Date Filed: November 16, 2026

Witness: **Juan-Pablo Velez**
Request from: **Connecticut Industrial Energy Consumers**

Question CIEC-7:

Please refer to Velez Direct Testimony at page 15, lines 5-10; page 16, lines 1-5; and page 62, lines 11-14.

a. Please explain why Mr. Velez estimated marginal transmission cost using an avoided Pool Transmission Facility cost and the probability of the New England system peak, rather than the method by which regional and local network transmission costs are actually allocated to the Company.

b. Please describe Mr. Velez's understanding of how ISO New England Inc. allocates regional network transmission service costs to the Company, including whether that allocation depends on the Company's load at the time of the peak in each month.

c. Has Mr. Velez estimated the effect of heat pump adoption on the Company's monthly peak loads during November through March, or on the transmission costs allocated to the Company? If so, provide the analysis. If not, explain why not.

d. Please explain how the 75% reduction in the winter Transmission Service Rate under Rate HP would affect the Company's recovery of its transmission costs, and identify who would pay any resulting under-recovery.

Response:

a. My testimony measures the cost of the new transmission facilities that a heat pump customer's added usage requires. That is a marginal cost. The cost allocation method the question describes measures something else entirely: how the cost of facilities *already built* is divided among the customers who use them. It cannot tell us what *new* facilities added load requires.[1]

The Company did not compute a marginal cost of transmission in this rate case.[2] I therefore constructed one. An hourly marginal cost has two parts: an annual cost per kilowatt of peak load, and a method for allocating that annual cost to the hours of the year, in proportion to how likely each hour is to fall at the peak that drives new investment. For the annual cost, I used the standard regional estimate. For the allocation to hours, I used the same probability-of-peak method the Company used for its distribution marginal cost. Because the transmission and distribution schedules are built the same way, they can be added together into one hourly marginal delivery cost, which I compared with the delivery charges a heat pump customer pays for its added usage.

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[1] *See* Synapse Energy Economics, *Avoided Energy Supply Components (AESC) in New England: 2024 Report* ("AESC 2024"), at 285 (May 24, 2024) (the avoided transmission cost does "not include any impact of changes in the cost or cost allocation of already-built regional transmission facilities"), 286 (it "is the value of avoiding or deferring projects associated with load growth").

[2] CL&P Response to CLF-SC-026, at 1 ("The Marginal cost of transmission was not computed for this rate design.").

The regional estimate is the avoided Pool Transmission Facility cost of $69/kW-year from AESC 2024: the cost of deferring regional transmission investment by one year through a one-year reduction in peak load.[3] The Company sponsors that study and uses it to screen its own energy efficiency programs, valuing avoided Pool Transmission Facility cost at $70.0 per kW.[4] I inflated the value to 2026 dollars, the dollar year of the Company's marginal cost of service study.[5]

To allocate that cost to hours, I applied the Company's method to New England system load rather than to the Company's distribution substation load,[6] because Pool Transmission Facilities are regional: as AESC puts it, "the transmission system is built to reliably meet the total system peak, each year."[7]

b. Regional Network Service is how ISO New England charges for the region's shared high-voltage transmission system, the Pool Transmission Facilities. ISO New England bills the Company for it every month, and each month's bill depends on the Company's load in a single peak hour of that month, including in November through March.[8] The bill is built in three steps.

1. **One regional cost pool and one rate.** Each year, the transmission owners' revenue requirements for the Pool Transmission Facilities are added together into a single New England total. That total is divided by the region's load at monthly peaks, averaged over the twelve months of the year, to give a rate per kilowatt-year.[9]
2. **One hour per month.** For billing, the tariff divides New England into zones it calls Local Networks, each covering the transmission systems of one transmission owner or group of affiliated owners.[10] The Company is in Eversource's zone, which also includes Eversource's systems in western Massachusetts and New Hampshire.[11] Each month, ISO New England finds the hour when

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[3] Direct Testimony of Juan-Pablo Velez on behalf of Conservation Law Foundation and Sierra Club ("Velez Direct"), at 15:6–9 (Oct. 21, 2026); AESC 2024 at 283 (the $69 per kW-year is "the cost of deferring the PTF investment by one year as a result of a one-year reduction in peak load").

[4] AESC 2024 at 4 (listing "Eversource (Connecticut Light and Power . . .)" among the sponsors); CL&P et al., *2025–2027 Conservation & Load Management Plan*, at 178 ("The electric and fossil fuel avoided costs are based on a regional avoided energy supply cost study completed in 2024 for New England ('2024 AESC')") and 181 (Figure 62 lists "Pooled Transmission Facilities" at "$70.0" per kW, sourced to "2024 AESC," on a "Connecticut counterfactual 1 using a 15-year levelized basis; all values are in 2024 dollars") (Nov. 1, 2024).

[5] Ex. JPV-2, Section 3, Step 1.

[6] Velez Direct at 15:9–16:3; Ex. JPV-2, Section 3, Step 2; CL&P Response to CLF-SC-033, at 1 (reprinting the Company's response to OCC-733, which fit the method on "historical hourly Substation Loads from January 2022, to December 2025").

[7] AESC 2024 at 283.

[8] CL&P Response to CLF-SC-031, at 1 (the costs of "transmission service provided (i.e., billed) to the distribution company . . . are determined on a monthly peak demand basis, at rates determined on a 12-month average peak demand").

