BEFORE THE

NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION

DOCKET DE 23-039

IN THE MATTER OF: Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty
Request for Change in Distribution Rates

DIRECT TESTIMONY

OF

Stephen R. Eckberg
Utility Analyst
New Hampshire Department of Energy

December 13, 2023

Q. Please state your full name.

A. Stephen R. Eckberg.

Q. By whom are you employed and what is your business address?

A. I am employed as a Utility Analyst with the New Hampshire Department of Energy in the Regulatory Support Division. My business address is 21 South Fruit Street, Suite 10, Concord, NH, 03301.

Q. Please summarize your relevant education and professional work experiences.

A. I was previously employed as a Utility Analyst with the New Hampshire Office of Consumer Advocate (OCA) from 2007 to 2014. In 2014, I joined the Sustainable Energy Division of the Public Utilities Commission (PUC or Commission). In 2019, I joined the Commission's Electric Division. In July, 2021, with the passage of HB2, the New Hampshire Legislature created the Department of Energy (DOE or Department), and I became an employee of the Regulatory Support Division of the DOE. I work primarily on regulatory matters involving New Hampshire's electric utilities. I have a B.S. in Meteorology from the State University of New York at Oswego and an M.S. in Statistics from the University of Southern Maine. I have worked in a variety of energy-related analytic and administrative roles for over 25 years. Attachment SRE-1 provides more complete details of my education and professional work experience.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to present the Department's recommendations on the following matters:

1. The Depreciation Study and recommendations from that study by Liberty Utilities' (Granite State Electric) Corp. d/b/a Liberty (Liberty or Company) witness Mr. John Spanos.
2. The Company's Major Storm Fund proposed changes as presented in the testimony of Mr. Anthony Strabone.
3. The Company's Lead-Lag study used to develop the calculation of cash working capital included in rate base.

Depreciation

Q. Please briefly describe your background in utility depreciation matters.

A: I am familiar with depreciation matters, having reviewed depreciation studies in numerous utility rate case dockets in which I have participated. I have taken the Fundamentals of Depreciation training course offered by the Society of Depreciation Professionals and am working toward becoming a Certified Depreciation Professional (CDP). I have previously filed testimony addressing depreciation in dockets DE 21-130 (Unitil Request for Change in Rates) and DG 21-104 (Northern Utilities Request for Change in Rates) before this Commission.

Q: Please provide a summary of your recommendations regarding depreciation in this case.

A: My recommendations to the Commission include:

1) Approve the use of depreciation accrual rates developed using the whole life (WL) technique to determine the accrual rates and annual book depreciation amount by plant account, rather than rates developed using the remaining life (RL) technique as submitted in the Depreciation Study performed by Company witness, Mr. John Spanos.

2) Direct the Company to perform future depreciation studies using the whole life technique in conformance with past Commission practice.

3) Approve $12,478,486 as the unadjusted whole life depreciation annual accrual amount for the test year based on end of test year plant account balances. This amount does not include adjustments related to any recommended plant adjustments included in the testimony of Department witnesses Messrs. Jay Dudley/Ron Willoughby/Joe DeVirgilio. Those adjustments are included in the revenue requirement testimony of Department witness Ms. Donna Mullinax.

4) Approve a nine (9) year amortization of the theoretical reserve imbalance of ($9,593,417) resulting in an annual credit to ratepayers of ($1,065,935). As in item 3) above, this amount does not include adjustments related to recommended plant adjustments in the Dudley/Willoughby/DeVirgilio testimony which are included in the testimony of Ms. Mullinax.

Q: What is the significance of depreciation in rate of return utility regulation and for purposes of this proceeding?

A: Liberty, as with all public utilities, includes in its annual revenue requirement an amount that is, at least theoretically, equal to the decline in the value of the company's capital assets over a twelve-month period. This is necessary because all capital assets decline in value over their lifetime of use in the provision of service to ratepayers. To account for this, the annual amount of depreciation is deducted in the calculation of the utility's rate base and that same amount becomes an addition to its operating cost. In this manner, the utility's shareholders receive both a return *on* their investment, and, via the depreciation charges, a return *of* their investment.

