

**STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION**

Docket No. DE 23-XXX

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

Annual Retail Rate Adjustments

**DIRECT TESTIMONY
OF
JOHN D. WARSHAW**

March 27, 2023



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1 **I. INTRODUCTION AND QUALIFICATIONS**

2 **Q. Please state your full name, business address, position, and responsibilities.**

3 A. My name is John D. Warshaw, and my business address is 15 Buttrick Road,
4 Londonderry, New Hampshire. I am the Manager, Electric Supply for Liberty Utilities
5 Service Corp., which provides services to Liberty Utilities (Granite State Electric) Corp.,
6 d/b/a Liberty (“Liberty” or “the Company”). I oversee the procurement of power for
7 Energy Service for Liberty as well as the procurement of renewable energy certificates
8 (“RECs”). I am also responsible for monitoring costs and activities relative to
9 transmission service provided to the Company.

10 **Q. Please describe your educational background.**

11 A. I graduated from the State University of New York Maritime College in 1977 with a
12 Bachelor of Science in Nuclear Science. I received a Master’s in Business
13 Administration from Northeastern University in 1986. In 1992, I earned a Master of Arts
14 in Energy and Environmental Management from Boston University.

15 **Q. What is your professional background?**

16 A. In November of 2011, I joined the Company as Manager, Electric Supply. Prior to my
17 employment at Liberty Utilities Service Corp., I was employed by National Grid USA
18 Service Company (“National Grid”) as a Principal Analyst in Energy Supply – New
19 England from 2000 to 2010. In that position, I conducted a number of solicitations for
20 wholesale power to meet the needs of National Grid’s New England distribution
21 companies. I also administered both short-term and long-term power purchase
22 agreements for National Grid’s New England distribution companies. Prior to my

1 employment at National Grid, I was employed at COM/Energy (now NSTAR) from 1992
2 to 2000. From 1992 to 1997, I was a Rate Analyst in Regulatory Affairs at COM/Energy
3 responsible for supporting state and federal rate filings. In 1997, I transferred to
4 COM/Electric to work in Power Supply Administration.

5 **Q. Have you previously testified before the New Hampshire Public Utilities**
6 **Commission (“Commission”)?**

7 A. Yes. I most recently provided written and oral testimony before the Commission in
8 Docket No. DE 22-024 on January 11, 2023.

9 **Q. Have you testified before any other state regulatory agencies?**

10 A. Yes. I have testified before both the Massachusetts Department of Public Utilities and
11 the Rhode Island Public Utilities Commission regarding electric supply and renewable
12 portfolio procurement activities.

13 **II. PURPOSE OF TESTIMONY**

14 **Q. What is the purpose of your testimony?**

15 A. My testimony addresses the estimated 2023 transmission expenses for Liberty. First, I
16 will summarize the various transmission services provided to Liberty and describe how
17 Liberty pays for those services. Second, I will provide testimony supporting the forecast
18 of transmission expenses that Liberty expects to incur in 2023. As described more fully
19 in Section IV of my testimony, the Company forecasts a decrease of \$964,004 in

prospective transmission expenses for calendar year 2023 as compared to the forecast provided for the calendar year 2022 in Docket No. DE 22-018.¹

III. SUMMARY OF TRANSMISSION SERVICES PROVIDED TO LIBERTY

Q. Please summarize what transmission services Liberty receives from ISO New England Inc. (the “ISO” or “ISO-NE”) under rate schedules approved by the Federal Energy Regulatory Commission (“FERC”).

A. Liberty receives transmission services under the ISO New England Inc. Transmission, Markets, and Services Tariff (“ISO Tariff”) as follows:

1. Section II (Schedules 1, 2, 9, 16, and 17) of the ISO Tariff provides for Regional Network Service (“RNS”);
2. Section IV.A – ISO Funding Mechanisms provides for the recovery of ISO’s Administrative Services; and
3. Section II, Schedule 21 of the ISO Tariff provides for Local Network Service (“LNS”) from the New England Power Company (“NEP”).

