BEFORE
THE TENNESSEE PUBLIC UTILITY COMMISSION

PETITION OF KINGSPORT POWER COMPANY d/b/a AEP APPALACHIAN POWER FOR APPROVAL OF ITS TARGETED RELIABILITY PLAN, AND ITS TRP & MS RIDER, AN ALTERNATIVE RATE MECHANISM AND MOTION FOR PROTECTIVE ORDER	)	Docket No. 17-00032

DIRECT TESTIMONY
of
WILLIAM H. NOVAK

ON BEHALF OF
THE CONSUMER PROTECTION AND ADVOCATE DIVISION
OF THE
TENNESSEE ATTORNEY GENERAL'S OFFICE

July 10, 2017

IN THE TENNESSEE PUBLIC UTILITY COMMISSION
AT NASHVILLE, TENNESSEE

IN RE:	)	
	)	
PETITION OF KINGSPORT POWER	)	
COMPANY d/b/a AEP APPALACHIAN	)	
POWER FOR APPROVAL OF ITS	)	
TARGETED RELIABILITY PLAN,	)	**Docket No. 17-00032**
AND ITS TRP & MS RIDER, AN	)	
ALTERNATIVE RATE MECHANISM AND	)	
MOTION FOR A PROTECTIVE ORDER	)	

AFFIDAVIT

I, William H. Novak, CPA, on behalf of the Consumer Protection and Advocate Division of the Attorney General's Office, hereby certify that the attached Direct Testimony represents my opinion in the above-referenced case and the opinion of the Consumer Advocate Division.

WILLIAM H. NOVAK

Sworn to and subscribed before me
this 10th day of July, 2017.

NOTARY PUBLIC

My commission expires: 6 July '20

RICHARD RIDDLE
STATE OF TENNESSEE NOTARY PUBLIC
DAVIDSON COUNTY, TENN.

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ATTACHMENTS

Q1. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND OCCUPATION FOR THE RECORD.

A1. My name is William H. Novak. My business address is 19 Morning Arbor Place, The Woodlands, TX, 77381. I am the President of WHN Consulting, a utility consulting and expert witness services company.[1]

Q2. PLEASE PROVIDE A SUMMARY OF YOUR BACKGROUND AND PROFESSIONAL EXPERIENCE.

A2. A detailed description of my educational and professional background is provided in Attachment WHN-1 to my testimony. Briefly, I have both a Bachelor's degree in Business Administration with a major in Accounting, and a Master's degree in Business Administration from Middle Tennessee State University. I am a Certified Management Accountant, and am also licensed to practice as a Certified Public Accountant.

My work experience has centered on regulated utilities for over 35 years. Before establishing WHN Consulting, I was Chief of the Energy & Water Division of the Tennessee Public Utility Commission (the Commission) where I had either presented testimony or advised the Commission on a host of regulatory issues for over 19 years. In addition, I was previously the Director of Rates & Regulatory Analysis for two years with Atlanta Gas Light Company, a natural gas distribution utility with operations in Georgia and Tennessee. I also served for

[1] State of Tennessee, Registered Accounting Firm ID 3682.

two years as the Vice President of Regulatory Compliance for Sequent Energy Management, a natural gas trading and optimization entity in Texas, where I was responsible for ensuring the firm's compliance with state and federal regulatory requirements.

In 2004, I established WHN Consulting as a utility consulting and expert witness services company. Since 2004 WHN Consulting has provided testimony or consulting services to state public utility commissions and state consumer advocates in at least ten state jurisdictions as shown in Attachment WHN-1.

Q3. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?

A3. I am testifying on behalf of the Consumer Protection and Advocate Division (Consumer Advocate) of the Tennessee Attorney General's Office.

Q4. HAVE YOU PRESENTED TESTIMONY IN ANY PREVIOUS CASES CONCERNING KINGSPORT POWER COMPANY?

