

NSTAR Electric Company
Western Massachusetts Electric Company
each d/b/a Eversource Energy
D.P.U. 17-05
Exhibit ES-CAH-1
January 17, 2017
H.O. _____

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF PUBLIC UTILITIES

Petition of NSTAR Electric Company and
Western Massachusetts Electric Company each
d/b/a Eversource Energy for Approval of an Increase
in Base Distribution Rates for Electric Service
Pursuant to G.L. c. 164, § 94 and 220 C.M.R. § 5.00

D.P.U. 17-05

DIRECT TESTIMONY OF

Craig A. Hallstrom

Case Overview

On behalf of

**NSTAR Electric Company and
Western Massachusetts Electric Company
each d/b/a Eversource Energy**

January 17, 2017

DIRECT TESTIMONY OF CRAIG A. HALLSTROM

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DEPARTMENT OF PUBLIC UTILITIES

DIRECT TESTIMONY OF

CRAIG A. HALLSTROM

1 **I. INTRODUCTION**

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

3 A. My name is Craig A. Hallstrom. I am President, Regional Electric Operations for
4 Massachusetts and Connecticut for Eversource Energy. My business address is 247
5 Station Ave, Westwood, Massachusetts 02090.

6 **Q. What are your principal responsibilities in this position?**

7 A. As President, Regional Electric Operations, I am responsible for providing safe and
8 reliable electric service to Eversource customers in both Massachusetts and
9 Connecticut. I have oversight for electric field operations and electric system
10 operations for NSTAR Electric Company (“NSTAR Electric”) and Western
11 Massachusetts Electric Company (“WMECO”) in Massachusetts, and for Connecticut
12 Light and Power Company (“CL&P”) in Connecticut. I lead a team of approximately
13 2,270 employees and manage an annual budget of almost \$1 billion for transmission
14 and distribution operations and capital work. In this proceeding, I am testifying on
15 behalf of NSTAR Electric and WMECO each d/b/a Eversource Energy (together
16 “Eversource” or the “Company”).

1 **Q. Please summarize your professional and educational background.**

2 A. In 1981, I received an Associate degree in Electric Engineering Technology from
3 Wentworth Institute of Technology. In 1985, I graduated from Merrimack College
4 with a Bachelor of Science degree. In 1991, I received a Master of Business
5 Administration degree from Northeastern University. I began my career at
6 Massachusetts Electric Company in 1981 and joined NSTAR Electric (Boston Edison
7 Company) in 1989. Since that time, I have served in several managerial and
8 supervisory roles with successive responsibility, including Senior Supervising
9 Engineer; Manager, Splicing Division/Northeast Division/Trouble & Maintenance
10 Department; Director Electric Operations; and Vice President of Electric Operations.
11 I was named President of NSTAR Electric and WMECO in 2013, and in June 2016, I
12 was named to my current position.

13 **Q. Have you previously testified before the Department or other regulatory**
14 **agencies?**

15 A. Yes. I have previously testified before the Department of Public Utilities (the
16 “Department”) in relation to the Department’s investigation of the Company’s storm
17 performance in NSTAR Electric Company, D.P.U. 11-86-B/11-119-B (2012) and the
18 Company’s storm-cost recovery in NSTAR Electric Company, D.P.U. 13-52 (2013),
19 as well in several generic proceedings involving electric operations and service
20 quality among other matters.

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

2 A. Eversource has devoted substantial resources to the preparation of this case to further
3 the Company's core mission of ensuring the continued safe and reliable delivery of
4 electric service to all Eversource customers in Massachusetts. To achieve this
5 objective, the Company's filing proposes a change in base distribution rates, along
6 with implementation of an innovative performance-based rate plan enabling
7 investment in emerging technologies that will enhance reliability for residential and
8 business customers and help Massachusetts meet its ambitious clean-energy goals,
9 while promoting long-term cost control. Significant investments that would be
10 completed under the plan include distribution automation, electric-vehicle
11 infrastructure and energy-storage capabilities.

12 In addition, as the Company's rate witnesses will explain, the filing proposes to
13 streamline and align rate classifications between western and eastern Massachusetts
14 into common categories for easier understanding for customers and to improve
15 administrative efficiency. These steps to align and simplify rate structures between
16 the NSTAR Electric and WMECO distribution systems are among the last steps
17 needed to realize the sizeable, tangible benefits arising from the merger of NSTAR
18 and Northeast Utilities in 2012. The Company's rate witnesses will explain that
19 operating-cost savings of approximately \$30 million annually are reflected in this
20 filing, which is in addition to \$18 million in rate credits provided to the Company's

1 electric customers in Massachusetts in April 2012, upon the merger closing.

2 Within this context, my testimony is designed to provide the Department with an
3 overview of the Company's proposals to the Department in this proceeding and to
4 outline the key organizational changes and operational consolidation completed by
5 the Company in relation to its electric distribution operations since the merger of
6 Northeast Utilities and NSTAR in April 2012.

7 **Q. Are you presenting any exhibits in addition to your testimony?**

8 A. Yes. I am presenting the following exhibits as part of my testimony in this case:

Exhibit	Purpose
Exhibit ES-CAH-1	Testimony of Craig A. Hallstrom
Exhibit ES-CAH-2	Electric Operations Organization (pre and post consolidation)

9 **Q. How is your testimony organized?**

10 A. My testimony is organized as follows: Section I is an introductory section. Section II
11 reviews the components of the Company's filing, including a summary of the overall
12 revenue-requirement calculations presented to support a change in base rates. Section
13 III discusses other key elements of the Company's proposals relating to electric
14 operations and customer service including storm-cost recovery, vegetation
15 management and a "fee free" credit/debit card payment option for customers. Section
16 IV provides an overview of the Eversource electric-distribution system in

1 Massachusetts and describes the Company's organizational structure for those
2 operations, including the reasons that the Department should allow the consolidation
3 of NSTAR Electric and WMECO as corporate entities. Lastly, in Section V, my
4 testimony explains the Company's outlook and objectives for this filing.

5 **II. OVERVIEW OF THE COMPANY'S FILING**

6 **Q. Please describe the elements of the Company's overall filing in this proceeding.**

7 A. In this proceeding, the Company is submitting a request for a change in base
8 distribution rates for NSTAR Electric and WMECO. For NSTAR Electric, the
9 Company is implementing revenue decoupling consistent with the Department's
10 directives in Rate Structures that will Promote Efficient Deployment of Demand
11 Resources, D.P.U. 07-50-A (2008) (the "Decoupling Order"). WMECO implemented
12 revenue decoupling in 2011, following the Department's decision in Western
13 Massachusetts Electric Company, D.P.U. 10-70 (2011), which is WMECO's most
14 recent base-rate proceeding.

15 In addition, Eversource is presenting the *Eversource Grid-Wise Performance Plan*
16 encompassing two major components. First, the Company is proposing to implement
17 performance-based ratemaking mechanism ("PBRM") that would adjust rates
18 annually in accordance with a revenue-cap formula to be approved by the Department
19 in this case. The PBRM would substitute for a capital-cost recovery mechanism with
20 the goal of furthering the Commonwealth's clean energy goals, creating stronger

1 incentives for cost efficiency, and assuring continued achievement of top-tier service-
2 quality performance. Second, within the PBRM, Eversource is proposing a Grid
3 Modernization Base Commitment (“GMBC”) of \$400 million in incremental capital
4 investment over the next five years, without a new or separate cost recovery
5 mechanism. Each of these proposals is discussed in detail in separate testimony
6 identified below.

7 With the Department’s approval of the PBRM, Eversource would initiate the GMBC
8 as of January 1, 2018 to enable designated clean-energy initiatives, including the
9 development of electric-vehicle infrastructure and electric-storage capabilities, as
10 well as the implementation of technologies, such as remote sensing and switching that
11 will assist in integrating distributed energy resources (“DER”) and maintaining top-
12 tier service reliability. These technologies will advance the Commonwealth’s clean
13 energy goals, as most recently expressed in the Baker Administration’s Executive
14 Order No. 569, Establishing an Integrated Climate Change Strategy for the
15 Commonwealth (September 16, 2016) (“Executive Order No. 569”), including the
16 reduction of greenhouse gases and preparation for the impacts of climate change.
17 Cyber-security is also a paramount consideration as the Company works to evaluate
18 and incorporate new equipment designed to modernize the electric grid.

