

Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty Utilities

DE 19-064
Distribution Service Rate Case
2019 Step Adjustment

Staff Data Requests - Set 2

Date Request Received: 6/5/20
Request No. Staff 2-1

Date of Response: 6/15/20
Respondent: Heather M. Tebbetts
Anthony Strabone

REQUEST:

Please confirm that in Docket No. 16-576, as it relates to the Locational Value Distributed Generation study, Liberty appears to have indicated that it intends to build the 115kV system in Salem and decommission the Barron Avenue and Salem Depot substations due to concerns involving asset condition. If that is not Liberty's plan, please explain.

RESPONSE:

Confirmed that Liberty has indicated in Docket DE 16-576 that it intends to build the 115kV system and decommission the Barron Ave and Salem Depot substations. Note that Liberty has communicated this intent to Staff and others in several contexts on many occasions.

However, *not confirmed* that the reason for these projects is *solely* "due to concerns involving asset condition." These projects are required to serve new load in addition to addressing asset condition, facts that have been communicated to Staff regularly since the fall of 2019.

On November 9, 2019, Liberty received its first data request from Navigant (now Guidehouse), Staff's consultant in DE 16-576. See Attachment Staff 2-1.1. As part of that request, Navigant asked Liberty to provide a significant amount of data for items such as:

- Planning criteria (1.1.1 – 1.1.6)
- Sub-transmission capacity (1.1.7)
- Substation capacity/load balance for 2020 through 2029 (1.1.8)
- Circuit capacity for 2020 through 2029 (1.1.9)
- 10 year load forecast both normal and extreme (1.1.10 – 1.1.12)
- Historical peak loading data (1.1.13)
- Substation transformers and their loading from 2014 through 2019 (1.1.14)
- Historical distribution circuit loading (1.1.14 – 1.1.15)

The Company was also asked to provide financial information about:

- Historical investments (1.2.1 – 1.2.2)
- Future sub-transmission spending for capacity and age/condition related investments from 2020 to 2029 (1.2.3 & 1.2.6)
- Future substation spending for capacity and age/condition related investments from 2020 to 2029 (1.2.4 & 1.2.7)
- Future distribution circuit spending for capacity and age/condition related investments from 2020 to 2029 (1.2.5 & 1.2.8)

On December 9, 2019, the Company provided this data to Navigant, which included a summary list of historical and future projects. Please see Attachment Staff 2-1.2 for the document provided to Navigant. As shown on page 2, Liberty notified Navigant that the Company intended to proceed with the Rockingham Supply Line and Rockingham Substation projects to supply load to the area and serve as retirement of Barron Ave. substation.

On December 18, 2019, the Company had an in-person meeting with Navigant at our Salem work center, in which Staff was invited to attend; Navigant informed the Company that Staff attended a similar meeting with Eversource on December 12, 2019. Staff participated in the call, but did not raise any issues about the projects during the meeting.

The December 18 discussion involved a review of the above data responses and the planned construction of the Salem area projects, including the Rockingham supply line and Rockingham substation. Liberty explained the capacity, load at risk, and asset conditions of the Barron Ave, Spicket River, and Salem Depot substations, along with the development of Tuscan Village. The Company and Navigant also discussed data responses related to Bellow Falls, the Lebanon area, and the current planning criteria.

On February 7, 2020, Navigant and Commission Staff held a technical session providing their review of the initial data provided by the utilities. Please see Attachment Staff 2.1.3 for the Liberty portion of their presentation. In that presentation, the Salem area *capacity* deficiencies were discussed.

On April 10, 2020, Liberty received a third data request from Navigant, please see the attached email, Attachment Staff 2-1.4.

Liberty provided its response to the data request from Navigant on April 11, 2020.

On May 11, 2020, the Company had a call with Navigant to discuss gathering more data about Salem service territory and other minor items where Navigant noted they would like information about capacity issues that would be experienced if we did not retire the Barron Ave and Salem Depot substations. Liberty responded that the Company is planning to retire those substations because, even putting their asset condition concerns aside, the capacity increases in the area provide the Company no choice but to retire the substations and find another solution, with that solution being the Rockingham projects.

Liberty also presented testimony related to the Rockingham project in the DE 19-064 rate case, about which Staff asked discovery questions and addressed in their testimony. Staff thus also

knew through the rate case that plans for the Rockingham projects were to address both capacity issues and asset condition with the existing facilities.

On May 22, 2020, the Company had a follow up call with Navigant where they said they were told by Staff that Liberty needs to provide data for the substations as if they were not to be retired. Liberty explained, again, of the plan to retire the substations, so to provide the requested information would not make sense, especially for a study that should be looking at future DG tariffs. Liberty asked if any future plans for Eversource or Unitil investments were changed for the study and Navigant responded they were not asked by Staff to change any future plans for those utilities.