A4. Yes. I presented testimony in Dockets U-86-7472, 89-02126, 90-05735, 92-04425, 15-00024 and 16-00001 concerning Kingsport Power Company d/b/a AEP Appalachian Power (KgPCo). In addition, I previously advised the Commission on issues in other KgPCo dockets where I did not present testimony.

Q5. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A5. My testimony will support and address the Consumer Advocate's positions and concerns with respect to KgPCo's Petition. Specifically, I will address KgPCo's proposal for a Targeted Reliability Plan (TRP) which consists of both a Vegetation Management Program (VMP) and a System Improvement Program (SIP). I will also address KgPCo's proposal for an Alternative Rate Mechanism (ARM) that establishes a rider to provide for the recovery of these TRP costs as well as the recovery of the operations & maintenance (O&M) expense associated with major storms (MS) that are not included in KgPCo's base rates (TRP & MS Rider).

Q6. WHAT DOCUMENTS HAVE YOU REVIEWED IN PREPARATION OF YOUR TESTIMONY?

A6. I have reviewed KgPCo's Petition filed on April 19, 2017, along with the testimony and exhibits presented with its filing. In addition, I have reviewed KgPCo's workpapers supporting its filing. I have also reviewed KgPCo's responses to the data requests submitted by the Consumer Advocate and other intervenors in this Docket.

Q7. MR. NOVAK, PLEASE SUMMARIZE YOUR RECOMMENDATION TO THE COMMISSION IN REGARD TO KGPCO'S PETITION.

A7. I recommend that the Commission approve KgPCo's proposal to include the costs associated with the Vegetation Management Program and System Improvement Program in the proposed TRP & MS Rider, along with the requirement for an

annual review, through the use of appropriate metrics and targets, of the incurred costs for prudency as well as to determine the accuracy of KgPCo's calculation of the components of the TRP & MS Rider. I also recommend that the Commission approve the inclusion of the O&M related portion of KgPCo's storm restoration costs within the proposed TRP & MS Rider, along with the requirement for an annual review to determine the accuracy of KgPCo's calculation of the components of the TRP & MS Rider. Finally, I recommend that the Commission approve KgPCo's proposed annual calculation methodology for the TRP & MS Rider. This annual filing should also include an attestation requirement appropriately similar to that in recent Commission dockets (for example, Docket 14-00146) and demonstrate a reconciliation of KgPCo's general accounts with those used in the TRP & MS Rider.

Q8. HOW IS YOUR TESTIMONY ORGANIZED?

A8. I'll begin by briefly discussing some background information concerning this Docket. Next, I will address KgPCo's proposal for the recovery of the Targeted Reliability Plan (TRP) costs associated with vegetation management and system improvement. I will then address KgPCo's proposal for the recovery of O&M costs associated with major storms. Finally, I will discuss my recommendations on the tariff design for the proposed TRP & MS Rider.

I. BACKGROUND

Q9. MR. NOVAK, WOULD YOU PROVIDE SOME BACKGROUND ON THE TRP & MS RIDER PROPOSED BY KGPCO OUTSIDE OF A RATE CASE?

A9. Yes. In Docket No. 15-00093, KgPCo requested increased rates for costs comparable with those requested in the TRP & MS Rider proposal in this Docket No. 17-00032. However, for a number of reasons, Docket No. 15-00093 was later withdrawn by KgPCo.

KgPCo again requested cost treatment similar to the current TRP & MS Rider proposal when it refiled its general rate case in Docket No. 16-00001. Specifically, Docket No. 16-00001 included within KgPCo's request for a general increase in rates, a proposal for recovery of a broad range of costs and a mechanism to recover those costs through a single, consolidated variable cost rider (VCR). The VCR, as then proposed by KgPCo, would have provided that the difference between actual costs for certain items be tracked and subject to deferred accounting for future recovery through an alternative mechanism designed to collect from or credit to customers, for (a) fuel; (b) purchased power costs; (c) transmission costs; (d) demand-side management costs; (e) distribution reliability costs; (f) major storm recovery costs; and (g) emerging costs, such as cyber and physical security. The proposed VCR was later withdrawn by KgPCo during the course of negotiations for a comprehensive settlement. With the VCR

withdrawn and the general rates and terms and conditions agreed upon, the parties settled Docket No. 16-00001.[2]

Importantly, in the settlement of Docket No. 16-00001, cost levels for vegetation management and storm restoration were identified and established within base rates that KgPCo could use in a future alternative regulatory mechanism filing.[3] Further, the allocation and rate design for those costs were agreed to by the parties and approved by the Commission in that rate case. Those base rate amounts can now be used to measure the incremental costs requested in this current Docket.

