STATE OF CONNECTICUT

89

DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
PUBLIC UTILITIES REGULATORY AUTHORITY
TEN FRANKLIN SQUARE
NEW BRITAIN, CT 06051

DOCKET NO. 12-07-06 APPLICATION OF THE CONNECTICUT LIGHT AND POWER COMPANY FOR APPROVAL OF ITS SYSTEM RESILIENCY PLAN

January 16, 2013

By the following Directors:

John W. Betkoski, III
Michael A. Caron
Arthur H. House

DECISION

DECISION

I. INTRODUCTION

A. SUMMARY

In this Decision, the Public Utilities Regulatory Authority approves the system resiliency plan of The Connecticut Light and Power Company, subject to certain reporting requirements on its progress on implementing the reliability improvements that are integral to this plan.

B. BACKGROUND

By application dated July 9, 2012, The Connecticut Light and Power Company (CL&P or Company) submitted an application requesting the Public Utilities Regulatory Authority (Authority or PURA) to approve its multi-year system resiliency improvement plan (Plan). The Plan was submitted pursuant to Article 4.1 of the Merger Settlement Agreement dated March 13, 2012. The agreement was filed in Docket No. 12-01-07, Application for Approval of Holding Company Transaction Involving Northeast Utilities and NSTAR, and entered into, by and between Northeast Utilities, NSTAR, George Jepsen, Attorney General of the State of Connecticut, and Elin Swanson Katz, Consumer Counsel, on behalf of the State of Connecticut, Office of Consumer Counsel. Article 4.1 of the Merger Settlement Agreement provides that:

> CL&P shall, within 90 days of the closing of the Transaction, submit to the Authority a multi-year plan and cost recovery mechanism for $300 million of sepnding in additional distribution system resiliency. The program shall be subject to the Authority's review and approval. CL&P will be allowed recovery, through the systems benefit charge, federally mandated congestion charge (FMCC) or similar mechanism, of the revenue requirements associated with such program at its weighted average cost of capital, with revenue requirements associated with up to $100 million of such spending recoverable during the Base Rate Freeze Period.[1] The total revenue requirements recoverable during the Base Rate Freeze Period, to be collected beginning January 1, 2013, shall not exceed $25 million.
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> Decision dated April 2, 2012 in Docket No. 12-01-07, Attachment A, p. 5.

The Merger Settlement Agreement was approved by the Authority in its Decision dated April 2, 2012 in Docket No. 12-01-07.

[1] Section 1.2 of the Merger Settlement Agreement defines the Base Rate Freeze Period as the time period prior to December 1, 2014. The Merger Settlement Agreement prohibits CL&P from increasing its distribution rates prior to that date.

C. CONDUCT OF PROCEEDING

A hearing was held on October 24, 2012 and November 26, 2012.

The Authority issued a draft Decision in this matter on December 21, 2012. All Parties and Intervenors were provided the opportunity to file Written Exceptions and present Oral Arguments on the draft Decision.

D. PARTIES AND INTERVENORS

The Authority recognized the following as parties in this proceeding: The Connecticut Light and Power Company, P.O. Box 270, Hartford, Connecticut 06141-0270; and the Office of Consumer Counsel (OCC), Ten Franklin Square, New Britain, Connecticut 06051.

Intervenor status was granted to The Office of Attorney General (AG), Ten Franklin Square, New Britain, Connecticut 06051.

II. AUTHORITY ANALYSIS

A. DESCRIPTION OF CL&P'S ELECTRIC DISTRIBUTION SYSTEM

The CL&P electric distribution system serves approximately 1.2 million customers, covers approximately 4,400 square miles or 87 percent of the total area in Connecticut, and had a 2011 peak load of 5,516 megawatts (MW). Situated within this service territory are 149 communities including urban centers such as Hartford, Stamford, and Waterbury, suburban settings surrounding these cities, and rural settings throughout the state. The service territory includes heavily-treed areas, shoreline areas, and hilly terrain. Weather conditions are often severe and include ice and snow storms, heavy winds, thunderstorms, and occasional hurricanes and tornadoes. Louth PFT, pp. 4 and 5.

