

THE STATE OF NEW HAMPSHIRE
BEFORE THE NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION
TESTIMONY OF BRIAN J. RICE
PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE D/B/A EVERSOURCE
ENERGY
2017 DEFAULT ENERGY SERVICE RATE
Docket No. DE 16-xxx

1 **Q. Please state your name, business address and position.**

2 A. My name is Brian J. Rice. My business address is 247 Station Drive, Westwood, MA
3 02090. My position is Senior Analyst, Regulatory Projects at Eversource Energy Service
4 Company and in that position I provide service to the operating companies of Eversource
5 Energy including Public Service Company of New Hampshire d/b/a Eversource Energy
6 ("Eversource").

7 **Q. Have you previously testified before the Commission?**

8 A. No. I have not. However, I have filed testimony with the Massachusetts Department of
9 Public Utilities in docket DPU 16-105 pertaining to the revenue requirements and cost
10 recovery mechanisms for proposed utility-owned solar programs.

11 **Q. Please describe your educational background and professional experience.**

12 A. I graduated from Union College in Schenectady, NY in 2004 with a Bachelor of Science
13 degree in Industrial Economics and received a Master of Business Administration degree

1 with a concentration in corporate finance in 2011 from the Boston College Carroll
2 Graduate School of Management in Chestnut Hill, Massachusetts. I've held multiple
3 Senior Analyst positions in different functions at Eversource since 2011. My present
4 responsibilities include preparing analysis and providing project management support for
5 enterprise-wide regulatory initiatives across Eversource's operating businesses.
6 Previously I supported wholesale energy and renewable energy certificate procurement
7 activities for Eversource. Prior to joining Eversource I held consulting positions covering
8 various segments of the energy and utility industries.

9 **Q. What is the purpose of this testimony?**

10 A. In Order No. 25,914 issued on June 28, 2016 in Docket No. 15-415, the Commission
11 required Eversource to conduct a Lead/Lag study, in consultation with the Staff and the
12 Office of Consumer Advocate ("OCA"), for inclusion in Eversource's 2017 energy
13 service rate calculation. The purpose of this testimony is to describe the methodology
14 and results of a lead-lag study prepared to determine the cash working capital
15 requirement included in the Company's calculation of energy service revenue
16 requirements. The methodology and preliminary results were discussed with the Staff
17 and OCA prior to this filing, and Eversource anticipates that it will continue to work with
18 the Staff and the OCA on potential refinements to this study.

1 **Q. What is cash working capital?**

2 A. Cash working capital is the amount of money that is needed by Eversource to fund
3 operations in the time period between when expenditures are incurred to provide service
4 to customers and when payment is actually received from customers for that service.

5 **Q. How has the Company historically estimated its Cash Working Capital**
6 **requirement?**

7 A. The Company has historically estimated cash working capital to equal 45 days, or 12.3
8 percent (45/365), of annual operation and maintenance expense, which is consistent with
9 the method that was described in Puc 1604.07(t) before it was amended last year in
10 Docket No. DRM 14-362.

11 **Q. How is cash working capital estimated through a lead-lag study?**

12 A. A lead/lag study identifies the amount of time it typically takes for the Company to
13 collect revenue from customers, as well as the amount of time the Company takes to
14 make payment for applicable operating costs. The difference between those two numbers
15 is used as the basis to estimate cash working capital requirements.

1 **Q. Please define the terms “revenue lag days” and “expense lead days.”**

2 A. Revenue lag is the time, measured in days, between delivery of a service to Eversource
3 customers and the receipt by Eversource of the payment for such service. Similarly,
4 expense lead is the time, again measured in days, between the performance of a service
5 on behalf of Eversource by a vendor or employee and payment for such service by
6 Eversource. Since base rates are based on revenue and expenses booked on an accrual
7 basis, the revenue lag results in a need for capital while the expense lead offsets this need
8 to the extent the Company is typically not required to reimburse its vendors until after a
9 service is provided.

10 **Q. Please describe the Lead/Lag Study (Attachment BJR-1) and its findings.**

11 A. The Lead/Lag Study consists of 29 pages of calculations and supporting schedules to
12 separately calculate lag days for operations and maintenance (“O&M”) expense and
13 Purchased Power expense. The Lead/Lag Study produced an O&M net lag of 27.6 days
14 or 7.5% percent (27.6/365), and 24.7 days or 6.8 percent (24.7/365) for Purchased Power
15 expense.