Q. Please describe further the types of transmission services that are billed to Liberty under the ISO Tariff.

A. New England’s transmission rates utilize a highway/local pricing structure. That is, Liberty receives regional transmission service over “highway” transmission facilities under Section II of the ISO Tariff (also known as RNS) and receives local transmission service over local transmission facilities under Schedule 21 of the ISO Tariff (also known

¹ The forecast for calendar year 2022 was \$29,002,132. The actual amount for 2022 was \$28,038,128.

1 as LNS). Additionally, a number of administrative services are provided by ISO-NE
2 under Section IV.A of the ISO Tariff.

3 **A. Explanation of ISO Tariff Services, Rates, and Charges**

4 **Q. Please explain the services provided to Liberty under the ISO Tariff.**

5 A. Section II of the ISO Tariff provides access over New England's looped transmission
6 facilities, more commonly known as Pool Transmission Facilities ("PTF") or bulk
7 transmission facilities. In addition, the ISO Tariff provides for Ancillary Services (Black
8 Start, Reactive Power, Scheduling, System Control, and Dispatch Services and IROL
9 Critical Facility costs) as described more fully later in this testimony.

10 **Q. How are the costs for RNS recovered?**

11 A. The ISO Tariff's RNS Rate ("RNS Rate") (Section II - Schedule 9 of the ISO Tariff)
12 recovers the RNS costs and is determined annually based on an aggregation of the
13 transmission revenue requirements of each of the Participating Transmission Owners
14 ("PTO") in New England, calculated in accordance with a FERC-approved formula in a
15 single, "postage stamp" rate in New England. FERC opened Docket No. EL16-19 to
16 investigate the reasonableness of the formula rates and protocols used to develop both
17 RNS and LNS. A Settlement Agreement was reached and filed with FERC on June 15,
18 2020 (FERC Docket No. ER20-2054) resolving all issues regarding the RNS and LNS
19 formula rates.

20 **Q. Please describe the ISO-NE System Restoration and Planning Service, Reactive**
21 **Supply and Voltage Control, Scheduling, System Control, and Dispatch Services**

**and Interconnection Reliability Operating Limits (IROL)-Critical Infrastructure
Protection (CIP) costs that are included in the ISO Tariff.**

A. ISO-NE System Restoration and Planning Service (Section II - Schedule 16 of the ISO Tariff), also known as Black Start Service, is necessary to ensure the continued reliable operation of the New England transmission system. This service allows for the ISO to pay generators who have the capability of supplying load and the ability to re-start without an outside electrical supply to re-energize the transmission system following a system-wide blackout.

Reactive Supply and Voltage Control (Section II - Schedule 2 of the ISO Tariff), also known as Reactive Power Service, is necessary to maintain transmission voltages within acceptable limits on the ISO-NE transmission system and allows for the payment to generators or other facilities that have the capability to produce or absorb reactive power.

Scheduling, System Control, and Dispatch Service (“Scheduling & Dispatch Service”) consists of the services required to schedule the movement of power through, out of, within, or into the ISO-NE Control Area over the PTF and to maintain System Control. Scheduling & Dispatch Service also provides for the recovery of certain charges that reflect expenses incurred in the operation of satellite dispatch centers.

Lastly, a new service was added in October 2022 (OATT Schedule 17 - IROL-CIP) to recover the costs of facilities used to comply with NERC Critical Infrastructure Protection requirements.

1 **Q. How are the ISO-NE charges for Black Start and Reactive Power assessed to**
2 **Liberty?**

3 A. ISO-NE assesses charges for Black Start and Reactive Power Services to Liberty each
4 month based on Liberty's proportionate share of its network load to ISO-NE's total
5 network load.

6 **Q. How are the charges for Scheduling & Dispatch Service assessed to Liberty?**

7 A. Charges for Scheduling & Dispatch Service are assessed to Liberty through three
8 separately charged tariffed services.

9 The first charge is for the expenses incurred by ISO-NE in providing these services and is
10 recovered under Schedule 1 of Section IV.A of the ISO Tariff. These costs are allocated
11 to Liberty each month based on an annually filed FERC-approved fixed rate times
12 Liberty's monthly Network Load.

13 The second charge is for the costs incurred by the individual transmission owners in
14 providing Scheduling & Dispatch Service over PTF facilities, including the costs of
15 operating local control centers, and are recovered under Section II, Schedule 1 of the ISO
16 Tariff. These costs are allocated to Liberty each month based on a formula rate that is
17 determined each year based on the prior year's costs incurred times Liberty's monthly
18 Network Load.