In a subsequent conversation with Navigant, Liberty was informed that there were many discussions between Navigant and Staff about using the data Liberty provided, and that Staff rejected Liberty's planned retirement of Barron Ave and Salem Depot substations because the retirement of those assets has not been approved by the PUC. The Company notes the issue of retiring the substations is not an issue on which the Commission has been asked to rule.

On May 29, 2020, Liberty provided Navigant with capacity deficiencies for Salem, Lebanon, and Vilas Bridge to comply with their original request from May 11, 2020.

Throughout all discussions with Navigant, Liberty did not say or give the impression that asset condition was the reason for its plans to build the 115kV system in Salem and decommission the Barron Avenue and Salem Depot substations. Liberty consistently said in numerous discussions during the rate case and the LVDG study that the need for the Rockingham substation and Supply Line arise from growth in the area and asset condition due to the significant increase in load expected over the next one to three years.

Initial Data Request for NH PUC NWA



#	Information Requested	Data Request #	Status	Date Requested	Comments on Data Provided	Date Received	Navigant Owner/Contact	PUC Owner/Contact	Filename / Data Location
All Utilities									
i. System Data									
1.1.1	Current (2019 onward) planning criteria (document) for sub-transmission lines	1							
1.1.2	Current (2019 onward) planning criteria (document) for substations (single & multi-xfmr)	1							
1.1.3	Current (2019 onward) planning criteria (document) for distribution circuits (by voltage)	1							
1.1.4	Prior to 2019 planning criteria (document) for sub-transmission lines	1							
1.1.5	Prior to 2019 planning criteria (document) for substations (single & multi-xfmr)	1							
1.1.6	Prior to 2019 planning criteria (document) for distribution circuits (by voltage)	1							
1.1.7	Sub-transmission capacity/load balance database (Excel or CSV) - years: 2020 to 2029 (including equipment loading limits in MW or MVA)	1							
1.1.8	Substation capacity/load balance database (Excel or CSV) - years: 2020 to 2029 (including equipment loading limits in MW or MVA)	1							
1.1.9	Distribution circuits capacity/load balance database (Excel or CSV) - years: 2020 to 2029 (including equipment loading limits in MW or MVA)	1							
1.1.10	Most recent (i.e. 2018) 10 year load forecast, both normal and extreme for sub-transmission	1							
1.1.11	Most recent (i.e. 2018) 10 year load forecast, both normal and extreme, for substation transformers	1							
1.1.12	Most recent (i.e. 2018) 10 year forecast, both normal and extreme, for distribution circuits.	1							
1.1.13	List of all sub-transmission lines and their percentage of their peak-loading for years 2014-2019	1							
1.1.14	List of all substation transformers and their percentage of their peak-loading capacity for years 2014-2019	1							
1.1.15	List of all distribution circuits and their percentage of their peak-loading for years 2014-2019	1							
1.1.16	Discussion of how DER and at what level is considered in load forecasting (distribution feeder , subtransmission level, distribution substation, bulk distribution substation level, or system-wide) and any expected changes in load forecasting methodology). Basically, what is the basis and assumptions (i.e. EV, EE, etc.) in the 10 year forecast?	1							
ii. Financial Data									
1.2.1	Historical subtransmission, substation, and distribution circuit spending for 2014-2019 for age/condition related replacements or asset renewal (including specific location, \$ amount, and justification)	1							
1.2.2	Historical sub-transmission, substation, and distribution circuit spending for the 2014-2019 for system expansion or other upgrades that are capacity related (including specific location, \$ amount, and justification)	1							
1.2.3	Projected sub-transmission spending for years 2020-2024 for capacity and age/condition related investments (including specific location, \$ amount, and justification)	1							
1.2.4	Projected substation spending for years 2020-2024 for capacity and age/condition related investments (including specific location, \$ amount, and justification)	1							
1.2.5	Projected distribution circuit spending for years 2020-2024 for capacity and age/condition related investments (including specific location, \$ amount, and justification)	1							
1.2.6	Projected sub-transmission spending for years 2025-2029 for capacity related and age/condition related investments (including specific location, \$ amount, and justification)	1- Navigant recognizes EDCs may not have this							
1.2.7	Projected substation spending for years 2025-2029 for capacity and age/condition related investments (including specific location, \$ amount, and justification)	1- Navigant recognizes EDCs may not have this							
1.2.8	Projected distribution circuit spending for years 2025-2029 for capacity and age/condition related investments (including specific location, \$ amount, and justification)	1- Navigant recognizes EDCs may not have this							

