

**BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS**

DIRECT TESTIMONY

OF

BRUCE AKIN

WESTAR ENERGY

DOCKET NO. 15-WSEE-115-RTS

I. INTRODUCTION

1

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. Bruce Akin, 818 S. Kansas Avenue, Topeka, Kansas.

4 **Q. BY WHOM AND IN WHAT CAPACITY ARE YOU EMPLOYED?**

5 A. Westar Energy, Inc. (Westar). I am Senior Vice President, Power
6 Delivery.

7 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND**
8 **BUSINESS EXPERIENCE.**

9 A. I received a Bachelor of Business Administration degree with a major
10 in Accounting from Washburn University in 1987 and a Master's
11 Degree in Business Administration in 1998. I have worked for
12 Westar Energy for over 27 years with broad experience across many
13 functions in both administrative areas and utility operations. My
14 present position is Senior Vice President of Power Delivery, which

1 includes responsibility for all transmission, substation and
2 distribution plant and operations.

3 **Q HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS**
4 **COMMISSION?**

5 A. Yes.

6 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

7 A. First, I will discuss the progress and success of our ReliabilityTree®
8 program. Then I will describe our proposal for a new Electric
9 Distribution Grid Resiliency (EDGR) program.

10 **II. OVERVIEW OF WESTAR'S PROPOSAL**

11 **Q. WHAT IS WESTAR'S PROPOSAL CONCERNING GRID**
12 **RESILIENCY?**

13 A. We propose to implement a grid resiliency program to address issues
14 related to aging infrastructure, to improve the reliability of our system,
15 and shorten recovery times when outages inevitably occur.

16 **Q. DOES WESTAR PROPOSE TO REFLECT THE COSTS OF ITS**
17 **GRID RESILIENCY PROGRAM IN ITS RATES?**

18 A. Yes.

19 **Q. WHAT IS WESTAR'S PROPOSAL FOR FUNDING THE EDGR**
20 **PROGRAM?**

21 A. We are asking the Commission to approve a mechanism that will
22 ensure timely and accurate recognition in our rates the costs
23 associated with EDGR-related capital investments.

24 **Q. IS THERE PRECEDENT FOR THIS APPROACH?**

1 A. Yes. What we propose is similar to the Environmental Cost
2 Recovery Rider (ECRR) the Commission previously approved to
3 recover costs related to environmental improvements at our power
4 plants. A key difference, however, is that in what we propose here
5 we have limited in terms of total dollars and time limits.

6 **Q. WHY IS THE EDGR IN THE PUBLIC INTEREST?**

7 A. A safe, reliable electric system is expected by our customers. Our
8 society and economy rely on it. As the electric distribution system
9 ages, modern upgrades and improved resiliency need to be built into
10 the system to meet those expectations.

11 **Q. WHAT IS THE ESTIMATED IMPACT OF THE EDGR PROGRAM**
12 **ON RATES?**

13 A. We estimate that after five years, the effect on rates will be only \$0.27
14 per month for a typical residential customer.

15 **III. RELIABILITREE**

16 A. *Overview*

17 **Q. WHAT IS RELIABILITREE®?**

18 A. ReliabiliTree® is a program we proposed and the Commission
19 approved in our last general rate case (Docket No. 12-WSEE-112-
20 RTS) specifically designed to improve distribution reliability through
21 enhanced vegetation management (e.g., trimming trees to reduce
22 potential interference with lines and energized equipment), follow-up
23 line maintenance and customer education.

1 In that proceeding, we presented the Commission with two
2 options for the ReliabiliTree®. The Commission approved the less
3 costly and more limited scope of the two; the option approved by the
4 Commission was designed to cover 73% of our electric circuits. The
5 other option would have covered 100% of our circuits.

6 Our customers have significantly benefitted from the
7 fundamental change in how we schedule and perform electric
8 distribution vegetation clearing and follow-up maintenance work
9 under ReliabiliTree®.

10 **Q. PLEASE SHARE HOW THIS HAS OCCURRED.**

11 A. Due to the cooperation of the parties in agreeing to the program, and
12 the foresight of the Commission in approving it, our customers have
13 seen significant improvements in reliability, reduced damage from
14 storms and tree-related outages. As a result, we are now well-
15 positioned to move to the next step in improving system reliability.
16 With our lines now significantly cleared of vegetation and a better
17 inventory of the condition of distribution equipment, we now have a
18 very clear picture of which assets are nearing the end of their useful
19 lives. The next step is to implement an equally efficient, and
20 complementary, distribution asset replacement program further to
21 enhance grid resiliency.

