



Question 1. Please provide a description of the review process you use to rate the companies you contract with for storm restoration.

Response

NHEC does not have a formal rating system for contractors. The contractors are supervised and managed by an Operations Contractor Supervisor who oversees bidding qualifications and standards to ensure work performed has met the required specifications. The contractors who are on the approved bidder's roster (either line or tree) have demonstrated over time that they are well trained in their profession, work safely, use good judgment when constructing or repairing lines, adhere to NHEC construction standards, show initiative when accomplishing work assignments and demonstrate respect for their workers, NHEC members and the general public. Contractors must comply with the above requirements or they are immediately released from duty. In addition, the majority of local line and tree contractor crews have developed a great deal of knowledge of NHEC's electrical distribution system.

NHEC also utilizes two other important resources for storm response; through our mutual aid agreements with Northeast Public Power Association (NEPPA) and other Electric Cooperatives in New England covering the New England area and nation-wide. Ratings are not as critical since both these groups have similar work practices and similar construction standards. As mentioned earlier, if adhering to standards and/or practices becomes an issue then the contract crews are released immediately.

The Cooperatives who assisted have similar safety and apprentice job training programs as NHEC which conform to local, state and federal regulations. These crews are accompanied by NHEC personnel during storm events and work by similar construction standards as NHEC, are proficient pole climbers and the challenges of off road construction/repairs are accomplished utilizing their employees and equipment in the most effective manner.



Question 2. Please provide the rating for each company you contracted with for the December ice storm.

Response

All contractors utilized during the December Ice Storm met the requirements as defined in question one. NHEC does not have a numerical or alphabetical contractor rating; contractors are approved based on their history and performance with NHEC. The companies that provided assistance during the ice storm were ICR and JCR from Raymond, NH, for line contractors. The right of way contractors were: Lucas Tree from Plymouth NH; Top Notch from Campton NH; Asplundh Tree from York Maine; Lewis Tree from Rochester New York; Evans Tree from Grafton New Hampshire; and Keene Tree from Keene New Hampshire. Again, these crews all met our requirements defined in question one.

The Co-op crews from Vermont, Maine, New York and Pennsylvania met or exceeded our expectations because of the very similar work practices, construction standards, and comparable equipment needed in a more rural setting.



Question 3. Were any contract companies asked to be dismissed during the storm and, if so, please state the reason they were dismissed.

Response

NHEC did not dismiss any contract companies during the December 2008 Ice Storm.

Question 4. Please provide a detailed description of the decision process used to determine whether a new service or circuit should be constructed using underground or overhead lines.

Response

NHEC tries to encourage all new services to be installed underground. However, due to the higher expense the decision is ultimately up to the member requesting the service. During the planning process for construction of system improvements on the NHEC system, certain projects are analyzed from a reliability and economic standpoint to determine the type of construction methods to be implemented.

In addition, NHEC has conducted cost analysis and cost comparisons between underground distribution and overhead distribution at various voltages that are more project specific ranging from individual member residential single home applications to multi-home developments to center of town applications where a town wants to take their overhead utilities and bury them underground. These are project specific because based on our service territory, and specifically the geography, there is no one general cost that can be reasonably applied to underground service. There is a great abundance of granite and other rock in the ground that can potentially add significant cost to a project and it is not consistent throughout the service territory. Physical geography and terrain and its make up are what drive the higher initial installation cost of underground vs. overhead.

NHEC does, in specific applications, promote the use of underground service. The most cost effective underground application is in new construction work. The cost effectiveness of this application works because usually there is major road construction occurring for a development which allows underground utilities to become part of the road excavation project. In residential single home applications where driveways and foundations are being installed, this allows for excavation equipment to be utilized at the site and utilities can run underground within the newly excavated driveway.



It is very difficult to justify removing existing overhead line construction and replacing it with underground as a stand alone project. It is cost prohibitive unless there is significant road and excavation work being performed as part of another infrastructure project; for example there may be a water or sewer project where excavation is going to occur.

There are other areas of line construction that NHEC has addressed with regards to improving reliability of service with overhead electric distribution. In 2005 NHEC completed a comprehensive review and revision of its Construction Standards. As part of the review the standard pole was increased from a 35 foot class 4 to a 40 foot class 3 and the maximum span length was reduced or limited based on the latest NHEC loading requirements. The most significant revision was a change of our "Standard" overhead conductor from bare wire to covered conductor. These measures were done primarily to reduce the impact of storm related events and tree contact on the system. We routinely review the costs of construction for all line extensions and improvements.

Since our goal is to provide the least cost service to our membership while still maintaining a "Best in Class" infrastructure, we typically assess both types of installation, underground and overhead, to determine cost and practicality of installation at the time of design as well as ongoing and future maintenance.



Question 5. Please provide miles of underground on your system by voltage class.

Response

NHEC has 336 miles of 15kV, 47 miles of 25kV and 0.1 mile of 35kV. All miles of line indicated are primary lines only.



