

BEFORE THE
NEW YORK STATE
PUBLIC SERVICE COMMISSION

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Proceeding on Motion of the Commission as to the
Rates, Charges, Rules and Regulations of
Central Hudson Gas & Electric Corporation
for Electric Service

Case 17-E-____

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Proceeding on Motion of the Commission as to the
Rates, Charges, Rules and Regulations of
Central Hudson Gas & Electric Corporation
for Gas Service

Case 17-G-____

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**DIRECT TESTIMONY OF THE
ELECTRIC RELIABILITY PANEL**

July 28, 2017

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I. INTRODUCTION

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Q. Please state the names of the members of the Electric Reliability Panel ("Panel").

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A. Our names are Hal Turner and Heather Adams.

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Q. Mr. Turner, please state your current employer and business address.

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A. I am employed by Central Hudson Gas & Electric Corporation ("Central Hudson" or the "Company") and my business address is 284 South Avenue, Poughkeepsie, New York 12601.

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Q. Mr. Turner, in what capacity are you employed by Central Hudson?

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A. I am the Manager of Electric Engineering Services. In that capacity, I am responsible for the engineering planning and designs for Central Hudson's electric transmission systems and for the planning and engineering operations of Central Hudson's electric distribution systems.

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Q. Mr. Turner, what is your educational background and professional experience?

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A. I graduated from Rensselaer Polytechnic Institute in 1988 with a Bachelor of Science in Electrical Engineering degree. In 1992, I received a Master of Engineering in Electrical Power Engineering degree from Rensselaer Polytechnic Institute. I am currently a registered Professional Engineer in New York State. I joined Central Hudson in 1988 as a Junior Engineer in the Electric System Protection Section within our Electric Engineering Services Group. Since that time, I have held various technical and

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1 supervisory positions within both our Electric Engineering Services in
2 which I had responsibility for the engineering planning and designs for
3 Central Hudson’s electric transmission systems and for the planning and
4 engineering operations of Central Hudson’s distribution systems. I also
5 held positions in our Operations Services Groups with responsibility for the
6 operation, maintenance, and construction of the Company’s substation
7 facilities. In 2013, I was transferred to my current position of Manager –
8 Electric Engineering Services.

9 Q. Mr. Turner, have you previously testified before the New York State Public
10 Service Commission (“PSC” or the “Commission”)?

11 A. Yes, I testified before the Commission in Cases 14-E-0318 and 14-G-
12 0319.

13 Q. Ms. Adams, please state your current employer and business address.

14 A. I am employed by Central Hudson and my business address is 284 South
15 Avenue, Poughkeepsie, New York 12601.

16 Q. Ms. Adams, in what capacity are you employed at Central Hudson?

17 A. I am the Director of Electric Distribution and Standards. I have served in
18 this capacity since March 2015. In addition to general supervision of
19 Electric Distribution Planning, Operations, and Construction Standards
20 Engineering, I oversee the development and engineering implementation
21 of distribution capital projects and reliability engineering.

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1 Q. Ms. Adams, what is your educational background and professional
2 experience.

3 A. I graduated with a Bachelor of Science in Electrical Engineering from
4 Lehigh University and a Master of Business Administration from New York
5 University's Stern School of Business. I am a registered Professional
6 Engineer in New York State. Following a summer internship, I joined
7 Central Hudson in 2003 as a Junior Engineer in the Electric System
8 Protection Section. In 2004, I was promoted to Assistant Engineer. In
9 2006, I was transferred to the Electric Distribution Planning Section, where
10 I held positions of increasing responsibility. Most recently, these included
11 Engineer – Section Leader, Electric Distribution Planning in 2010,
12 Associate Director, Electric Distribution and Standards in 2013, and
13 Director, Electric Distribution and Standards in 2015.

