Island with concrete covering in the shallow portion. It traverses approximately 2600 feet and connects through a small rocky gap located on the eastern shore line of Kimball Island. Segment 3 starts at the small rocky gap and traverses approximately 100 feet along a shallow portion of Squam Lake and enters the land of Thomas Derr. Segment 3 uses conduit to contain the cable and has no concrete cover.
- The water crossing locations listed in the petition are listed as Public Lakes and Ponds on the DES official list of public waters in which RSA 371:17 is applicable

(See):

<http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf>

2. Review of public need and public impact.

The Safety Division's review of the petition finds the petition to be in conformance with the applicable sections of the NESC C2-2002.

Staff has determined, after reviewing the petition, that the water crossings require a license under RSA 371:17. As overhead electric service to the island is impractical because of the large span from Center Harbor Neck to Kimball Island, and the existence of a previously laid submarine route, the Derrs have demonstrated a public need for the crossings serving their family's seasonal vacation property.

3. Recommendations and Conclusions.

The Safety Division recommends that the Commission approve the Derrs' petition to construct and maintain these electric lines under and across Squam Lake in the Town of Center Harbor, New Hampshire, with the following conditions:

- a) Protective covering of the electric cable shall be maintained in any area that is less than six feet deep either via conduit, concrete covering or equivalent protective methods.
- b) The Commission should require that all future alterations, that may affect the public, to the crossings conform to the requirements of both the 2002 and 2007 editions of the NESC (Part 3), and be submitted to the Commission for its consideration 60 days prior to the alteration.
- c) The Derrs or assignees should be required to maintain and operate the crossings in conformance with the NESC Part 3.



Photo dated June 27 2012.

Segment 1: Looking South towards northern end Center Harbor Neck.

Pole showing NHEC Pole 143017/11 showing two 4 inch diameter conduits (with a cable in each) penetrating underground and covered by an 18 inch wide concrete channel upon entrance to Squam Lake. The original conduit was placed in 1979 with license granted by Puc Order No. 13,712, dated July 2, 1979 in Docket DE 79-124 A second conduit and cable was placed in 1996 but was not properly licensed. It begins to diverge at point beyond the photo.

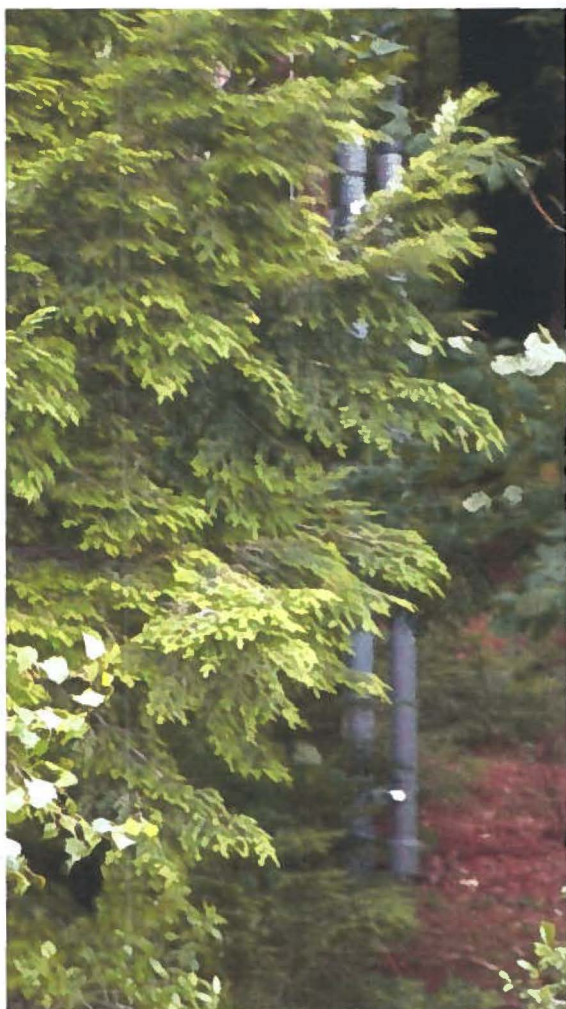


Photo dated June 27 2012.

Segment 1: Looking South towards northern end Center Harbor Neck.