19 With the Department’s approval of the PBRM, Eversource will be authorized to move
20 forward with its commitments to grid modernization, coupled with strong incentives

1 to control the costs of those investments along with the cost of traditional investments
2 and operating expense.

3 As part of the *Eversource Grid-Wise Performance Plan*, the Company is proposing a
4 set of 14 metrics within six GMBC investment categories that will allow the
5 Department and other stakeholders to gauge the Company's progress on its GMBC
6 commitments. The metrics are designed with the specific intention to yield
7 information and insight into the Company's activities and progress in specified areas
8 of interest, with explicit targets for each of the five years contemplated for the
9 GMBC. The metrics are also designed to produce gains in knowledge and experience
10 that will inform future development of the modernized electric grid. Performance on
11 these metrics will be the basis for discussions with stakeholders over the investment
12 horizon of the GMBC, and will help to confirm the course of action or to suggest
13 other potential success areas. Apart from the GMBC (and under the PBRM), the
14 Company will remain subject to the Department's rigorous service-quality guidelines,
15 which were recently updated in D.P.U. 12-120-D (2015), requiring improved
16 performance by electric utilities in the area of electric reliability.

17 Lastly, although NSTAR Electric and WMECO are fully integrated from a
18 management and operational perspective, the corporate entities will remain separate
19 pending the receipt of all necessary regulatory approvals. For purposes of this filing,
20 Eversource has anticipated that the corporate consolidation will be effective January

1 1, 2018, coincident with the effective date of new rates resulting from this
2 proceeding. The consolidation of NSTAR Electric and WMECO as corporate entities
3 is in the public interest and will represent an important long-term strategy to assure a
4 reliable, cost effective energy delivery system, with improved system reliability.
5 Therefore, certain elements of this filing are presented on a unified basis for NSTAR
6 Electric and WMECO, while other elements will remain separate until the first base-
7 rate case following the corporate consolidation. For example, the Company is
8 proposing standardization of tariff terms and conditions, line extension policies and
9 rate classifications, but has not consolidated the revenue-requirement calculation or
10 base distribution rates in this filing. Below, my testimony discusses the operational
11 consolidation that has occurred since the merger and the impact on work functions
12 and service quality.

13 **Q. Please describe the Company's request for a change in base rates.**

14 A. In this proceeding, the Company is requesting that the Department approve new
15 delivery rates to alleviate a revenue deficiency calculated by the Company to be \$60.2
16 million for NSTAR Electric and \$35.7 million for WMECO. As explained by the
17 Company's rate witnesses, this would represent an increase of approximately 7
18 percent in total distribution revenue for NSTAR Electric and 26 percent for WMECO.
19 This proposed revenue change is based on a test-year ending June 30, 2016, adjusted
20 for known and measurable changes to test-year amounts for ratemaking purposes.

1 For both NSTAR Electric and WMECO, the revenue deficiency arises primarily as a
2 result of capital investment made by the Company, which is not yet recovered
3 through rates. These unrecovered costs include depreciation expense, property taxes
4 and operating and maintenance expense incurred to maintain that infrastructure.

5 For example, WMECO's net plant-in-service has increased by almost 20 percent
6 since its last rate case in 2010. This is a substantial increase in plant investment for a
7 system of WMECO's size; however, the investment will translate directly into
8 improved service reliability for customers. As a result of changes in restoration
9 practices and other measures following the NSTAR/NU merger, WMECO customers
10 have already experienced a reduction in the average duration of outages from
11 approximately 106 minutes in 2011, to approximately 63 minutes in 2015, which is
12 an improvement of almost 40 percent in four years. Customers are also experiencing
13 a reduction in the average frequency of outages from an average frequency of 0.964
14 outages per customer served, to an average frequency of 0.645 outages per customer
15 served (representing a reduction of about 30 percent). These service improvements
16 are critical for the homes and businesses located in the relatively remote areas
17 characterizing WMECO's service territory.

18 For NSTAR Electric, the Company's rate witnesses have calculated a revenue
19 requirement is based on a total rate base of \$2.7 billion and an overall weighted cost
20 of capital of 7.61 percent, reflecting a return on equity of 10.50 percent. The total

1 rate base presented in this case reflects the addition of nearly \$2.5 billion in gross
2 plant additions plus cost of removal expenditures, net of contributions in aid of
3 construction, since the Company's last general base distribution rate case in NSTAR
4 Electric Company, D.T.E. 05-85 (2005).

5 For WMECO, the Company's rate witnesses have calculated a revenue requirement
6 based on a total rate base of \$440.9 million and an overall weighted cost of capital of
7 7.62 percent, reflecting a return on equity of 10.50 percent. The total rate base
8 presented in this case reflects the addition of nearly \$281 million in gross plant
9 additions plus cost of removal expenditures, net of contributions in aid of
10 construction, since the Company's last distribution rate case in Western
11 Massachusetts Electric Company, D.P.U. 10-70 (2011).

12 The Company's rate witnesses have also determined that, if the Company's proposals
13 were approved without modification for NSTAR Electric, a typical residential
14 customer consuming 550 kWh in a month would, on average, experience a total
15 monthly bill increase of \$8.45 or approximately 7 percent, effective January 1, 2018.
16 For NSTAR Electric's commercial and industrial ("C&I") rate classes, average
17 monthly bill impacts would range from a reduction of -2.9 percent to an increase up
18 to 5.4 percent, as of January 1, 2018. To implement rate consolidation for NSTAR
19 Electric customers and mitigate bill impacts, a subsequent rate change would occur
20 on January 1, 2019 for C&I rate classes. Consolidated rates proposed for effect

1 January 1, 2019 would yield average total bill reductions ranging from -1.7 percent to
2 -3.5 percent. Individual customer bill impacts will vary based on usage.

3 For WMECO, a typical residential customer consuming 550 kWh in a month would
4 experience, on average, a total monthly bill increase of \$11.64, or approximately 10
5 percent effective January 1, 2018. For WMECO's C&I rate classes, the total monthly
6 average bill increase ranges from 1.6 percent to 6.6 percent, effective January 1,
7 2018. To implement certain rate changes and mitigate bill impacts, a subsequent rate
8 change will take place effective January 1, 2019. On that date, the total average
9 monthly bill impact for WMECO's C&I rate classes would range from a reduction of
10 -2.5 percent to an increase of 6.6 percent. Individual customer bill impacts will vary
11 based on usage.

12 The Company's filing includes stand-alone revenue requirement calculations for
13 NSTAR Electric and WMECO; individual depreciation studies; an allocated cost of
14 service study; a marginal cost study; and other testimony and exhibits.

15 **Q. What are the principle drivers of the Company's request for a change in base**
16 **distribution rates?**

17 **A.** As I noted above, the Company's request for a change in base distribution rates is
18 motivated primarily by the need for recovery of the significant capital investment
19 made since the last rate case for each company. Since rates increases last went into
20 effect for NSTAR Electric and WMECO, the Company has completed substantial

1 amounts of capital work to construct, replace and maintain distribution infrastructure.
2 Table ES-CAH-1, below, show the Company's total plant additions (including cost of
3 removal) in each year over the period beginning with the test-year end for the most
4 recent distribution rate case (2005 for NSTAR Electric and 2009 for WMECO)
5 through the end of the test year, June 30, 2016.