The accounting necessary to determine the depreciation amount is complicated. Utilities, including Liberty, constantly add new capital assets to their rate base, and accurate records must be kept about the additions and related removals. In addition, operating conditions are not static, and existing assets may not depreciate exactly as they were expected to at the time they were installed and included in rate base. For this reason, utilities such as Liberty conduct, from time to time, a depreciation study, usually completed by experienced consultants who are experts in the field of depreciation. A depreciation study is a statistical undertaking that takes into account the vintage of the utility's assets – the year when each asset was placed in service and the rate at which specific assets are being retired from service. Actuarial techniques are used to update determinations of how much useful life remains, on average, in the capital assets included in rate base. Depreciation experts use statistical techniques to fit survival curves to groups of assets and make calculations of how the forces of retirement are acting upon each asset group to derive an estimate of the service life remaining in each such group.

Q: Have you reviewed the depreciation study and recommendations that Liberty's witness, Mr. Spanos, has presented?

A: Yes, I have.

Q: What did the depreciation study performed by Mr. Spanos present?

A: Mr. Spanos' study, which used the straight-line method, average service life (ASL) procedure, and Remaining Life (RL) technique, presented newly developed depreciation accrual rates for most of the common intangible, distribution, and general plant accounts used to record the company's distribution assets. The straight-line method and average service life procedure approach was used in the previous depreciation study performed for

Liberty's rate case docketed as DE 19-064. However, in this current study, Mr. Spanos used the Remaining Life technique, which is a change from the prior study. Liberty's prior depreciation study used the Whole Life (WL) technique. Historically, the Commission and the Department have preferred use of the WL technique.

Q: You mentioned that Mr. Spanos used the remaining life technique in his study, representing a change from the prior study. Do you support that change in technique?

A: No. I recommend that the Company continue to use depreciation accrual rates developed using the whole life technique. The use of the whole life depreciation technique is consistent with the Commission's practice for setting depreciation accrual rates for other electric companies as well as for natural gas and water utilities. See Attachment SRE-2 for a list of PUC Orders relating to the use of the whole life technique. As stated above, the whole life depreciation technique is the basis for the Commission-approved depreciation accrual rates that are currently in place for Liberty.

Q: Can you briefly explain the difference between the whole life and the remaining life techniques?

A: The whole life technique allocates the original cost of the assets less the estimated net salvage[1] over the total estimated life of the asset. The whole life formula is defined as follows:

WL Depreciation Accrual Rate = (1 – Net Salvage Rate) / (Average Service Life)

For example, if a capital asset has an average service life of 10 years and a net salvage rate of 20 percent, the WL accrual rate would be calculated as follows:

[1] Net salvage represents the estimated gross salvage value less the estimated cost of removal at retirement. Net salvage can be either positive (if gross salvage > cost of removal) or negative (if cost of removal > gross salvage).

WL rate = (1 – 0.20) / 10 = (0.8)/10 = 0.08 = 8% annual accrual rate

This accrual rate would result in collecting 80% of the original asset value over the 10 year depreciable life of the asset with the remaining 20% of the asset's original cost realized through its salvage value.

The remaining life technique takes a different approach. It recovers the undepreciated original cost less the net salvage over the remaining life of the asset. That is, the original plant cost less current book depreciation is used as the depreciable cost, and the average remaining life, rather than the average service life, is used in the denominator to calculate the annual depreciation accrual rate. The formulas for both the remaining life depreciation amount and the corresponding rate are more complicated than the whole life formulas, and I will not attempt to provide them here. Additional detail on the remaining life formulas is provided in Attachment SRE-3[2].

Q: Are there advantages and disadvantages of each technique - whole life and remaining life?