Question 6. Please provide a map indicating your underground lines as well as descriptions of the location of your underground circuits.

Response

Please see Attachment Question # 6 - Map of Underground Lines.



Question 7. Has your company evaluated whether customer's decisions to refuse trim trimming contributed to outages or their duration during the ice storm? If yes, please provide the results of such evaluation.

Response

NHEC's Right of Way department administers member requests for limited trimming/clearing that would contribute to outages during a storm. The department keeps detailed records of those members, and their limited clearing/trimming requests. Of approximately 4,500 miles of primary line that we maintain, 13 miles have some level of member trimming /clearing request, some of which are included along scenic roads located in NHEC service territory. These areas are treated on a case by case basis, covered in 3, 7 or 10 year clearing cycles. In addition, our Utility Arborist Supervisor revisits those members from time to time to encourage them to enable more clearing/trimming on the next cycle. NHEC member requests for restricted clearing/ trimming had **minor** impact, during the recent ice storm related event.



Question 8. Please provide the process used to disseminate information to utility call center staff and any other utility staff responsible for responding to customer inquiries during an outage. Please include the frequency of the information updates and the age of the information provided in the updates.

Response

Outage information is distributed automatically and immediately to the call center and other utility staff members as it is populated and managed in the Outage Management System (OMS) system.

Outage or trouble calls come in via the Interactive Voice Response (IVR) system, the Data Collection Information system (DCI) outage reporting device, or through a member service representative taking a member call. These calls, once received in the OMS, either become new outages, or part of known existing outages. At that point, information such as outage number, members who called and those services that are affected, substation and circuit, protective device with pole number and road location, operating district, crew assignments and status, etc. is readily available. The OMS Dispatchers, call center personnel and utility staff all have access to this outage data via several software programs installed on most employee's computers. Outage information is also readily available through the Google map-based outage map on the NHEC website. As information is updated, such as possible outage cause, estimated time of restoration, or any pertinent comments, it is integrated with the IVR system. Therefore, new members calling in who are part of an existing outage can be updated with this outage information as well.



Question 9. Please provide the trunking capacity of the call center or centers that handle customer calls. What level of staffing is normally maintained at those call centers and what level was maintained during the December 2008 ice storm? What call volume do these levels of staffing correspond to? What was the daily call volume for the period December 11 – December 31, 2008? How does that compare to normal call volumes?

Response

Normal call center staffing levels are Monday through Friday from 8 a.m. to 5 p.m., excluding holidays, with 10 full time employees. For off hours (from 5 p.m. to 8 a.m. and on holidays) only 1 dispatcher is on duty to take calls.

During the ice storm the call center was staffed 24 hours a day starting on 12/11/08 at approximately 9:30 p.m. through Thursday 12/18/08 at 5 p.m. with 18 call takers at its peak. After 5 p.m. on Thursday, December 18th dispatch was able to field the calls after hours. Members can also report their outage via the internet or by walking into the main office in Plymouth during normal business hours.

The Co-op's system has the capacity to handle a maximum of 115 inbound/outbound calls at one time; any inbound calls that exceed that limit automatically go to the IVR queue for the next available agent. Average daily inbound calls for the outage period from December 11th - 18th was *16,778 (this is for all calls received, both normal and outage); normal daily call volume average is 900.

* This number includes "overflow" calls, i.e. those calls that were not answered and received a busy signal.

In the attached 3 month daily summary provided by Paetec (our primary telephone & internet provider) you will see the cumulative out calls (out calls are calls sent from Paetic's switch to our incoming Primary Rate Interface phone lines) and overflow calls (calls which exceeded the maximum number of available incoming lines) from 12/11/2008 through 12/18/2008 are as follows:

Out Calls: 90,704
Overflow Calls: 23,813
Total: 117,517
Average Daily Calls: 16,778



Question 10. How is automation used in your call answering system to provide information to customers during an outage? What percentage of customers selected the menu option of speaking to a representative during the December 2008 ice storm? How does that percentage compare to the percentage of customers selecting the option of speaking to a representative under business as usual conditions?

Response

Please see the response to question #8 for how automation is used in our call answering system to provide outage information to members.

During the 2008 Ice Storm, 11,694 outage calls were logged; 77% of which were IVR calls, and 18% spoke to member service representatives. The remaining 5% of the calls were from the automated Data Collection Information (DCI) system. In comparison, since January 2009 to date, 8% of the outage calls received went to member service representatives. Also for comparison, from January 2008 to December 2008 (prior to the ice storm), 16% of the outage calls went to member service personnel.



Question 11. Please provide text(s) of the automated voice messages that customers would receive when calls were made during the ice storm outage.

Response

The member would hear an automated message from the IVR which our OMS updates.

Please find below the 2 scripts used during the outage. The first one was very generic and the automated message was updated a few times a day starting 12/12/08 through 12/16/08.