1 **A. Revenue Lag Days**

2 **Q. How is the revenue lag determined?**

3 A. First, total revenue was disaggregated between revenue from retail and wholesale
4 customers. The significant majority of energy service revenue is collected from retail
5 customers. However, Eversource recovers annual proceeds from the sale of renewable
6 energy certificates (“RECs”) from the Northern Wood Power Project (“NWPP”) and a
7 net surplus of capacity sold into the market overseen by the Independent System Operator
8 for New England (“ISO-NE”). These annual proceeds are credited to customers,
9 offsetting a portion of the energy service revenue requirement and displacing revenue that
10 would otherwise be collected from retail customers. Collections were reviewed and the
11 lag days were calculated for each category. Once the lag days for each category were
12 determined, they were summarized and dollar weighted to arrive at Total Revenue lag
13 days. See, Attachment BJR-1, page 2. The lag days for each category were weighted
14 based on actual annual amounts reflected in the Company’s 2015 Energy Service
15 Reconciliation. However, the lag days associated with sale of NWPP RECs were
16 excluded from the calculation of revenue lag applied to Purchased Power expense
17 because those expenses do not support the production of RECs from NWPP.

1 **Q. How is the retail revenue lag computed?**

2 A. The retail revenue lag consists of a “meter reading or service lag,” “collection lag” and a
3 “billing lag.” The sum of the days associated with these three lag components is the total
4 retail revenue lag experienced by Eversource. See Attachment BJR-1, Page 3 of 29.

5 **Q. What lag does the Lead/Lag Study reveal for the component " meter reading or**
6 **service lag?"**

7 A. The Lead/Lag Study reveals 15.2 days. This lag was obtained by dividing the number of
8 billing days in the test year by 12 months and then in half to arrive at the midpoint of the
9 monthly service periods.

10 **Q. How was the “collection lag” calculated and what was the result?**

11 A. The “collection lag” for energy service totaled 31.6 days. This lag reflects the time delay
12 between the mailing of customer bills and the receipt of the billed revenues from
13 customers. The 31.6 days lag was arrived at by a thorough examination of energy service
14 accounts receivable balances using the accounts receivable turnover method. End of
15 month balances were utilized as the measure of customer accounts receivable.
16 Attachment BJR-1, Page 4 details monthly balances for the majority of the accounts
17 receivable accounts (Customer Accounts). Attachment BJR-1, Page 5 summarizes the
18 month end reserve balances for uncollectible accounts. Attachment BJR-1, Page 3 shows

1 the net sum of the average customer balances and Reserve for Uncollectible accounts of
2 \$34,076,398. Attachment BJR-1, Page 6 calculated the average daily revenue amount by
3 dividing total revenue by 365 days (\$1,079,944). The resulting Collection Lag is derived
4 by dividing the average daily accounts receivable balance by the average daily revenue
5 amount to arrive at the Collection lag of 31.6 days.

6 **Q. How did you arrive at the 1.00 day “billing lag”?**

7 A. Nearly all of the Company’s customers are billed the evening after the meters are read.
8 Therefore, I have included a 1.00 day billing lag. I have not made an exception for large
9 customers which may require additional time to process.

10 **Q. Is the total retail revenue lag computed from these separate lag calculations?**

11 A. Yes. The total retail revenue lag of 47.8 days is computed by adding the number of days
12 associated with each of the three retail revenue lag components. See, Attachment BJR-1,
13 Page 3. This total number of lag days represents the amount of time between the
14 recorded delivery of service to retail customers and the receipt of the related revenues
15 from retail customers.

16 **Q. How were lag days for net capacity sales determined?**

17 A. Capacity lag days were based on ISO-NE procedures discussed in more detail in the
18 purchased power section of this testimony. Capacity market charges are settled each

1 month and included in the invoice issued on the first Monday after the 10th calendar day
2 of the month following the service period. This results in a lag of 28.8 days as shown in
3 Attachment BJR-1, page 7.