Table ES-CAH-1
Annual Capital Additions

Year	Eversource East Annual Capital Additions	Eversource West Annual Capital Additions
TYE 2005	\$226M	
2006	\$238M	
2007	\$237M	
2008	\$246M	
2009	\$206M	\$51M
2010	\$199M	\$40M
2011	\$208M	\$45M
2012	\$272M	\$39M
2013	\$188M	\$45M
2014	\$246M	\$37M
2015	\$256M	\$53M
TYE 2016	\$363M	\$56M

**Total capital additions plus cost of removal*

6 The Company's capital investments encompass a range of project categories
7 necessary to build, maintain and operate a distribution system with high service

1 reliability, including new customer growth; capacity expansion; reliability
2 improvements; regulatory commitments; and routine business operations, such as
3 remediation of equipment failures, transformer replacements and third-party/joint-
4 ownership work. In addition, the Company is in the final stages of completing
5 several large substation and operating-center projects, which are some of the factors
6 driving the revenue deficiency. These projects include the following:

- 7 ▪ **Electric Avenue Substation:** The Electric Avenue project is a major new
8 substation installed to support increased load requirements for portions of the
9 City of Boston neighborhoods of Brighton, Allston, Longwood Avenue
10 Medical and the Town of Watertown. This area has experienced substantial
11 load growth as a result of new construction on Boylston Street around Fenway
12 Park and the New Balance facility aside the Massachusetts Turnpike, among
13 other factors. The substation design includes twelve 115-kV GIS breakers to
14 interconnect to two transmission lines. The substation will also include three
15 15 kV, 62.5 MVA 115/14-kV distribution transformers, six sections of
16 distribution switchgear and three 15 kV, 9.6 MVAR capacitor banks. The
17 project will entail the cutover of 19 existing distribution lines from three
18 existing substations to relieve heavy loading conditions and will provide a
19 much needed infusion of distribution capacity into the area. The substation
20 ultimately will support 39 distribution circuits.

1 The Electric Avenue Substation project was in the planning stage for
2 approximately five years and in construction over the last two years. The
3 substation was energized from the transmission system in November 2016.
4 One distribution circuit was energized in 2016; six more are scheduled to be
5 energized in 2017, and 12 are scheduled to be energized in 2018-2019, with
6 the remainder reserved for future use. This is a very substantial project for
7 NSTAR Electric, with an expected total investment of \$115 million for
8 distribution and transmission facilities, and a total distribution-related cost of
9 \$61 million.

- 10 ▪ **Seafood Way Substation:** The Seafood Way project is also a major new
11 substation to serve the Seaport area in Boston. This area has experienced
12 enormous load growth in recent years. The Seafood Way project will provide
13 back-up load relief of the Company's existing K Street substation in South
14 Boston. The substation is located right along the harbor, with an innovative
15 design providing all-around resiliency in the 500-year floodplain. The
16 substation is built approximately 15 feet above ground so that if there should
17 be a flood, the system is positioned to remain in service.

18 The project includes three gas insulated 115-kV breakers and a total of twelve
19 115-kV GIS breakers to interconnect to two transmission lines. The project
20 also includes three 62.5 MVA 115/14-kV distribution transformers; four

1 sections of distribution switchgear; and four 1-5kV 9.6 MVAR capacitor
2 banks. The firm capacity of the station will be 135 MVA. The project
3 involves cutover of 17 existing distribution lines from the K Street substation.
4 The substation ultimately will support 32 distribution circuits. The substation
5 was energized from the transmission system in December 2016. Two
6 distribution circuits are scheduled to be energized prior to the end of February
7 2017; three additional distribution circuits will be energized by the end of
8 2017; a total of 12 distribution circuits are scheduled for 2018-2019, and the
9 remainder is reserved for future use. Similar to Electric Avenue, this is a very
10 substantial project for Eversource with an expected total investment of \$131
11 million for the combined transmission and distribution facilities, and a total
12 distribution-related investment of \$66 million.

- 13 ■ **Montague Substation:** For Eversource West, the Company is completing a
14 substation rebuild project in Montague, Massachusetts. The Montague project
15 is a major substation upgrade involving the replacement 1950s-vintage oil
16 circuit breakers and other equipment with new metal-clad switchgear. Over
17 the course of the project, the Company will replace nine oil circuit breakers
18 for the eight feeders and bus tie, and two vacuum breakers for the two
19 substation transformers. The project also involves refurbishing the substation
20 yard. The Company commenced construction in October 2015 and is

1 planning to complete the project by Spring 2017. The total approximate
2 investment is \$6 million.

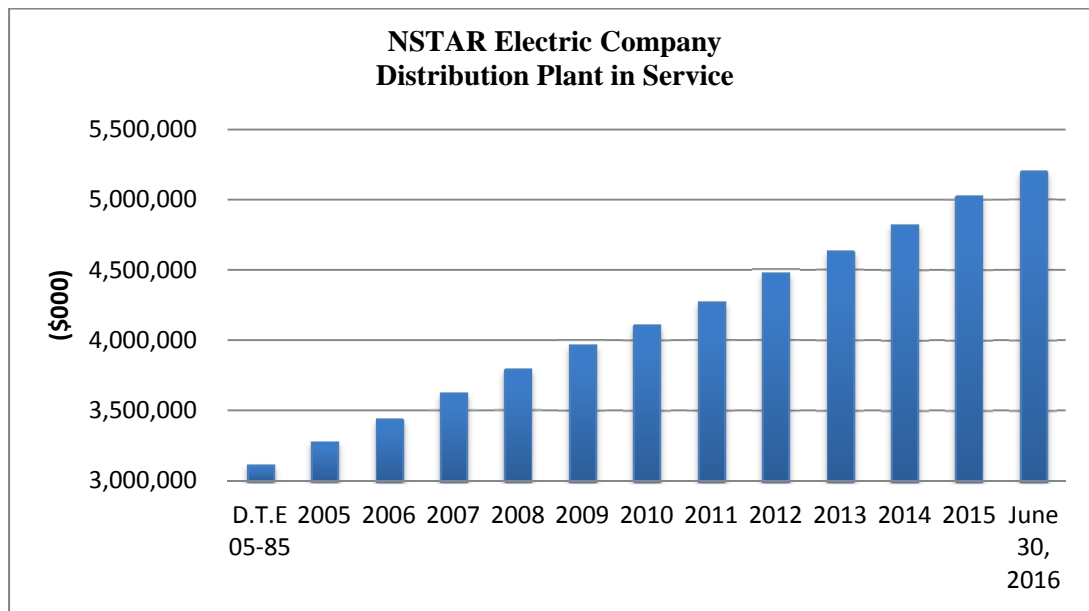
- 3 ■ **New Bedford Service Center:** The New Bedford Service Center is a project
4 to relocate the existing electric and gas service center in New Bedford to a
5 new facility at a nearby location. The project is necessary for many reasons,
6 including the fact that the current facility is old, outdated and in need of
7 extensive repairs. The new facility will provide an operations center for
8 NSTAR Electric and NSTAR Gas, including the garage and warehousing
9 functions, as well as other support functions. Approximately 190 employees
10 are expected be relocated to the new facility. Eversource will also be moving
11 the distribution dispatch control center from Plymouth, Massachusetts to the
12 new facility in New Bedford.

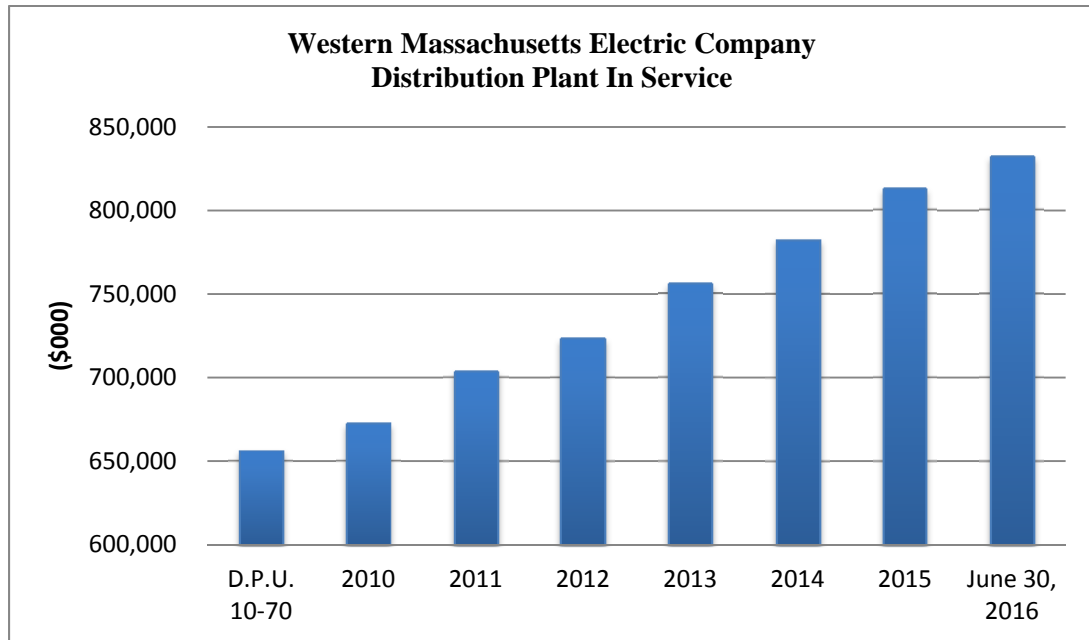
13 The Company purchased a site for the new facility at 50 Duchaine Boulevard
14 in New Bedford. The property includes an existing 165,000 square foot
15 building on 29 acres of land. The cost of the property was \$8.3 million and
16 additional cost will be incurred to retrofit the facility to meet the Company's
17 operating requirements. The project is scheduled to have a Certificate of
18 Occupancy by May 30, 2017. The total approximate investment is \$30
19 million.