Script #1

You have reached New Hampshire Electric Co-ops Outage System. This message is being recorded at _____.

If you have a medical or other emergency please hang up and dial 9-1-1

NHEC has over _____members without power at the time of this recording,

As crews continue to make progress restoring power, in some areas you may find your neighbors have power and you do not. If you are still without power please stay on the line and report this to one of our representatives.

Due to the large number of outages causing increased call volume you may experience longer than normal wait times. You may find it more convenient to use our automated reporting system to report your outage. The information provided by the automated system is the same information the call takers rely on to give you status updates. The district office is currently updating the outage management system as information becomes available to them from the line crews.

Understandably, members who have been without power are anxious to know when it will be restored. At this time, we are unable to provide precise answers to individual locations, given the magnitude of the damage and debris that must be removed before wires and equipment can be reconnected or replaced. We continue to expect that it will take several more days before power to all



members is restored, and we strongly encourage members without power to make alternative arrangements for shelter.

We thank you for your patience as we work to restore all power as promptly and safely as we can, and remember to stay away from downed power lines.

Script #2 (This second automated message with the list of towns was used only on Thursday).

You have reached NHEC outage system. This message is being recorded at _____

Approximately 2,000 Co-op members remain without power at the time of this update. Line crews worked to restore power to approximately 2,000 members within the past 24 hours.

The remaining outages are all within the Co-op's Raymond District operating area, where all available crews have been assigned today.

The focus of work today will be the repair of lines that originate from substations in Chester, Brentwood and Lee. These are higher voltage lines that can serve hundreds or thousands of residences and businesses. Large outages include:

385 members served by a damaged line in Fremont, Sandown, Derry and Chester.

300 members served by a damaged line in Deerfield, Candia, Allenstown and Raymond

400 members served by a damaged line in Kingston, Danville, Fremont and Brentwood

405 members served by a damaged line in Lee, Durham and Nottingham

While these and other larger outages will be a priority, crews will also be at work repairing the dozens of smaller outages affecting fewer than 10 members each. NHEC expects to be able to restore power to all members by the afternoon of Saturday, December 20.



Question 12. Please describe the process for identifying and prioritizing service restoration to medical emergency customers as defined in Puc 1202.12.

Response

NHEC does not have a different process for restoring members with medical priority. However, at the local district center level when the information is known it will be addressed on a case by case basis by evaluating the situation according to the severity of the damage. If restoration can be reasonably accomplished in a short period of time they will make every effort to do so. If not, the members will be notified with as much information as possible so other accommodations can be made if necessary.



Question 13. Please provide, by town, the number of medical emergency customers that are listed in your company computer systems.

Response

Please see table below, listing all active accounts representing the number of people that have a medical priority flag, by town.

Town Code	Town	Count by Town
AD	ALLENSTOWN	2
AF	ALTON	11
AH	ANDOVER	6
AN	BARNSTEAD	5
AP	BARTLETT	5
BG	BRIDGEWATER	2
BL	CAMPTON	9
BM	CANAAN	1
BN	CANDIA	2
BR	CENTER HARBOR	1
BT	CHARLESTOWN	4
BV	CHESTER	6
CB	CLARKSVILLE	1
CF	CONWAY	5
CK	DANBURY	2
CL	DANVILLE	2
CM	DEERFIELD	4
CO	DERRY	4
CS	DORCHESTER	2
DB	EASTON	1
DF	ENFIELD	1
DG	EPPING	1
DH	EPSOM	1
DL	FARMINGTON	2
DP	FRANKLIN	1
DR	FREEDOM	1
DS	FREMONT	1
DT	GILFORD	1
DU	GILMANTON	3
EA	GOSHEN	1
EB	GRAFTON	3

Town Code	Town	Count by Town
EH	GROTON	3
EO	HANOVER	1
ES	HAVERHILL	1
EV	HILL	4
FB	HOLDERNESS	1
FP	LANDAFF	1
FT	LEE	2
FV	LINCOLN	3
GC	LONDONDERRY	2
GF	LYMAN	1
GP	MEREDITH	11
HB	MOULTONBORO	6
HH	NEW DURHAM	4
HK	NEW HAMPTON	1
HO	NEWPORT	1
HR	NORTHFIELD	8
HS	NORTHWOOD	3
HU	NOTTINGHAM	4
II	PLAINFIELD	1
IK	PLYMOUTH	7
IN	RAYMOND	13
IU	RUMNEY	5
JB	SANDOWN	1
JM	STEWARTSTOWN	2
KF	THORNTON	5
KI	TUFTONBORO	4
KJ	UNITY	4
KN	WARREN	3
KT	WENTWORTH	2
LA	WILMOT	1
LF	WOODSTOCK	1
	Total	197



Question 14. Please indicate the number of medical need inquiries to each call center during the storm outage each day. Please also provide the completed restoration time for each.