14 Q. Ms. Adams, have you previously testified before the Commission?

15 A. No, I have not.

16 **II. PURPOSE OF TESTIMONY**

17 Q. What is the purpose of the Panel's testimony in these proceedings?

18 A. The Panel's testimony discusses the Company's reliability performance
19 indicators and proposed changes to the reliability performance indices for
20 the period January 1, 2018 through December 31, 2018.

21 Q. Is the Panel sponsoring any exhibits in support of the testimony?

22 A. Yes, we are sponsoring the following exhibits, which were prepared by or
23 under the supervision of the Panel or one of the Panel's members:

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- 1 1. Exhibit __ (ERP-1) entitled “5 Year Performance Indices (SAIFI and
2 CAIDI)” which provides a summary of Central Hudson’s 5 Year
3 System Average Interruption Frequency Index (“SAIFI”) (frequency)
4 and Customer Average Interruption Duration Index (“CAIDI”)
5 (duration) indices.
- 6 2. Exhibit __ (ERP-2) entitled “2011 – 2016 Tree Related SAIFI” which
7 provides 2011 through 2016 tree related SAIFI data.
- 8 3. Exhibit __ (ERP-3) entitled “2011 – 2016 Tree and Non-Tree SAIFI”
9 which depicts tree contact and non-tree contact non-storm SAIFI
10 along with the penalty levels for each year.

11 **III. RELIABILITY PERFORMANCE INDICATORS**

- 12 Q. Please provide an overview of Central Hudson’s proposed reliability
13 performance indices.
- 14 A. Ongoing improvement in electric system reliability continues to be an
15 important objective for Central Hudson. Electric reliability performance at
16 Central Hudson is primarily measured utilizing the SAIFI and CAIDI
17 indices, long used by the Commission to measure reliability. These
18 standard Institute of Electrical and Electronics Engineers indices are
19 defined as follows:

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SAIFI = System Average Interruption Frequency Index =

Total # of Customers Interrupted

Total # of Customers Served

CAIDI = Customer Average Interruption Duration Index =

Sum of Customer Interruption Duration

Total # of Customers Interrupted

In accordance with Commission determinations, for the purpose of tracking reliability performance in relation to its SAIFI and CAIDI performance indices, Central Hudson excludes major storm outage data. 16 NYCRR Part 97.1 defines a major storm as “a period of adverse weather during which service interruptions affect at least 10 percent of the customers in an operating area and/or result in customers being without electric service for durations of at least 24 hours.”

SAIFI metrics are inherently tied to the planning, design, construction standards and overall system topology/conditions (i.e., weather events, tree coverage), whereas CAIDI is tied to crew availability, weather events, number of concurrent outages and response/repair times. The root cause of the interruption has a significant impact on the repair time.

Q. Is the Company proposing any changes to its SAIFI or CAIDI performance targets at this time?

A. No. As described further in Section VI, the Company is not proposing any changes to its current SAIFI and CAIDI performance targets at this time.

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1 The Company is, however, proposing to exclude certain classes of
2 outages from its SAIFI and CAIDI performance calculations. In addition, if
3 the Company exceeds its SAIFI and CAIDI performance targets, the
4 Company is proposing to split the basis points for the SAIFI and CAIDI
5 negative revenue adjustments (“NRAs”) by specific cause codes.

6 Q. What classes of outages are currently included in the SAIFI and CAIDI
7 penalty target calculations?

8 A. The Company includes all interruptions except major storms, as defined in
9 the New York Codes, Rules and Regulations.¹

10 Q. Please describe which classes of outages Central Hudson is proposing to
11 exclude from the SAIFI and CAIDI performance calculations.

12 A. Central Hudson proposes that outages due to the following causes should
13 be exempt from the SAIFI and CAIDI calculations, similar to the manner in
14 which major storms are treated today: 1) certain events beyond the
15 Company’s control (“Non-Utility Control” outages); and 2) outages
16 occurring during times when Central Hudson is providing mutual aid
17 assistance to other utilities.

18 Q. Are you proposing to exclude all outages that were beyond the Company’s
19 control from the SAIFI and CAIDI calculations?