The CL&P electric transmission system consists of approximately 1,638 circuit miles of overhead transmission and 135 miles of underground transmission. CL&P has 19 transmission substations, 97 distribution substations supplied from its transmission system, and 103 substations supplied from its distribution system. CL&P's distribution system consists of approximately 16,976 circuit miles of overhead primary construction, and 6,352 circuit miles of underground primary construction, including both direct-buried and underground duct and manhole primary construction. Primary distribution voltages range from 4.16kV to 34.5kV with the majority of circuits operated at 4.8kV, 13.2kV, 13.8kV and 23kV. CL&P uses over 260,000 distribution transformers to supply electric service to its customers. Id., p. 5.

B. EFFECT OF WEATHER ON CL&P'S ELECTRIC SYSTEM

CL&P states that the location and geography of Connecticut is unique in that several different types of weather events can occur, sometimes in different areas of the state and sometimes simultaneously. Often these weather events are severe and these storms can severely affect the Company's distribution system infrastructure. Storms

can (i) occur during the winter, such as snow and ice storms that are sometimes combined with wind; or (ii) occur during the spring, such as high wind storms; or (iii) occur during the summer, such as thunderstorms and tornadoes; or (iv) occur during the fall, such as hurricanes and tropical storms (or the remnants thereof) or other high wind storms. Heavy rains, sometimes steady over a period of several days, and/or coastal storm surges as the result of hurricanes and tropical storms (or the remnants thereof) can cause flooding at/near the Connecticut coastline as well as along inland waterways and at other locations. Id., p. 6.

CL&P asserts that trees, limbs, and other wind-blown debris can contact utility distribution infrastructure and cause damage, sometimes severely and sometimes extensively. It has generally been the Company's experience that wind-blown debris, such as trees or other vegetation, damages the Company's distribution system infrastructure directly rather than wind impinging upon utility structures and equipment. CL&P claims that, in the absence of trees, the Company's distribution system infrastructure itself is generally able to withstand wind up to approximately 70 miles per hour before extensive damage begins to occur. Id.

CL&P also states that ice (or heavy, wet snow) can affect utility distribution infrastructure and cause damage in two ways. First, trees (or portions thereof) that are overhanging or are within the fall zone of utility distribution infrastructure can fall and damage the underlying distribution infrastructure. Second, the weight of the ice (or heavy, wet snow) itself on wires and utility equipment, even in the absence of trees, can cause damage to utility distribution infrastructure from the sheer weight of the ice or snow. The Company asserts that its distribution system infrastructure, in the absence of trees, is generally able to withstand up to ¾" of radial ice before extensive damage begins to occur. Id.

Additionally, the Company states that flooding is the final type of weather event that can affect utility distribution infrastructure, cause damage, and impede timely service restoration. Flood water can rise into ground or pad mounted equipment (such as substation switchgear) causing electrical failures and/or other damage to the equipment itself. Flooding can also impede the Company's access to its equipment and cause service restoration delays. Additionally, prolonged periods of heavy rain can saturate the soil, weaken the anchoring effect of tree root systems, and cause trees to become more vulnerable to falling over due to wind. Id., p. 7.

Lastly, CL&P asserts that the Plan is intended to significantly reduce the vulnerability its distribution systems to these types of weather events. Id., p. 12.

C. THE PLAN

CL&P plans to spend a total of $300 million on its infrastructure resiliency initiatives over the five years of the Plan. The Plan consists of two separate plans:

1) A short-term plan that consists of the following two phases:

   - Phase 1, to be implemented in the years 2013 and 2014, which will primarily consist of increased vegetation management efforts; and

- Phase 2, to be implemented in the years 2015 through 2017, which will include increased tree trimming efforts as well as increased implementation of structural and electrical improvements.

2) A long-term plan, to be implemented after 2017, which will be developed based upon experience and analysis of improvements made in the short-term plan.

Id., p. 21.

The Company asserts that its vegetation management initiatives will address tree-related failures as a result of wind and heavy wet snow, which caused the vast majority of the power interruptions and distribution system damage during Tropical Storm Irene and the October 2011 Nor'Easter (collectively, the 2011 Storms). CL&P also asserts that most interruptions that have occurred during major storms within the CL&P territory in recent years have been related to trees. CL&P believes enhanced tree trimming (ETT)[2] and trimming on a shorter cycle will have a positive effect both on day-to-day reliability performance and on the performance of infrastructure during major storms. Specifically, CL&P will determine the specifications, selection criteria for circuits/line segments, and methods of sustaining benefits of enhanced trimming that will significantly improve storm performance as well as day-to-day reliability. Id., p. 17.