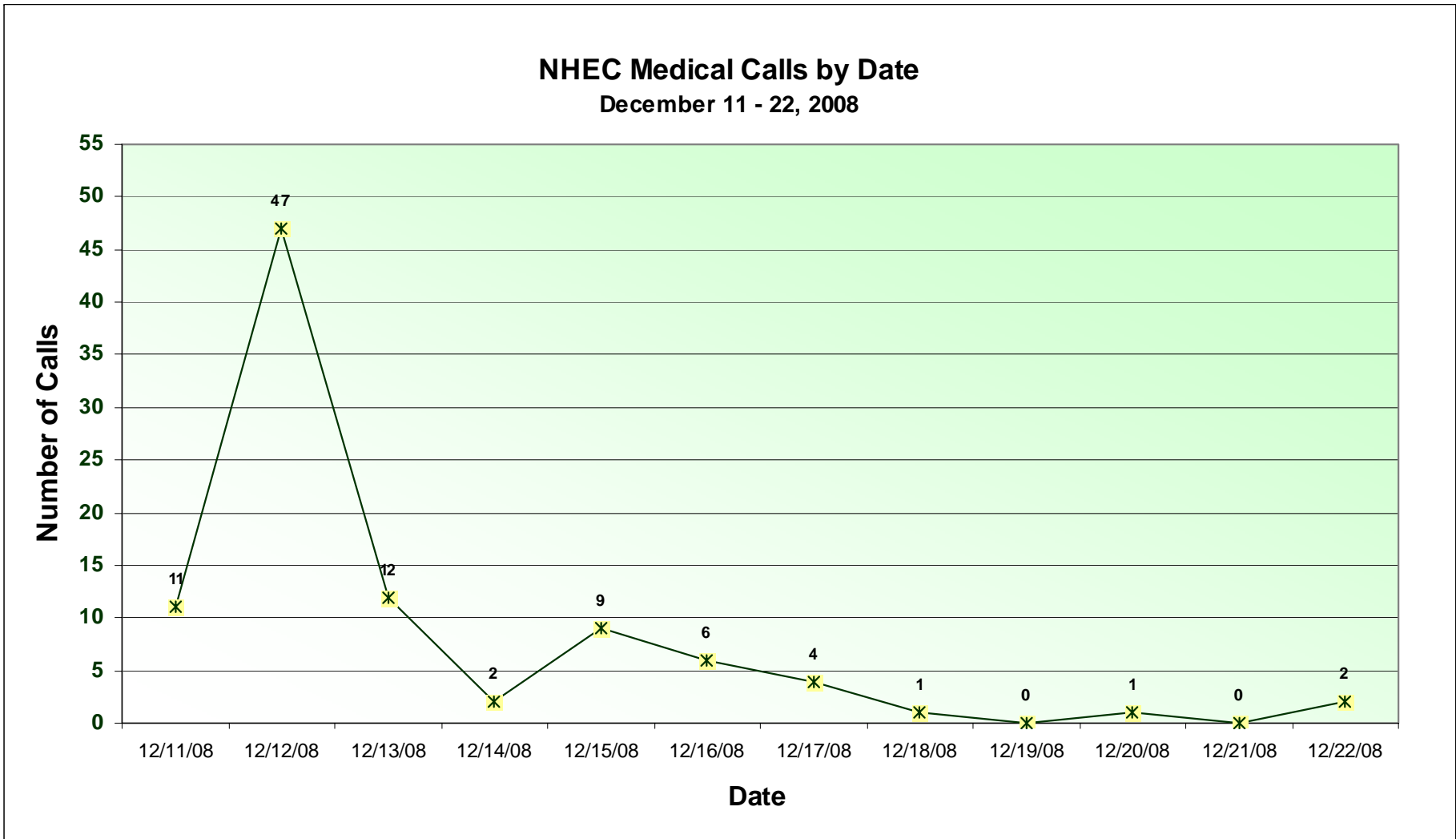
Response

The following data details the medical calls as they were received by date and time and restoration date and time for the period of December 11th through the 22nd of 2008.