20 A. No. The Company is seeking to exclude Non-Utility Control outages due
21 to the following: 1) danger trees including those resulting from unexpected
22 deforestation (e.g., tree mortality caused by the Emerald Ash Borer

¹ 16 NYCRR 97.1.

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1 ("EAB") and other tree diseases); 2) motor vehicle accidents; 3) vandalism
2 and other criminal activity; and 4) foreign object events (e.g., objects
3 contacting utility equipment such as balloons or airplanes not operated by
4 a utility employee or Company contractor). Outages due to both danger
5 trees, specifically those resulting from unexpected deforestation, and
6 motor vehicle accidents have trended upward over the past five years and
7 are having significant impacts on the Company's reliability indices.

8 Q. What are unexpected deforestation and danger trees?

9 A. The Company's service territory is experiencing a significant increase in
10 unexpected deforestation related to the EAB and other tree diseases such
11 as Woolly Adelgid (hemlock trees), Dutch Elm Disease (elm trees), White
12 Pine Decline (pine trees), and Gypsy Moths/Oak Wilt (oak trees) that
13 cause widespread and in some cases unforeseen tree mortality. Danger
14 trees are trees that are located outside of the limits of the Company's
15 easements but pose a threat to the reliability of its distribution system.
16 Danger trees cover both trees impacted by unexpected deforestation as
17 well as other factors (i.e., wind and lightning damage) that are outside the
18 trimming limits of the Company's easements that pose a threat to the
19 reliability of our distribution system.

20 Q. Please explain the outages the Company has experienced due to danger
21 trees and unexpected deforestation.

22 A. Central Hudson is currently experiencing a significant number of customer
23 interruptions or damage to its systems as a result of danger trees many of

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1 which are a result of unexpected deforestation. In 2012, the Company
2 experienced 1,924 tree related interruptions with a SAIFI impact of 0.378;
3 by 2016 this rose to 2,888 interruptions with a SAIFI impact of 0.563.
4 Although these statistics represent all tree related outages, they are
5 primarily driven by danger trees and unexpected deforestation (EAB
6 related tree mortalities). Outages related to trees/limbs from outside the
7 clearance zone contributed 0.329 to SAIFI in 2016 which was an increase
8 of 63% over 2011. This is driven by an increase in danger trees and
9 unexpected deforestation. Substation breaker lockouts due to ash tree-
10 caused outages per year were 24 times higher in 2016 than in the period
11 from 2011-2013. The Company's service territory is at risk for an even
12 further amount of deforestation related to ash tree infestation by the EAB.
13 Ash trees that succumb to EAB are often subject to erosion at the root
14 plate, resulting in the whole tree hinging over at the base. Erosion of this
15 magnitude can result in severe damage to utility infrastructure, including
16 failing conductors and breaking poles, which can cause other hardware
17 damage. The EAB has significantly impacted the Kingston, southern
18 Catskill, and Northern Poughkeepsie districts in the Company's service
19 territory and is expected to continue to propagate south impacting the
20 remainder of the Company's service territory. This is particularly
21 troublesome for Central Hudson's service territory due to the high density
22 of trees, making it relatively easier for the EAB to spread.

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1 Q. What actions has Central Hudson taken to date to confirm and mitigate
2 the impact of the EAB?

3 A. In 2016, the Company took steps to validate its assumptions regarding
4 danger trees and unexpected deforestation primarily related to EAB. The
5 Company began a targeted hazardous tree program, which identified pilot
6 areas of its system that had experienced the greatest amount of
7 devastation from the EAB. Central Hudson also hired ECI to perform an
8 assessment of the Company's distribution vegetation management
9 program, including an assessment of the EAB. Over 45% of the ash trees
10 in Central Hudson's service territory are in decline, and the percentage will
11 continue to grow. Due to the drastic impact on reliability, on May 5, 2017,
12 Central Hudson submitted a petition to begin addressing the issue while
13 under its current rate agreement through an incremental, targeted tree
14 trimming program.² As described further in Section IV of this testimony
15 and the testimony of Company Witness DuBois, Central Hudson is
16 seeking funding for mitigation of EAB and other Vegetation Management
17 programs.