19 The final charge is for the cost of Scheduling & Dispatch Service for transmission service
20 over transmission facilities other than PTF that are charged under Schedule 21 of the ISO

1 Tariff. Thus, the three types of Scheduling & Dispatch costs are similar but are charged
2 to Liberty through three different tariff mechanisms.

3 **Q. How are the charges for Interconnection Reliability Operating Limits (IROL)-**
4 **Critical Infrastructure Protection (CIP, collectively IROL-CIP) assessed to Liberty?**

5 A. Charges for IROL-CIP are allocated pro rata to each transmission customer that receives
6 either regional network service (RNS) or through or out service (TOUT).

7 **Q. What additional administrative services and/or charges flow through to Liberty**
8 **under Section IV.A of the ISO Tariff?**

9 A. Liberty also incurs charges pursuant to Section IV.A, Schedule 5 of the ISO Tariff.
10 Schedule 5 provides for the collection of the New England States Committee on
11 Electricity's ("NESCOE") annual budget. NESCOE is the "not-for-profit entity that
12 represents the collective perspective of the six New England Governors in regional
13 electricity matters and advances the New England states' common interest in the
14 provision of electricity to consumers at the lowest possible prices over the long-term,
15 consistent with maintaining reliable service and environmental quality." *See*
16 www.nescoc.com.

17 **Q. How are the ISO Tariff Administrative Services charges assessed?**

18 A. ISO-NE assesses the charges in Section IV.A based upon stated rates pursuant to the ISO
19 Tariff. These stated rates are adjusted annually when ISO-NE files a revised budget and
20 cost allocation proposal to become effective January 1 each year. Liberty is charged the

1 stated rate for these services as part of ISO-NE's monthly billing process, based on its
2 Network Load for Section IV.A Schedule 1 and Schedule 5 charges.

3 **B. Explanation of Schedule 21 NEP Tariff Services, Charges, and Credits**

4 **Q. What services are provided to Liberty under Schedule 21 of the ISO Tariff?**

5 A. Schedule 21 governs the service that NEP provides to Liberty over its local, non-highway
6 transmission facilities, considered non-PTF facilities ("Non-PTF"). The service provided
7 over the Non-PTF is referred to as Local Network Services ("LNS"). NEP posted fixed
8 LNS annual rates effective January 1, 2023, in compliance with FERC's approval of the
9 Settlement Offer in Docket ER20-2054, as mentioned above. These fixed 2023 rates will
10 be trued-up to NEP's actual costs in June 2024 and would be included in the LNS rates
11 effective January 1, 2025. NEP also provides metering, transformation, and certain
12 ancillary services to Liberty to the extent such services are required by Liberty and not
13 otherwise provided under the ISO Tariff.

14 **Q. Please explain the metering and transformation services provided by NEP.**

15 A. NEP separately surcharges the appropriate customers for these services. NEP provides
16 metering service when a customer uses NEP-owned meter equipment to measure the
17 delivery of transmission service. NEP provides transformation service when a customer
18 uses NEP-owned transformation facilities to step down voltages from 69 kV or greater to
19 a distribution voltage.

1 **Q. Are there any other transmission services for which NEP assesses charges to**
2 **Liberty?**

3 A. Yes. Liberty relies on the specific distribution facilities of NEP's affiliate, Massachusetts
4 Electric Company ("Mass Electric"), which provides for NEP's use of such facilities
5 pursuant to the Integrated Facilities provision of NEP's FERC Electric Tariff No. 1
6 service agreement with Mass Electric. NEP, in turn, uses these specific distribution
7 facilities to provide transmission service to Liberty. Therefore, Liberty is also subject to
8 a Specific Distribution Surcharge for its use of these facilities.

9 **Q. What is the credit in Schedule 21 charges that NEP provides to Liberty in its**
10 **monthly invoice?**

11 A. As a result of National Grid's sale of Liberty in 2012, NEP (a National Grid affiliate)
12 uses certain distribution facilities of Liberty to provide service to generation customers of
13 NEP. An Integrated Facilities Supplement to Schedule 21 of the ISO Tariff provides
14 Liberty with a credit in exchange for NEP's continued use of Liberty's facilities to serve
15 NEP's generation customers.