A: Yes, there are. The whole life technique is simpler to explain and to present mathematically. However, because the whole life approach uses the original cost of the asset to calculate the accrual rate even as new information comes in over the life of the asset about changes in the net salvage rates and the asset life itself (an asset may prove to deteriorate more quickly or last longer than originally planned), there can be differences which develop between the booked depreciation reserve (the total amount of depreciation expense collected from

[2] Information provided in Attachment SRE-3 is from the NARUC manual titled "Public Utility Depreciation Practices" August 1996.

ratepayers) and the theoretical or calculated depreciation amount. This difference is referred to as a theoretical reserve imbalance.

Q: Please explain what a theoretical reserve imbalance represents.

A: A utility's theoretical depreciation reserve is the calculated balance that would be in the company's accumulated depreciation account at a point in time using the currently approved depreciation parameters applied to the plant in service. A utility's booked depreciation reserve, alternately called accumulated depreciation, is equal to the total amount of depreciation expense collected from ratepayers relative to all of the utility's capital assets as stated on the utility's balance sheet. A depreciation reserve imbalance occurs when there is a difference between the depreciation reserve recorded on the company's balance sheet (book reserve) and the calculated value of the accumulated depreciation (theoretical reserve).

Q: Please continue with your explanation of the advantages and disadvantages of the whole life and remaining life techniques.

A. As I explained above, use of the whole life technique may result in a theoretical reserve imbalance. That imbalance is then something which may require attention. The remaining life technique differs in that it uses the undepreciated value of the asset and the remaining service life to calculate the annual accrual rate. This method incorporates into the accrual rate calculation any theoretical reserve imbalance and spreads it out over the remaining life of the asset. It's important to note that the remaining life method starts with the undepreciated value of the assets – this is the original cost less the book reserve which means that this method already incorporates any potential reserve imbalance into its calculations. This method has the advantage that, theoretically, it will always collect no more and no less than the original cost of the plant asset over the life of that asset, even as new information

comes in over time about retirements, service life, and salvage value during subsequent depreciation studies.

Q: Did Mr. Spanos' depreciation study determine that there was a theoretical reserve imbalance that would need to be considered?

A: No. As explained, the depreciation study prepared by Mr. Spanos used the remaining life technique so that any imbalance has been incorporated into his calculated depreciation accrual rates, and any imbalance is spread over the average remaining life of the assets in each plant account.

Q: In your recommendations at the beginning of your testimony, you stated that there is a reserve imbalance, and you recommended a period over which it should be amortized. What is the source of the calculation of the reserve imbalance?

A: In response to discovery, Mr. Spanos performed additional calculations using the whole life technique to determine account-specific WL accrual rates, a total annual depreciation accrual amount, and a theoretical reserve imbalance. The response to data request DOE 6-2 and its attachments are included as Attachment SRE-4 and are the source of much of the information used in my recommendation.

Q: Does the theoretical reserve calculated by Mr. Spanos in response to data request DOE 6-2 represent the "correct" reserve amount?

A: No. There is not really a single "correct" reserve amount. The theoretical reserve is an estimate developed at a point in time based on the current plant balances, the current life and net salvage estimates developed using available plant records. It provides a useful measurement which can be compared to the Company's actual book reserve to establish the relative position of the two estimates. It should not generally be considered as the "correct"

reserve amount. This is, in part, because development of the theoretical reserve value depends on decisions and judgement made during the study of "best fit" Iowa Curves (asset survival curves) among other things. These decisions are, to a degree, subjective and experts may not always agree on every particular. For example, there may be several different Iowa curves which each fit plant data reasonably well but which yield slightly different results for average service life for assets in a plant account. Therefore, determination of accrual rates and depreciation accrual amounts are not an exact science – they are the result of the application of mathematical techniques, the results of which are based, in part, on the decisions of the expert conducting the study.

Q: What is your recommendation regarding the depreciation reserve amount?

A: I recommend that the depreciation reserve amount calculated by Mr. Spanos when using the WL technique be adopted and amortized over a period of nine (9) years.

Q: How did you determine your recommended period for this amortization?

