

New Hampshire Electric Cooperative, Inc.
Minutes of the Meeting of the
Engineering and Operations Committee
Teams Meeting

April 8, 2025, 9:30am

Present: Committee Members: Tom Mongeon (Chair), Pat Barbour, Bill Darcy, Peter Laufenberg, John Goodrich, Harry Viens, Jerry Stringham
Other Board Members: Carolyn Kedersha
NHEC Employees: Michael Jennings, Josh Mazzei, Luke Croteau, Kristen Taylor, Dustin Ryan, Cooper Beaudet, and Christine Parent (Recording)
Others Present: NA

Meeting Called to Order

Chair Mongeon called the meeting to order at 9:29am.

Agenda Review/October Meeting Recap

No changes made.

Charter Review B-2

Chair Mongeon directed attention to paragraph 1, item 5. He suggested changing the word “set” to “recommend.”

Mr. Darcy identified sections 1 through 6 state “the committee shall.” He recommended changing the wording to “the committee may.”

Mr. Jennings agreed with both recommendations.

VOTED: The committee recommends that the Board of Directors approve Policy B-2 as presented.

Charter Review B-10

Chair Mongeon stated the monetary values should be adjusted to reflect inflation, but that has been put on hold.

Mr. Darcy stated he would also like to put the policy aside for now. He stated Mr. Jennings should be able to set his internal procedures, by which he recommends to the Board, rather than having the VPs analyze. Further, the residential realignment doesn’t deal with both accretions and deletions from the servers, and the numbers don’t make sense. He recommended considering consolidating with Policy B-4 if needed. Mr. Darcy moved to table the policy to discuss in the Executive Committee.

Mr. Goodrich questioned how often the policy comes into play.

Mr. Jennings responded he doesn’t know if this policy has ever come into play. Mr. Jennings stated that larger service territory swap projects would require him to bring them to the Board anyway, and he agrees that this policy can be consolidated.

Mr. Viens pointed out that it appears to be written that all three requirements under “Residential” must be met. He suggested adding “or” after each requirement.

Mr. Laufenberg motioned to table B-10 to be reviewed by the Executive Committee. Ms. Barbour seconded the motion.

Chair Mongeon added it is important for the Board to know if the infrastructure is growing or getting smaller.

Mr. Darcy will add B-10 to the agenda for the Executive Committee.

VOTED: The committee recommends tabling B-10 until the Executive Committee meeting to consolidate with Policy B-4.

Safety Brief

Mr. Ryan reported on 2024 Safety Statistics: Recordable Incidents, DART Incidents, and MV Incidents. NHEC met goals for all three. He shared an incident analysis regarding a failed securement pin. Moving forward, securement pins will be replaced annually.

Mr. Ryan shared 2025 Safety Initiatives: Equipotential Grounding Training, Safety Manual Update, Hazard ID Update, Job Briefing and Work Observation form updates, Whistleblower Complaint, Tool Committee.

Discussion:

- Mr. Goodrich asked what DART stands for.
 - Mr. Ryan answered Days Away, Restrictions or Transfers.

Capital Construction Budget – 2024 Year End Results and 2025 Update

Mr. Croteau presented the recurring and elective over and under spending results regarding the 2024 Capital Construction Budget. For the total budget results, overall spending was 9% under budget, spending for recurring projects was over budget by 9%, and elective projects was under budget by 23.3%.

The baseline for the presentation included categories that were over or under budget by 25% or more. Mr. Croteau presented on New Lines/New Developments, New Lines/New Customers, Meters, Transformers, Cable System Upgrades, Pole Replacement Program, Site Specific Ordinary Replacements, Joint Use - Cable TV, Joint Use – Roadway Relocations, Accident-Related Work, Line Conversions, New Mobile Substation, Substation Changes, SCADA Expansion, Voltage Regulators Installation, Capacitors, and System Improvements.

