

In The Matter Of Underwater Crossing Of Lake Winnepesaukee
(NH Electric Cooperative, Inc.)
Prefiled Testimony of Dean Benton
October 22, 2012

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 Round Island in
11 Lake Winnepesaukee in the Town of Moultonborough. The staking sheets which are attached
12 to this prefiled testimony as Exhibit C show a layout of the proposed line. The cable run is
13 planned to begin at NHEC Pole #14409/20.3 on Big Goodwin Island in the Town of
14 Moultonborough. From there, the cable will run underground for a distance of about 85 feet
15 to the shore line of Lake Winnepesaukee, then underneath Lake Winnepesaukee for a distance
16 of about 360 feet under concrete covers and then the rest of the way on the lake bottom 1,390
17 feet to a new concrete vault #14409/20.4 to be constructed on Round Island, the member's
18 meter will be on a post near the vault and the service wire from the meter to the building will
19 be owned by the member, Two easements for construction of this line are attached,
20 (Exhibit D and Exhibit E, one easement signed by H. Douglas and Mal T. Merrill and David
21 and Suzanne Maybee, for Big Goodwin Island and an easement signed by Linden G. North
22 and Kelly A. Keenan) to this pre-filed testimony.
23

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

25 A. The conduit, submarine cable and termination vault will be constructed by an NHEC-
26 approved construction company. This contractor has historically proven to meet NHEC
27 construction standards and the National Electrical Safety Code. NHEC will inspect the

1 installation prior to energizing and ownership of the line will be formally transferred to
2 NHEC for long term maintenance and repair.
3
4

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

6 A. Yes. Copies of the Wetlands Permits are attached as Exhibits A and B to this petition.
7

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

9 A. This line will service one residence on Round Island, owned by Linden G. North and Kelly
10 A. Keenan, P.O. Box 637 Moultonborough, NH 03254
11

12 **Q. Are there any abutters on Round Island?**

13 A. No. At present, no other residences are located on Round Island. Linden G. North and Kelly
14 a. Keenan own Round Island which is the termination point. The easement is attached at
15 Exhibit E.
16

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

18 A. No. H. Douglas and Mal T. Merrill and David and Suzanne Maybee own the land on Big
19 Goodwin Island which is the take-off point of the cable. An easement for construction is
20 attached as Exhibit D.
21

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

23 A. No.
24

25 **Q. Is Round Island in NHEC service territory?**

26 A. Yes.
27

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

1 A. The underground line beneath Lake Winnepesaukee is necessary in order to provide service
2 to the residence on Round Island. If NHEC does not construct this underwater line, the
3 residence on Round Island will receive no electrical service from NHEC.
4

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

6 A. Yes. However, given the distance which must be traveled between the islands (1,750 feet),
7 construction of an overhead line is not feasible. The underground conduit proposed here is
8 the only technically sound solution, will not be obtrusive to the general public, and will
9 minimize the chance that the cable will interfere with the public safety or the public
10 enjoyment of Lake Winnepesaukee or the surrounding shorelines.
11

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

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

15 1. The design, construction and operation of this line will be in compliance with the National
16 Electrical Safety Code. The cable installation will provide electrical power to one residence
17 owned by Linden G. North and Kelly A. Keenan. This will be the only load on the proposed
18 line at this time.

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

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

22 4. The secondary line feed on Round Island will be one (1) 200 amp service to a residence
23 @ 120/240 volts.

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

26 a. Cable type - Submarine

27 b. Conductor material is aluminum

28 c. Conductor size is 1/0

1 e. Type of insulation is Triplex

2 f. insulation thickness is 1.720 inches

3 6. The installation process will include trenching and direct burial of conduit/cable from pole
4 # NHEC located Big Goodwin Island to an underwater depth of 6' 0" per NHEC
5 Construction Standard ISUB (Exhibit G), then cable layment on the lake floor. A minimum
6 of two lengths of cable covers at each shoreline, per NHEC Construction Standard U7-6B
7 (Exhibit H) will be installed per design at each shoreline. From shoreline on Round Island,
8 underground trench to concrete vault per attached plan (Exhibit C). Cable/conduit will have
9 a minimum of 36" of cover in all trenches. Backfill of trenches will be with sand and
10 removed backfill less rocks.

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

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

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

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

18 12. NHEC currently has 52 similar installations within its service territory.

19 13. NHEC will do everything it can to ensure service to the islands is as reliable as possible.

20 In the winter season, weather conditions and the condition of the ice pack on a lake dictate
21 whether or not it is safe for line crews and equipment to travel to an island for restoration
22 purposes. In the fall and spring, when the ice is not safe, boats, snowmobiles, or ATVs
23 cannot get to the islands. Any notices and warnings issued by the New Hampshire
24 Department of Fish and Game Department relating to the condition and safety of the ice will
25 be adhered to by Cooperative employees. Ice storms, windstorms, lightning storms and other
26 adverse weather conditions can also delay restoration of service to an island for unspecified

In The Matter Of Underwater Crossing Of Lake Winnepesaukee
(NH Electric Cooperative, Inc.)
Prefiled Testimony of Dean Benton
October 22, 2012

1 lengths of time. In the summer season, when boat service is available, crews will be sent to
2 the islands as soon as possible after the report of an outage is received.

3
4 **Q. Does this conclude your testimony?**

5 A. Yes, it does.