Phone Call Number	Outage Number	Date / Time of Call	Outage Restoration Date / Time
1	31395	12/11/2008 22:30:17	12/12/2008 01:39:45
2	31401	12/11/2008 22:36:20	12/12/2008 01:43:33
3	31395	12/11/2008 22:39:34	12/12/2008 01:39:45
4	31401	12/11/2008 22:45:45	12/12/2008 01:43:33
5	31361	12/11/2008 23:00:50	12/14/2008 17:20:00
6	31401	12/11/2008 23:09:14	12/12/2008 01:43:33
7	31424	12/11/2008 23:24:56	12/13/2008 11:52:13
8	31438	12/11/2008 23:46:32	12/13/2008 16:20:50
9	31438	12/11/2008 23:50:40	12/13/2008 16:20:50
10	31452	12/11/2008 23:57:11	12/13/2008 16:21:00
11	31447	12/11/2008 23:57:58	12/12/2008 01:12:36
12	31463	12/12/2008 00:16:25	12/13/2008 14:06:43
13	31438	12/12/2008 00:23:47	12/13/2008 16:20:50
14	31401	12/12/2008 00:59:50	12/12/2008 01:43:33
15	31427	12/12/2008 01:46:53	12/13/2008 04:02:51
16	31438	12/12/2008 01:48:42	12/13/2008 16:20:50
17	31545	12/12/2008 02:35:21	12/12/2008 12:21:45
18	31470	12/12/2008 02:42:27	12/17/2008 09:27:56
19	31474	12/12/2008 02:49:09	12/12/2008 03:50:00
20	31533	12/12/2008 02:52:26	12/12/2008 05:42:17
21	31361	12/12/2008 03:11:05	12/14/2008 17:20:00
22	31533	12/12/2008 03:47:28	12/12/2008 05:42:17
23	31585	12/12/2008 03:52:59	12/13/2008 10:15:44
24	32570	12/12/2008 04:00:26	12/13/2008 13:06:22
25	31585	12/12/2008 04:07:39	12/13/2008 10:15:44
26	31463	12/12/2008 05:03:25	12/13/2008 14:06:43
27	31516	12/12/2008 05:07:38	12/13/2008 18:26:40
28	31463	12/12/2008 05:30:00	12/13/2008 14:06:43
29	31896	12/12/2008 05:52:15	12/12/2008 06:57:50
30	31463	12/12/2008 06:05:51	12/13/2008 14:06:43
31	31755	12/12/2008 06:16:41	12/12/2008 15:05:09
32	31461	12/12/2008 06:52:01	12/13/2008 14:07:02
33	31945	12/12/2008 06:59:12	12/12/2008 09:39:14
34	31945	12/12/2008 07:03:27	12/12/2008 09:39:14
35	31814	12/12/2008 07:03:49	12/12/2008 11:55:59
36	31362	12/12/2008 07:18:03	12/14/2008 08:52:23
37	31450	12/12/2008 07:23:56	12/15/2008 17:57:14
38	31814	12/12/2008 07:27:17	12/12/2008 11:55:59
39	31585	12/12/2008 07:36:56	12/13/2008 10:15:44
40	31452	12/12/2008 07:41:32	12/13/2008 16:21:00
41	31829	12/12/2008 07:43:48	12/12/2008 09:21:57
42	31463	12/12/2008 07:51:30	12/13/2008 14:06:43
43	31927	12/12/2008 07:55:51	12/12/2008 09:04:35
44	31514	12/12/2008 08:05:21	12/12/2008 16:36:12
45	31514	12/12/2008 08:06:01	12/12/2008 16:36:12
46	31585	12/12/2008 09:07:53	12/14/2008 09:39:22
47	31461	12/12/2008 09:20:40	12/13/2008 14:07:02