1 **Q. Has the Company's capital investment resulted in increased rate base since the**
2 **Company's last distribution rate proceedings?**

3 A. Yes. The Company's net plant in service has grown considerably since the most
4 recent base-rate cases for each company. Figure ES-CAH-1, below, shows that for
5 NSTAR Electric, gross distribution plant in service has increased by approximately
6 \$2 billion since the prior test year (2005), and by approximately \$790 million in total
7 rate base. For WMECO, gross plant in service has increased by approximately \$180
8 million since the prior test year (2009), and by approximately \$80 million in total rate
9 base. These amounts of investment are significant for each company and are not
10 currently recovered through rates.

FIGURE ES-CAH-1
Growth in Distribution Plant in Service





1 The Company's traditional capital investment activities are critical to maintaining a
2 safe and reliable electric distribution system for customers, particularly in the current
3 operating environment where there is virtually zero tolerance for service outages. At
4 the same time, the Company is experiencing radical changes in its operating
5 environment spurred by exponential growth in requests for interconnection of DER.
6 As a result of this sea-change, the Company is facing an intensifying need to
7 reconfigure, reinforce and, ultimately, re-imagine the distribution system to
8 accommodate the power flows and other technical considerations accompanying the
9 "open access" platform necessary for DER and other clean-energy initiatives.
10 Consequently, the Company's filing in this case is designed to address the dual
11 operating imperatives of safety and reliability and forward momentum on the

1 modernized electric grid.

2 **Q. Would you please review the testimony that the Company is submitting in**
3 **support of its proposed change in distribution rates and other proposals?**

4 A. Yes. In addition to this overview testimony, the Company has submitted the
5 following testimony in support of its proposals:

6 **Craig A. Hallstrom, Penelope M. Conner and Douglas P. Horton** – Mr. Hallstrom,
7 Ms. Conner and Mr. Horton present the *Eversource Grid-Wise Performance Plan*.
8 Ms. Conner is Senior Vice President and Chief Customer Officer for Eversource
9 Energy Service Company (“Eversource Service Company” or “ESC”). Ms. Conner is
10 responsible for managing all aspects of the Eversource customer experience,
11 including reengineering enhanced web and mobile customer interfaces, automated
12 meter reading, and redesigning billing and payment processes. Ms. Conner also
13 oversees the Company’s award-winning energy-efficiency programs. Mr. Horton is
14 Director, Revenue Requirements Massachusetts for ESC. Mr. Horton is responsible
15 for overseeing the ratemaking activities of the Eversource electric and gas distribution
16 subsidiaries in Massachusetts. This testimony discusses the factors motivating the
17 *Eversource Grid-Wise Performance Plan* and provides a descriptive overview of the
18 PBRM and GMBC.

1 **Craig A. Hallstrom, Penelope M. Conner, Jennifer A. Schilling, Paul R. Renaud**
2 **and Samuel G. Eaton** -- Mr. Hallstrom, Ms. Conner, Ms. Schilling, Mr. Renaud and
3 Mr. Eaton present the details of the Company's GMBC. Ms. Schilling is Director,
4 Strategy and Performance for the Eversource Electric Operations Group; Mr. Renaud
5 is Vice President, Engineering, for ESC and Mr. Eaton is Project Director, Electric
6 Vehicle Charging and Energy Storage Development for ESC. With the Department's
7 approval of the PBRM, the Company would commence the GBMC as of January 1,
8 2018, with programmatic investments in two areas: Distribution System Network
9 Operations and Customer Engagement and Enablement.

10 **Mark E. Meitzen, Ph.D.**, -- Dr. Meitzen is Vice President of Christensen Associates.
11 Christensen Associates has performed the economic analysis of electric industry cost
12 trends to establish the revenue-cap formula that would apply in the PBRM.

13 **Douglas P. Horton** -- Mr. Horton is Director, Revenue Requirements Massachusetts
14 for ESC. The testimony of Mr. Horton provides the revenue requirement analysis and
15 revenue-deficiency calculation for NSTAR Electric and (separately) for WMECO.

16 **Robert B. Hevert** -- Mr. Hevert is Managing Partner of ScottMadden, LLC, an
17 independent financial and regulatory consulting practice. Mr. Hevert's testimony
18 presents his recommendation regarding the appropriate rate of return and capital
19 structure that should be used in establishing base rates for the Company in this

1 proceeding. Mr. Hevert also provides testimony on the appropriate rate of return and
2 capital structure to be used in establishing base rates for the Harbor Electric Energy
3 Company, an affiliate of NSTAR Electric serving the Massachusetts Water Resources
4 Authority on Deer Island.

5 **Sasha Lazor** -- Mr. Lazor is Director, Compensation for ESC. The testimony of Mr.
6 Lazor presents the Company's employee compensation programs, including base and
7 variable pay elements of compensation.

8 **Michael P. Synan** – Mr. Synan is Director, Benefits and Human Resources
9 Operations for ESC. The testimony of Mr. Synan presents the Company's employee-
10 benefit programs and associated costs, including healthcare expense, pension and
11 retirement benefits

12 **Leanne M. Landry** – Ms. Landry is the Director, Budget and Investment Planning
13 for ESC. Ms. Landry's testimony describes the capital planning and approval process
14 in place to manage the capital expenditures for NSTAR Electric and WMECO;
15 presents project documentation for capital additions made since the Company's most
16 recent general distribution rate proceedings in D.T.E. 05-85 (NSTAR Electric) and
17 D.P.U. 10-70 (WMECO); and provides information on several large-scale post-test
18 year capital additions that the Company is proposing for inclusion in rate base in this
19 case.

1 **Vera L. Admore-Sakyi** – Ms. Admore-Sakyi is Director, Vegetation Management
2 for ESC. Ms. Admore-Sakyi’s testimony discusses the Company’s Distribution
3 Maintenance Program, including the increased clearances achieved by the Enhanced
4 Tree Trim (“ETT”) specification and the Enhanced Tree Removal (“ETR”) program
5 implemented by the Company to aggressively target the removal of risk and hazard
6 trees to improve system reliability. Ms. Admore-Sakyi’s testimony also discusses the
7 Company’s proposals to augment these practices through a new Resiliency Tree
8 Work Pilot Program.

9 **Penelope M. Conner** – Ms. Conner is Senior Vice President and Chief Customer
10 Officer for ESC. The testimony of Ms. Conner discusses the Company’s proposal to
11 implement a new “fee free” credit/debit card payment option for Eversource
12 customers in Massachusetts.

13 **John J. Spanos** – Mr. Spanos is Senior Vice President, Gannett Fleming Valuation
14 and Rate Consultants. The testimony of Mr. Spanos presents the depreciation studies
15 for NSTAR Electric and WMECO in support of depreciation expense.

16 **Edward A. Davis, Richard D. Chin and James D. Simpson** –Mr. Davis is Director,
17 Rates for ESC, supporting the Company’s operating affiliates in Connecticut,
18 Massachusetts and New Hampshire. Mr. Chin is the Manager of Rates for the ESC
19 supporting the Company’s operating affiliates in Massachusetts. Mr. Simpson is

1 Senior Vice President, Concentric Energy Advisors. Together, these three witnesses
2 present the Company's proposed rate design and tariff changes and support the
3 consolidation of base rates for the NSTAR Electric companies (Boston Edison
4 Company, Commonwealth Electric Company and Cambridge Electric Light
5 Company). The joint testimony also discusses the Company's proposed rate design
6 for stand-alone DER customers.