<u>Year Project Started</u>	<u>Year in Service</u>	<u>Project Number</u>	<u>Project Name</u>	<u>Purpose</u>	<u>Total Cost</u>	<u>Notes</u>
2014	2014	8830-C36429	Mt Support 16L1 Reconductoring	Capacity	\$ 281,344	Upgrade of undersized conductor
2014-2016	2014-2016	8830-CNN016	Load Relief Blanket Wo	Capacity	\$ 403,508	Same work order used annually for small load relief projects such as overloaded equipment in the field
2014	2016	8830-C36423	Mt Support Substation Build	Capacity/Load at Risk	\$ 3,729,263	Additional substation to serve load at risk
2014	2017	8830-C36424	Mt Support 16L3	Capacity/Load at Risk	\$ 2,605,605	Additional feeder to serve load
2014	2017	8830-C36425	Mt Support 16L5	Capacity/Load at Risk	\$ 1,273,855	Additional feeder to serve load
2014	2017	8830-C34630	Pelham Substation Build	Capacity/Load at Risk	\$ 4,375,277	Replacement of substation built in mid 1900s
2014	2017	8830-C34631	Pelham 14L4 Feeder Addition	Load at Risk	\$ 1,908,127	Initial additional feeder to serve load
2017	2017	8830-C21093	Overloaded Transformer Blanket WO	Capacity	\$ 141,167	Small load relief projects for overloaded transformers in the field
2018	2018	8830-1819	Overloaded Transformer Blanket WO	Capacity	\$ 44,852	Small load relief projects for overloaded transformers in the field
2018	2018	8830-1860	Pelham 14L4 Feeder Extension	Capacity	\$ 1,105,054	Created additional capacity for Tuscan to grow while Rockingham Sub is being built
2018	2018	8830-1859	Reconductor Brookdale Rd & Extend 1L4 Feeder	Capacity	\$ 942,643	Part of 8830-1860 project
2019	2019	8830-1845*	Golden Rock Substation Feeder Additions	Load at Risk/Asset Condition	\$ 1,040,813	Ability to transfer load between Spicket River and Golden Rock substations to reduce load at risk at Spicket River substation/Retirement of Baron Ave substation
2019	2019	8830-1744*	Golden Rock Substation Upgrade	Load at Risk/Asset Condition	\$ 1,760,688	Ability to transfer load between Spicket River and Golden Rock substations to reduce load at risk at Spicket River substation/Retirement of Baron Ave substation
2019	2019	8830-1922*	Load Relief Blanket Wo	Capacity		Small load relief projects such as overloaded equipment in the field

*Denotes project's final costs are unknown at the time of this response, though it will be completed by 12/31/19

Future Projects

<u>Year Expected in Service</u>	<u>Project Name</u>	<u>Purpose</u>	<u>Total Cost</u>	<u>Notes</u>
2021	Mt Support 16L7	Capacity/Load at Risk	\$740,000	Additional feeder to serve load
2021	Slayton Hill 39L4	Capacity/Load at Risk	\$740,000	Additional feeder to serve load
2021	Pelham 14L5	Capacity/Load at Risk	\$1,400,000	Additional feeder to serve load
2022	Rockingham Supply Line	Capacity/Load at Risk	\$6,200,000	115 kV line for supply in Salem area
2022	Rockingham Substation	Capacity/Asset Condition	\$12,700,000	Serve additional load and retirement of Baron Ave
2023	Golden Rock 19L8	Capacity/Load at Risk	\$2,700,000	Additional feeder to serve load