After the approval of the settlement in Docket No. 16-00001, the Consumer Advocate and KgPCo engaged in numerous meetings to discuss KgPCo's potential refiling of a number of the original VCR proposals. After these discussions, KgPCo made a determination to only include vegetation management, system improvement and major storm costs in the rider proposed in this Docket.

[2] See the Settlement Agreement in Docket No. 16-00001 that was approved by the TPUC on August 9, 2016. In the settlement, some of the costs – such as fuel costs and purchased power costs – were included in a rider that allows for the recovery of those costs in accordance with current TPUC practice, and, as discussed below, two others – distribution reliability costs and MS recovery costs were included as set amounts in rates in a manner that enabled this current Docket to incorporate those amounts as base rate levels.

[3] Specifically, KgPCo's base rates include $903,372 for vegetation management expense and $392,381 for major storm restoration expense.

II. RECOVERY OF TARGETED RELIABILITY PLAN COSTS

Q10. MR. NOVAK, PLEASE EXPLAIN THE RELIEF THAT KGPCO IS ASKING FROM THE COMMISSION THROUGH ITS PROPOSED RECOVERY OF TARGETED RELIABILITY PLAN COSTS.

A10. The Targeted Reliability Plan (TRP) consists of a Vegetation Management Program (VMP) and a System Improvement Program (SIP).[4] In KgPCo's last rate case, approximately $903,372 was included in base rates as a provision for vegetation management and system improvements. As background, up to now, KgPCo has used a "performance-based" approach to vegetation management that prioritizes tree trimming activity according to certain select input variables.[5] KgPCo is now proposing to transition this "performance-based" approach for vegetation management to a "cycle-based" approach that systematically addresses each circuit, end-to-end, every four years.[6] The SIP proposed by KgPCo consists of increased and more proactive programs for circuit improvements, circuit inspection & maintenance, and station improvements in order to address equipment failures and outages.[7] In this Docket, KgPCo is asking the Commission for authority to true-up the difference between revenue requirement

[4] The term "Vegetation Management" has historically been referred to as "tree trimming" in prior rate cases.

[5] Per KgPCo response to Consumer Advocate Data Request 1-16, "These variables include, among other factors, the time elapsed since vegetation management activities were last performed, the results of recent line inspections, tree-related reliability indices, criticality, customer complaints, and environmental conditions."

[6] Direct testimony of KgPCo witness Castle, Page 3.

[7] Direct testimony of KgPCo witness Wright, Pages 13-14.

actually incurred for TRP costs and the $903,372 amount already included in base rates within the proposed TRP & MS Rider.

Q11. IS THERE A NEED FOR THE INCREASED ACTIVITY ASSOCIATED WITH KGPCO'S PROPOSED VMP AND SIP PROGRAMS, AND WHAT METRICS ARE AVAILABLE TO EVALUATE SUCH NEED?

A11. KgPCo makes an adequate case in its Petition, testimony, and responses to discovery that recovery of the VMP and SIP costs are needed to "…improve reliability for Kingsport's distribution customers."[8] However, I am concerned that the cost effectiveness and the immediacy of the need for these two programs is not entirely clear, and requires further and continuing review. By way of example, two of the best gauges for assessing the immediacy of the need can be seen in the System Average Interruption Duration Index (SAIDI) and the System Average Interruption Frequency Index (SAIFI). The SAIDI index measures how long (in minutes) that the average service interruption lasts exclusive of major weather events. The SAIFI index measures how often (per year) customer service is interrupted by these same outages. The SAIDI index for KgPCo and other select Tennessee electric utilities, which I refer to as the Kingsport Power Tennessee Peer Group (Peer Group) is shown below on Table 1.[9]

[8] Direct testimony of KgPCo witness Castle, Page 3.