22 **Q. WAS IMPLEMENTATION OF THE RELIABILITREE® PROGRAM**
23 **BENEFICIAL TO CUSTOMERS?**

1 A. Yes. In years prior to this initiative we had been trimming all circuits
2 on a cycle, the frequency of which was simply too long to be
3 sufficiently effective. To improve that, in 2002, we began focusing
4 more on reliability pruning rather than on circuit pruning. Reliability
5 pruning is defined as targeting and clearing a portion of the circuits
6 where vegetation causes the most significant reliability issues.

7 By 2011, our use of reliability trimming for a few years had
8 improved us to a position where we were then able to transition back
9 to circuit pruning in order to maintain and build on the improvements
10 achieved through reliability pruning. However, in order to continue
11 improving reliability, it was necessary to shorten the tree trimming
12 cycle. As I will discuss below, the results of ReliabilityTree® – in terms
13 of improved reliability and reductions in the impact of severe weather
14 on our systems – affirm the merits of this approach.

15 **Q. PLEASE DESCRIBE THE OPTIONS WESTAR PRESENTED TO**
16 **THE COMMISSION IN THE LAST GENERAL RATE CASE.**

17 A. In the test year that was the basis for our 2011 rate filing, we spent
18 approximately \$24 million for vegetation management on our
19 distribution system. Under Option 1, we proposed to increase our
20 annual expenditure on vegetation management by approximately
21 \$20 million to \$44 million annually for enhanced vegetation
22 management, equipment repairs and public education.

1 Implementation at that level was expected to bring the entire Westar
2 system to a four to five year trimming cycle.

3 Option 2 called for \$10.9 million of additional annual funding
4 above our test year level for enhanced vegetation management,
5 equipment repairs and public education to bring major population
6 centers – accounting for approximately 73% of our customers – to a
7 four to five year trimming cycle.

8 **Q. WHAT WAS THE RESPONSE TO WESTAR’S PROPOSAL?**

9 A. Westar, the Commission Staff, Kansas Industrial Consumers Group,
10 Inc., on its own behalf and on behalf of its members, Unified School
11 District No. 259, Kansas Association of School Boards, Kroger Co.,
12 U.S. Department of Defense, Wal-Mart Stores, Inc., and Tyson
13 Foods in a non-unanimous Stipulation and Agreement (S&A) all
14 supported the implementation of Option 2. Although CURB opposed
15 other aspects of the S&A, it did not raise any issue concerning
16 implementation of ReliabiliTree®.

17 Subsequently, the Commission approved Option 2 in its final
18 rate case order, including the related *pro forma* funding of an
19 additional \$10.9 million annually.

20 **Q. HAS THE PROGRAM BEEN EFFECTIVE?**

21 A. Yes, overwhelmingly so. Since inception of ReliabiliTree®, we have
22 invested at least \$34.7 million – the amount approved by the

1 Commission – each year in which the program has been in place.¹
2 This has funded distribution vegetation management, follow-up
3 maintenance and public education. However, once clear of
4 vegetation, we discovered there was less need for minor repairs, but
5 a greater need for capital improvements, due to the age and
6 condition of many circuits. Such capital investments were (and are)
7 necessary for safety and system reliability.

8 **Q. HOW DID THE INCREASE IN CAPITAL INVESTMENT AFFECT**
9 **IMPLEMENTATION OF RELIABILITREE®?**

10 A. The increase in capital spending did not affect implementation of our
11 trimming program or the amount we spent on ReliabiliTree®.
12 However, we have performed significantly more capital work than we
13 had originally anticipated, which has been outside of the approved
14 funding. In the past two years, we spent approximately \$13 million
15 on capital improvements on circuits cleared under the ReliabiliTree®
16 program.

17 **Q. HAVE YOU KEPT THE COMMISSION AND COMMISSION STAFF**
18 **APPRISED OF THE INCREASE IN CAPITAL INVESTMENT?**

19 A. Yes. As part of the program, we file periodic reports with the
20 Commission and meet with Staff, to discuss program

¹ In 2012, when the program was in place for three-fourths of the year (April 1 to December 31), we spent approximately \$28.4 million on the program or about \$37.9 million on an annualized basis.