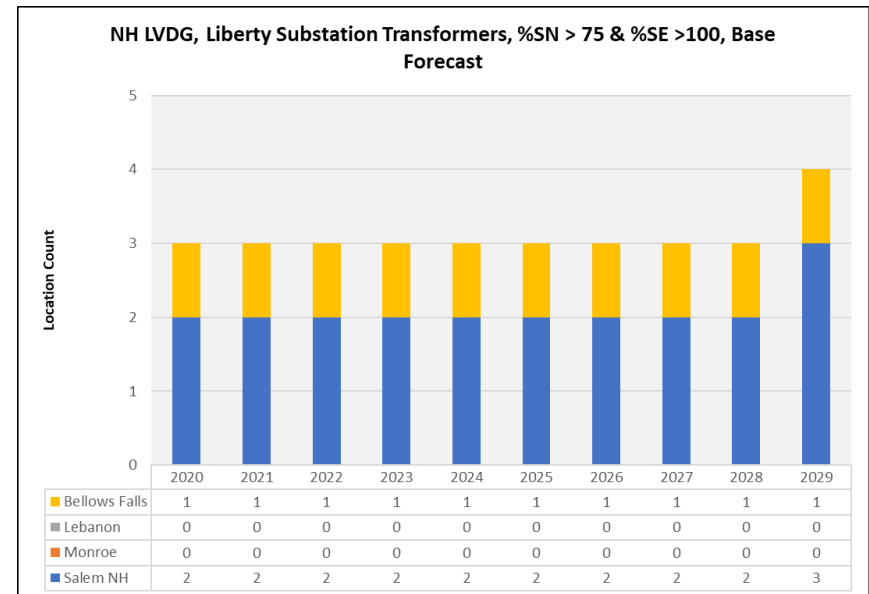
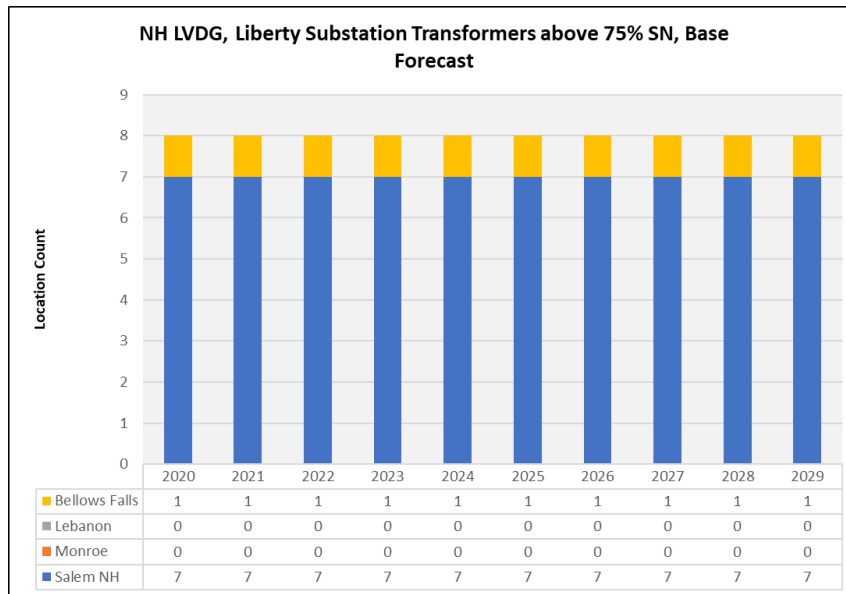
CAPACITY DEFICIENCY ANALYSIS: LIBERTY

BASE FORECAST

For the base forecast, five substations exceed 75% normal ratings and two substations exceed both 75% normal and 100% emergency ratings

- Liberty: Base Forecast

- Eight substation transformers exceed 75% normal rating planning criteria
- Three substation transformers exceed 75% normal and 100% emergency ratings through 2028

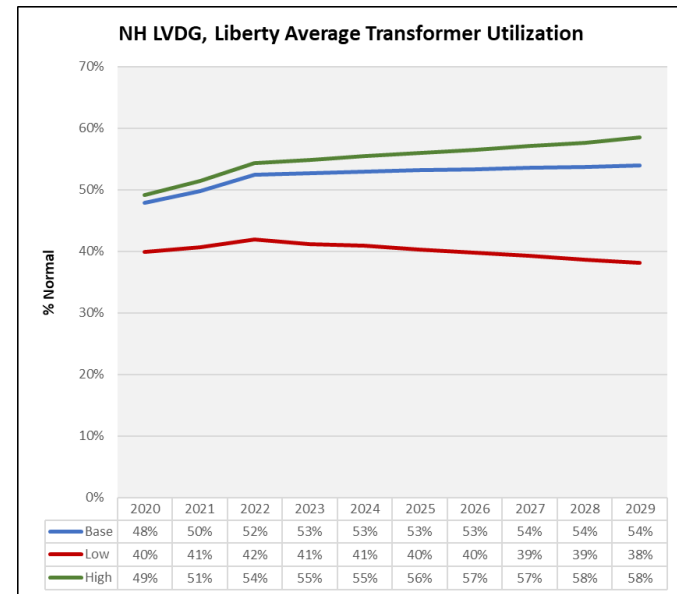
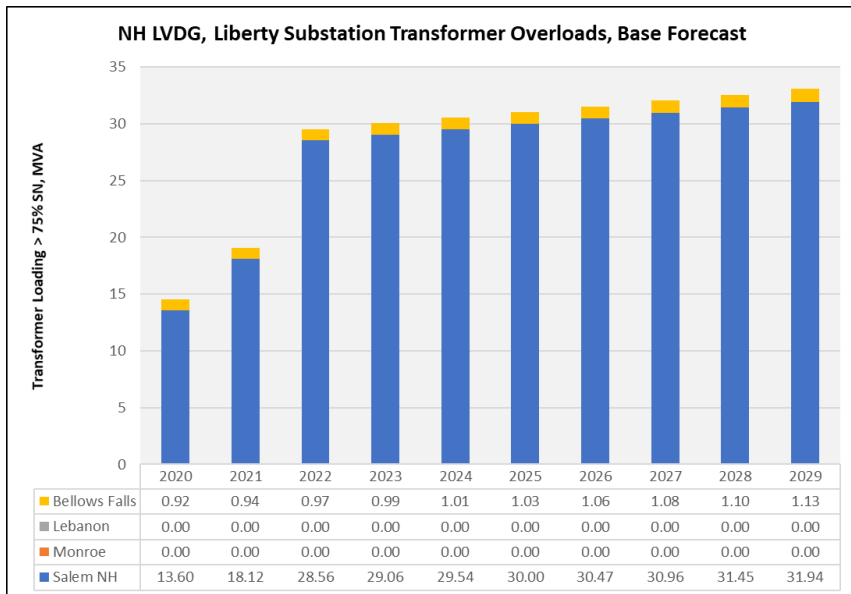