18 Q. Please provide more detail on outages due to motor vehicle accidents.

19 A. Impacts on SAIFI due to vehicles striking Company equipment has been
20 trending upward in recent years. In 2010, 34,738 customers (0.116 SAIFI)
21 were impacted by such outages; by 2016, this number climbed to 44,733

² Case 17-E-0250, Petition Seeking the New York State Public Service Commission's Approval for Deferral Accounting Authority for Incremental Funding for Distribution Hazard Tree and Electric Transmission Trimming Program and for Relief from the 2016 SAIFI Service Quality Performance Metric Violation and Expedited Treatment (filed May 5, 2017).

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1 customers (0.148 SAIFI). This represents a 0.032 impact on SAIFI, or a
2 28% increase.

3 Q. What has Central Hudson done to mitigate the impact of these outages?

4 A. In January 2017, Central Hudson launched a distracted driving awareness
5 campaign, *'Thanks for putting down the phone. Stay in the Safety Zone:
6 It's the bright thing to do'*. Safety messages continue to be shared through
7 television, radio, newspapers, highway billboards, and social media, and a
8 Family Safe Driving Agreement is available on our website. While Central
9 Hudson will continue to do outreach and education on this public safety
10 issue, it is a national concern that Central Hudson cannot control on its
11 own. According to the National Safety Council, automobile accidents were
12 6 percent higher in 2016 than in 2015, and 14 percent higher than in 2014,
13 the highest two-year increase in 53 years.

14 Q. What constitutes an outage caused by a foreign object which is outside
15 the Company's control?

16 A. Foreign object events involve objects contacting utility equipment such as
17 balloons and airplanes. In addition, if a customer fells a tree into utility
18 equipment causing an outage, this would also be included in this category.

19 Q. Please further describe outages potentially caused by acts of vandalism.

20 A. Vandalism or other criminal activity can affect the performance of the
21 Company's system and cause outages. The Company has experienced
22 past incidences of damaged insulators due to gunshot and has been the
23 victim of copper theft at its facilities. Even where copper theft itself does

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1 not cause an outage, the Company may be required to take an outage (for
2 safety reasons) to restore the ground grid back to normal. These types of
3 incidents are discussed further in the testimony of Company Witness
4 Nuzzo.

5 Q. Why would it be appropriate to exempt Non-Utility Control outages, such
6 as outages due to these four categories of reliability events, from the
7 SAIFI and CAIDI calculations?

8 A. Like the other exclusions currently recognized by the Commission,
9 outages due to danger trees/unexpected deforestation, motor vehicle
10 accidents, vandalism and foreign object events are outside of the
11 Company's control. Thus, it would be appropriate to exempt these types
12 of outages from SAIFI and CAIDI calculations.

13 Q. Please discuss the proposed process for tracking and requesting that a
14 Non-Utility Control outage be exempt from the Company's SAIFI and
15 CAIDI calculations.

16 A. For non-storm tree related outages, the Company would dispatch a utility
17 forester or employee/contractor with equivalent education or experience to
18 perform a field review seeking classification of the outage as a danger
19 tree, EAB or other. This is consistent with what is currently done for tree
20 related circuit breaker lockouts and would be expanded to additional
21 outages. Danger tree and EAB caused outages would then be tracked
22 separately from other outages caused by tree contacts. A similar tracking
23 mechanism would be utilized for motor vehicle accidents, cases of

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1 vandalism and foreign object events. Because our line crews are already
2 trained today on classifying motor vehicle accidents, cases of vandalism,
3 and foreign object events, additional verification would not be required.

4 The Company proposes incorporating this data as part of its Monthly
5 Service Interruptions Summary Report reported through Case 02-E-1240.

