

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 has failed, and needs to be replaced as  
11 soon as possible so that NHEC can continue to provide electrical service to residences  
12 located on Pine Island and Three Mile Island in Lake Winnepesaukee in the Town of  
13 Meredith. The plan which is attached to this pre-filed testimony as **Exhibit A** shows a layout  
14 of the proposed line. The cable run is planned to begin at NHEC Pole #11511/3 on the  
15 property of JoAnn and Edward Wilson, Tax Map U36, Lot 4 off Powers Road in the Town of  
16 Meredith. From there, the cable will be buried for about 162 feet and then enter the lake for  
17 a distance of about 440' feet to the shoreline of Pine Island and the property of the Ahrens  
18 Family Trust, Tax Map I01, Lot 11, and then buried approximately 40 feet up from the  
19 shoreline to pole #11511/6. NHEC will utilize two existing easements, one from Gretchen S.  
20 Shattuck for the Wilson Property attached as **Exhibit B**, and one covering the Ahrens Family  
21 Trust property from H. R. Knight on Pine Island as **Exhibit C**.  
22

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

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

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

3 A. Yes. Copies of the Wetland Permits are attached to this petition, the Wetlands Utility  
4 Maintenance Notification is attached as **Exhibit D** and the two Shoreland Permit by  
5 Notifications are attached as **Exhibit E-1** and **Exhibit E-2**.  
6

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

8 A. This line will service approximately 24 residences on Pine Island and Three Mile Island.  
9

10 **Q. Are there any abutters on the mainland ?**

11 A. Yes. The easement for this property is attached as **Exhibit A**.  
12

13 **Q. Are there any abutters on Pine Island?**

14 A. Yes. The easement on this property is attached as **Exhibit B**.  
15

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

17 A. Yes, the line has been in public waters for 44 years, the cable has failed and currently only  
18 has a temporary fix, it needs to be replaced as soon as possible before it fails again.  
19

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

21 A. Yes.  
22

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

24 A. The submarine cable beneath Lake Winnepesaukee is necessary in order to provide service to  
25 the residences on Pine Island and also Three Mile Island. If NHEC does not re-construct this  
26 underwater cable it cannot continue to provide electrical service to these existing members.  
27  
28

1  
2  
3 **Q. Did you consider an overhead line?**

4 A. No, at a total distance of approximately 700 feet for the existing cable, from one riser pole on  
5 the mainland to the riser pole on the island, replacing it in the same fashion with submarine  
6 cable is the only feasible solution. An overhead line would also be a safety hazard for  
7 sailboats.  
8

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

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

- 12 1. The design, construction and operation of this line will be in compliance with the National  
13 Electrical Safety Code.
- 14 2. The primary feed line voltage is 7200 volts.
- 15 3. There is sufficient capacity on the existing distribution line to serve this load requirement.
- 16 4. The typical existing load is 30 amps with a maximum load capacity of 100 amps.
- 17 5. Technical specification sheet is **Exhibit F**. Cable details are as follows:
  - 18 a. Cable type - Submarine
  - 19 b. Conductor material is aluminum
  - 20 c. Conductor size is 1/0
  - 21 e. Type of insulation is Triplex
  - 22 f. Insulation thickness is 1.720 inches
- 23 6. The installation process will include trenching and burial of conduit/cable from riser pole  
24 #11511/3, located on that property into the lake to an underwater depth of 6' 0" per NHEC  
25 Construction Standard IUSUB (**Exhibit G**), then cable layment on the lake floor. A  
26 minimum of two lengths of cable covers at each shoreline, per NHEC Construction Standard  
27 U7-6B (**Exhibit H**) will be installed per design at each shoreline. From shoreline on Pine  
28 Island, underground trench to riser pole 11511/6 per attached plan (**Exhibit A**).

In The Matter Of Underwater Crossing Of Lake Winnepesaukee  
(NH Electric Cooperative, Inc.)  
Pre-filed Testimony of Dean Benton  
May 23, 2018

1 Cable/conduit will have a minimum of 36" of cover in all trenches. Backfill of trenches will  
2 be with sand and removed 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