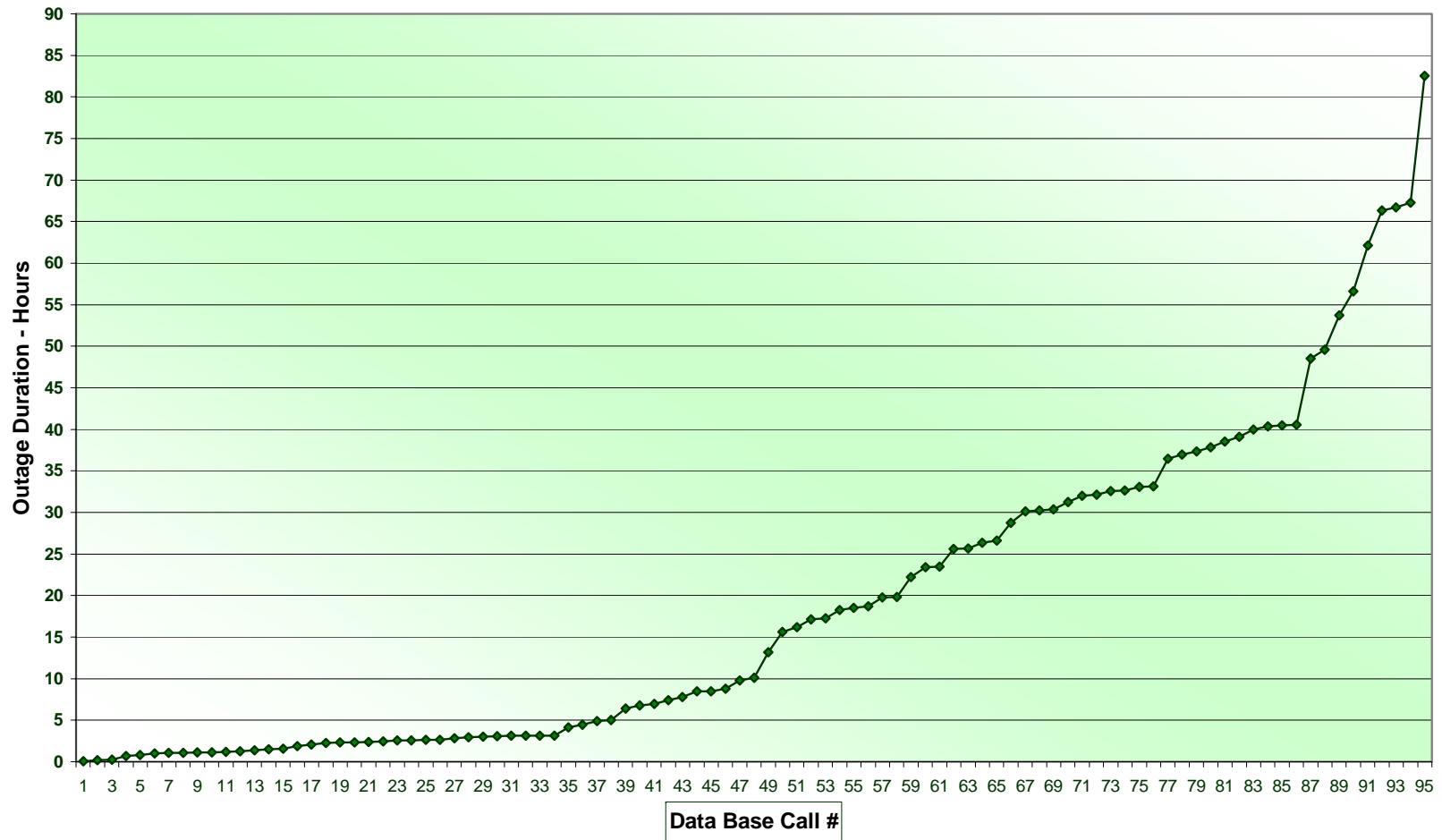
Phone Call Number	Outage Number	Date / Time of Call	Outage Restoration Date / Time
48	32130	12/12/2008 09:40:39	12/12/2008 13:49:52
49	32021	12/12/2008 09:47:57	12/12/2008 12:52:12
50	32008	12/12/2008 09:57:58	12/12/2008 11:28:46
51	31427	12/12/2008 10:46:26	12/13/2008 04:02:51
52	32000	12/12/2008 12:06:34	12/12/2008 17:10:12
53	31803	12/12/2008 12:50:07	12/12/2008 13:56:36
54	32473	12/12/2008 13:03:14	12/13/2008 12:26:59
55	32353	12/12/2008 16:18:13	12/13/2008 11:02:29
56	31538	12/12/2008 16:25:45	12/12/2008 23:51:49
57	32377	12/12/2008 16:36:16	12/13/2008 11:09:12
58	32474	12/12/2008 17:16:18	12/13/2008 09:28:08
59	32539	12/13/2008 00:13:56	12/13/2008 18:29:28
60	31452	12/13/2008 08:33:22	12/13/2008 16:21:00
61	32451	12/13/2008 09:43:12	12/13/2008 16:06:17
62	31520	12/13/2008 10:37:49	12/13/2008 17:37:06
63	32662	12/13/2008 11:54:47	12/13/2008 14:18:20
64	32625	12/13/2008 13:56:04	12/16/2008 08:38:58
65	32451	12/13/2008 15:02:35	12/13/2008 16:06:17
66	32759	12/13/2008 16:53:28	12/15/2008 07:58:43
67	32572	12/13/2008 17:10:18	12/14/2008 08:46:39
68	32755	12/13/2008 18:52:03	12/14/2008 14:42:30
69	32811	12/13/2008 19:03:54	12/14/2008 08:14:31
70	32702	12/13/2008 21:24:14	12/14/2008 17:12:05
71	33541	12/14/2008 08:14:37	12/16/2008 16:50:02
72	32947	12/14/2008 10:01:18	12/15/2008 11:43:03
73	33103	12/15/2008 08:20:11	12/15/2008 10:48:00
74	32539	12/15/2008 09:48:34	12/15/2008 12:09:40
75	32814	12/15/2008 10:25:19	12/16/2008 18:34:25
76	33335	12/15/2008 10:47:38	12/15/2008 20:53:35
77	33295	12/15/2008 11:41:56	12/15/2008 13:03:51
78	33132	12/15/2008 11:44:34	12/15/2008 12:00:55
79	33371	12/15/2008 13:22:16	12/15/2008 14:12:08
80	33384	12/15/2008 13:40:48	12/15/2008 15:46:12
81	33517	12/15/2008 20:54:51	12/16/2008 14:03:51
82	33069	12/16/2008 09:04:57	12/16/2008 11:39:38
83	33500	12/16/2008 10:06:01	12/18/2008 15:50:46
84	33455	12/16/2008 11:23:08	12/16/2008 14:03:42
85	33640	12/16/2008 11:28:11	12/17/2008 09:41:54
86	33670	12/16/2008 17:04:15	12/17/2008 16:35:02
87	33549	12/16/2008 20:12:10	12/18/2008 09:11:48
88	33690	12/17/2008 08:47:11	12/17/2008 11:55:47
89	33697	12/17/2008 11:21:45	12/17/2008 12:31:45
90	33760	12/17/2008 12:27:21	12/20/2008 07:45:12
91	33126	12/17/2008 13:02:26	12/17/2008 14:38:41
92	33831	12/18/2008 10:15:24	12/19/2008 12:36:09
93	34283	12/20/2008 21:55:51	12/20/2008 21:59:47
94	34317	12/22/2008 01:03:13	12/22/2008 04:12:19
95	34317	12/22/2008 04:01:13	12/22/2008 04:12:19