1 implementation, performance, community acceptance and possible
2 adjustments to the plan.

3 **Q. HOW HAS RELIABILITREE® IMPROVED RELIABILITY?**

4 A. Both customer minutes of interruption (CMI) and total customer
5 interruptions (CI) have declined significantly in areas trimmed as part
6 of ReliabiliTree®. Additionally, side-by-side comparison of circuits
7 where trimming has been completed and where it has not reveal
8 striking differences in both of these measures.

9 **Q. HAS RELIABILITREE® REDUCED EQUIPMENT-RELATED**
10 **FAILURES?**

11 A. Yes. Table 1 shows reductions in equipment failures on trimmed
12 circuits. The instances of equipment failures are also much lower on
13 circuits under ReliabiliTree® compared those not yet in the program.
14 Not surprisingly, this also shows that the gains against vegetation-
15 related failures fade as vegetation grows back.

Table 1

<i>ReliabiliTree Outage Reductions</i>					
Current Period vs Prior 3 Year Average	Vegetation	Failed Equipment	Wildlife	Lightning	All Causes
Trimmed in last 365					
Count of Incidents	-79.03%	-39.89%	-43.63%	-38.85%	-47.65%
Customers Interrupted	-90.58%	-46.34%	-64.21%	-58.04%	-62.81%
Customer Minutes	-85.10%	-44.16%	-64.11%	-62.98%	-60.20%
Trimmed Circuits					
Count of Incidents	-40.54%	4.49%	9.39%	12.76%	-3.58%
Customers Interrupted	-55.56%	-14.21%	6.75%	19.80%	-13.06%
Customer Minutes	-53.61%	-5.89%	15.86%	20.20%	-12.60%
All Circuits					
Count of Incidents	-23.75%	7.70%	15.85%	19.09%	4.69%
Customers Interrupted	-24.77%	-3.70%	19.06%	30.17%	-0.57%
Customer Minutes	-21.76%	-1.35%	20.72%	31.08%	-1.68%

Historical study includes two year period before trimming was started compared to a comparable season period after the trimming was completed.
 Data is normalized and excludes public damage, customer caused interruptions & all major event days
 Negative numbers indicate decreasing metric and improved reliability

- 1 **Q. WHAT CONCLUSIONS CAN ONE DRAW FROM TABLE 1?**
- 2 A. It demonstrates the clear benefits of our trimming program.
- 3 However, the fact that the reduction in the number and duration of
- 4 outages is significantly smaller when all trimmed circuits are taken
- 5 into account, versus those trimmed in the past year, confirms that
- 6 vegetation rebounds quickly after trimming. That information
- 7 demonstrates the need to continue cycle trimming in order to retain
- 8 the gains in reliability resulting from these first phases of
- 9 ReliabiliTree®.
- 10 **Q. HOW HAS RELIABILITREE® REDUCED THE INSTANCES OF**
- 11 **EQUIPMENT FAILURES?**
- 12 A. First, of course, is the fact that we have engaged in both O&M and
- 13 capital investment in distribution circuits we have trimmed. That has

1 reduced failures by repairing or replacing equipment before it failed
2 and caused a customer outage. Second, some failures that are
3 counted as “equipment failures” were directly or indirectly related to
4 vegetation issues. Reducing contacts between energized equipment
5 and vegetation, *i.e.*, reducing the frequency of fault incidents, also
6 reduces strains on equipment that eventually results in failure.

7 B. *Future plans for ReliabiliTree®*

8 **Q. WHAT HAS WESTAR LEARNED IMPLEMENTATING**
9 **RELIABILITREE®?**

10 A. We have learned a great deal about the workload associated with
11 trimming various density levels of trees and the necessary follow-up
12 maintenance required. As a result, we are now in an excellent
13 position to better project the cost of future ReliabiliTree® activities.
14 Based on our experience with ReliabiliTree®, we expect that, once
15 we complete our first full cycle trim, we can execute a system-wide,
16 full scope, ReliabiliTree® program for about the same cost we had
17 originally anticipated for the limited scope program agreed to in our
18 last case. In other words, due to the efficiencies with which we have
19 implemented and managed ReliabiliTree®, we now believe we can
20 execute Option 1 (*i.e.*, cycle trimming 100% of circuits) for the price
21 of Option 2.