CL&P states that its structural hardening initiatives involve increasing the integrity of the poles and related appurtenances for electric distribution conductors and transformers, as well as communications wires and other attachments. CL&P has retained a consultant to assist in evaluating both legacy and recently built distribution line structures relative to their ability to withstand ice, wind and shock loading (due to airborne debris, falling trees, or falling tree branches) from a design standpoint. This evaluation, combined with subsequent age/physical condition assessment, will enable CL&P to decide if its current structure design and material standards need to be upgraded, as well as which poles or pole tops in the field should be upgraded. CL&P will determine how to potentially strengthen structures incrementally over a long period of time through design standard and material changes, as well as which field structures may need to be retrofit in the near term to meet new design expectations. Id., pp. 17-18.

The Company also states that its electrical hardening initiatives focus on making electrical distribution conductors more resilient to failure during weather events and also utilizes protective device upgrades on overhead circuits to minimize the number of customers impacted when interruptions do occur. Specifically, CL&P is evaluating the costs, benefits and prioritization of upgrading its older "bare wire" primary conductors with stronger, more tree-resistant covered "tree wire." The evaluation is focusing on the mechanical strength of the older conductor relative to static or dynamic loadings associated with major weather events, as well as the advantages of covered wire in terms of preventing interruptions when tree or limb contact occurs; currently CL&P's primary conductors are about 50% covered wire and 50% bare wire, much of which is

[2] ETT involves clearing a wider envelope around primary electric wires and removing overhanging limbs as well as weak, diseased or leaning risk trees in proximity to electric wires.

50+ years old. Also, circuit segment sectionalizing will be examined to determine if opportunities exist to minimize customers impacted by adding intermediate protective devices and, if so, guidelines for those additions will be developed. Id., p. 18.

Finally, CL&P states that the Plan will focus initial efforts on the highest impact areas, and that preference will be given to initiatives that provide important improvements in day-to-day operations and system reliability (in addition to improved performance during major storm conditions). Id., p. 12.

D. AUTHORITY REVIEW

The AG and OCC support the Plan as submitted in this proceeding, provided the Authority requires the reporting protocols proposed by CL&P. AG December 3, 2012 Letter in Lieu of Brief.

Additionally, the OCC states that the PURA should utilize the CL&P non-bypassable FMCC (NBFMCC) to recover, reconcile and true-up the costs of the Plan, unless a separate ratemaking mechanism is established by the Connecticut state legislature. The OCC further states that the Company should make detailed invoices available for review in conjunction with the FMCC semi-annual reconciliation proceeding for all related resiliency expenditures, organized by subaccount. OCC December 3, 2012 Letter in Lieu of Brief.

The Authority finds that CL&P has demonstrated that the Plan appropriately addresses those areas of its distribution system that have historically contributed to extensive outages in storm conditions. Specifically, the Plan focuses its most immediate and highest impact efforts on mitigating tree-related outages, which experience has shown account for the vast majority of outages during storm conditions.[3] Data provided by the Company conclusively demonstrates that increased tree trimming efforts, that are the primary activity in the first five years of the Plan,[4] are the most cost-effective methods to improve electric system resiliency.[5] Therefore, the Authority approves the Plan as CL&P has presented it in this proceeding.

The Authority believes it is necessary to keep fully informed on the execution and effectiveness of system resiliency plan initiatives, and that the reporting proposed by CL&P is adequate to provide the Authority with information on its progress in implementing the Plan. Accordingly, the Authority below orders CL&P to report on planned initiatives for each calendar year and on initiatives that have been implemented during each prior calendar year, on a going forward basis. Additionally, to evaluate the overall effectiveness of each initiative, the Authority orders the Company to report on

[3] For example, in its Decision dated November 1, 2012 in Docket No. 12-06-09, PURA Establishment of Performance Standards for Electric and Gas Companies, the Authority determined that approximately 80% of all outages during major storm conditions are caused by tree and limb contacts with poles and wires. Decision, p. 12.