[9] See KgPCo response to Consumer Advocate Data Request 2-3. Only those Tennessee utilities reporting under the IEEE standard and for each year of 2013, 2014 and 2015 are included.

TABLE 1 – System Average Interruption Duration Index (SAIDI) Excluding Major Events – Select Tennessee Electric Utilities (Minutes)				
Utility	**2013**	**2014**	**2015**	**Average**
Bristol	29	35	32	32
Cleveland	29	29	45	34
Clinton	122	2	118	81
Duck River	137	115	170	141
Fort Loudoun	249	5	409	221
Greeneville	131	79	88	100
Johnson City	64	29	35	43
Kingsport Power	**221**	**216**	**200**	**212**
Knoxville	2	2	119	41
LaFollette	4	5	158	56
Powell Valley	137	137	131	135
Pulaski	1	1	79	27
Rockwood	0	33	56	30
Sequachee Valley	142	182	152	159
Tri-County	312	192	226	244
Average	**105**	**71**	**135**	**104**

As shown on Table 1 above, the KgPCo SAIDI average for 2013, 2014 and 2015 is 212 minutes. This means that the average service interruption (exclusive of major weather events) for KgPCo lasted on average 212 minutes over this three-year period, which is approximately twice the 104-minute average for the entire Peer Group.

Q12. HAVE YOU ALSO COMPILED DATA FOR THE SAIFI INDEX?

A12. Yes. The SAIFI index for the Peer Group is shown below on Table 2.[10]

[10] Ibid.

TABLE 2 – System Average Interruption Frequency Index (SAIFI) Excluding Major Events – Select Tennessee Electric Utilities (Occurrences)				
Utility	**2013**	**2014**	**2015**	**Average**
Bristol	0.00	0.74	0.47	0.40
Cleveland	0.56	0.56	0.70	0.61
Clinton	1.53	1.57	2.06	1.72
Duck River	1.61	1.41	1.78	1.60
Fort Loudoun	2.36	2.83	3.55	2.91
Greeneville	1.77	1.10	1.40	1.42
Johnson City	0.68	0.49	0.37	0.51
Kingsport Power	**1.62**	**1.50**	**1.38**	**1.50**
Knoxville	1.31	1.14	1.44	1.30
LaFollette	3.14	3.37	2.36	2.96
Powell Valley	1.13	1.13	2.00	1.42
Pulaski	1.16	1.17	1.42	1.25
Rockwood	0.00	0.56	1.00	0.52
Sequachee Valley	1.81	1.84	1.49	1.71
Tri-County	3.50	2.30	3.00	2.93
Average	**1.48**	**1.45**	**1.63**	**1.52**

As shown on Table 2 above, the KgPCo SAIFI average for 2013, 2014 and 2015 is 1.50 service interruptions. This means that on average there were 1.5 service interruptions (exclusive of major weather events) each year for KgPCo which is almost equal to the 1.52 average service interruptions for the entire Peer Group.

As shown on Tables 1 and 2, the SAIDI and SAIFI indices for KgPCo do not appear to be outside the range of the Peer Group. It is also worth noting that no evidence has been presented showing a rash of complaints filed with the Commission regarding service outages from KgPCo's customers. Therefore, the above metrics and absence of customer complaints indicate that there are questions about the immediacy of the need for KgPCo's proposed VMP & SIP programs.

Q13. WHAT IS THE EXPECTED INCREMENTAL COST OF INCLUDING THE VMP & SIP COSTS WITHIN THE PROPOSED TRP & MS RIDER?

A13. Over the course of the proposed ten-year program, KgPCo states that it expects to spend an incremental $27 million in O&M expenses and $54 million in capital to achieve the goals of the VMP and SIP programs.[11] The expected monthly surcharges necessary to recovery these expected costs over this 10-year period are shown below on Table 3.