4 **Q. How were the lag days for NWPP RECs determined?**

5 A. The lag days for NWPP RECs were calculated based on the amount of time between
6 when the value of RECs are credited to customers and when cash payment for RECs is
7 received by the Company. The customer share of the value of RECs produced at Schiller
8 Station is credited to customers in the month in which the RPS eligible energy is
9 produced. However, the schedule for the issuance and trading of RECs in the New
10 England Power Pool Generation Information System ("NEPOOL GIS") results in a
11 considerable delay in receipt of the cash value of those RECs. RECs are not available for
12 transfer in NEPOOL GIS until 4-6 months after they are generated and most purchase
13 agreements for RECs only provide payment after RECs have been transferred to a buyer.
14 Additionally, a larger volume of RECs are generally transferred in later trading periods,
15 adding to the revenue lag. As shown in Attachment BJR-1, page 9, Eversource did not
16 receive cash payment for 2015 RECs until, on average, 238.3 days after they were
17 generated. However, in 2016 half of the RECs produced at Schiller Station began being
18 sold under contract to Connecticut Light and Power Company and The United
19 Illuminating Company. The sale of RECs under these contracts is expected to reduce the
20 revenue lag for NWPP REC credits to 199.3 days as shown in Attachment BJR-1, page 8.

1 **B. O&M & Taxes Cash Working Capital**

2 **Q. Please explain Other O&M Cash Working Capital?**

3 A. The Other O&M Cash Working Capital component is composed of O&M expense,
4 payroll taxes and property taxes. These are types of expenses that Eversource pays to
5 underwrite the activities conducted in service to customers before it receives payment
6 from customers for those services.

7 **Q. In determining the expense lead period, how were the weighted lead days in**
8 **payment of O&M costs determined?**

9 A. First, total O&M expense was disaggregated between payroll, other O&M expense and
10 taxes other than income. Payments were reviewed and the lead days were calculated for
11 each category. Once the lead days for each category were determined, the lead days were
12 summarized and dollar weighted according to 2015 actual annual amounts to arrive at
13 O&M and Tax expense lead days. See, Attachment BJR-1, page 11.

14 **Q. Briefly describe the lead days calculated for each category.**

15 A. The payroll lead is shown in Attachment BJR-1, page 12. Eversource employees are paid
16 every other Thursday for the previous two weeks' work (based on a work week of
17 Sunday-Saturday). This results in an overall weighted lead of 11.5 days.

1 **Q. How was the lead related to other O&M expenses which were not individually**
2 **studied determined?**

3 A. I obtained a complete list of vendor payments made by Eversource during calendar year
4 2015 directly from the Company's Accounts Payable system. I randomly selected 40
5 vendor payments and calculated the amount of time between the date the invoice was
6 submitted and when the payment for the service was actually made. This calculation
7 resulted in an average lead of 36.6 days as shown on Attachment BJR-1, Page 13.

8 **Q. Would you briefly describe the lead days associated with taxes?**

9 A. Yes. The (2.5) property tax lead days were calculated based on a query of tax payments
10 made by Eversource to New Hampshire municipalities in 2015. The FICA & Medicare
11 tax leads of 12.9 days were calculated based on the 2015 payments made to the
12 government for these payroll related taxes. The leads for other taxes are presented in
13 Attachment BJR-1, page 22 and 23.

14 **Q. How is the total O&M and Taxes Lag determined?**

15 A. The lead in payment for the cost of goods and services purchased of 24.2 days is
16 subtracted from the lag in receipt of revenue of 51.7 days to produce the total O&M
17 Lag of 27.6 days. See, Attachment BJR-1, page 1.

1 **C. Purchased Power Cash Working Capital**

2 **Q. What expense is Purchased Power Cash Working Capital intended to address?**

3 A. Purchased Power Cash Working Capital provides cash working capital for expenses
4 paid by Eversource to wholesale energy suppliers and ISO-NE on behalf of
5 customers. Net purchases of wholesale energy, ancillary services and RECs
6 supplement the operation of power generation facilities owned by the Company to
7 provide energy service to customers.

8 **Q. In determining the expense lead period, how were the weighted lead days in**
9 **payment of Purchased Power costs determined?**

10 A. First, total Purchased Power expense was disaggregated into 5 major cost categories, as
11 shown on Attachment BJR-1, page 24. Payments were reviewed and the lead days were
12 calculated for each category. Once the lead days for each category were determined, they
13 were summarized and dollar weighted based on 2015 actual annual amounts to arrive at
14 Purchased Power expense lead days. See, Attachment BJR-1, page 24.