CAPACITY DEFICIENCY ANALYSIS: LIBERTY

BASE FORECAST

For the base load forecast, capacity deficiency growth in the 10-year period is approximately 19 MVA

- Liberty: Base Forecast
 - Capacity deficiency growth in the 10-year period mainly observed in the Salem area
 - Average substations capacity utilization is 52% for the 10-year base load forecast



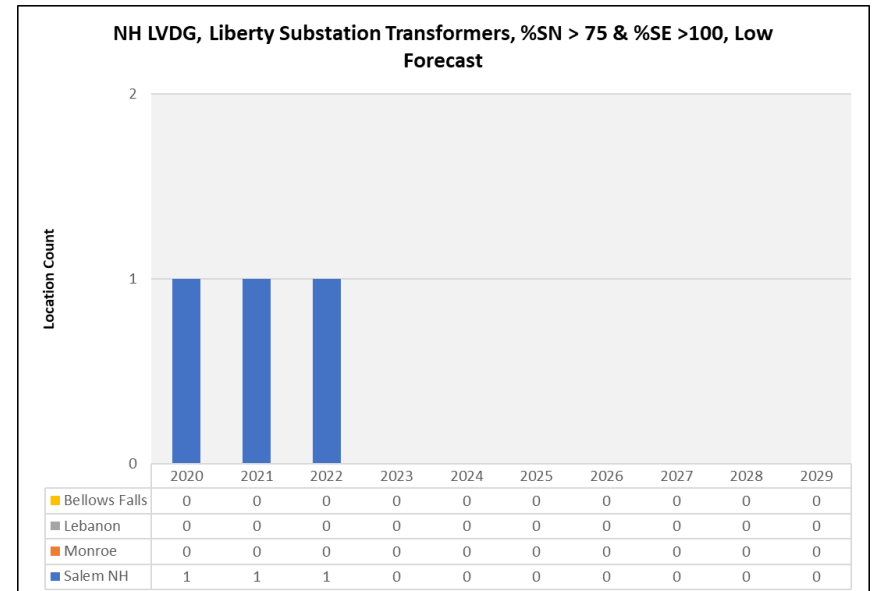
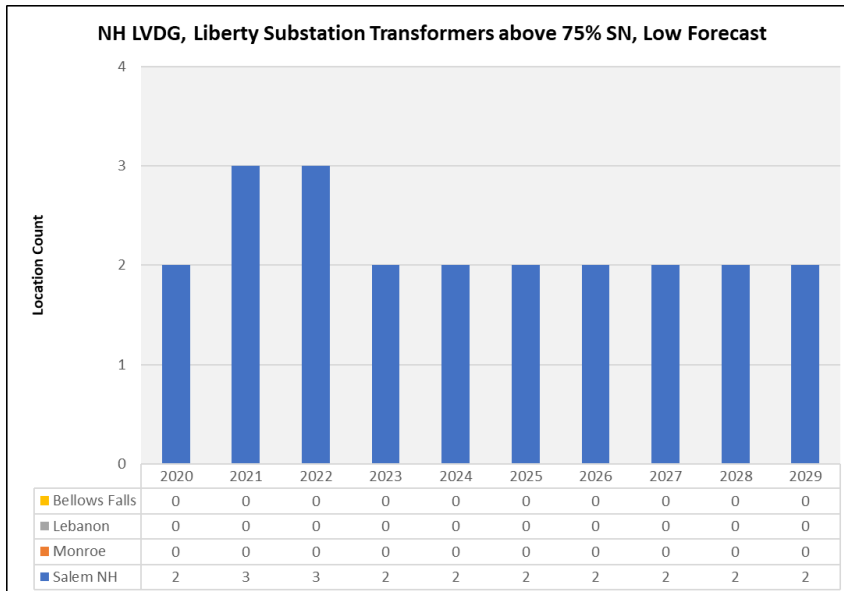
CAPACITY DEFICIENCY ANALYSIS: LIBERTY

LOW FORECAST

For the low load forecast, two substations exceed 75% normal ratings and one substation exceeds both 75% normal and 100% emergency ratings

- Liberty: Low Forecast**

- Exceed 75% normal rating: Three transformers, one through 2022, one through the 10-year forecast period, and one starting in 2021
- One substation transformer that exceed both 75% normal and 100% emergency ratings through 2022