Pole showing NHEC Pole 143017/11 showing close up of conduit risers penetrating Center Harbor Neck prior to entering water. The distance from the ground penetration to the water entrance is approximately 50 feet.



Photo dated July 1, 2011 taken by John Derr and included in NH DES Dredge and Fill Application of August 9, 2011. Segment 1 looking northward toward Kimball Island. Note on right portion of photo the underground electric cable has since been placed in conduit as shown in next photo. Dock is owned by John Derr and in the background is a pad mounted transformer rated 7.2 kv.



Photo dated June 27, 2012

Segment 1

Looking north towards southern end of Kimball Island showing conduit containing cable that enters John Derr property and heads toward the pad mounted transformer



Photo dated July 1, 2011 taken by John Derr and included in NH DES Dredge and Fill Application of August 9, 2011

Segment 2 Looking south towards John Derr property as it exits the property. This segment has been replaced with concrete cover and conduit for the shallow portion. Segment 2 is approximately 2600 feet in length and is directly layed on the bottom surface of Squam Lake on the eastern side of Kimball Island.



Photo dated June 27, 2012

Segment 2

Leaving the John Derr property and heading northward towards northeastern end of Kimball Island showing conduit containing cable with newly installed concrete cover. Note the difference between 2011 photo and 2012 which has the concrete cover. The end of Segment 2 approaches a rocky shoreline gap where the conduit is under rocks. Each end of segment 2 has concrete covers.

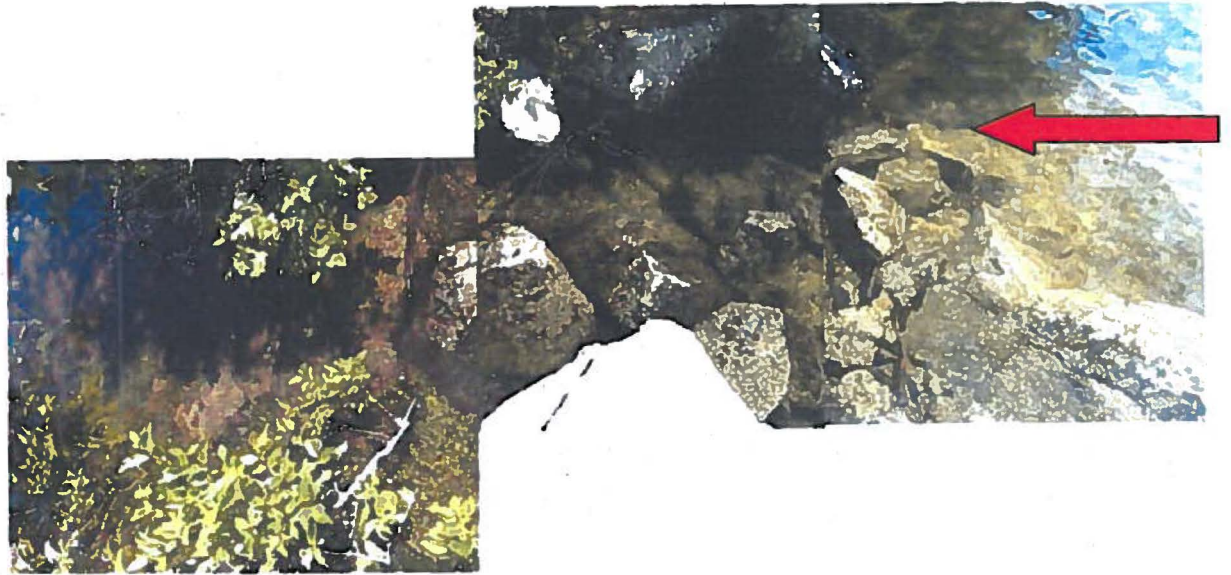


Photo dated July 1, 2011 taken by John Derr and included in NH DES Dredge and Fill Application of August 9, 2011. At the right end of the photo is the end of segment 2 near the rocky gap at the northern end of Kimball Island as approach Thomas Derr property from the eastern shore. The left end of the photo is where Segment 3 begins.

The red arrow indicates approximate location where cable goes through the rocks. The depth is approximately less than 1 foot below the water surface at this point.

Segment 3 has no photos since it was not approachable by land.