22 **Q: HAS WESTAR PROVIDED PERIODIC REPORTING TO THE**
23 **COMMISSION STAFF AS PART OF THE RELIABILITREE®**
24 **PROGRAM?**

1 A: Yes. As ordered by the Commission, we have provided periodic
2 reports to the Staff and initially met with them twice per year. After
3 the first few meetings, Staff was comfortable with the success of the
4 program, and the information it was receiving and asked that we
5 continue to file the periodic reports, but only schedule a face-to-face
6 meeting once per year.

7 **Q: HAVE THE RELIABILITY RESULTS OF THE PROGRAM BEEN**
8 **CONSISTENT WITH WHAT WESTAR PROJECTED AT THE TIME**
9 **THE PROGRAM WAS APPROVED?**

10 A: Yes. We still expect to achieve the same improvement in reliability
11 from the program as originally projected.

12 **IV. ELECTRIC DISTRIBUTION GRID RESILIENCY (EDGR)**
13 **PROGRAM**

14 A. *Introduction*

15 **Q. WHAT IS THE NEXT STEP IN IMPROVING SYSTEM**
16 **RELIABILITY?**

17 A. As stated by my predecessor, Caroline Williams, in Docket No. 08-
18 WSEE-1041-RTS

19 Once we are on a more robust vegetation management
20 program, the “true” infrastructure issues will be more
21 identifiable and repairable. With this information we
22 can plan a systematic strategy to address the
23 remaining reliability challenges.

24 Direct Testimony of Caroline Williams, Docket No. 08-WSEE-1041-
25 RTS, at 20.

1 Because of the Commission's foresight in approving
2 ReliabiliTree® in 2011 and the strong results of the program, we are
3 now ready to take that next step – implementing a system hardening
4 and grid resiliency program to further enhance the reliability and
5 resiliency of our distribution system.

6 **Q. WHAT IS SYSTEM HARDENING?**

7 A. System hardening is defined as making physical changes to the
8 utility's infrastructure to make it less susceptible to storm damage,
9 such as high winds, lightning, or flying debris. Hardening "improves
10 the durability and stability of infrastructure to withstand the impacts
11 of severe weather events with minimal damage."
12 Edison Electric Institute, "*Before and After the Storm*," January 2013.

13 **Q. WHAT IS GRID RESILIENCY?**

14 A. Grid resiliency refers to the utility's ability to recover quickly from
15 damage, when it does inevitably occur. Resiliency "measures do not
16 prevent damage; rather they enable facilities to continue operating
17 despite damage and/or promote a rapid return to normal operations."
18 Edison Electric Institute, "*Before and After the Storm*," January 2013.

19 **Q. BY WAY OF EXAMPLE, CAN YOU ILLUSTRATE SOME TYPES
20 OF EQUIPMENT TYPICALLY USED FOR SYSTEM HARDENING
21 AND GRID RESILIENCY?**

22 A. The investment takes on a range; everything from simply replacing
23 existing obsolete equipment with similar equipment, all the way to

1 upgrading switches for automation with real time intelligence as to
2 condition and circumstances. It is not a one-size-fits-all solution.
3 What we deploy depends on the circuit, the load and number of
4 customers on it, and the nature of the service they are taking.

5 **Q. GENERALLY, WHAT ARE YOU PROPOSING?**

6 A. The EDGR program will be a long-term, systematic program
7 involving the installation of new equipment and technologies and
8 system maintenance. EDGR will make our distribution system more
9 resistant to outside forces, allow us to respond to outages more
10 quickly and to diagnose and fix developing problems before they
11 cause outages. Later in this testimony, I will describe the program
12 specifics.

13 **Q. YOU INDICATED THAT THE EDGR IS A “LONG-TERM”**
14 **PROJECT. HOW LONG TERM IS IT?**

15 A. It is a 15 year project. However, just as we have done with
16 ReliabilityTree®, we appreciate that we have to prove the merits of this
17 approach and these investments before making such a fulsome
18 commitment. Accordingly, we are proposing to focus on the first five
19 years of the plan. After five years, we will evaluate the results and
20 make necessary improvements based on what we have learned
21 along the way before asking the Commission to approve the
22 remainder of the program. Thus, we are asking the Commission to

1 approve the program for a limited time and subject to a cap on the
2 investment we will make under it.