7 **Edward A. Davis and Richard D. Chin**– Mr. Davis is Director, Rates for ESC,
8 supporting the Company's operating affiliates in Connecticut, Massachusetts and
9 New Hampshire. Mr. Chin is the Manager of Rates for the ESC supporting the
10 Company's operating affiliates in Massachusetts. Mr. Davis and Mr. Chin present
11 Eversource Energy's proposed tariffs, including tariffs implementing the Company's
12 proposed performance-based revenue adjustment and revenue decoupling
13 mechanisms.

14 **Melissa F. Bartos and David A. Heintz** – Ms. Bartos is Assistant Vice President,
15 Concentric Energy Advisors and Mr. Heintz is Vice President, Concentric Energy
16 Advisors. The testimony of Ms. Bartos and Mr. Heintz presents the Company's
17 allocated cost of service study and the marginal cost of service study.

1 **III. KEY OPERATING PROPOSALS**

2 **A. *Storm Fund Proposal***

3 **Q. Given your responsibility for emergency response and management of ERP**
4 **events, would you please describe the Company's proposal for the Storm Fund**
5 **in this case?**

6 **A.** In this proceeding, the Company is making a comprehensive proposal to restructure
7 its Storm Fund approach. The Company's proposal is discussed in detail in the
8 testimony of Company Witness Douglas P. Horton, Exhibit ES-DPH-1. From an
9 overall perspective, there are three critical elements of the Company's proposal that I
10 would like to note.

11 First, the Company is proposing to manage the Storm Fund on a consolidated basis
12 for the Eversource East and Eversource West areas. Up to this point, the legacy
13 operations of NSTAR Electric and WMECO each utilized a separate, company-
14 specific storm-fund construct. For NSTAR Electric, costs are charged to a storm-
15 fund account, which is offset by an annual contribution of \$4.5 million collected
16 through existing distribution rates. There is no specific delineation as to when the
17 Company should file for cost recovery and no formal cost-recovery mechanism to
18 operate outside of base rates to allow for recovery of costs. Costs become eligible for
19 storm-fund recovery if incremental costs to restore power exceed \$1 million.

20 For WMECO, the construct is different. Like NSTAR Electric, costs are charged to a
21 storm-fund account, offset by an annual contribution of \$575,000. WMECO's

1 existing storm-fund mechanism recovers the annual contribution of \$575,000 and
2 eligible storm costs outside of base rates on a fully reconciling basis. The Company
3 makes annual filings to recover the costs associated with any eligible storms
4 occurring in the past calendar year. Costs become eligible for storm-fund recovery if
5 incremental costs to restore power exceed \$300,000.

6 As discussed in the testimony of Company Witness Douglas P. Horton, the Company
7 is proposing to consolidate storm-cost recovery into a single Storm Fund mechanism.
8 Storm costs would be eligible for recovery through the Storm Fund where
9 incremental costs exceed \$1.2 million, which is the threshold that applies if the
10 NSTAR Electric threshold of \$1 million is adjusted for inflation for the period since
11 the Company's last general distribution rate proceeding (January 1, 2005 through
12 December 31, 2016). This would eliminate the \$300,000 threshold for storms in the
13 Eversource West area. Instead, storm events across the Eversource system in
14 Massachusetts would be subject to the \$1.2 million threshold.

15 Second, I would like to note that the Company has structured the proposed Storm
16 Fund to follow the principles adopted by the Department for National Grid in D.P.U.
17 15-155, as closely as possible. Changes to the existing NSTAR Electric and
18 WMECO storm funds that follow the National Grid model include: (1) adjustment of
19 the existing eligibility threshold for inflation; (2) increase of the annual contribution
20 through rates from \$5.075 million to \$10 million; (3) normalization of anticipated

1 storm-fund events to three events annually, with the threshold of \$1.2 million
2 incorporated into the base rates for these events; (4) carrying costs accruing at Prime
3 rate; and (5) implementation of a storm-fund cap of \$30 million, with events
4 associated with greater than \$30 million in incremental costs deferred to the
5 Company's next rate proceeding.

6 Third, I would like to note that the Company is proposing two refinements to the
7 storm-fund approved for National Grid in D.P.U. 15-155. Specifically, the Company
8 requests that, if the combination of any deferral balance and/or the balance in the
9 Storm Fund exceeds \$75 million, the Company may request that the Department
10 allow the Company to commence collection of an annual "replenishment" amount to
11 reduce the deferred balance, pending a full investigation of the Company's storm
12 costs in a separate (later) proceeding. This provision is necessary because the cost of
13 storms is increasing significantly over time due to the number and severity of weather
14 events, and as a result of vastly increased focus on ERP protocols and the speed of
15 restoration. The Company's experience over the past six years is that costs can
16 mount quickly when storm after storm is occurring, creating a large deferral balance.
17 At \$75+ million, the amount of deferred cost is substantial for the Company.
18 Allowing a "replenishment factor" to be instituted would reduce the deferral balance
19 subject to carrying charges; would lessen and smooth the impact of future storm-cost
20 recoveries; and would replenish needed cash resources without the immediate need

1 for a full-blown adjudication of storm costs, benefitting both customers and the
2 Company.

3 In addition, the Company is proposing to recover pre-staging or “lean in” costs
4 through the Storm Fund in a very limited circumstance. Specifically, the Company is
5 proposing to include incremental pre-staging costs in the Storm Fund, defined as
6 costs that are incurred by the Company to retain and pre-stage a significant
7 complement of outside crews in anticipation of a qualifying storm event, but where
8 the event does not occur as anticipated, causing total event costs to fall below the \$1.2
9 million threshold. The recovery of lean-in costs is in the interests of customers given
10 the increasing frequency and severity of storms caused by climate change, and the
11 rigorous emergency-response requirements in place to promote the safe and
12 expeditious restoration of power. Both Connecticut and New Hampshire have
13 established recovery structures for these types of costs in recognition of the customer
14 interest served by that recovery.

15 **Q. Would you please discuss in more detail the proposal to include “lean in” costs**
16 **in the Storm Fund for recovery?**

17 A. Yes. Typically, the Company incurs “lean in” costs for ERP events anticipated to be
18 Level III or higher. In this proceeding, the Company’s test-year revenue
19 requirements include a representative level of storm expense associated with
20 (1) storms that occurred in the test year that did not rise to the level of storm-fund

1 eligibility, and (2) a normalized level of “storm deductible” expense, which, as
2 described previously, is equal to the single storm deductible amount of \$1.2 million
3 per storm, times an annual average of three storms per year. However, currently there
4 is no concept of recovery of “lean in” costs for ERP events that are activated, but the
5 storm does not materialize.

6 Although not a frequent event, it is appropriate to allow Storm Fund deferral
7 treatment for costs incurred to retain and pre-stage external crews in preparation for a
8 larger-scale event that does not occur as anticipated. When larger-scale events are
9 approaching and are anticipated to affect the Company’s service area, there is
10 significant pressure on the Company to hire outside crews and substantial justification
11 for taking on the cost to protect the interests of customers across the distribution
12 system. When oncoming events are anticipated to have a significant impact, hiring
13 outside crews becomes a paramount concern and it can be costly to forego available
14 crews that may be hired by other electric utilities throughout the region, also affected
15 by the oncoming event. The Department has levied penalties for deficient storm
16 response on the basis of a lack of adequate crew procurement and consistently
17 indicated a strong emphasis on pre-staging of external crews in preparation for larger
18 events. As a result, there should be no impairment to the Company’s retention of
19 external crews when larger-scale events are approaching the Company’s system.