6 The information would also be provided in the Annual Electric Reliability
7 Report.

8 Q. Is the Company proposing to exclude any other classes of outages from
9 the SAIFI and CAIDI calculations?

10 A. Central Hudson is also proposing to exclude from the calculations,
11 outages occurring during times when Central Hudson is providing mutual
12 aid assistance to other utilities.

13 Q. Please explain the reasoning behind excluding events during times when
14 Central Hudson is providing mutual aid.

15 A. As part of the North Atlantic Mutual Assistance Group, at times the
16 Company or its contractor resources assist utilities in restoration efforts
17 after major storms or emergencies. When providing mutual aid, the
18 Company is limited in the number of resources it has available to address
19 outages on its own system. Excluding outage events occurring while the
20 Company or its contractor resources is providing mutual aid assistance
21 would allow the Company to deploy as many resources as is reasonable
22 to help other utilities restore service without potentially being financially
23 penalized for doing so. The Company proposes this exclusion would end

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1 24 hours after all internal and contractor mutual aid resources return to
2 Central Hudson's service territory.

3 **IV. VEGETATION MANAGEMENT INITIATIVES**

4 Q. In addition to the EAB, are there other factors impacting reliability
5 performance at this time?

6 A. In addition to EAB, escalating vegetation management costs resulting in
7 insufficient trimming funding to maintain the recommended four-year
8 routine trimming cycle for distribution and five-year cycle for transmission;
9 other emergent tree disease; and Federal and New York State-imposed
10 restrictions on when trimming can be performed due to the Indiana and
11 Long-eared bats are causing a negative impact on SAIFI and CAIDI.
12 Additional funding is required for our vegetation management program to
13 address danger trees/emergent tree disease issues and re-establish and
14 subsequently maintain a four-year distribution trimming cycle. As
15 described in Section III, vegetation related outages and interruptions have
16 historically been, and continue to be, the leading driver of system SAIFI.

17 Q. Please provide a background on the Company's existing performance
18 levels and explain the Company's rationale for proposed modifications
19 necessary to meet the current performance indices.

20 A. Vegetation management funding levels represent a critical element in the
21 Company's ability to meet current and proposed SAIFI performance
22 levels. The current SAIFI performance index was established in the 2015
23 Rate Plan based on a recommendation from the Company. At that time,

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1 the Company recommended changing to a more stringent performance
2 level based on an analysis of the Company's then-current and historical
3 reliability performance, the effectiveness of the Company's past programs
4 and initiatives to improve reliability. The approved SAIFI performance
5 target of 1.30 represented an 11% decrease from the Company's prior
6 target of 1.45. The Company's proposal to lower SAIFI targets was
7 overtaken by an unexpected trend of non-storm and tree related SAIFI
8 increasing at a significant rate due to escalating vegetation management
9 costs and emergent tree disease issues. Despite these emerging trends,
10 the Company met the SAIFI performance level of 1.3 in the first year of the
11 2015 Rate Plan, ending the year at 1.278. Despite the Company's efforts,
12 SAIFI results in 2016 continued to deteriorate and the Company ended the
13 year with a system SAIFI of 1.326, exceeding the SAIFI performance
14 target of 1.3. This is illustrated in Exhibit __ (ERP-3).

15 Q. Please provide background and additional insight into the emergent
16 vegetation related issues.

17 A. Central Hudson tracks reliability performance on an ongoing basis. While
18 overall Company SAIFI improved to 1.00 by 2012 (see Exhibit __ (ERP-
19 1)), an upward trend was developing for tree contact outages (see Exhibit
20 __ (ERP-2)). The leading driver of this deterioration in performance is
21 directly tied to vegetation related outages and more specifically tied to
22 trees/limbs from outside the trimming zone. Via ongoing data analysis,

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1 the Company identified a number of factors that potentially contributed to
2 declining reliability performance including:

- 3 • the trimming restrictions imposed by the New York State
4 Department of Environmental Conservation (“NYSDEC”) due to
5 the Indiana and Long-eared bats;
- 6 • no increase in approved Vegetation Management funding in the
7 2015 Rate Plan which resulted in the Company not being able
8 to stay on a 4–year cycle for distribution and a 5-year cycle for
9 transmission; and
- 10 • the impacts of danger trees, especially the unexpected
11 deforestation due to ash trees infected by the EAB.