3 **Q. WHY IS THIS THE TIME FOR WESTAR TO IMPLEMENT THE**
4 **EDGR PROGRAM?**

5 A. Never before have our customers and our economy been so
6 dependent on reliable electricity. Reliable electric service is
7 increasingly central to the quality of our customers' lives – their
8 safety, convenience, productivity and comfort – and the smooth
9 functioning of our state's economy. Despite the growing
10 dependence on reliable electric service of our society, we continue
11 to deliver power in much the same way as we have for decades. The
12 use of modern technology to monitor systems and provide near real
13 time operational controls will greatly improve reliability to the levels
14 required by today's heavy reliance on electricity.

15 As we have previously told the Commission, we have an aging
16 system. Nearly 80% of our substation distribution transformers and
17 nearly 60% of our distribution poles are 30 years old or older. We
18 have extracted greater value from this equipment than we could ever
19 have imagined, but that does not mean it does not eventually require
20 replacement. Charts 1 and 2 below show the age distributions of our
21 substation distribution transformers and distribution poles,
22 respectively.

CHART 1

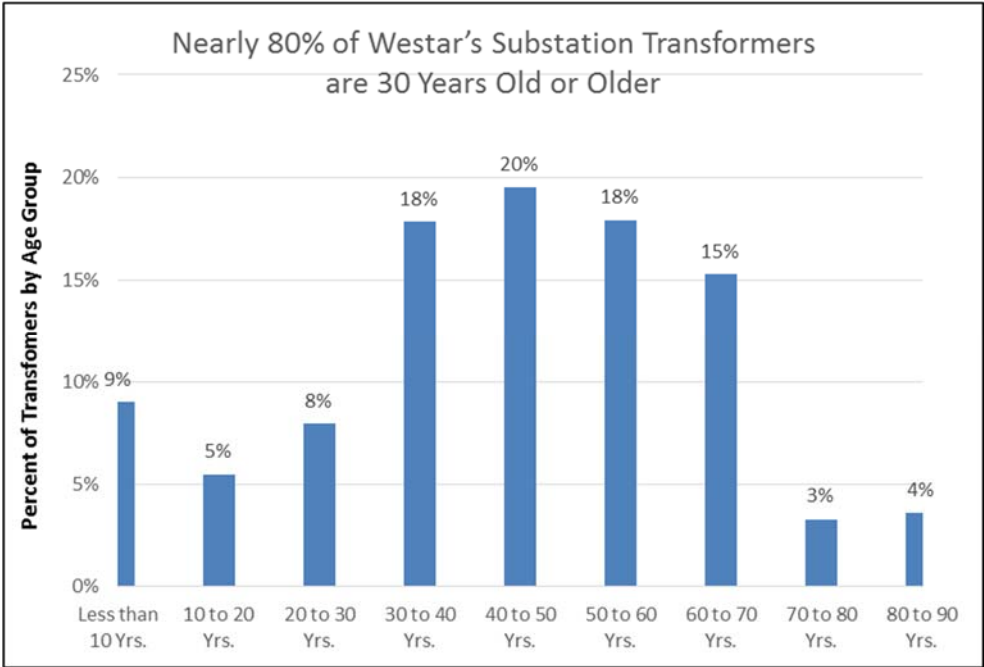
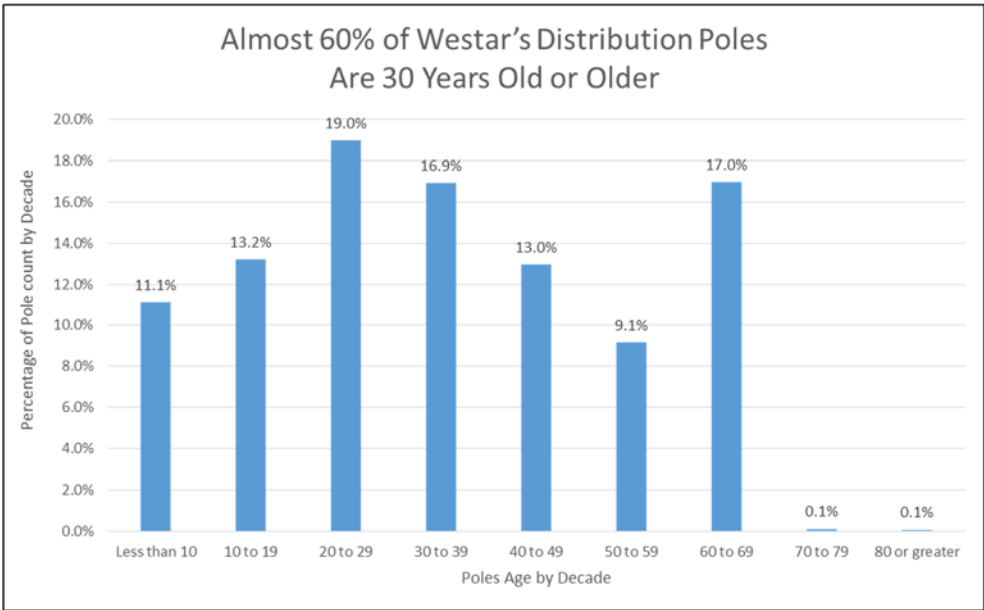