1 **Q. Under what circumstances would these costs be eligible for recovery?**

2 A Eversource is proposing to establish criteria for the recovery of pre-staging costs,
3 which are objectively determinable. Where the criteria are met, pre-staging costs
4 would be recorded to a deferred account for review and collection similar to
5 restoration costs for a catastrophic storm. Specifically, recovery of pre-staging costs
6 would be allowed in the event that:

- 7 ▪ Eversource's Incident Commander determines that circumstances warrant
8 activation of the ERP;
- 9 ▪ Pre-staging of external-crew resources is anticipated as part of the ERP activation
10 to facilitate the efficient restoration of service to potentially affected customers;
- 11 ▪ Pre-staging of external-crew resources will require Eversource to incur
12 incremental cost due to the circumstances at hand;
- 13 ▪ Eversource provides written notice to the Department informing the Department
14 of: (1) the activation of the ERP; (2) that the event classification declared is a
15 Level III or greater (i.e., Level II or Level I); and (3) that the Company is
16 commencing efforts to procure and pre-stage external crews to address oncoming
17 storm conditions; and
- 18 ▪ The total incremental costs actually incurred by the Company fall below the \$1.2
19 million threshold for Storm-Fund eligibility due to the fact that actual storm
20 conditions did not develop as anticipated obviating the need for a full response by
21 the Company under ERP requirements.

1 **Q. Is it your experience that these circumstances are likely to occur with enough**
2 **frequency to warrant rate treatment as the Company proposes?**

3 A. Yes, I do. As I stated above, the reason that the Department should make this
4 provision is that there is substantial pressure on the Company to procure external
5 crews when larger storm events appear to be oncoming to the Company's system. It
6 is to the benefit of customers from both a cost and preparation perspective for the
7 Company to move proactively to procure available crews when the circumstances
8 indicate that a larger storm event is approaching. There is no reason that the
9 Company should be effectively penalized when it has pre-staged external crews to
10 achieve maximum preparation for a larger-scale event consistent with ERP
11 requirements and requests by the Department and other stakeholders, and the event
12 does not materialize as anticipated. These types of costs are only periodically
13 incurred and are not reflected in the test-year costs given that these circumstances did
14 not occur in the test year. However, these circumstances have occurred in the past in
15 the Eversource East service area, and therefore, need to be addressed within the
16 context of the broad changes to the Storm Fund that will occur in this proceeding.

17 ***B. Vegetation Management Proposal***

18 **Q. What is the Company proposing in this case in relation to vegetation-**
19 **management for reliability and resiliency purposes?**

20 A. The testimony of Company Witness Vera L. Admore-Sakyi discusses the Company's
21 proposals for vegetation-management in detail. However, in short, the Company is

1 proposing to implement a Resiliency Tree Work Pilot Program to address two
2 important operating dynamics. First, although the Company has long taken proactive
3 steps to enhance and protect its distribution system, Eversource's system
4 infrastructure is unavoidably exposed to weather events, and vulnerable in the types
5 of harsh conditions that occur with ice storms, heavy wet snow, tropical storms,
6 hurricanes and other wind events causing substantial damage and prolonged power
7 interruptions. These types of events are becoming more frequent and more severe
8 due to climate change impacts and the Company needs to take steps beyond historical
9 practice to address this trend. In the Company's judgment and experience, enhanced
10 vegetation management is a critical-path item in this regard.

11 Second, resilient grid infrastructure is necessary as a foundation for an increasingly
12 modernized grid. Without a resilient grid, real-time sensing and monitoring
13 investments made as part of a grid-modernization program are rendered moot, since
14 the grid would be lacking sufficient foundation to optimize the use of the modern
15 technology. Certain upgrades and reinforcements to the electric system are necessary
16 to optimize and enable the value and functionality of other investments, including
17 more rigorous vegetation-management activities.

18 To address these two operating dynamics, Eversource has identified enhanced tree-
19 trimming cycles including areas of ground to sky clearing to be a critical-path
20 strategy to achieve a greater level of system resiliency. Beginning in 2012, the

1 Company commenced an initiative on the NSTAR Electric system to perform ETT,
2 clearing a 10 foot x 10 foot x 15 foot zone around the primary distribution lines,
3 wherever possible. This enhanced zone provides improved reliability performance on
4 blue-sky days, and more resilience under adverse weather conditions. Since 2012,
5 however, this work has been limited to single-phase and three-phase primary circuits
6 and to only those municipalities that would allow the more rigorous trim clearance.

7 In 2016, the Company began the second cycle of ETT clearance and will preserve the
8 enhanced clearance zone along all primary sections that were trimmed to the ETT
9 specification between 2012 and 2015. In this proceeding, the Company is proposing
10 to initiate the Resiliency Tree Work Pilot Program to extend this work across the
11 Eversource distribution system in Massachusetts, including the Eversource West area,
12 which has not generally implemented the wider clearances. When circuit backbones
13 are trimmed to this specification there is a dramatic change in the aesthetics of the
14 roadside forest along with a commensurate improvement in reliability.

15 **Q. What is the Company's specific proposal for the Resiliency Tree Work Pilot**
16 **Program?**

17 A. The Company is proposing to implement a pilot program for 2017 and 2018 that will
18 include additional mid-cycle pruning, hazard and risk tree removals and expanded
19 application of enhanced clearing at the Resiliency Tree Work specification for circuit
20 three-phase backbones and selected laterals. The pilot will commence in 2017 as a

1 “proof of concept,” with an expansion of the initiatives in 2018 based on the
2 Company’s experience. The pilot initiatives are strategically planned to complement
3 existing tree work and with a focus on improving reliability and storm resiliency.
4 The Resiliency Tree Work Pilot Program cost is estimated at \$3.5 million for 2017
5 and \$26 million annually beginning in 2018. The annual amount of \$26 million
6 includes one-time non-recurring costs of approximately \$6 million (amortized over
7 five years) relating to the completion of a detailed system-wide aerial radar survey
8 and tree-conditions assessment study. The testimony of Company Witness Vera L.
9 Admore-Sakyi provides the specifics on the Resiliency Tree Work Pilot Program, and
10 the testimony of Company Witness Douglas P. Horton provides the specifics
11 regarding the Company’s ratemaking proposal for the pilot.

12 **C. Fee Free Credit/Debit Card Proposal**

13 **Q. Would you briefly describe the Company’s proposal in this filing to implement a**
14 **customer initiative referenced as the “fee free credit/debit card payment**
15 **option?”**

16 **A.** Yes. The testimony of Company Witness Penelope M. Conner presents a proposal
17 that the Company views as a meaningful and necessary step forward to accommodate
18 changing customer expectations and preferences regarding their payment options for
19 electric service. Specifically, Ms. Conner discusses that the Company is proposing to
20 implement a “fee free” credit/debit card payment system that will allow customers to
21 pay their bills electronically without a transaction fee. As she discusses, the

1 marketplace is transitioning quickly to “cashless” business transactions, with
2 customers expecting and preferring to use their credit/debit cards to pay their bills
3 through mobile or on-line applications for a number of reasons. Transaction fees for
4 credit/debit transactions pose a substantial barrier to this practice and are not common
5 in relation to other purchases of goods and services by customers. Customers are
6 indicating a high level of dissatisfaction with the requirement for payment of a fee for
7 the “convenience” of using a credit or debit card where use of these electronic means
8 is prevalent throughout the digital marketplace without a fee. Customer expectations
9 are set outside of the distribution industry, and therefore, for electric companies to
10 meet the needs and preferences of customers it is necessary to acknowledge that the
11 cost of electronic payments is a cost of the business in this digital age.

12 For this reason, the Company has developed a proposal for the Department’s
13 consideration to make the transition to a payment structure that is better aligned with
14 customer needs and expectations for their utility service. The Company’s proposal is
15 to transition to a “fee free” payment system that will improve customer satisfaction
16 and align electric-utility service with marketplace payment trends.

17 **Q. Does the Company view the “fee free payment option” as having a benefit to**
18 **low-income customers?**

19 **A.** Yes. Ms. Conner discusses the fact that, as with other parts of the economy, there is a
20 trend of increased use by federal agencies and other organizations to serve vulnerable

1 constituencies, including low-income, with debit cards. For example, customers
2 receiving Social Security can now choose to receive their benefits through debit cards
3 as an alternative to checks, drafts, cash and other non-electronic payments. The
4 American Association of Retired Persons has conveyed that, on March 1, 2013, the
5 U.S. Treasury Department formally took the system fully into the new age by
6 decreeing that all benefit payments issued by the Social Security Administration and
7 other federal agencies had to be delivered in electronic form. As of March 2015,
8 approximately 98.6 percent of Social Security beneficiaries were receiving benefits
9 through this mechanism. Our proposal to institute the “fee free credit/debit card
10 payment option” is intended to meet the preferences and practicalities of our customer
11 base directly, so that customer satisfaction is enhanced.