16 **IV. ESTIMATE OF LIBERTY'S TRANSMISSION EXPENSES**

17 **Q. Was the forecast for Liberty's transmission and ISO expenses for 2023 prepared by**
18 **you or under your supervision?**

19 A. Yes. I estimate the total transmission and ISO-NE expenses (including certain ancillary
20 services) for 2023 to be approximately \$28,038,128, as shown in Schedule JDW-1, page
21 1 of 2. This equates to a decrease of \$964,004 as compared to the forecast for 2022
22 provided in Docket No. DE 22-018, as shown on Schedule JDW-1, page 2 of 2.

1 **Q. How have the ISO Tariff charges for RNS shown on line 3 of Schedule JDW-1 been**
2 **forecasted?**

3 A. I estimated the 2023 RNS charges by multiplying the posted RNS rate of \$141.65 per
4 kW-year, effective January 1, 2023, by Liberty's monthly network load in 2022, as
5 shown for each month in column 1 of Schedule JDW-2 for a total of \$19,748,156 as
6 shown in column 2 of Schedule JDW-2. The posted 2023 RNS rate is a decrease of
7 \$1.13 per kW-year from the rate that was effective on January 1, 2022, and that was
8 estimated in Docket No. DE 22-018. The forecasted 2023 RNS costs are lower than last
9 year's forecast by \$1,668,526 as shown in column 3, line 3 of Schedule JDW-1, page 2 of
10 2.

11 The main reasons for the estimated decrease in costs for 2023 as compared to the
12 previous year's forecast are that Liberty's peak load, on average, was less than the peak
13 load used in the previous forecast and that the RNS-9 rate was reduced in 2023.

14 **Q. Schedule JDW-1 also includes estimated ISO-NE charges for Black Start, Reactive**
15 **Power, Scheduling and Dispatch and IROL-CIP. How were these costs forecasted?**

16 A. In estimating the expected costs of the ISO-NE charges, I used the same approach as in
17 previous filings. The Black Start costs shown on line 5 of Schedule JDW-1 were derived
18 in two steps. First, as shown in Section II of Schedule JDW-3, I estimated the cost for
19 Black Start Service by, as a starting point, summing Liberty's actual monthly ISO-NE
20 Black Start expenses for 2022 (Line 5). I divided this estimate by Liberty's 2022 Peak
21 Load to calculate an estimated annual rate, as shown on line 7. I then calculated a
22 monthly rate (annual rate divided by 12), as shown on line 8. To obtain the estimate of

1 Black Start costs that would be charged to Liberty, as shown in column 4 of Schedule
2 JDW-2, I multiplied the monthly rate by Liberty's monthly network load, as shown for
3 each month in column 1 of Schedule JDW-2. Using this methodology, I estimate an
4 allocation of \$186,209 for 2023 as shown on Schedule JDW-1, Page 2, Column 2, Line 5.

5 **Q. How have you estimated Reactive Power costs for Liberty?**

6 A. I calculated the estimated Reactive Power costs for Liberty by using actual Liberty costs
7 for 2022 as shown in Section I of Schedule JDW-3. The annual rate was determined by
8 dividing the total Reactive Power costs charged to Liberty (Line 1) by Liberty's peak
9 2022 Network Load. The monthly rate (annual rate divided by 12) was then multiplied
10 by Liberty's monthly network load, as shown in column 1 of Schedule JDW-2, to
11 determine the estimated charges for Reactive Power Service shown in column 5 of that
12 same schedule. Using this methodology, I estimate an allocation of \$97,371 for 2023.

13 **Q. How did you forecast the Scheduling and Dispatch costs shown on line 4 of Schedule**
14 **JDW-1, page 1?**

15 A. My estimate is shown in column 3 of Schedule JDW-2. This amount was derived by
16 using the currently effective OATT Schedule 1 rate of \$1.75 per kW-year, divided by 12,
17 and further multiplied by Liberty's estimated monthly network loads for 2023 as shown
18 in column 1 of Schedule JDW-2.