12 As we previously noted, the Company reengaged with its vegetation
13 management consultant, ECI, to perform a comprehensive assessment of
14 the drivers of the deteriorated vegetation related reliability performance
15 and develop recommendations to correct course. The key findings by ECI
16 were consistent in large part with the Company’s initial findings and are
17 described in the testimony of Company Witness DuBois.

18 Q. You have identified the vegetation management (transmission and
19 distribution) program as one key component to mitigate deterioration in
20 SAIFI performance. Would you provide additional detail on this program?

21 A. As we noted previously, vegetation related outages and interruptions
22 continue to be the leading driver of system SAIFI. The most cost effective
23 way to improve system reliability is through the use of aggressive trimming

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1 techniques focused on the portions of the system with the highest
2 exposure and biggest impact. The testimony of Company Witness DuBois
3 in this proceeding identifies the funding requirements to address the
4 aforementioned issues including restoring and maintaining a 4-year
5 distribution trimming cycle and 5-year transmission cycle, meeting the
6 NYSDEC required restrictions regarding trimming and endangered
7 species, and effectively addressing hazardous trees, especially the impact
8 of emergent tree disease such as the EAB. The identified funding levels
9 are the most cost effective way to improve reliability and are necessary to
10 meet our current SAIFI performance indices. Due to the criticality of these
11 emerging issues, on May 5, 2017, Central Hudson filed a Petition for
12 Deferral Treatment for Incremental Funding for Central Hudson's
13 Distribution Hazard Tree and Electric Transmission Trimming Program. It
14 is our understanding that this petition is still pending.³
15

V. ADDITIONAL RELIABILITY IMPROVEMENT INITIATIVES

17 Q. Does Central Hudson have any other initiatives that will impact positively
18 its ability to meet SAIFI measures?

19 A. Central Hudson has a number of ongoing initiatives to improve the
20 Company's SAIFI reliability performance. The Company continues to
21 perform facility inspections and subsequent repairs, replace aging
22 infrastructure, analyze and manage equipment failures, and use

³ See supra, Note 1.

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1 distribution automation where its application is operationally practical and
2 cost effective.

3 Overall, the Company's reliability focused initiatives include:
4 targeted capital replacement programs; its Distribution Automation
5 Program; distribution infrastructure inspection and replacement programs;
6 its routine Distribution Line Clearance Program; 3X and Customers
7 Experiencing Multiple Interruptions ("CEMI") Outage Programs; and Worst
8 Circuit Reviews/Reports. Central Hudson also continues to assess
9 equipment failure rates and to develop replacement programs where the
10 cost/customer outage avoided or customer minutes interrupted ratio is
11 favorable.

12 Q. Please provide a brief description of these reliability performance
13 initiatives starting with the targeted capital replacement program.

14 A. The Company's capital forecast supported by Company Witness Haering
15 includes targeted programs that will result in the improvement of the
16 Company's overall system reliability. One example of this type of initiative
17 is our ongoing transmission and distribution substation breaker
18 replacement program. The substation breaker replacement program is an
19 initiative to evaluate and prioritize the replacement of substation circuit
20 breakers based on factors including reliability, condition assessment, age
21 and criticality. The timely replacement of substation assets is critical in
22 maintaining the overall reliability of the Company's transmission and
23 distribution systems. Within the distribution area, Central Hudson

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1 develops capital budget projects each year targeted towards continued
2 improvement in reliability. Examples of these types of projects include
3 relocating distribution circuits on-road, replacing aging poles and
4 conductors, installing electronic reclosers with better transient protection
5 and communications, and creating stronger circuit ties to restore more
6 customers in the event of an outage. These projects are included as
7 specific programs within the capital budget.