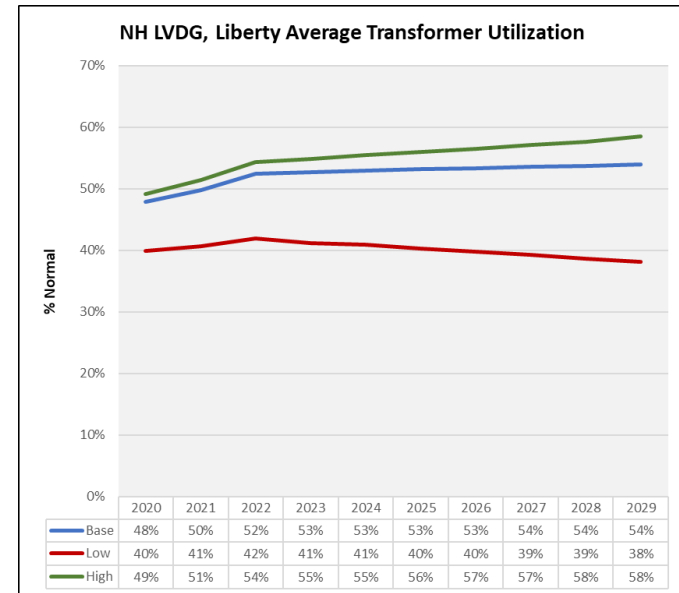
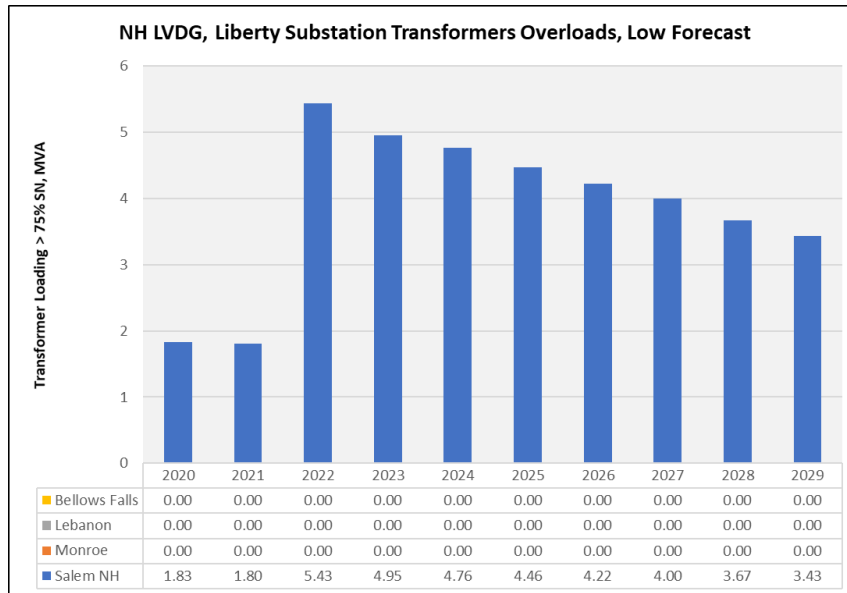


CAPACITY DEFICIENCY ANALYSIS: LIBERTY

LOW FORECAST

For the low forecast, there is a projected negative capacity deficiency growth for last eight years

- Liberty: Low Forecast
 - Approximately 2 MVA of capacity deficiency reduction from 2022 to 2029
 - Average substation capacity utilization drops from 52% to 40% for the 10-year low forecast