CHART 2



1 The proper sequence to address aging infrastructure is
2 precisely what we are doing. The first step was implementing a
3 comprehensive, efficient, vegetation management and follow-on

1 maintenance program – ReliabilityTree®. Then, as expected and as
2 Caroline Williams advised the Commission in her 2008 testimony,
3 with the lines clear, the next appropriate step is to improve the
4 underlying infrastructure in a planned, efficient and systemic fashion
5 – our proposed EDGR.

6 **Q. DO YOU HAVE EVIDENCE OF THE IMPACTS OF THESE**
7 **INFRASTRUCTURE NEEDS?**

8 A. Yes. We have seen increasing customer interruptions due to
9 equipment failures in recent years. Failures are highly correlated with
10 the age of equipment.

11 **Q. HAS WESTAR PERFORMED A FORMAL STUDY OF THESE**
12 **ISSUES?**

13 A. Yes. We enlisted the UMS Group, a firm specializing in utility asset
14 management, to study our systems and propose a plan to address
15 aging infrastructure issues. Westar witness Mr. Cummings of UMS
16 sponsors the UMS report in his testimony.

17 B. *Overview of grid resiliency programs already in place*

18 **Q. ARE YOU AWARE OF EFFORTS IN OTHER STATES TO**
19 **ADDRESS RELIABILITY ISSUES THROUGH HARDENING AND**
20 **RESILIENCY PROGRAMS?**

21 A. Yes. The Edison Electric Institute (EEI) has created a compilation of
22 recent studies, programs and policies related to storm hardening and
23 resiliency. As EEI notes, the “review of states shows that regulatory
24 attention to storm hardening and resiliency to help prevent and

1 mitigate outages has strengthened since Super Storm Sandy.”
2 Approaches to the issue have varied from state to state. Edison
3 Electric Institute, “*Before and After the Storm*,” January 2013, at 27.

4 Many states have enacted similar programs, but waited until
5 the severe consequence of a major storm event drove them to act
6 rather than being proactive. In many cases, state legislatures
7 mandated implementation of such programs, placing their judgment
8 ahead of that of regulators and the utilities.

9 The EEI report lists a number of examples.

10 **Q. IS THERE A NEED FOR LEGISLATIVE ACTION IN KANSAS TO**
11 **ADDRESS THIS ISSUE?**

12 A. No. The Commission has authority to approve a hardening and grid
13 resiliency program and its funding in rates under existing law. It also
14 has the flexibility to establish the program the way the Commission
15 and utilities believe work best and to make pragmatic adjustments as
16 the program is implemented. Other states have implemented grid
17 improvement programs through legislative action, but only as a last
18 resort in response to a major outage event. I believe Kansas can
19 and should do better.

20 C. *Overview of the EDGR Program Proposal*

21 **Q. WHAT SPECIFICALLY IS INCLUDED IN THE PROPOSED**
22 **PROGRAM?**

23 A. We are proposing 41 initiatives addressing all aspects of our
24 distribution infrastructure. The program includes such mundane

1 elements as a comprehensive pole inspection, followed by pole
2 treatment and replacement/reinforcement as well as more technical
3 solutions involving such things as installing addressable equipment
4 to enhance supervisory control and data acquisition (SCADA)
5 capabilities. A complete list of the program elements is contained in
6 the UMS report at pages 11-16.

