

In The Matter Of Underwater Crossing Of Lake Winnepesaukee  
(NH Electric Cooperative, Inc.)  
Prefiled Testimony of Dean Benton  
September 1, 2015

1 **Q. Please state your full name and occupation.**

2 A. My name is Dean Benton. I am employed as the Plant Administrator at the New Hampshire  
3 Electric Cooperative, Inc. ("NHEC"), 579 Tenney Mountain Highway, Plymouth, New  
4 Hampshire, 03264-3154.

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6 **Q. Are you familiar with the matter which is the subject of this petition?**

7 A. Yes, I am.  
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9 **Q. Please describe the proposed project.**

10 A. The project is intended to replace submarine cable that was damaged during the 2014-2015  
11 winter and continue to provide electrical service to a residence located on Twin Island in  
12 Lake Winnepesaukee in the Town of Tuftonboro. The plan which is attached to this pre-filed  
13 testimony as Exhibit A shows a layout of the proposed line. The cable run is planned to  
14 begin at NHEC Pole #16503.2/7 at the Paveglio Trust Property, Tax Map 2, Lot 66 on Allen  
15 Road in the Town of Tuftonboro. From there, the cable will enter the lake for a distance of  
16 about 1,700 feet to the shoreline of the Hart Realty Trust property on Twin Island, to a  
17 concrete pad #16503.2/7.1 on Twin Island. The member's meter will be a short distance  
18 from the pad. NHEC will utilize existing easements for the properties involved, attached as  
19 Exhibit B and Exhibit C.  
20

21 **Q. Who will install the conduit and cable?**

22 A. The conduit, submarine cable and termination vault will be re-constructed by a contractor  
23 from an NHEC approved listing. All of the contractors on this list have historically been  
24 proven to meet NHEC construction standards and the National Electrical Safety Code.  
25 NHEC will inspect the installation prior to energizing, and ownership of the line then will be  
26 formally transferred to NHEC for long term maintenance and repair.  
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**Q. Has a permit been obtained from the Department of Environmental Services?**

A. The approved Shoreland Permit #2015-01976 is attached as Exhibit D. The applications are pending at this time at the Department of Environmental Services, in an effort to expedite the notification to the Public Utilities Commission of this project, testimony and petition are being presented now. The approved Permits will be forwarded upon receipt. Copies of the two "Notice of Acceptance of Permit Application" letters and permit status obtained from the OneStop website as of 8/31/15 are attached to this petition as Exhibits E and F.

**Q. How many residences will this line service?**

A. This line will service one residence on each of the Twin Islands, the Hart Realty Trust property where the NHEC cable will end at the transformer and serve two meters, the second meter feeds a privately owned cable to the second Twin Island, also known as "Gem".

**Q. Are there any abutters on Twin Island?**

A. No.

**Q. Is there currently any electrical line which services Twin Island?**

A. Yes, but it was damaged by lake ice and needs to be replaced.

**Q. Is Twin Island in NHEC service territory?**

A. Yes.

**Q. Why is this submarine cable necessary?**

A. The submarine cable beneath Lake Winnepesaukee is necessary in order to provide service to the residence on Twin Island. If NHEC does not re-construct this underwater it cannot continue to provide electrical service to its existing members.

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**Q. Did you consider an overhead line?**

A. No, at a distance of 1,700 feet for the existing cable, replacing it in the same fashion with submarine cable is the only feasible solution.

**Q. Do you have anything else you wish to add to your testimony?**

A. Yes. I would like to add the following construction details and technical specifications for this project:

1. The design, construction and operation of this line will be in compliance with the National Electrical Safety Code. The cable installation will provide electrical power to one residence owned by Hart Realty Trust and one meter to the other Twin Island known as "Gem". This will be the only load on the proposed line at this time.
2. The primary feed line voltage is 7200 volts.
3. There is sufficient capacity on the existing distribution line to serve this load requirement. The typical existing load is 30 amps with a maximum load capacity of 100 amps.
4. The secondary line feed on Twin Island will be one (1) 200 amp service to a residence @ 120/240 volts and one meter location for the other island.
5. The cable manufacturer is Okonite. Technical specification sheet is at Exhibit G. Cable details are as follows:
  - a. Cable type - Submarine
  - b. Conductor material is aluminum
  - c. Conductor size is 1/0
  - e. Type of insulation is Triplex
  - f. Insulation thickness is 1.720 inches
6. The installation process will include cutting one tree on the Paveglio Trust property, Tax Map 2, Lot 66, (for this we have an approved Shoreland Permit #2015-01976) and trenching and burial of conduit/cable from pole #16503.2/7, located on that property into the lake to an underwater depth of 6' 0" per NHEC Construction Standard IUSUB (Exhibit H), then cable

1        layment on the lake floor. A minimum of two lengths of cable covers at each shoreline, per  
2        NHEC Construction Standard U7-6B (Exhibit I) will be installed per design at each  
3        shoreline. From shoreline on Twin Island, underground trench to concrete pad per attached  
4        plan (Exhibit A). Cable/conduit will have a minimum of 36" of cover in all trenches.  
5        Backfill of trenches will be with sand and removed backfill less rocks.

6        7. Environmental mitigation measures will be installation of silt fence per NHEC  
7        Construction Standard URD 1W-1 (Exhibit J).

8        8. Schedule #80 PVC conduit will be used for construction.

9        9. No new riser pole is required for this installation since the cable will terminate at a  
10        concrete vault.

11        11. Equipment used to install the cable will be a backhoe and barge. Cable will be hand laid  
12        by men on the barge. Cable covers will be placed by mechanical means.

13        12. NHEC currently has over 50 similar installations within its service territory.

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15        **Q. Does this conclude your testimony?**

16        **A. Yes, it does.**