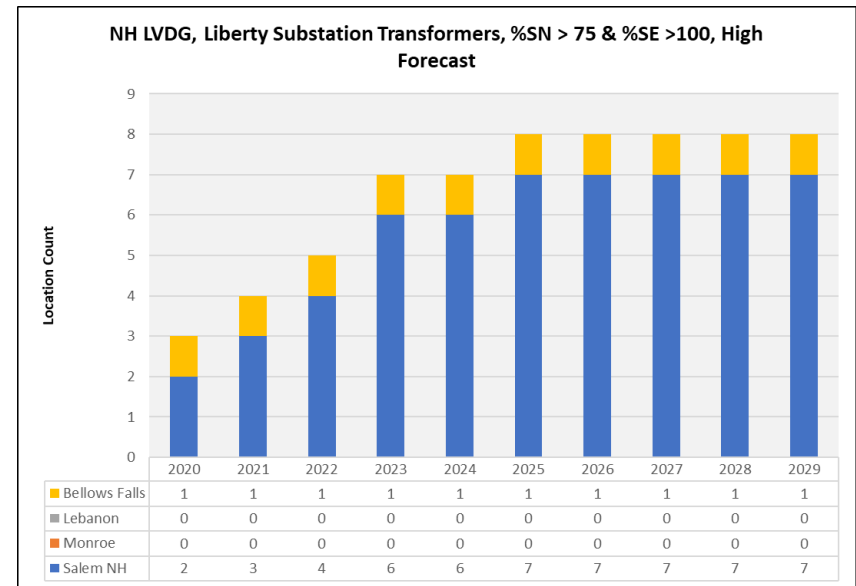
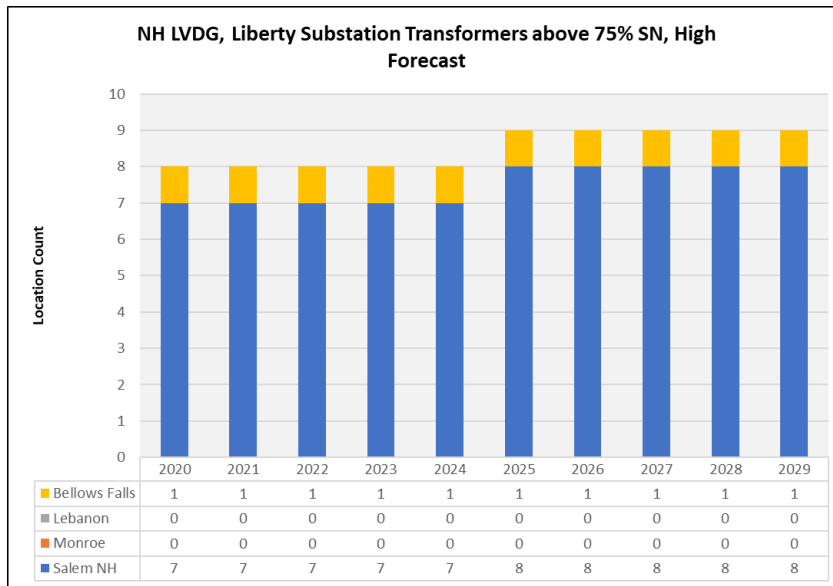


CAPACITY DEFICIENCY ANALYSIS: LIBERTY

HIGH FORECAST

For the high forecast, five substations exceed 75% normal ratings and four substations exceed both 75% normal and 100% emergency ratings

- Liberty: High Forecast
 - Additional substation transformer that exceeds 75% normal rating in 2025
 - Eight substation transformers exceed 75% normal and 100% emergency ratings in 2025

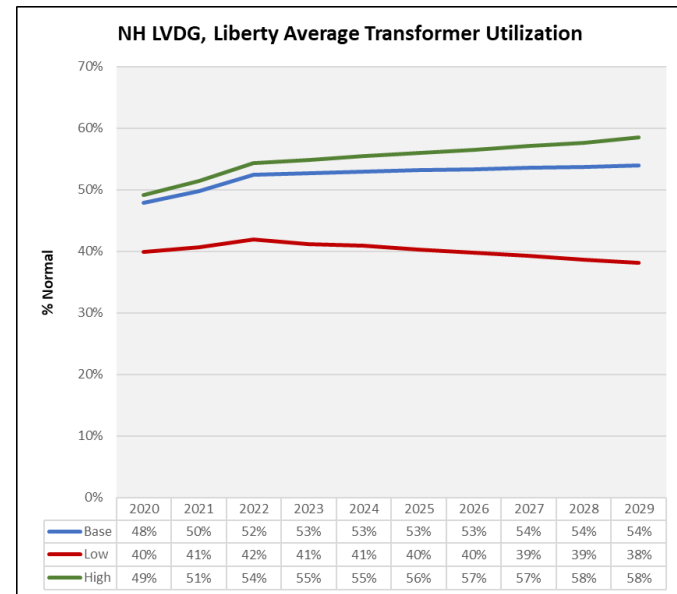
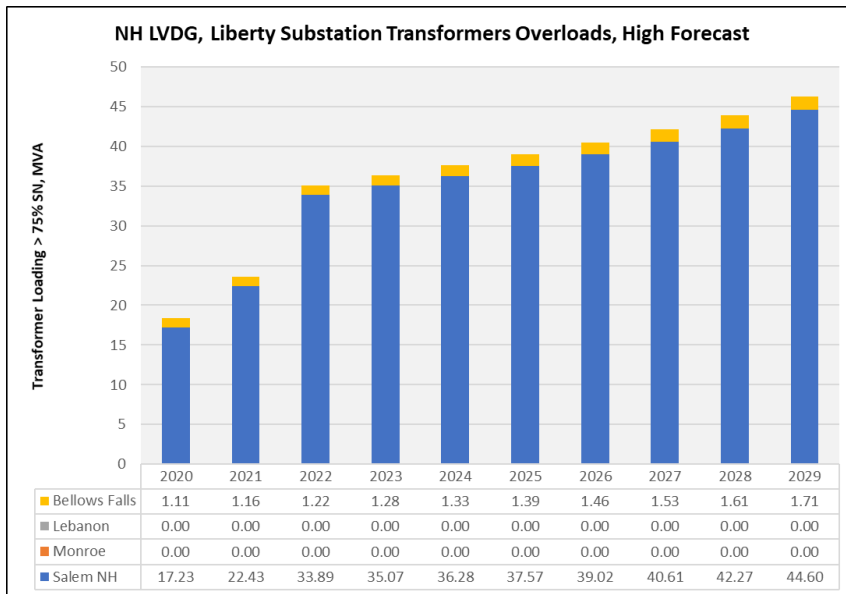