Following is a graphical representation of the number of medical calls received, by date for the period of December 11th through the 22nd.



Following is a graphical representation of the number of medical calls received, by duration December 11th through the 22nd.

**NHEC Medical Outage Calls by Duration
 December 11 - 22, 2008**



Question 15. Please identify all customer outreach and customer communications utilized during an outage to provide timely and responsive information to customers regarding the outage and projected restoration times.

Response

Member outreach - NHEC placed calls to all emergency shelters to provide updates regarding the outage and projected restoration times as we received them. NHEC also placed calls to town managers, police & fire chiefs in affected towns to update them on the progress of the restoration effort.

Member communication - NHEC provided our Member Solutions operators with projected restoration times, as they became known. Restoration times were also posted on our website and reported to both print and news media around the state.

1. During regular business hours or round-the-clock during major outage events, Member Solutions representatives speak directly to members on the telephone.
2. The NHEC website has a real-time outage map that provides outage information. During storm periods additional outage information with more detail is provided on an update page that is created during Major storms.
3. NHEC provides updates three times a day to New Hampshire media outlets during major outages. During the Ice Storm of 2008, WMUR, New Hampshire Public Radio and the Union Leader used their web sites to link to the storm update page on the NHEC web site.
4. During prolonged outage events, NHEC makes daily direct calls to officials in affected towns. During the Ice Storm of 2008, NHEC placed calls to all emergency shelters to provide updates regarding the outage and projected restoration times. NHEC also placed calls daily to town



managers, police chiefs and fire chiefs in affected towns to update them on the progress of the restoration effort.

5. During prolonged outage events, NHEC meets directly with town officials at local operations centers throughout the affected area.

6. In the instance of the December Ice Storm 2008, the Co-op began communicating its restoration efforts on the 4th day to the seventeen remaining towns still experiencing outages. Daily outreach calls were made to each of the towns and were directed to the appropriate fire and rescue, police or emergency center where one existed. Each town was provided with the latest estimate for the completion of restoration work and a direct call-back phone number should questions arise before the next Co-op outreach.

Question 16. Please describe situations when decisions to put in temporary repairs versus permanent repairs are made to expedite restoration. Who was responsible for making those decisions? How does this affect overall costs? Please give any examples during the December ice storm if this occurred, indicating where it occurred.

Response

NHEC did make temporary repairs when necessary within the following districts: Alton, Raymond, Meredith, Ossipee and Sunapee. The decision to make these repairs was by either the district supervisor or the line worker in charge of the repair situation. These employees are authorized to make this decision when the temporary repairs can be done safely and effectively. These types of repairs, i.e. broken pole tops, broken poles, broken cross arms, are accomplished while the workers are at the location, thus expediting the power restoration process benefitting the member. These are mostly off road damages requiring special equipment. The temporary repairs allows for the permanent corrections to be scheduled during the normal workday at a later date.

Examples:

1. The Chester Substation and Raymond Substation circuits were tied and separated to minimize an outage on the Raymond side due to a broken pole. The original outage affected approximately 200 members and through this process we minimized it to 3 or 4 members.
2. A Barnstead Substation 1 line was out due to a broken pole and lines down. Crews repaired the lines, made temporary repairs to the pole making sure it was safe and then energized the entire line. The pole was replaced a month later.



Question 17. PSNH Only: Shortly after the ice storm, PSNH began releasing a series of estimates by town of restoration levels and projected dates. Please supply all releases of information disseminated to the public.

Response

N/A



Question 18. PSNH Only: For each such update provided to the public, please provide actual restoration dates as compared to the estimated dates given - i.e., did the 95% of customers of a particular community get completed on the date of estimated restoration time. Please identify comparisons per release in question 17 above.

Response

N/A



Question 19. Please describe the process for determining estimated restoration times for customers.

Response

When estimating the restoration times for the members the following elements are part of the restoration equation: present and forecasted weather conditions; line assessment reports which provide damage and other key information for the deployment and scheduling of crews based on priorities; crew availability and road status - primarily road access for restoration efforts; equipment requirements; focusing on equipment deployment and also equipment availability (especially off road equipment); material availability; number of continuous days crews have worked restoring power; and the experience of the field supervision and staff in charge.