A: Because calculated depreciation rates for asset classes can vary from study to study due to many factors which, in turn, impact the calculation of total depreciation included in the Company's revenue requirement, one approach often recommended by the Department is to amortize the depreciation reserve imbalance over a period of time equal to twice the length of time between depreciation studies. In the current situation, there was also a depreciation study performed in the Company's most recent prior distribution rate case in 2019. That study used plant data from the 2018 test year. The current study uses plant data from the 2022 test year.

Q: Is your recommended amortization period based on that information alone?

A: No, it is not. A review of the period between depreciation studies performed by the Company over a longer time span shows that this current time span between studies is not consistent with those other time spans and is thus not necessarily indicative of an appropriate amortization period per the above-referenced approach often recommended by the Department. I recommend using the average of the last three study intervals rather than a period equal to two times the most recent study interval as there has been significant change over time, as evidenced by the information in Table 1 below. This method is similar to the method used in developing a recommended amortization period in the Company's prior rate case.

Table 1. Period Between Depreciation Studies

	Year of Depreciation Study Plant Data		
Docket No.	Current	Prior	Difference
DE 23-039	2022	2018	4
DE 19-064	2018	2012	6
DE 13-063	2012	1995[3]	17
Average			9

Q: Can the reserve imbalance change from one depreciation study to the next?

A: Yes. As more, and newer, information becomes available about plant retirements, net salvage amounts, and changing plant technologies which impact service life, the depreciation accrual rates for various accounts will likely change from one study to the next. These changes will, in turn, impact the calculation of the theoretical reserve.

[3] The 1995 Depreciation Study was submitted in Docket No. DE 95-169

Q: What is the annual depreciation accrual amount recommended by Mr. Spanos in his study as compared to the amount he calculated in response to the DOE's data requests?

A: The amounts are shown below in Table 1. These amounts are the basis for my recommendations regarding depreciation techniques, total annual depreciation amount, and amortization of theoretical reserve imbalance. It should be noted that any changes to plant in service as a result of recommendations by other witnesses will impact the total annual depreciation accrual amount.

Table 2.
Comparison of Depreciation Using RL and WL Techniques for 2022 Test Year.

	RL	WL
Depreciation Amount	$11,697,980	$12,478,486
Reserve Imbalance		($9,593,417)
Amortization of Reserve Imbalance over 9 years results in annual return to ratepayers of		($1,065,935)

Source: Spanos Testimony and Depreciation Study and Response to DOE 6-2. See Attachment SRE-4.
Note: Amounts are not adjusted for any recommendations by DOE witnesses Dudley/Willoughby/ DeVirgilio and/or Mullinax

Major Storm Fund

Q: Has the Company proposed changes to its Major Storm Fund?

A: Yes. Beginning on page 26 of 35 (Bates II-316) of his testimony, Company witness Anthony Strabone presents a discussion of Liberty's storm planning and restoration activities and the evolving nature of these activities as major storms have become more common. Mr. Strabone provides a thorough explanation of the current parameters of the Company's Major Storm Fund including specific weather forecast and system outage conditions that must be

met for storm preparation and restoration costs to be eligible for recovery through the Major Storm Fund.

Q: How does the Company's Major Storm Fund (MSF) operate, and how is it funded?

A: Liberty's MSF is funded at a level of $1,500,000 ($1.5M) annually. This amount is included in base distribution rates, which are under consideration in this current docket. The Company has not proposed any change to this level of funding. Annually, the Company files a report with the Commission documenting costs related to qualifying storm preparation and restoration activities which it proposes for recovery through the MSF. See, for example, Liberty MSF reports filed in DE 23-035, DE 22-019, and DE 21-073. When a storm does not meet the specific qualifying major storm criteria, costs for preparation and/or restoration activities are included in the Company's O&M costs and paid for with non-MSF distribution rates paid by customers.

Q: What happens if, in any given year, the Company incurs more costs related to qualifying major storms than can be paid for through the annual amount of funds dedicated to the MSF?