CAPACITY DEFICIENCY ANALYSIS: LIBERTY

HIGH FORECAST

For the high load forecast, capacity deficiency growth in the 10-year period increases to approximately 28 MVA

- Liberty: High Forecast
 - Approximately a 10% increase in average transformer utilization in the 10-year period



Heather Tebbetts

From: Joel Rivera
Sent: Saturday, April 11, 2020 11:13 AM
To: Ariel Crowley
Cc: Eugene Shlatz; Chris Deranian; Larry Gelbien
Subject: RE: NH LVDG Data Request 3: Site Specific Data
Attachments: DR3.zip

Hello Ariel

I have attached the requested data.

I can't think of any additional information on planned capacity investments not yet provided. I don't have unit cost data for substations and distribution feeders.

Thank you

Joel Rivera, P.E. | [Liberty Utilities \(New Hampshire\)](#) | Manager, GIS and Electric System Planning
P: 603-952-2920 | C: 603-327-9646 | E: Joel.Rivera@libertyutilities.com

From: Ariel Crowley [mailto:ariel.crowley@guidehouse.com]
Sent: Friday, April 10, 2020 1:37 PM
To: Joel Rivera <Joel.Rivera@libertyutilities.com>
Cc: Eugene Shlatz <eshlatz@navigant.com>; Chris Deranian <chris.deranian@navigant.com>; Larry Gelbien <larry.gelbien@navigant.com>
Subject: NH LVDG Data Request 3: Site Specific Data

Hello Joel,

I hope this email finds you well. Please find attached our third data request for one of Liberty's historic investments that we have selected for deeper study as part of the NH LVDG work. We plan to select up to two more sites for Liberty that are planned investments. However, based on direction from the PUC, we are waiting on the updated planning criteria that is currently being agreed upon with the PUC before selecting those additional sites. We anticipate wrapping up that analysis in the near term and will send another data request once we have selected those sites. Please let us know if you have any questions on the items requested. We anticipate that the 8,760 hourly data files will be small enough to share over email. However, if that is not the case, we can send you a sftp link to transfer larger files. If you could provide us with this data by next Friday April 17th, that would be much appreciated. Do let us know if that will pose any challenges given the current situation. Thanks for your continued assistance,

Ariel

ARIEL CROWLEY

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Heather Tebbetts

From: Joel Rivera
Sent: Friday, May 29, 2020 1:00 PM
To: Juan Jimenez; Eugene Shlatz; Larry Gelbien
Cc: Heather Tebbetts
Subject: Data Request 4
Attachments: Capacity Deficiency - Salem - Lebanon - Vilas.xlsx

Hello

The attached spreadsheet contains the following tabs:

- Salem Feeders – Normal
 - o List of normal loading criteria violations (deficiencies) for feeders by year
- Salem Feeder – Conting.
 - o List of n-1 loading criteria violations for feeders by year
- Salem Supply-Conting.
 - o List of n-1 loading criteria violations for supply lines/Transformer. Note that the deficiency for 2020 and 2021 is not provided and set to match 2019. 2022 assumes projected spot loads are in service. Note that I did not include the smaller Salem transformers as this are already included in the previous tab – for the most part.
 - o I highlighted Golden Rock T1 and Spicket River 2376 supply as the major capacity deficiencies needed to be addressed by the Golden Rock project – absent identified plans to mitigate asset conditions at Baron and Salem Depot and absent identified plan to install Rockingham substation. Please note that there is no ‘lack of certainty’ regarding these.
- Vilas Bridge 12L1 hourly amps
 - o Provided 10 months’ worth of data that I could piece together for the 12L1 feeder as requested on our previous call.
- Mount Support Deficiency
 - o Provided a summary of the Mt Support project identified deficiencies which includes normal loading issues, n-1 loading issues, voltage issues and project costs. Unfortunately I don’t have costs for the Slayton Hill expansion to form a total cost of the Lebanon Area Study.

If any assumptions are used in your analysis that differ from what is identified by Liberty, I would like to see an explanation in the report for the reasons behind it.

Do you have a file sharing site so that I can upload the Salem Area Study? It is 20MB.

Lastly, if you have any questions or concerns with what I have provided, please do not hesitate to contact me.

Thank you

Joel Rivera, P.E. | [Liberty Utilities \(New Hampshire\)](#) | Manager, GIS and Electric System Planning
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