[4] Increased vegetation management efforts comprise 64% of total resiliency spending during the five years of the Plan. Louth PFT, p. 23.

[5] In a February 2012 study of storm resiliency improvements, the Company found that enhanced tree trimming reduces tree contact interruptions by 50% at a cost of $40,000 per mile. Response to Interrogatory EL-2.

the reliability improvement achieved by each initiative. As more data becomes available in future years, the Authority believes that the data and analysis compiled pursuant to this order will provide a more solid technical foundation for future resiliency efforts.

Plan spending is classified into two areas or categories: Estimated Capital Assets and Estimated Expenses. The breakdown of the spending is below:

Spending Breakdown ($ in thousands)

Year	*Estimated Capital*	*Estimated Expense*	*Total Spending*
Yr. 1-2013	$25,000	$ 7,000	$ 32,000
Yr. 2-2014	45,000	8,000	53,000
Yr. 3-2015	52,000	9,000	61,000
Yr. 4-2016	68,000	9,000	77,000
Yr. 5-2017	68,000	9,000	77,000
Total	$258,000	$42,000	$300,000
Source: Application Exhibit MJM-2 p.1-4			

The capitalized assets spending will be comprised of the following: Electrical, Structural, System Automation and ETT for the total of $258 million for the five years. Interrogatory Responses AC-001, p. 2 of 2 and AC-003, p. 1. The estimated expenses of $42 million for five years are reflected in the Authority's Late Filed Exhibit No. 5. The Company later submitted detailed spending plans from 2013 through 2017 as reflected in Late Filed Exhibit No. 002, page 2 of 2. The Authority also approves the Company's proposal to flow the costs of the Plan through the NBFMCC until the Company's next rate case, at that time the costs will be factored into Company revenue requirements. The Authority directs the Company to follow the Authority's Late Filed Exhibit No. 5 format for recording its transactions as related to the Storm Resiliency spending plan.

III. FINDINGS OF FACT

1. The CL&P electric distribution system serves approximately 1.2 million customers, covers approximately 4,400 square miles or 87 percent of the total area in Connecticut, and had a 2011 peak load of 5,516 megawatts.

2. The CL&P electric transmission system consists of approximately 1,638 circuit miles of overhead transmission and 135 miles of underground transmission.

3. CL&P has 19 transmission substations, 97 distribution substations supplied from its transmission system, and 103 substations supplied from its distribution system.

4. The CL&P distribution system consists of approximately 16,976 circuit miles of overhead primary construction, and 6,352 circuit miles of underground primary construction, including both direct-buried and underground duct and manhole primary construction.

5. The Plan consists of a short-term plan and a long-term plan.

6. The short-term plan consists of two phases, Phase 1 and Phase 2.

7. Phase 1 of the Plan, to be implemented in 2013 and 2014, primarily consists of increased vegetation management efforts.

8. Phase 2 of the Plan, to be implemented in 2015 through 2017, will include increased vegetation management efforts as well as structural and electrical improvements.

9. A long-term plan, to be implemented after 2017, will be developed based upon experience and analysis of improvements made in the short-term plan.

10. The Plan calls for spending of $300 million over five years.

11. CL&P plans to spend $258 million as capital assets and $42 million as expenses for the 5 years of the Plan.

12. CL&P proposes to recover the costs of the Plan through the FMCC.

IV. CONCLUSION AND ORDERS

A. CONCLUSION

The Plan is reasonable and necessary to improve the resiliency of the Company's electric distribution system. The Authority therefore approves the Plan, and hereby requires CL&P to provide status updates on implementation of the Plan.

B. ORDERS

For the following Orders, submit one original copy of the required documentation to the Executive Secretary, 10 Franklin Square, New Britain, Connecticut 06051, and file an electronic version through the Authority's website at www.ct.gov/pura. Submissions filed in compliance with Authority Orders must be identified by all three of the following: Docket Number, Title and Order Number.

1. Not later than November 30 of each year beginning November 30, 2013, CL&P shall provide a report on its system resiliency projects and vegetation management activities for the following year, both on a summary basis and by circuit.