Discussion:

- On the slide regarding New Lines/New Developments Mr. Goodrich asked if it was not all bad news that we overspent in this category, because we are growing our basic utility. He asked to confirm that these are new and not replacements.
 - Mr. Croteau confirmed that our utility is growing and that these are new developments.
- On the slide regarding Meters, Mr. Darcy asked if we are purchasing in advance of need. He asked if the need expected new services or if we are replacing meters that for some reason are malfunctioning or not up to date.
 - Mr. Croteau replied it is a combination of both.
- On the slide regarding Transformers, Mr. Goodrich stated the company he used to work for does all the insulation for about 80% of all the transformer manufacturers in North America, and they are two years

out on deliveries and allocating production to some customers.

- On the slide regarding the New Mobile Substation, Mr. Darcy asked if the Delta Star transformer delay will result in the final payment being charged to the 2025 budget, and if Delta Star is able to fix the transformer weight.
 - Mr. Jennings answered that we made a payment in 2023, and he believes the final payment in 2025 will be about \$870,000.
 - Mr. Croteau stated he thought the final payment in 2025 would only be about \$450,000. He also stated that Delta Star does know how to fix the transformer weight.
 - [After the meeting, Mr. Croteau determined the remaining payment on the mobile to be \$403,910.]
- On the slide regarding Voltage Regulators, Mr. Goodrich asked if the voltage concerns were over or under voltage.
 - Mr. Croteau answered it is both.

Capital Construction Budget – 2025 Update

Mr. Croteau shared the approved 2025 Capital Construction Budget. He stated the approved 2025 Capital Construction Budget is 98% of the 2024 approved budget, and 107% of the 2024 year-end actuals.

Discussion:

- Mr. Darcy asked if there is anything that is a significant deviation thus far in the year.
 - Mr. Croteau answered no significant deviations have been identified.
- Mr. Goodrich asked how the SCADA efforts are evaluated. Is there a method of saying what the value and payback or reduction of costs is? How do we evaluate and quantify the benefit?
 - Mr. Mongeon replied that answer may be coming in the Reliability section.

Reliability

Mr. Croteau presented reliability data that's been compiled by our engineering team from the past five years, taken from our outage management system. Mr. Beaudet compiled the report and developed a lot of the visuals.

SAIDI (System Average Interruption Duration Index) - The amount of outage time, on average, that a member experiences. Units for this chart are hours annually. Lower numbers represent less outage time. We did see some improvement between 2023 and 2024.

CAIDI (Customer Average Interruption Duration Index) - The average amount of time an outage takes to be restored in hours. Lower value represents faster restoration. Linking back to one of the questions earlier, this is an area that we would we hope to be seeing improve with the additional SCADA deployment allowing us to do switching within our Control Center versus more time-consuming rolling trucks. We are looking to see our restoration times over all decrease.

SAIFI (System Average Interruption Frequency Index) - The average number of outages a member experiences per a given period, for our purposes, annually. Lower value represents less outages. We did not have a

company target until 2024. We saw a decrease here from 2023 to 2024.

Mr. Croteau presented outage history. In 2024 NHEC experienced 2,942 outages, resulting in 531,170 member-hours out. Member-hours out represents cumulative number of hours all members experienced their respective outages. This does not include any events deemed exclusionary (i.e. Major Storms, Transmission Provider, Island outages, etc.) The 5-year average from 2020-2024 was 2,910 outages and 468,093 member-hours-out annually. Major storm, tree, and transmission provider related outages comprise of the majority of all outages and member-hours-out experienced.

Discussion:

- Mr. Darcy stated from the member perspective, it doesn't matter whether it's a major or minor storm if their power is out. He asked if there is any industry metric to determine our efficiency in getting back to service. Mr. Darcy asked what our effectiveness is in restoring power, or if there is any metric associated with that that has been used by utilities in the past.
 - Mr. Croteau responded that would fall under the CAIDI metric mentioned earlier.
 - Mr. Darcy asked if CAIDI applies to major and minor storms.
 - Mr. Croteau responded that CAIDI excludes the major events.
 - Mr. Jennings added the report presented excludes major storm, but we have it for both. He stated utilities don't really share their data on CAIDI with the major events included, but for any specific major event, we are very heavily benchmarking ourselves on the neighboring utilities and their response. If we have a massive ice storm coming in, we're making sure that we are keeping pace with our neighbors.
 - Mr. Darcy responded he understands there are different issues with major storms, but there has to be a way of saying we're doing well at that or we're not doing well at that.
 - Mr. Goodrich asked if we are doing better, worse, or can't tell from 2020 to 2024.
 - Mr. Jennings replied the recent trend has not showed improvement due to a huge uptick in level of major storms and exclusionary events. Within the last five years, and beyond five years, we had a pretty consistent low period and combinations of changing weather patterns, and with vegetation growing, getting bigger, it has added to our outage statistics. We're trying to reverse the trend now at this point, although this is a trend a lot of utilities are seeing now with changing weather patterns despite investing millions of dollars at reliability projects.
 - Mr. Jennings referenced the weather analysis for power outages that Mr. Darcy had brought up previously which ranked all the states in the country for the most susceptibility to weather events. New Hampshire ranked in top three in every major category, whether it be vegetation, windstorms, ice storms, et cetera. Mr. Jennings stated we are given a very challenging environment, which puts us at a disadvantage for benchmarking ourselves nationwide as opposed to more locally.
 - Mr. Darcy agreed and asked how we compare with other utilities such as Eversource, Liberty and Until.
 - Mr. Jennings replied just by the nature of their service territory versus ours, our statistics are more challenging. We are more comparable to our other co-ops like Washington Electric and

Vermont Electric reliability wise due to similar rural territory. Other NH utilities have an advantage of very dense customer bases in cities that can positively offset the reliability performance.

- Chair Mongeon stated what we can benchmark is, are we making investments that are necessary to improve reliability, and the answer is yes. We could show that after these investments there were outages that would have happened had we not made these investments.
- Mr. Goodrich replied he is not being overly critical, and he recognizes there are a lot of variables impacting this and was simply asking the question based on the data.
- On the slide showing Total Member Hours Out, Mr. Goodrich stated Eversource is spending on their lines and new poles and asked if that would impact us since we get a good deal of our electricity from them.
 - Mr. Jennings confirmed that was a logical conclusion.
 - Chair Mongeon asked if we felt our transmission providers are doing enough to improve their reliability and address issues.
 - Mr. Jennings replied that they've responded appropriately.
- On the slides regarding the lowest performing feeder circuits for the past five years and ongoing projects to support reliability, Mr. Darcy stated that feeder numbers don't have meaning to the Committee members, so adding the town(s) they feed would be helpful in the future.
 - Mr. Jennings added the WB11 project is a major project and has the ability to massively improve our reliability numbers.
 - Chair Mongeon asked the process by which we identify the need for new sectionalizing devices and ROI.
 - Mr. Beaudet replied we recently had a free study done by SNC that located some of the areas where we could be putting reclosers, trip savers, other protective devices, to best improve our system. He also stated he has metrics that show area by substation rather than feeder so the Committee can have a better understanding of the feeder information.

Engineering Brief

Mr. Croteau presented how NHEC differs from an IOU with the PUC and provided an example of this regarding requirements for Voltage Variation – Electric Service.

- Mr. Darcy commented that there are many areas where we differ hugely if we were regulated, but these three stand out:
 1. Our capital budget would be subject to review by the PUC as part of the rate regulation.
 2. We would not have a broadband initiative.
 3. Our member service charge of \$35, which is way above the Eversource \$15, would never exist.

Mr. Croteau also presented on line losses, which are unpreventable on an electrical network due to the heating effect caused by current flowing through the resistance of lines, transformers, etc. NHEC performed a System

Loss study in 2017 on its sub-transmission and distribution system. That analysis recommended some loss mitigation strategies such as load balancing, reducing reactive power flow, converting single phase to 2-phase or 3-phase, reconductoring lines, voltage conversions and appropriate sizing of substation transformers for optimal loading.

Action Items

Chair Mongeon identified the need for follow up regarding Mr. Darcy's question regarding the Honeywell meter replacement being for new or replacement meters. Mr. Croteau will get that information.

Adjournment

Upon motion by Mr. Darcy, seconded by Mr. Goodrich, Chair Mongeon adjourned the meeting at 11:02am.