7 **Q. WHY SHOULD THE COMMISSION APPROVE WESTAR'S**
8 **IMPLEMENTING THE EDGR PROGRAM?**

9 A. Customer expectations for more reliable electric service continue to
10 increase. As we have previously advised the Commission, Westar
11 and the industry have a problem with aging infrastructure and legacy
12 assets in need of refurbishment or replacement. Without a
13 thoughtful, systemic, efficient EDGR program, this infrastructure will
14 continue to be at risk of aging, further eroding service reliability. A
15 planned, thoughtful, systemic approach is far more efficient than one
16 requires reactionary, even emergency, response. Just as we have
17 realized tremendous efficiencies with ReliabiliTree®, I believe we will
18 experience similar gains in the efficiency with which we can deploy
19 this equipment. In addition, the EDGR program will provide us
20 operational flexibility by expanding distribution capacity and circuit
21 routing options. Through the program, we will also install
22 communicating equipment to enhance monitoring of asset condition

1 and, in the event of unplanned outages, improve the speed with
2 which we can restore service.

3 **Q. WHY SHOULDN'T YOU DO THIS IN THE ORDINARY COURSE,**
4 **AND WITHOUT AN EDGR RECOVERY MECHANISM?**

5 A. A systematic approach to the EDGR program is the most efficient
6 way to get the work completed and to manage it through the
7 regulatory process. We have shown with our ReliabilityTree® program
8 that a systematic approach delivers the benefits we said we would
9 deliver.

10 **Q. HOW DO OUTAGES NEGATIVELY AFFECT CUSTOMERS?**

11 A. The impact of outages affects each of our customers
12 differently, but it affects all of them negatively. For our residential
13 customers, for example, interruptions affect personal comfort,
14 convenience, entertainment options, living expenses (e.g.,
15 unplanned dining out), nighttime lighting and safety. For a few, there
16 can be a serious health and safety issue. Sadly, wide scale outages
17 can even trigger civil unrest, property damage and theft. For
18 commercial customers, a power loss leads to lost business and/or
19 damage to inventory. Industrial costs may include lost production
20 time, unproductive labor costs and damage to goods in process.
21 Impacts of outages on individual industrial customers can be
22 extraordinarily expensive. One of our largest customers estimates
23 the cost of a single outage at \$3,000,000. Others have provided

1 estimates ranging from \$30,000 to \$1,000,000 per outage and from
2 \$1,000 to \$1,000,000 *per hour* for each hour of outage.

3 D. *While the cost of outages may be difficult to quantify for*
4 *some customers, they are real and impact businesses in*
5 *their pocketbooks.*

6 **Q. WHAT BENEFITS DOES THE PROGRAM PROVIDE YOUR**
7 **CUSTOMERS?**

8 A. First and foremost is improved reliability. We estimate the program
9 will reduce SAIFI and SAIDI, the two foremost measures of electricity
10 reliability by 12% and 11% respectively at the end of the program
11 Based on the most recent data available, such levels today would
12 suggest top quartile performance among investor-owned electric
13 utilities in the U.S. However, as I said, utilities across the nation are
14 addressing these same problems, so the bar is rising. Of greater
15 concern, if we don't take undertake such proactive efforts, Kansas
16 will quickly fall behind other markets as they improve.

17 **Q. DO THE BENEFITS OUTWEIGH THE COSTS?**

18 A. Yes, significantly so. We conservatively estimate the annual cost to
19 customers after year five to be approximately \$6 million and the
20 annual savings resulting from improved reliability to be
21 approximately \$9 million, resulting in a net benefit to customers of \$3
22 million annually, or a benefit to cost ratio of 1.5.

23 **Q. WHY DO YOU CHARACTERIZE YOUR ESTIMATE AS**
24 **“CONSERVATIVE”?**

25 A. As the UMS report states:

1 This projected impact is conservative in our view as it
2 does not include exposures related to the aging
3 downtown networks (Wichita and Topeka), where the
4 design of the systems can mask single-event
5 equipment failures until a catastrophic event occurs
6 that will result in large and extended power outages.
7 Due to the nature of the customers (e.g.; Government,
8 Public Utilities, and Commercial Enterprises), served
9 by these assets, these outages could have dramatic
10 economic and public safety consequences. Also, the
11 project impact does not reflect the impact that
12 overloaded transformers can have on overall system
13 capacity and flexibility. Both of these exposures will be
14 addressed in this proposed program.