8 Q. Please provide details on the Distribution Automation Program and explain
9 how it impacts reliability.

10 A. The Company is in the midst of a multi-year Distribution Automation
11 Program. This program was initiated and included in the 2015 Rate Plan
12 and is in the Company's Capital Expenditure plan as described in the
13 testimony of Company Witness Haering. The program includes the
14 systematic installation of smart distribution devices throughout the
15 Company's service territory. These devices include electronic reclosers,
16 circuit regulators, fixed and switch capacitors, voltage and current
17 sensors, as well as targeted reconductoring. The program is being
18 completed in conjunction with Central Hudson's Network Strategy program
19 and the implementation of a Distribution Management System ("DMS").
20 These initiatives are expected to have a positive impact on the Company's
21 future SAIFI performance.

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1 Q. Continuing with the reliability performance initiatives, please provide a
2 brief description of the infrastructure inspection and replacement program.

3 A. In compliance with the Commission's Order issued March 22, 2013 in
4 Case 04-M-0159, Central Hudson performs inspections on all Company-
5 owned facilities at least once every five years. The purpose of the facility
6 inspections is to visually evaluate equipment and verify the safe and
7 reliable delivery of electricity.

8 As a result of the facility inspections, Central Hudson has been able
9 to prioritize mitigation efforts based upon the severity rating for
10 deficiencies found by field inspectors. Defective poles, along with other
11 compromised equipment, have been replaced as a result of facility
12 inspections.

13 Q. Continuing on the topic of reliability focused initiatives, can you provide a
14 brief description of the 3X and CEMI Outage Programs?

15 A. The 3X and CEMI Outage Programs allow engineers to focus on areas of
16 the system that experience multiple outages per year that are not always
17 captured under larger scale capital improvement programs. On a monthly
18 basis, the Company's engineers identify those protective devices that
19 have operated at least three times within a rolling 12-month period. After
20 the initial identification review is completed, each Electric Operating
21 Engineer reviews the listed devices for his or her district to justify the
22 operations and/or suggest a plan of action. This process is particularly
23 valuable in capturing non-capital improvements, such as the installation of

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1 squirrel guards and spot tree trimming that can result in reductions in the
2 number of outages in these specific and identified pockets.

3 In 2008, Central Hudson initially developed the CEMI Outage
4 Program to identify areas in which groups of customers may be
5 experiencing poor reliability on the Central Hudson system. This program
6 allows the Company to determine the number of customers that
7 experience a given number of outages in a calendar year. This program is
8 used to help the Company identify those areas which may require more
9 specific attention to correct issues impacting reliability. The program
10 originally targeted customers experiencing ten or greater outages in a 12-
11 month period. The Company has recently expanded the program to
12 include CEMI at levels lower than ten interruptions per year to expand the
13 pool of possible projects, while maintaining the use of a cost per customer
14 outages avoided metric as a screening tool.

15 Q. Finally, can you provide a brief description of the Worst Circuit
16 Reviews/Reports initiative?

17 A. Each year, Central Hudson analyzes the worst 5% of circuits based on 5-
18 year weighted average SAIFI, and the worst 5% of circuits based on 5-
19 year weighted average SAIDI (SAIFI*CAIDI). The weights are applied to
20 maintain a stronger emphasis on newly emerging issues while still
21 addressing recurring issues, without over emphasizing unique one-time
22 events. The weights applied are as follows: previous year (50%), 2 years
23 ago (25%), 3 years ago (15%), 4 years ago (5%), and 5 years ago (5%).

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1 The circuits on the list are reviewed in detail to determine if any action is
2 required as a part of the Company’s ongoing capital or maintenance
3 programs.