TABLE 3 – Forecasted VMP and SIP Surcharges By Tariff

Year	RS (Bill)	SGS (Bill)	MGS-Sec (Demand)	MGS-Tod (Energy)	MGS-Pri (Demand)	LGS-Sec (Demand)	LGS-Pri (Demand)
2018	$1.90	$2.39	$1.12	$0.00109	$1.08	$1.21	$0.94
2019	2.08	2.62	1.23	0.00120	1.18	1.33	1.03
2020	2.31	2.91	1.36	0.00133	1.31	1.47	1.14
2021	2.54	3.19	1.49	0.00145	1.44	1.61	1.25
2022	2.40	3.02	1.41	0.00138	1.36	1.53	1.18
2023	2.84	3.57	1.67	0.00163	1.61	1.81	1.40
2024	3.26	4.11	1.92	0.00187	1.85	2.08	1.61
2025	3.68	4.63	2.16	0.00211	2.09	2.34	1.81
2026	4.07	5.13	2.40	0.00234	2.31	2.59	2.01
2027	4.45	5.61	2.62	0.00256	2.52	2.83	2.20

Year	IP-Pri (Demand)	IP-Tran (Demand)	CS (Energy)	PS (Energy)	EHG (Demand)	OL (Lamp)	SL (Contract)
2018	$0.43	$0.40	$0.00419	$0.00337	$1.11	$0.49	$1,701.43
2019	0.47	0.44	0.00460	0.00370	1.22	0.54	1,865.96
2020	0.52	0.49	0.00510	0.00410	1.35	0.60	2,068.83
2021	0.57	0.54	0.00559	0.00450	1.48	0.65	2,269.94
2022	0.54	0.51	0.00529	0.00426	1.41	0.62	2,148.22
2023	0.64	0.60	0.00626	0.00504	1.66	0.73	2,540.44
2024	0.74	0.69	0.00720	0.00579	1.91	0.84	2,922.46
2025	0.83	0.78	0.00812	0.00653	2.16	0.95	3,294.79
2026	0.92	0.86	0.00898	0.00723	2.39	1.05	3,646.00
2027	1.00	0.94	0.00982	0.00790	2.61	1.15	3,986.96

[11] KgPCo response to Consumer Advocate Data Request 1-15.

As shown in Table 3, Residential customers will initially pay a monthly surcharge of $1.90 per month for the costs of the VMP & SIP programs which will then rise to $4.45 per month in the tenth year.

Q14. DO YOU RECOMMEND THAT THE COSTS FOR THE VMP & SIP PROGRAMS BE INCLUDED WITHIN THE TRP & MS RIDER?

A14. Based on KgPCo's case and my own analyses, I recommend that the Commission approve KgPCo's proposal to include the costs associated with the Vegetation Management Program and the System Improvement Program within the proposed TRP & MS Rider. However, I would also recommend that the Commission implement an annual review process to determine the accuracy of KgPCo's calculation of the components of the VMP and SIP programs within the TRP & MS Rider. In addition, I recommend that the Commission annually review the VMP and SIP program costs for prudency through the use of appropriate metrics and targets.

While it may not always be true, KgPCo's management appears, at this point, to be in the best position to determine whether the VMP & SIP programs are in the best interest of their customers. It is also worth noting that if KgPCo actually spent the costs associated with the proposed VMP & SIP programs, then in all likelihood it would be allowed to recover these prudently incurred costs within its next rate case.

Since the purpose of the enabling legislation establishing alternative regulatory mechanisms was to provide for a more timely review of the rate setting process, it stands to reason that KgPCo should be allowed to recover the costs associated with the VMP and SIP programs within the proposed TRP & MS Rider. However, as the data on the SAIDI and SAIFI indices and the projected cost of the Rider indicate, there are questions about the potential benefits of the VMP & SIP programs, especially when compared to its projected cost. I believe that those questions can best be answered through the requirement of specific metrics and targets to establish a basis for a prudency review – and more fundamentally, to determine whether there are measurable on-going benefits to KgPCo incurring the amounts that it proposes to spend. The measurement and quantification of these benefits, if any, should serve to assist the Commission in determining whether the benefits of the VMP & SIP programs are worth the cost as this proposed program is implemented – or even whether it should be continued after the first few years.