   A. The vegetation management data provided in this report shall include:

   - The circuit number;
   - The electrical isolating device;
   - The town(s) served;

- The type of trimming (e.g. maintenance trimming); and
- Whether the trimming is on lateral or backbone segments.

B. The structural hardening data to be provided shall include:

- The circuit number;
- The town(s) served;
- A description of the work to be performed;
- Whether the work is on lateral or backbone segments;
- The estimated number of poles and/or crossarms to be replaced;
- Any other associated structural improvements to be made; and
- Estimated costs.

C. The electrical hardening data to be provided shall include:

- The circuit number;
- The town(s) served;
- The affected streets;
- Whether the work is on lateral or backbone segments;
- The type/size of new wire planned for installation;
- Whether or not reconductoring is included;
- Any other electrical elements of the distribution system to be added or upgraded; and
- Estimated costs.

D. The automation improvement data to be provided shall include:

- The substation and circuit breaker to be automated;
- Any other planned automation work; and
- Estimated costs.

2. Not later than March 31 of each year beginning March 31, 2014, CL&P shall provide a report on its system resiliency projects and vegetation management activities accomplished during the preceding year, both on a summary basis and by circuit.

A. The vegetation management data provided in this report shall include:

- The circuit number;
- The electrical isolating device;
- The town(s) served;
- The type of trimming (e.g. maintenance trimming); and
- Whether the trimming is on lateral or backbone segments.

B. The structural hardening data to be provided shall include:

- The circuit number;

- The town(s) served;
- A description of the work to be performed;
- Whether the work is on lateral or backbone segments;
- The estimated number of poles and/or crossarms to be replaced;
- Any other associated structural improvements to be made; and
- Actual costs.

C. The electrical hardening data to be provided shall include:

- The circuit number;
- The town(s) served;
- The affected streets;
- Whether the work is on lateral or backbone segments;
- The type/size of new wire planned for installation;
- Whether or not reconductoring is included;
- Any other electrical elements of the distribution system to be added or upgraded; and
- Actual costs.

D. The automation improvement data to be provided shall include:

- The substation and circuit breaker to be automated;
- Any other planned automation work; and
- Actual costs.

For each circuit and circuit isolating device segment where system resiliency work has been completed at any time subsequent to December 31, 2012, CL&P shall provide a summary of reliability statistics for the four-year period prior to the improvements and for the time period after the improvements were made, up to and including the following four years. The Company shall also provide an analysis with this filing of the overall reliability improvement achieved by the system resiliency initiatives, overall and by program element, including all known data available.

3. Not later than March 31 of each year beginning March 31, 2014, CL&P shall notify the Authority in writing that its annual storm resiliency spending for the prior calendar year is ready to be audited.

4. CL&P shall not commingle its storm resiliency spending with any other program spending.

Docket No. 12-07-06

The Connecticut Department of Energy and Environmental Protection is an Affirmative Action/Equal Opportunity Employer that is committed to requirements of the Americans with Disabilities Act. Any person with a disability who may need information in an alternative format may contact the agency's ADA Coordinator at 860-424-3194, or at deep.hrmed@ct.gov. Any person with limited proficiency in English, who may need information in another language, may contact the agency's Title VI Coordinator at 860-424-3035, or at deep.aaoffice@ct.gov. Any person with a hearing impairment may call the State of Connecticut relay number – 711. Discrimination complaints may be filed with DEEP's Title VI Coordinator. Requests for accommodations must be made at least two weeks prior to any agency hearing, program or event.

DOCKET NO. 12-07-06 APPLICATION OF THE CONNECTICUT LIGHT AND POWER COMPANY FOR APPROVAL OF ITS SYSTEM RESILIENCY PLAN

This Decision is adopted by the following Directors:

John W. Betkoski, III

Michael A. Caron

Arthur H. House

CERTIFICATE OF SERVICE

The foregoing is a true and correct copy of the Decision issued by the Public Utilities Regulatory Authority, State of Connecticut, and was forwarded by Certified Mail to all parties of record in this proceeding on the date indicated.

K. Santopietro

January 16, 2013

Kimberley J. Santopietro
Executive Secretary
Department of Energy and Environmental Protection
Public Utilities Regulatory Authority

Date