1 **Q. Have you included any Reliability Must Run (“RMR”) contract charges to Liberty**
2 **for 2023?**

3 A. No. Reliability Must Run Agreements guarantee payments to generators that are needed
4 to ensure reliability. To obtain an agreement, a generator must receive verification from
5 ISO-NE that it is needed for reliability and must demonstrate that it is unable to cover its
6 operating costs with revenue from other sources. Liberty has not incurred any RMR
7 contract charges as there have been no RMR contracts for the New Hampshire reliability
8 region over the past year. Therefore, I have not forecasted any RMR contract costs for
9 2023. ISO-NE did execute an RMR agreement with the Mystic generation resource
10 retained for fuel security (Mystic COS). These costs are allocated to Real-Time load
11 obligations and thus are not included in the cost of transmission service.

12 **Q. Can you please explain the forecast of the ISO-NE Administrative Charges shown**
13 **on lines 7 and 8 of Schedule JDW-1, page 1?**

14 A. Yes. Lines 7 and 8 include ISO-NE Administrative charges for Scheduling & Dispatch
15 and NESCOE, respectively, and are derived in columns 7 and 8 on Schedule JDW-2.
16 Line 7 on Schedule JDW-1, page 1, shows the 2023 forecast of charges to Liberty under
17 Schedule 1, Scheduling and Load Dispatch Administrative schedules through Section
18 IV.A of the ISO Tariff. The estimate is based on the ISO Schedule 1 rate of \$0.20475 per
19 kW-month effective January 1, 2023, multiplied by Liberty’s forecasted monthly network
20 load as shown in column 1 of Schedule JDW-2.

21 Line 8 on page 1 of Schedule JDW-1 shows the estimated 2023 NESCOE charges under
22 Schedule 5 of Section IV.A of the ISO Tariff. I derived this amount by using the ISO

1 Schedule 5 rate of \$0.00701 per kW-month effective January 1, 2023, multiplied by
2 Liberty's forecasted monthly network load as shown in column 1 of Schedule JDW-2.

3 **Q. What is the sub-total of transmission expenses attributable to charges from the ISO-**
4 **NE?**

5 A. The sub-total of ISO-NE charges is \$20,632,454, which is the sum of lines 3 through 8 on
6 Schedule JDW-1, page 1.

7 **Q. Have you estimated the charges to Liberty under Schedule 21 of the ISO Tariff?**

8 A. Yes. Lines 1 and 2 of Schedule JDW-1 show the forecasted charges from NEP pursuant
9 to the LNS tariff. The total amount of estimated expenses is \$7,405,673, which
10 represents an increase of \$785,959 in the total NEP estimated expenses to be incurred by
11 Liberty in 2023 (see Schedule JDW-1, page 2, lines 1 and 2) as compared to 2022.

12 As shown on Schedule JDW-4, column 2, I estimated the LNS expenses based on NEP's
13 posted LNS charge of \$42.99 per kW-year, divided by 12, and multiplied by Liberty's
14 forecasted monthly network load as shown in column 1 of Schedule JDW-4. Load
15 Dispatch Surcharge, Metering, transformation, specific distribution, and ancillary service
16 charges are based on current rates and are assessed to Liberty based on a per meter and
17 peak load basis, respectively. A maintenance service credit, as discussed previously, was
18 also included in the estimate.

V. EXPLANATION OF PRIMARY CHANGE FROM LAST YEAR'S FORECASTED
EXPENSES

Q. What is the primary cause of the estimated decrease in Liberty's 2023 transmission expenses?

A. The estimated 2023 Liberty transmission and ISO-NE expenses of \$28,038,128 represent a decrease of \$964,004 from the 2022 forecast of transmission expenses for Liberty. The decrease is mainly attributed to Liberty's lower monthly peak loads during 2022 when compared to 2021 and reduced OATT transmission rates for 2023.

Q. What programs has Liberty implemented to help reduce transmission costs?

A. In 2019 in Docket No. DE 17-189, Liberty received approval to implement a customer-sited behind-the-meter battery storage pilot program, which is intended to reduce peak loads. In Order No.26,784 (Mar. 15, 2023), addressing the practical conclusion of Phase 1 of the pilot, the Commission found the program to have lowered transmission costs. Additionally, Liberty's energy efficiency programs continue to provide energy efficiency measures to its customers helping to reduce customers electric energy.

Q. Does this conclude your testimony?

A. Yes.