A: There are several approaches to dealing with such a situation depending on the specifics of the situation. If, for example, there were qualifying major storm expenses in a year which totaled more than the $1.5M MSF-specific funding, the Company would likely track those expenses in a regulatory asset account and recover them in the subsequent year assuming future year MSF costs were less than $1.5M. If, for example, qualifying major storm costs in a given year exceed the $1.5M MSF funding level by a significant amount such that the Company is unlikely to recover the costs in a reasonable period of time, the Company's tariff has a component called "Storm Recovery Adjustment Factor." See Tariff Page 30. The

Company could request the Commission to, "implement a factor designed to provide the increased or decreased funding to the [Major] Storm Fund at an amount approved by the Commission through the funding period." In this way, through an approved Storm Recovery Adjustment Factor (SRAF) the Company could recover costs not otherwise paid for through the MSF.

Q: What are the changes to the MSF that the Company has proposed?

A: The Company has proposed to include preparation costs in the MSF related to tropical cyclones (hurricanes) if any portion of the Company's service territory is within the "Cone of Uncertainty" in a forecast published by the National Hurricane Center (NHC). Mr. Strabone explains that such situations are challenging for the Company in that even though forecasts for such events occur further in advance than normal major storms, because hurricanes usually impact very broad geographic areas they present special challenges in acquiring mutual aid storm crews in advance; and hurricane forecasts generally include broad impact "cone of uncertainty" regions, which presents additional planning challenges. For all these reasons, the Company is proposing that, under certain specified conditions, hurricane preparation costs be allowed for recovery through the MSF.

Q: Has the Company provided any specific examples of situations that it has encountered which would be covered by its proposal?

A: Yes. Mr. Strabone presents details related to storm forecasts for Hurricane Henri in 2021 which ultimately veered away from its New Hampshire service territory but for which the Company claims it incurred approximately $450,000 in preparation costs. These costs were ultimately not eligible for recovery via the MSF because the storm turned away from New

England and never met the existing major storm criteria necessary to qualify pre-staging costs for recovery.

Q: Were these details persuasive to the Department in developing a position on the Company's proposal regarding this change to the MSF?

A: No. The Department understands that the Company faces numerous risks and challenges in operating its business and that dealing with storm preparation and restoration are but one of those challenges. However, the Department is not persuaded that a single example provided by the Company, such as that of Hurricane Henri, is sufficient evidence to support a change to the MSF at this time. As such, the Department does not support or recommend approval of the Company's proposal to modify the MSF to include storm preparation costs for tropical cyclones when a portion of the Company's service territory is within the Cone of Uncertainty as published by a forecast from the NHC.

Lead-Lag Study for Cash Working Capital

Q: In your introductory remarks, you stated that you would address the issue of cash working capital related to distribution costs. Have you reviewed the results of the Lead-Lag Study which relates to that issue as presented in the testimony of Company witness Mr. Todd Schavrien?

A: Yes. The Company filed its detailed lead-lag study in compliance with Puc 1604.07(t)[4] as the testimony of Mr. Todd Schavrien with detailed accompanying schedules documenting the calculations of payment and revenue leads and lags.

[4] Puc 1604.07(t): A utility shall describe on a document entitled "Schedule 3A - Working Capital", its working capital, based on a detailed lead-lag study. Utilities with gross revenues of less than $50,000,000 may use a formula based on the length of ½ of the utility's billing cycle plus 30 days in lieu of a detailed lead-lag study.

Q: What are the results of your review?

A: The results of the Company's updated lead-lag study are closely aligned with the results of the prior study in the Company's last rate case DE 19-064. In that docket, the testimony of Mr. Philip Greene contained the Company's lead-lag study and showed a net lag of 25.35 days for the rate case test year of 2018. The current study by Mr. Schavrien shows a net lag of 24.61 days for the rate case test year of 2022. The methods used to develop the current results are consistent with prior studies, and the final result is very close to that of the prior study. The Department supports the use of Mr. Schavrien's study results in the calculation of Cash Working Capital (CWC) requirements to be included in rate base in this case.

Q: Does this conclude your testimony?

A: Yes.