There is also extensive and ongoing communications with PSNH and National Grid when they incur an outage on their transmission and subtransmission lines that serve NHEC substations or delivery points for estimated restoration times.



Question 20. Please describe the level of detail provided in response to customer inquiries regarding estimated restoration times.

Response

The level of detail that is provided to member inquiries regarding estimated restoration times is determined by the type of outage, information that is available during the inquiry, status of the outage with regards to outage assessment, crews dispatched and projected time to restore. The level of detail we provide to members is as follows based on our knowledge at the time of the inquiry.

1. NHEC is aware of the outage.
2. NHEC estimates we will have power restored within "x" amount of time based on the initial/current information provided from the OMS system.
3. A crew or crews have been dispatched and are in route to the outage.
4. Crews are at the scene.
5. NHEC estimates that power will be restored by "x" time.

In all instances during any outage restoration event, NHEC always provides to its members the most current and accurate data available, even if that means saying we do not know at this time.



Question 21. Please identify any critical facilities that your company has deemed requiring priority restoration. Please also provide a redacted version of this response if it contains customer locations and names.

Response

NHEC prioritizes the restoration to critical facilities, hospitals, police and fire departments, town safety buildings and shelters. The December 2008 storm did not affect any hospitals on our system; however many town departments were effected because of the lack of power from PSNH 34.5KV lines to our metering points and substations. NHEC assigned crews to work on these lines correcting storm damage to expedite the restoration process by PSNH. When the Co-op loses power at a substation or delivery point, the impact can be as many as 5,800 members without power.



Question 22. Please provide copies of maps or series of maps that indicate restoration completed by date and by circuit with accompanying information, including crews, work orders, materials replaced, length of circuit repaired/restored and number of customers. Please also indicate the amount of primary and secondary wire required.

NB: It is anticipated that this will be a very large amount of data or visual representation. A single copy to the PUC is sufficient. Prior to preparing this response, please contact Tom Frantz or Randy Knepper to determine the best way to provide the requested information.

Response

Please see Attachment PUC Data Request Question # 22, NHEC Response - Outage Data from 12/11/09 - 12/22/09. The attachment shows a chronological order of outages by district and when the outage occurred. Please note the highlighted and bolded lines indicate Transmission Provider outages.

Question 23. Please identify any weather hardening initiatives your company has initiated within the past 5 years designed specifically for ice storm related weather events.

Response

Right of Way

We have clearing specifications that help to “harden” our Right-of-Ways (ROW). Easements that provide us a 30 foot ROW, and an aggressive danger tree removal program that concentrates on tree removal outside of our 30 ft. ROW aid in “hardening” our lines to minimize outages caused by trees and limbs. Our goal is to maintain maximum clearances within our easements. We professionally maintain our ROW through environmental and arboricultural tree trimming and clearing practices in an attempt to maximize clearances for all of our Rights-of-Ways while still providing the best practices in vegetation management to our membership.

Engineering

In 2005 NHEC completed a comprehensive review and revision of its Construction Standards. These measures were done primarily to reduce the impact of storm related events and tree contact on the system. Following are some of the changes that occurred as part of the review and revision:

1. The standard pole was increased from a 35 foot, class 4 to a 40 foot, class 3.
2. The maximum span length was also reduced or limited based on the latest NESC loading requirements.
3. The most significant revision was a change of our “standard” overhead conductor from bare wire to covered conductor.

Garage/Fleet

1. Small material handling bucket trucks on 4x4 chassis’ have been purchased, allowing the line crews to navigate the small back roads and right of ways to restore power in a more timely manner.



2. All Terrain Vehicles (ATV's) have been added to the fleet to enable crews to access areas they could not with on - road vehicles.
3. Standby/Storm Line trucks are in the fleet pool available for use when needed.
4. There are additional 4x4 pickups maintained in our district locations as well as a fleet pool that also can be utilized for storm events.
5. Major line truck overhauls are done during the summer months. Vehicles in the repair shop/garage during the winter for preventive maintenance/repairs are available for use in 2-4 hours.
6. Daily monitoring of the weather forecast (looking ahead 5 days) which may impact vehicle availability and maintenance.



Question 24. Does your company archive storm related evidence of damage, i.e. photos, field logs of damages, videos, etc.? If yes, please describe in detail what types of information are maintained, including associated names of past storm events.

Response

NHEC's Outage Management Systems data begins from January 2007 and therefore incorporates the April 14, 2007 Nor'easter to today.

NHEC has photo's from the four major storms experienced in the last 10 years starting with the 1998 Ice Storm, April 14, 2007 Nor'easter, August 24, 2008 Tornado and December 12, 2008 Ice Storm.

FEMA filings are available dating back to the 1998 Ice Storm. The capital work completed for each event has been archived in the form of staking sheets. The staking sheet is the work sheet the line workers take to the field which identifies what is to be installed and retired.