I would therefore recommend that the Commission implement an annual review process to determine the accuracy of KgPCo's calculation of the components of the VMP & SIP programs within the TRP & MS Rider. In addition, I recommend that the Commission annually review the VMP & SIP program costs for prudency through the use of appropriate metrics and targets.

Q15. WHAT SPECIFIC METRICS AND TARGETS ARE YOU RECOMMENDING THAT THE COMMISSION ADOPT TO MEASURE THE PRUDENCY OF THE VMP & SIP PROGRAMS?

A15. I have included a complete list of my recommended metrics and targets in Attachment WHN-2 to my testimony. My recommendation is that the Commission require KgPCo to provide the information contained in Attachment WHN-2 when it submits its annual TRP & MS Rider filing for (a) the year for which KgPCO files, (b) at least five years prior to the first annual filing for those items with available data, and (c) for all years in which the TRP & MS Rider is effective. One particular component of Attachment WHN-2 concerns updates to the annual SAIDI calculation that was shown on Table 1. As shown on Table 1, KgPCo's three year SAIDI average is over twice that of the Peer Group. Naturally, I would be expecting the proposed VMP & SIP Programs to bring this disparity in the SAIDI index down (with the reductions reflected as appropriate targets), and I would also be expecting KgPCo to fully explain the circumstances if this is not the case.

III. RECOVERY OF MAJOR STORM COSTS

Q16. MR. NOVAK, PLEASE EXPLAIN THE RELIEF THAT KGPCO IS ASKING FROM THE COMMISSION THROUGH ITS PROPOSED RECOVERY OF MAJOR STORM COSTS.

A16. In KgPCo's last rate case, approximately $392,381 was included in base rates as a provision for repairs caused by service disruptions from major storms. This level of O&M expense was based on past experience and is generally typical of KgPCo's average O&M expense related to storm restoration costs. However, from time to time, a significant major storm occurs resulting in costs that are outside of what is normally considered in a rate case. In the past, when these significant storms have occurred, KgPCo has petitioned the Commission to defer and separately recover the associated costs.[12] In this Docket, KgPCo is asking the Commission for authority to true-up the difference between the O&M expense actually incurred from major storms and the $392,381 amount included in base rates within the proposed TRP & MS Rider.

Q17. WHAT IS THE INCREMENTAL COST OF INCLUDING SUCH A TRUE-UP FOR MAJOR STORMS WITHIN THE PROPOSED TRP & MS RIDER?

A17. At this time, there is no incremental cost of including a true-up for major storms within the proposed TRP & MS Rider. When a major storm does occur, KgPCo would identify and accumulate the O&M costs associated with the storm and then include its cost within the TRP & MS Rider.

Q18. DO YOU RECOMMEND THAT THE COSTS FOR MAJOR STORMS BE INCLUDED WITHIN THE TRP & MS RIDER?

[12] See Commission Dockets 10-00144, 12-00051, 13-00121 and 15-00024.

A18. Yes. Such a provision will provide KgPCo with an on-going recovery mechanism for major storm costs and eliminate the need to separately request deferral and recovery of these costs. However, I do recommend that the Commission order KgPCo to provide the same full accounting and allocation of major storm costs to Tennessee along with its TRP & MS Rider that it now provides within the storm cost deferral dockets before these costs are recovered from customers.

IV. TRP & MS RIDER TARIFF

Q19. MR. NOVAK, PLEASE DESCRIBE THE COSTS THAT THE TRP & MS RIDER TARIFF WILL INCLUDE.

