

In The Matter Of Underwater Crossing Of Lake Winnepesaukee
(NH Electric Cooperative, Inc.)
Prefiled Testimony of Dean Benton
February 4, 2013

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

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

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 provide electrical service to a residence located on Dollar Island in
11 Lake Winnepesaukee in the Town of Meredith. The staking sheets which are attached to this
12 prefiled testimony as Exhibit C show a layout of the proposed line. The cable run is planned
13 to begin at NHEC Pole #11525/61.1 on Bear Island in the Town of Meredith. From there,
14 the cable will run underground for a distance of about 70 feet to the shore line of Lake
15 Winnepesaukee, then underneath Lake Winnepesaukee for a distance of about 2,570 feet to a
16 new concrete vault #11525/61.2 to be constructed on Dollar Island. The member's meter
17 will be on a shed about twenty feet from the vault. Two easements for construction of this
18 line are needed, and have been received, one easement signed by the Merrimack Valley
19 YMCA Inc. for Bear Island (attached as Exhibit D) and one easement signed by Dollar Island
20 LLC for Dollar Island, (attached as Exhibit E).

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

23 A. The conduit, submarine cable and termination vault will be constructed by a contractor from
24 an NHEC approved listing. All of the contractors on this list have historically proven to meet
25 NHEC construction standards and the National Electrical Safety Code. NHEC will inspect
26 the installation prior to energizing, and ownership of the line then will be formally
27 transferred to NHEC for long term maintenance and repair.
28

1
2 **Q. Has a permit been obtained from the Department of Environmental Services?**

3 A. Yes. Copies of the Wetlands Permits are attached to this petition, the permit for Bear Island
4 is attached as Exhibit A and the permit for Dollar Island is attached as Exhibit B.
5

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

7 A. This line will service one residence on Dollar Island, owned by Dollar Island LLC.
8

9 **Q. Are there any abutters on Dollar Island?**

10 A. No. At present, no other residences are located on Dollar Island. Dollar Island LLC owns
11 Dollar Island which is the termination point. The easement is attached at Exhibit E.
12

13 **Q. Are there any abutters on the shore of Lake Winnepesaukee?**

14 A. No. The Merrimack Valley YMCA Inc. owns the land on Bear Island which is the take-off
15 point of the cable. An easement for construction is attached as Exhibit D.
16

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

18 A. No.
19

20 **Q. Is Dollar Island in NHEC service territory?**

21 A. Yes.
22

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

24 A. The underground line beneath Lake Winnepesaukee is necessary in order to provide service
25 to the residence on Dollar Island. If NHEC does not construct this underwater line, the
26 residence on Dollar Island will receive no electrical service from NHEC.
27

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

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1 A. Yes. However, given the distance which must be traveled between the islands (2,570 feet),
2 construction of an overhead line is not feasible. The underground conduit proposed here is
3 the only technically sound solution, will not be obtrusive to the general public, and will
4 minimize the chance that the cable will interfere with the public safety or the public
5 enjoyment of Lake Winnepesaukee or the surrounding shorelines.

6
7 **Q. Do you have anything else you wish to add to your testimony?**

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

10 1. The design, construction and operation of this line will be in compliance with the National
11 Electrical Safety Code. The cable installation will provide electrical power to one residence
12 owned by Dollar Island LLC. This will be the only load on the proposed line at this time.

13 2. The primary feed line voltage is 7200 volts.

14 3. There is sufficient capacity on the existing distribution line to serve this load requirement.
15 The typical existing load is 30 amps with a maximum load capacity of 100 amps.

16 4. The secondary line feed on Dollar Island will be one (1) 200 amp service to a residence @
17 120/240 volts.

18 5. The cable manufacturer is Okonite. Technical specification sheet is at Exhibit F. Cable
19 details are as follows:

20 a. Cable type - Submarine

21 b. Conductor material is aluminum

22 c. Conductor size is 1/0

23 e. Type of insulation is Triplex

24 f. insulation thickness is 1.720 inches

25 6. The installation process will include trenching and direct burial of conduit/cable from pole
26 # NHEC located Bear Island to an underwater depth of 6' 0" per NHEC Construction
27 Standard ISUB (Exhibit G), then cable layment on the lake floor. A minimum of two lengths
28 of cable covers at each shoreline, per NHEC Construction Standard U7-6B (Exhibit H) will

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1 be installed per design at each shoreline. From shoreline on Dollar Island, underground
2 trench to concrete vault per attached plan (Exhibit C). Cable/conduit will have a minimum of
3 36" of cover in all trenches. Backfill of trenches will be with sand and removed backfill less
4 rocks.

5 7. Environmental mitigation measures will be installation of silt fence per NHEC
6 Construction Standard URD 1W-1 (Exhibit I) and approved Wetlands Permits, (Exhibits A
7 and B).

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

9 9. No riser pole is required on Dollar Island since cable will terminate at a concrete vault.

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

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

13
14 **Q. Does this conclude your testimony?**

15 A. Yes, it does.