12 **IV. OVERVIEW OF THE OPERATIONAL CONSOLIDATION OF THE NSTAR ELECTRIC AND**
13 **WMECO SYSTEMS**

14 **Q. Please explain your duties as President, Regional Electric Operations,**
15 **Massachusetts and Connecticut in more detail?**

16 **A. As I noted above, as President, Regional Electric Operations, I have oversight of**
17 electric field and system operations for both Massachusetts and Connecticut. In this
18 role, I am responsible for delivering operational excellence with a focus on
19 emergency response and employee safety. We are working daily to integrate and
20 standardize best practices and processes throughout the electric-operations
21 organization to assure consistency of approach, superior customer service delivery

1 and efficiency. The Company's solid record of investment and implementation of
2 aligned, best practices has produced reliability levels for customers that are better
3 than ever. I am also responsible for identifying and carrying out strategies to control
4 operating costs so as to make the dollars that the Company obtains through rates go
5 further in providing service excellence to customers.

6 **Q. Would you briefly describe the overall characteristics of the Eversource electric**
7 **distribution system in Massachusetts?**

8 A. Yes. The Eversource electric distribution system in Massachusetts is comprised of
9 the operations of NSTAR Electric and WMECO. Both companies currently exist as
10 individual, wholly owned subsidiaries of Eversource Energy. In addition to NSTAR
11 Electric and WMECO, Eversource Energy owns affiliated electric and gas
12 distribution companies operating in Connecticut, Massachusetts and New Hampshire.

13 In Massachusetts, Eversource operates the legacy NSTAR Electric and WMECO
14 electric distribution systems on a fully consolidated basis, with two geographic areas
15 designated as "Eversource East" and "Eversource West." Through its Massachusetts
16 electric operations, Eversource serves approximately 1.4 million customers in 139
17 cities and towns, or just less than one-half of the local municipalities in the
18 Commonwealth of Massachusetts.

19 The service area designated as Eversource East encompasses the City of Boston and
20 surrounding communities, extending west to Sudbury, Framingham, and Hopkinton,

1 as well as communities in southeastern Massachusetts extending from Marshfield
2 south through Plymouth, Cape Cod and Martha's Vineyard, and west through New
3 Bedford and Dartmouth. Within this geographic area, the Company serves
4 approximately 1.2 million residential, commercial and industrial customers in
5 approximately 80 communities, covering approximately 1,700 square miles. The
6 customer base includes approximately 1,013,077 residential customers and 164,869
7 business customers.

8 The service area designated as Eversource West encompasses the City of Springfield
9 and surrounding communities, extending west the New York border and north to
10 Greenfield and the Vermont border. Within this geographic area, the Company
11 serves approximately 209,000 residential, commercial and industrial customers in
12 approximately 59 communities in western Massachusetts, covering approximately
13 1,500 square miles. The customer base includes approximately 189,507 residential
14 customers and 18,961 business customers.

15 **Q. Would you please describe the organizational changes that have occurred in**
16 **relation to the management of Eversource East and Eversource West since the**
17 **NSTAR/Northeast Utilities merger in April 2012?**

18 **A.** Yes. Prior to the NSTAR/Northeast Utilities merger, WMECO operated as a
19 standalone company with its own management hierarchy, including a local president,
20 one vice president, three directors and eight managers. In total, WMECO had
21 approximately 360 direct employees, including 40 corporate, administrative and

1 support employees and 320 field service and construction employees. WMECO
2 owned/leased and managed seven occupied facilities, including a corporate
3 headquarters in Springfield, MA, and a principle operating center in East Springfield,
4 MA.

5 Following the NSTAR/Northeast Utilities merger in April 2012, Eversource initiated
6 a broad-based effort to integrate corporate and administrative functions and centralize
7 service functions, such as electric engineering, emergency response and operations
8 services, so that those functions could be conducted more efficiently on an enterprise-
9 wide basis. Similarly, Eversource has consolidated day-to-day field operations within
10 a common management organization with unified business and operational processes,
11 including electric field operations, electric system operations, resource planning, and
12 emergency response planning.

13 Many of these changes were designed to contribute to the substantial cost savings
14 achieved as a result of the NSTAR/Northeast Utilities Merger. Other initiatives were
15 undertaken to streamline and standardize business processes within a single service
16 area in order to maintain or improve service reliability and customer-service quality.
17 As a result of those efforts, electric distribution operations in Massachusetts are now
18 managed within a single organization, as are distribution engineering activities.
19 Today, there are no senior managers that are solely responsible for WMECO's
20 operations – senior management is responsible for the activities and functions of both

1 Eversource East and Eversource West on a consolidated basis. Similarly, there are
2 now only three occupied facilities in the Eversource West area, including an
3 operating center in Springfield, MA.

4 A copy of the organizational charts showing the management structure of NSTAR
5 Electric and WMECO prior to the NSTAR/Northeast Utilities merger, and as a
6 consolidated operation in December 2016, is provided with this testimony as Exhibit
7 ES-CAH-2.

8 **Q. Will the corporate consolidation of NSTAR Electric and WMECO serve the**
9 **public interest and represent a long-term strategy to assure a reliable, cost-**
10 **effective energy delivery system?**

11 A. Yes. The consolidation of NSTAR Electric and WMECO as corporate entities is in
12 the public interest and will represent an important long-term strategy to assure a
13 reliable, cost effective energy delivery system, with improved system reliability. For
14 example, capital-investment strategy and planning is now conducted on a
15 consolidated basis, leveraging combined engineering and investment philosophies.
16 The consolidated capital-investment planning process is structured from top to bottom
17 to improve the reliability and safety of the Company's electric infrastructure. The
18 consolidated capital-investment strategy and planning organization is operating as a
19 single group with a focus on standardizing policies and procedures and leveraging the
20 best practices across all operations. Execution of both capital and maintenance plans
21 is performed under the leadership of the consolidated organization. System need and

1 resource planning are inputs into the capital and maintenance plan with a targeted
2 focus on all geographic locations

3 Similarly, Eversource has standardized and consolidated emergency-response
4 training, preparation and execution under one Incident Command structure for
5 Massachusetts. On February 10, 2016, the Department approved a consolidated
6 emergency response plan (“ERP”) for its Massachusetts operations, which will serve
7 as the template for all going-forward ERPs. Similarly, in January 2016, Eversource
8 completed development and installation of a new Outage Management System
9 (“OMS”), designed to align coverage of the Eversource operations across
10 Connecticut, Massachusetts and New Hampshire. With the new OMS, all Eversource
11 companies, including Eversource East and Eversource West are supported by
12 common systems, so that outage management, emergency response and ERP
13 processes, reporting and compliance will be identical for both the east and west
14 service areas.

15 Lastly, in May 2017, Eversource will complete the integration of SCADA to cover
16 the Eversource operations in Massachusetts on a consolidated basis. The new
17 SCADA/EMS system that Eversource is implementing will consolidate four different
18 SCADA platforms into a single system that will be used to monitor and operate
19 Eversource’s transmission and distribution assets. Within the new SCADA, the
20 Eversource East and Eversource West areas will be integrated as the “Massachusetts”

1 service area, so that data acquisition, real-time alarm monitoring, remote supervisory
2 control, logging and tagging functions will be identical for both areas.

3 **Q. Has the Company improved service quality since the NSTAR/Northeast Utilities**
4 **merger for Eversource West through its system integration and consolidation?**

5 A. Yes, it has. In its March 1, 2016 annual service-quality filing to the Department,
6 Eversource West reported measures of outage duration and frequency that were
7 substantially improved from the level reported to the Department for the performance
8 year 2011, which preceded the merger. On both measures of System Average
9 Interruption Duration Index (“SAIDI”) and the System Average Interruption
10 Frequency Index (“SAIFI”), performance was improved by approximately 40 percent
11 and 33 percent, respectively. This translates to a reduction in the average duration of
12 outages from approximately 106 minutes in 2011, to approximately 63 minutes in
13 2015. This also translates to a reduction in the average frequency of outages from an
14 average frequency of 0.964 outages per customer served, to an average frequency of
15 0.645 outages per customer served. The Company fully anticipates that continued
16 improvement will occur as system investment and grid modernization continue.

