

In The Matter Of Underwater Crossing Of Lake Winnepesaukee
(NH Electric Cooperative, Inc.)
Pre-filed Testimony of Dean Benton
May 12, 2017

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.

5
6 **Q. Are you familiar with the matter which is the subject of this petition?**

7 A. Yes, I am.
8

9 **Q. Please describe the proposed project.**

10 A. The project is intended to replace submarine cable that was found to have a deteriorating
11 neutral, (a condition that if not replaced could cause voltage problems in the future) so that
12 NHEC can continue to provide electrical service to residences located on Bear Island in Lake
13 Winnepesaukee in the Town of Meredith. The plan which is attached to this pre-filed
14 testimony as **Exhibit A** shows a layout of the proposed line. The cable run is planned to
15 begin at NHEC Pole #115/186 on the Meredith Town Property, Tax Map U33, Lot 25 on
16 Cattle Landing in the Town of Meredith. From there, the cable will enter the lake for a
17 distance of about 1,785 feet to the shoreline of Bear Island and the property of Sheila T.
18 Gregg, Tax Map I06, Lot 7, is buried approximately 200 to pole #11525/33. NHEC will
19 utilize an existing pole license for the Town of Meredith property at Cattle Landing, attached
20 as **Exhibit B**, and an easement on the Sheila T. Gregg property on Bear Island as **Exhibit C**.

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

23 A. The conduit, submarine cable and termination vault will be re-constructed by a contractor
24 from an NHEC approved listing. All of the contractors on this list have historically been
25 proven to meet NHEC construction standards and the National Electrical Safety Code.
26
27
28

In The Matter Of Underwater Crossing Of Lake Winnepesaukee
(NH Electric Cooperative, Inc.)
Pre-filed Testimony of Dean Benton
May 12, 2017

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

Q. Has a permit been obtained from the Department of Environmental Services?

A. Yes. Copies of the Wetlands Permits are attached to this petition, the permit for Cattle Landing is attached as Exhibit D-1 and D-2 and the permit for Bear Island is attached as Exhibit E-1 and E-2.

Q. How many residences will this line service?

A. This line will service approximately 75 residences on Bear Island and goes on to serve another 83 members on 6 other islands in this area.

Q. Are there any abutters on Cattle Landing?

A. Yes. The pole license on this property is attached as Exhibit B.

Q. Are there any abutters on Bear Island?

A. Yes. The easement on this property is attached as Exhibit C.

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

A. Yes, but the cable was found to have a deteriorating neutral.

Q. Is Bear 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 residences on Bear Island and also Mark Island, Mink Island, Jolly Island, Dollar Island, Birch Island and Steamboat Island. If NHEC does not re-construct this underwater cable it cannot continue to provide electrical service to these existing members.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

Q. Did you consider an overhead line?

A. No, at a distance of approximately 1,785 feet for the existing cable, replacing it in the same fashion with submarine cable is the only feasible solution. An overhead line would also be a safety hazard for sailboats.

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.
2. The primary feed line voltage is 7200 volts.
3. There is sufficient capacity on the existing distribution line to serve this load requirement.
4. The typical existing load is 30 amps with a maximum load capacity of 100 amps.
5. Technical specification sheet is **Exhibit F**. 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 trenching and burial of conduit/cable from pole #, located on that property into the lake to an underwater depth of 6' 0" per NHEC Construction Standard IUSUB (**Exhibit G**), then cable layment on the lake floor. A minimum of two lengths of cable covers at each shoreline, per NHEC Construction Standard U7-6B (**Exhibit H**) will be installed per design at each shoreline. From shoreline on Bear Island, underground trench to concrete pad per attached plan (**Exhibit A**). Cable/conduit will have a

In The Matter Of Underwater Crossing Of Lake Winnepesaukee
(NH Electric Cooperative, Inc.)
Pre-filed Testimony of Dean Benton
May 12, 2017

1 minimum of 36" of cover in all trenches. Backfill of trenches will be with sand and removed
2 backfill less rocks.

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

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

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

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

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

11
12 **Q. Does this conclude your testimony?**

13 **A. Yes, it does.**
14