4 **VI. RELIABILITY TARGETS AND REVENUE ADJUSTMENTS**

5 Q. What are the current targets and negative revenue adjustments
6 associated with SAIFI and CAIDI?

7 A. The current targets are SAIFI at or below 1.3 and CAIDI at or below 2.5.
8 There is an NRA of 30 basis points associated with missing each of these
9 targets.

10 Q. Are you proposing any changes to these targets and NRAs?

11 A. Yes. As indicated earlier in our testimony, we propose changing the
12 calculation and basis point allocation for both the SAIFI and CAIDI penalty
13 levels.

14 Q. Can you describe the changes the Company is proposing to the
15 determination of the SAIFI penalty?

16 A. The Company is proposing maintaining an annual SAIFI target of 1.30
17 with specific Non-Utility Control exclusions. If the 1.30 target level with the
18 exclusions for certain Non-Utility Control outages (danger trees including
19 unexpected deforestation, motor vehicle accidents, vandalism, and foreign
20 object events) and outages occurring during times when Central Hudson
21 is providing mutual aid assistance to utilities is exceeded, the Company
22 proposes to split the 30 basis point penalty along with the SAIFI target as
23 follows (cumulative target remains at 1.30):

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- 1 • Target of 0.49 and 5 basis points tied to tree contacts (Code 2 per
- 2 the New York Codes, Rules, and Regulations);⁴ and
- 3 • Target of 0.81 and 25 basis points tied to overloads, operating or
- 4 working errors, apparatus or equipment failures, accidents or
- 5 events not under utility control, prearranged, customer's equipment
- 6 or failures, lightning, or unknown causes (Codes 3 – 10).⁵

7 Q. Can you describe the changes the Company is proposing to the

8 determination of the CAIDI penalty?

9 A. Central Hudson is proposing to maintain an annual CAIDI target of 2.50. If

10 the 2.50 target level with the exclusions previously discussed in reference

11 to SAIFI is exceeded, the Company proposes to split the existing 30 basis

12 point penalty along with the CAIDI target as follows:

- 13 • Target of 2.90 and 5 basis points tied to tree contacts (Code 2 per
- 14 the New York Codes, Rules, and Regulations);⁶ and
- 15 • Target of 2.25 and 25 basis points tied to overloads, operating or
- 16 working errors, apparatus or equipment failures, accidents or
- 17 events not under utility control, prearranged, customer's equipment
- 18 or failures, lightning, or unknown causes (Codes 3 – 10).⁷

19 Q. Please explain why the Company is proposing a split in the 30 basis point

20 penalty by cause codes.

⁴ 16 NYCRR 97.5(c).

⁵ Id.

⁶ Id.

⁷ Id.

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1 A. Splitting the cause codes between tree contacts and the remainder of the
2 non-major storm cause codes enables the Company to better align the
3 penalties between these two grouping of outage cause codes. As we
4 indicated earlier in our testimony, the Company's ability to mitigate tree
5 related outages is linked to the level of distribution line clearance funding
6 as well as the degree of unexpected deforestation over which Central
7 Hudson has no control, while the Company's ability to address the
8 remaining cause codes is closely linked to a number of the other reliability
9 related initiatives outlined in this testimony.

10 Q. Please explain the basis for the split in target levels you propose for SAIFI
11 and CAIDI.

12 A. The SAIFI target for tree contacts is based upon the 2012-2016 5-year
13 average SAIFI, with the remainder of the 1.3 SAIFI total allocated to non-
14 major storm or tree contact causes. The CAIDI target for tree contacts is
15 slightly above the 2016 actual tree contact CAIDI at 2.9. Due to the
16 complexity of repairs related to outages caused by tree contact,
17 particularly danger trees and unanticipated deforestation, which result in
18 entire trees falling onto the power line, the CAIDI associated with tree
19 contacts is higher than the average CAIDI caused by all outage causes.
20 The Company set a goal lower than the 2.5 average for the non-major
21 storm or tree contact causes of 2.25.

22 Q. Does this conclude your direct testimony at this time?

23 A. Yes, it does.