17 Additionally, the Company improved its performance on safety metrics for
18 Eversource West reducing lost time incidents from 0.96 lost time incidents per 100
19 workers in 2011 to 0 in 2015. Other service-quality metrics improved or retained
20 prior good performance. In terms of day-to-day customer service, all of the

1 organizational improvements and systems integration efforts are a benefit to all
2 Eversource customers as the Company continues to put in place better practices and
3 systems to support customer needs.

4 For example, in December 2016 the Company implemented major improvements to
5 outage communications allowing customers to choose the channel by which they
6 receive information from the Company (i.e., by text, email or phone). The Company
7 is now proactively communicating estimated time of restoration information to all
8 customers affected by outages to keep those customers better informed. This new
9 improvement is a major customer-satisfaction driver for our electric customers.

10 **Q. Is it necessary for the Department to repeat the full scope of the investigation**
11 **that was completed in D.P.U. 10-170 in order to determine that the consolidation**
12 **of NSTAR Electric and WMECO is in the public interest?**

13 **A.** No, it is not. In D.P.U. 10-170, the Department conducted a thorough review of the
14 impacts of the NSTAR/Northeast Utilities merger, including a variety of impacts
15 relating specifically to NSTAR Electric and WMECO (D.P.U. 10-170-B, at 33-104).
16 It is clear from the Department's decision in D.P.U. 10-170-B that the Department's
17 review of the impact of merging NSTAR and Northeast Utilities involved an in-depth
18 analysis of the impact that would result for the customers of both NSTAR Electric
19 and WMECO through common ownership and control. For example, in relation to
20 service quality, the Department singled out the importance of maintaining service
21 quality standards, especially when a merger of companies (and the resultant

1 economies of scale in an effort to achieve cost savings) could result in service-quality
2 degradation. D.P.U. 10-170-B, at 173. Therefore, in analyzing the
3 NSTAR/Northeast Utilities merger, the Department considered the potential impact
4 of the merger on quality of service, any anticipated interruptions of service, and any
5 other factors that may adversely impact customer service. In fact, through the
6 settlement process, NSTAR and Northeast Utilities were required to commit to
7 improving service-quality levels for WMECO and we have fulfilled this obligation.

8 In addition, the testimony of Company Witness Douglas P. Horton discusses the fact
9 that the customers of NSTAR Electric and WMECO realized substantial and tangible
10 benefits as a result of merger integration and operational consolidation. As Mr.
11 Horton demonstrates, the cumulative net savings projection associated with the
12 NSTAR/Northeast Utilities merger is calculated to be \$1,032.4 million over the 10-
13 year period following the merger, 2012 through 2022. The projected savings of
14 \$1,032.4 million are net of \$125.9 million of merger-related costs (see Exhibit ES-
15 DPH-4, Schedule DPH-10, page 7). The proportional share of total merger-related
16 net savings attributable to NSTAR Electric and WMECO is \$274 million and \$46
17 million over the 10-year period 2012 through 2022, respectively. This is
18 approximately 27 percent of the total amount of \$1,032.4 million for NSTAR Electric
19 and 4 percent of the total for WMECO. In addition, a total of \$15 million in merger
20 savings was paid directly to NSTAR Electric customers and \$3 million in merger

1 savings paid out directly to WMECO customers upon the closing of the merger.

2 As a result, the corporate consolidation of NSTAR Electric and WMECO is just the
3 final, administrative exercise to complete the integration envisioned and expected as a
4 result of the NSTAR/Northeast Utilities merger, which the Department has already
5 investigated in depth.

6 **V. THE EVERSOURCE OUTLOOK**

7 **Q. What are the operating objectives that are fundamental to the Eversource**
8 **electric distribution system?**

9 A. Eversource has an overriding objective in operating its Massachusetts electric
10 distribution system, which is to maintain the highest level of safe and reliable service
11 to electric customers. Although there are numerous work-streams and business
12 processes that Eversource executes to meet a range of operating, financial, regulatory
13 and policy requirements, the Company's fundamental mission is to keep the lights on.
14 Therefore, both the Company's day-to-day work plans and long-term capital
15 investments are carefully designed with high reliability to customers as the primary,
16 overriding objective.

17 As a corollary, Eversource views strict financial management to be a core obligation
18 in the interest of both customers and shareholders. Reliable electric service is a
19 critical necessity for homes and businesses in the Commonwealth, affecting all
20 aspects of the Commonwealth's socio-economic environment. Eversource

1 management recognizes that, because customers cannot function without electricity,
2 there is a fundamental obligation to keep the costs of that electricity as low as
3 possible given the imperative to deliver power safely and reliably, while meeting
4 public-service requirements and public-policy goals. Eversource is deeply committed
5 to these obligations and to serving customer interests as well as possible.

6 Lastly, Eversource's guardianship of the electric-distribution system requires that the
7 Company adapt its operations to address external factors with the goal of meeting
8 "next generation" utility obligations. In that regard, there is no understating the
9 impact of technology and public policy on today's operating environment. The rate
10 of change taking place in the industry due to the interrelated forces of technological
11 advancement, deepening customer engagement and a clean-energy mandate is
12 creating unprecedented challenges for electric utility operations. In particular,
13 changes associated with automation, data measurement and collection, distributed
14 energy resources, and the heightening expectations of customers as to service
15 reliability and the availability of real-time information, have fundamentally shifted
16 the operating paradigm for electric distribution companies. There is also no
17 overstating the imperative that rests with the Company in assuring cyber-security,
18 which is a paramount consideration as the Company works to evaluate and
19 incorporate new equipment designed to modernize the electric grid. Therefore, a
20 principal objective of a larger electric utility like Eversource must be to assess,

1 understand and adapt to these changing requirements, while continuing to preserve
2 service reliability to customers.

3 These three inter-related objectives: providing highly reliable electric service; with
4 strict cost control across all functions and work processes; while adapting to an
5 operating environment experiencing profound change due to technological
6 advancement and climate change policy, drive the need for full engagement of the
7 Eversource management team and workforce and all of its talents, as well as the
8 investment of substantial capital resources. Eversource plans to be successful in
9 meeting these challenges and in working with all of its constituencies to make
10 progress on the next generation of utility service. Eversource views this case as the
11 cornerstone to that progress and is putting forth a carefully considered proposal
12 designed to address the materializing dynamics of the modern electric-utility
13 operating environment.

14 **Q. Are there any other comments that you have on the scope or significance of the**
15 **Company's rate filing in this proceeding?**

16 A. Yes. This case is immensely important for Eversource and its customers.
17 Fundamentally, the Company has a strong service quality and cost-containment ethic,
18 but the Company needs to recover the costs of providing a high level of service to
19 customers through rates in order to maintain and extend that ethic. Moreover, the
20 Company is currently facing extraordinary change in all aspects of its business.

1 These changes revolve around the emergence of digital technology and the policy
2 objectives spurring grid modernization. In particular, there is no avoiding the
3 impending process sought by customers and numerous stakeholder to transform the
4 operation and management of electric distribution systems from radial, one-way
5 power delivery systems relying heavily on physical and manual processes to monitor,
6 assess and maintain system performance, to a *two-way* power delivery system enabled
7 by electronic, computer-based equipment that can communicate information within,
8 across and outside of the system on a secure, safe and reliable basis.

9 Today, electric distribution companies operate largely the way they have operated for
10 upward of 100 years and completing this envisioned transformation will take years of
11 hard work, substantial capital investment and collaboration among a range of
12 constituencies. Planning and execution of this vision will involve iteration as new
13 technologies and processes are put in place allowing for evaluation and operational
14 learning, and subsequent adjustment as experience is gained. In this case, the
15 Company is presenting its proposed PBRM and GMBC within the *Eversource Grid-*
16 *Wise Performance Plan* to initiate this effort and commence the learning process with
17 investments that are targeted at specific objectives and that can be implemented and
18 evaluated in areas on the Eversource system where there is already a concentration of
19 DER, such as in southeastern and western Massachusetts. The Department's
20 approval of the Company's proposal is a critical, significant first step in bringing the

1 sought-after benefits of a modernized electric grid to customers.

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

3 **A. Yes. On behalf of Eversource, we appreciate the Department's consideration of the**
4 **Company's proposals in this case.**