15 **Q. How were the lead and lag days in payment of ISO-NE costs determined?**

16 A. Lead and lag days associated with ISO-NE activity were based on ISO-NE procedures for
17 the collection and disbursement of funds among energy market participants. ISO-NE
18 generally issues invoices twice per week, on Monday and Wednesday. The invoice

1 amounts reflect the net total of charges and credits allocated by ISO-NE to a company.
2 The Monday invoice covers all charges recorded in the prior Monday through
3 Wednesday, and the Wednesday invoice covers all activity recorded Thursday through
4 Sunday. Payment from net purchasers are due two business days after the invoice date
5 and disbursement to net sellers is made four business days after the invoice date.
6 Eversource is typically a net purchaser from ISO-NE, so makes payments on Wednesday
7 and Friday. The ISO-NE payment cycle produces a cost of lead 7.1 days for energy and
8 ancillary services as shown in Attachment BJR-1, page 25.

9 **Q. How were the weighted lead days in payment of independent power producers**
10 **(“IPPs”) and contract energy costs determined?**

11 A. Eversource makes payment to IPPs and contracted wholesale energy suppliers on a
12 monthly basis following delivery. The lead days for IPP and contract costs were
13 determined by subtracting the midpoint of a service period from the payment date for that
14 period. A list of payments and payment dates for IPPs recorded for January 2015 is
15 included in Attachment BJR-1, page 26 as a representative sample of payments which
16 produces a cost lead of 34.4 days for IPP Costs. As show in Attachment BJR-1, page 27,
17 the weighted average cost lead for contract purchases from Burgess BioPower and
18 Lempster Wind is 36.5 days.

1 **Q. How were the weighted lead days in payment of Renewable Portfolio Standard**
2 **(“RPS”) costs determined?**

3 A. Lead days for RPS costs were determined by comparing the date of payment for RECs to
4 the load-weighted midpoint of the compliance year to which they were applied for RPS
5 compliance. The schedule of 2015 REC payments in Attachment BJR-1, page 28
6 includes proceeds from the resale of RECs purchased from Burgess BioPower and
7 Lempster Wind and results in a computed lead of 120.4 days. As discussed previously,
8 transactions for RECs through NEPOOL GIS substantially lag the period in which they
9 are produced and applied for RPS compliance. This schedule creates a cost lead for
10 Purchased Power expense.

11 **Q. How is the total Purchased Power Lag determined?**

12 A. The lead in payment for wholesale energy and related products of 22.8 days is
13 subtracted from the lag in receipt of applicable revenue of 47.5 days to produce the
14 total Purchased Power Lag of 24.7 days as shown in Attachment BJR-1, page 1.

15 **D. Other Cash Working Capital**

16 **Q. Are there other expenses that could create cash working capital requirements?**

17 A. Yes. The Company has not included any cash working capital requirement associated
18 with its fuel expense at this time due to the current operations of most of its fossil

1 generation fleet. If the fleet was substantially operated as a baseload generation resource,
2 then the Company would likely incur a cash working capital requirement since it would
3 have to make fuel purchases to replenish inventory before it received payment from
4 customers to recover the cost of consumed fuel. However, current seasonal and peak
5 operation of most of the fossil generation permits greater flexibility of fuel inventory and
6 diminishes cash working capital requirements.

7 **E. Conclusion**

8 **Q. Would you summarize the Company's proposal regarding Cash Working**
9 **Capital?**

10 A. Yes. Based on the results of the lead-lag analysis of Eversource Energy Service Cash
11 Working Capital, the Company identified an O&M working capital component of
12 27.6 days, or 7.5 percent, and a Purchased Power working capital component of 24.7
13 days, or 6.8 percent. Application of these values results in a total cash working
14 capital allowance of \$15.450 million to be included in generation rate base for 2017.

15 **Q. How do the Lead/Lag Study results compare to the historic 45 day convention?**

16 A. The Lead/Lag Study determined that the Company realizes a net revenue lag of less
17 than 45 days. However, the current convention of determining cash working capital
18 requirements based only upon O&M expense does not capture the working capital

1 required to support Purchased Power expenses incurred to provide Energy Service to
2 customers. The net effect of applying the results of the Lead/Lag study is therefore
3 an increase in cash working capital requirements from \$9.739 million to \$15.450
4 million.

5 **Q. Does this conclude your testimony?**

6 **A.** Yes, it does.