[9] ISO New England, *Open Access Transmission Tariff, Section II*, at Schedule 9, Lines 1–3 and notes (b)–(c) (the revenue requirement "equals the aggregate of the ATRRs of the PTOs," and the denominator is "[t]he average for the twelve months of the calendar year on which the rate is based of the sum of the coincident Monthly Peaks for all Local Networks").

[10] *Id.* at Attachment E (listing each "Local Network of" a named transmission owner or group of companies) (effective Jan. 1, 2023, FERC Docket No. ER23-16-000).

[11] Attachment E lists the zone as "[t]he Local Network of the Northeast Utilities companies," Eversource's former name. *Id.* ISO New England, *Open Access Transmission Tariff*, Schedule 21-ES (Part A), at Section 1.5 (the "Eversource Companies" are "The Connecticut Light and Power Company, NSTAR Electric Company (West), and Public Service Company of New Hampshire") (effective Jan. 1, 2022, FERC Docket No. ER20-2054-001).

the combined load of that zone is highest. That is the only thing the zone does in the calculation: it fixes the hour in which the Company's load is measured.[12]

3. **The Company's bill.** The Company's load in that hour, times the rate, divided by 12, is its bill for the month.[13]

The monthly peaks therefore decide how the regional cost pool is shared, not how large it is. If the Company's load in a January peak hour rises, the Company pays a larger share of the same pool, and the other utilities in New England pay a smaller one.

c. No, for two reasons.

First, an estimate of the transmission costs allocated to the Company would not measure what my testimony measures. My testimony measures the cost of the *new* transmission facilities that a customer's added load requires (part (a)). A change in the Company's allocation adds no new facilities. As part (b) describes, load at a monthly peak changes the Company's share of the embedded cost of *existing* facilities.

Second, even if heat pump adoption raised the Company's November–March peak loads, its allocation would not necessarily grow. The Company's share is a ratio: its load at its monthly peaks, divided by the sum of all New England transmission customers' loads at their own monthly peaks. That share rises only if the Company's peak load grows faster, in percentage terms, than the region's. If peak load elsewhere grows as fast or faster, the Company's share stays the same or falls, because the same revenue requirement is spread over more kilowatts. And winter peak load is indeed forecast to grow across all of New England: ISO New England forecasts heat pumps adding to the winter peak in every New England state, 1,600 MW across the region by 2030, of which 224 MW is in Connecticut and 322 MW in Maine.[14]

d. Rate HP would not affect whether the Company recovers its transmission costs. The Transmission Adjustment Clause reconciles the Company's transmission revenue against its actual transmission costs, and carries any difference into the next year's rate (CIEC-2(d)).[15]

Who would pay any under-recovery depends on which customers enroll, and other responses already answer it:

- **New heat pump customers** cause no under-recovery. Even at the lower winter Transmission Service Rate, each would pay the Company $8.08 a year more in transmission than it paid before installing its heat pump (CIEC-1(a) and CIEC-6(b)).

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[12] ISO New England, *Open Access Transmission Tariff, Section II*, at Section II.21.2 (a customer's billing load is "its hourly load . . . coincident with the coincident aggregate load of all Network Customers served in each Local Network in the hour in which the coincident load is at its maximum for the month ('Monthly Peak')") (effective Sep. 1, 2021, FERC Docket No. ER21-2337-002).

[13] *Id.* at Section II.21.1 (each customer pays "an amount equal to its Monthly Regional Network Load for the month times the applicable Local Network RNS Rate"), Schedule 9 ("Amount to be Paid = ((RNS Rate per kilowatt-year) x (Transmission Customers [sic] Monthly Network Load (a)) x (1/12))").

[14] ISO New England, *Final 2026 Heat Pump Forecast*, at 8 (annual additions to the heat pump stock in each of the six states), 24 (Winter 50/50 Peak Demand by Load Zone: 224 MW for CT, 322 MW for ME and 1,600 MW for ISONE in 2030) (May 1, 2026).

[15] Davis-Parsons Direct, Exhibit CLP-RATES-3 at 409 (the TAC recovers "the difference between the Company's TAC revenue and the Company's TAC costs from the prior period").

- **Existing heat pump customers** would each pay $316.73 a year less in transmission (CIEC-1(a)). I recommend that other residential customers bear that reduction (CIEC-2(b)), and CIEC-3(c) estimates the resulting increase in Rate 1 charges. Although the Transmission Adjustment Clause is reset every year, what changes each year is the dollars: each annual filing divides each class's share of transmission costs by sales from a fixed past rate year, currently "RY 2020 Billed Sales," not current sales.[16] If the billing determinants approved in this rate case place existing heat pump customers' load on Rate HP, Rate 1's transmission rate is set high enough to cover their reduction, and no shortfall arises. If they do not, the reduction becomes a shortfall each year until the next rate case, and each year's true-up would spread part of it to non-residential classes, unless the Authority directs the Company to recover that shortfall from the residential class only, as I recommend in CIEC-2(d).

[16] RAM Exhibit 4 at 4:11–18; see also CL&P, Docket No. 25-01-03, Attachment 1, Exhibits 1–11, to Dave Thompson Rates Testimony, Exhibit 2 at 4 (the same "RY 2020 Billed Sales" a year earlier) (Feb. 14, 2025).