15 **Q. WHAT OTHER BENEFITS WILL THE EDGR PROGRAM**
16 **PROVIDE?**

17 A. The program will address potential safety problems that may be
18 posed by aging facilities and will also reduce long-term costs to
19 operate and maintain our systems.

20 **Q. HOW WILL THE EDGR PROGRAM REDUCE WESTAR'S LONG-**
21 **TERM COSTS?**

22 A. If we rely on a “fix upon failure” or similar mode rather than
23 transitioning to the proactive, systematic, EDGR approach, we
24 expect to experience increases in equipment-related outages and
25 ever-increasing repair costs. We expect the EDGR program to cost
26 less than maintaining the current approach, while increasing
27 performance in both the near and long-term. As we have
28 demonstrated with ReliabiliTree®, a planned, systemic approach to
29 work is vastly more efficient than one more akin to “firefighting” hot

1 spots. I believe this is much like the old oil filter commercial on
2 television; it's a "pay now or pay more later" proposition.

3 E. *Funding proposal*

4 **Q. WHAT IS WESTAR'S ESTIMATE OF THE COST TO IMPLEMENT**
5 **EDGR?**

6 A. We estimate the required investment in the first five years of the
7 program at \$216.7 million. To put this in perspective, over the next
8 five years we can make substantial improvements in our system, with
9 tangible, meaningful for our customers, for a small fraction of the cost
10 of EPA mandates the past few years. As the UMS report indicates,
11 the investment would be under five broad categories. Table 2 shows
12 the manner in which these investments would be allocated.

TABLE 2
THE PROPOSED EDGR PROGRAM WILL REDUCE THE COST OF
OUTAGES TO CUSTOMERS BY \$9.0 MILLION PER YEAR

	5-Year View
Capital Investment (Note 1)	\$216.7 million
SAIFI Target	1.056
SAIDI Target	95.0 minutes
Annual Reduced Cost of Outages to Customers (Note 2)	\$9.0 million

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1. The actions that comprise the 5-Year view were weighted towards those that will provide the most significant benefit in system reliability. Many of the later actions (planned for years 6 through 15) deal with the longer-term benefits related to sustaining reliable performance.

2. The annual reduced cost of outages to customers reflect a translation of the reduction / avoidance of customer interruptions to potential customer savings predicated on DOE's ICE or Berkley models (source: "Estimated Value of Service Reliability for Electric Utility Customers in the United States" Research Project Final Report dated June 2009); and the reductions indicated in the 5-Year and 15-Year views (\$9.0 million and \$25.3 million) reflect those to be realized by Westar's customers during Years 5 and 15.

1 **Q. HOW DOES WESTAR PROPOSE TO RECOVER THE COSTS**
2 **ASSOCIATED WITH THESE INVESTMENTS?**

3 A. We propose to implement a capital investment tracker identical to the
4 mechanics of our Environmental Cost Recover Rider (ECRR) to
5 recover the return on (based on the overall rate of return approved
6 in this case) and return of (depreciation expense) our investment in
7 the EDGR program. The tracker would initially be set based on the
8 actual capital investment made during the past calendar year and
9 would be adjusted annually to reflect each future year's capital
10 investment. However, unlike the ECRR, we propose to cap the
11 program at no more than \$216.7 million through the five year period
12 ended December 31, 2020. Westar witness Michael Heim sponsors
13 the tariff language to implement the tracker.

14 **Q. DOES WESTAR PROPOSE ANY MONITORING AND**
15 **REPORTING REQUIREMENTS ASSOCIATED WITH THE EDGR**
16 **PROGRAM IMPLEMENTATION?**

17 A. Yes. We propose that we provide quarterly reports of our activities
18 and meet with Staff and other interested parties semi-annually to
19 discuss the program and any necessary adjustments to it

20 **V. CONCLUSION**

21 **Q. DO YOU HAVE ANY CONCLUDING REMARKS FOR THE**
22 **COMMISSION?**

23 A. As I stated at the outset, our ReliabilityTree® program has been a
24 great success. Now that we have established a systemic, effective,

1 efficient approach to vegetation management, it is time to move
2 forward to enhance our system reliability by implementing a grid
3 resiliency and hardening program. For a relatively modest
4 investment spread over many years, we can provide significant,
5 tangible benefits to customers and the public generally through
6 enhance reliability and safety. We urge the Commission to approve
7 our EDGR proposal and the related funding tracker.

8 **Q. THANK YOU.**