A19. As proposed by KgPCo, the TRP & MS Rider will recover incremental non-revenue producing plant and O&M relating to vegetation management, system improvement and major storms in the following accounts:

Account 583 – Overhead Line Expenses;

Account 584 – Underground Line Expenses;

Account 593 – Maintenance of Overhead Lines;

Account 594 – Maintenance of Underground Lines;

Account 596 – Maintenance of Street Lighting & Signal Systems;

Account 598 Maintenance of Misc. Distribution Plant; and

Account 101 Electric Plant in Service.

Q20. PLEASE DESCRIBE THE PROCESS THAT KGPCO WILL USE TO RECOVER ITS COSTS THROUGH THE TRP & MS RIDER.

A20. By December 1st of each year (beginning in 2018), KgPCo would make its proposed TRP & MS filing with the Commission for the previous twelve months ending September 30th. Absent any direction otherwise from the Commission, KgPCo will then implement the TRP & MS Rider surcharges on March 1st of each year.[13]

[13] See KgPCo response to Consumer Advocate Data Request 1-8.

Q21. DO YOU AGREE WITH THE TIMELINE AND METHODOLOGY FOR THIS RECOVERY?

A21. Yes. I believe that these proposed dates will typically give the Commission Staff and the Consumer Advocate adequate time to review the filing. Further, I believe that a single after-the-fact filing based on actual results is preferable to separate budget and reconciliation filings.

Q22. PLEASE DISCUSS THE COST COMPONENTS THAT ARE INCLUDED IN THE CALCULATION OF THE TRP & MS RIDER.

A22. According to KgPCo, the TRP & MS Rider provides revenue sufficient to cover the capital cost, operating & maintenance expense, depreciation, non-income taxes, income taxes, and accumulated deferred income taxes related to the investment in incremental utility plant.[14]

Q23. HOW HAS KGPCO PROPOSED THAT THE TRP & MS RIDER BE CALCULATED?

A23. KgPCo begins with the incremental, non-revenue producing plant additions for the VMP and SIP programs and multiplies this amount by the pre-tax rate of return approved in its last rate case to give the total pre-tax return on invested capital. KgPCo then adds the depreciation expense to the pre-tax return to get the total capital cost. Next KgPCo adds the incremental O&M costs of the

[14] Direct testimony of Company Witness Castle, Page 6.

vegetation management and storm restoration from the level approved in the last rate case to the total capital cost to get the total TRP & MS Rider cost. This calculation is summarized below for each of the components.

VMP and SIP Net Plant Additions

Multiplied by the Pre-Tax Rate of Return

Pre-Tax Return on Net Plant Additions

Plus Depreciation Expense

Plus Incremental Vegetation Management O&M Costs

Plus Incremental Storm Restoration O&M Costs

Total TRP & MS Rider Cost

Q24. HOW ARE THE VMP AND SIP NET PLANT ADDITIONS CALCULATED?

A24. KgPCo begins by identifying and isolating the plant expenditures related to vegetation management and system improvement for each month of the review period. This activity is then reported in the appropriate ledger account. KgPCo then multiplies the monthly average plant balance for each account by the appropriate depreciation rate to calculate depreciation expense for the month. At the end of the review period, KgPCo takes the average plant in service and deducts the average accumulated depreciation and accumulated deferred income taxes to calculate the VMP and SIP Net Plant Additions.

Q25. PLEASE EXPLAIN HOW KGPCO'S PRE-TAX RATE OF RETURN IS CALCULATED.

A25. KgPCo's pre-tax rate of return is 8.738%. To make this calculation, KgPCo begins with the weighted equity return approved by the Commission in its last rate case and then increases this return by the revenue conversion factor approved in the same case. KgPCo then adds in the cost of both long- and short-term debt to the equity return to get the total pre-tax rate of return. This calculation is shown below on Tables 4 and 5.

TABLE 4 – Pre-Tax Rate of Return[15]

Equity Class	Capital Structure	Cost Rate	Weighted Cost
Common Equity	40.25%	9.85%	3.965%
Revenue Conversion Factor			1.646488
Pre-Tax Equity Cost	**40.25%**		**6.528%**
KgPCo Short-Term Debt	2.79%	0.29%	0.008%
AEP Short-Term Debt	0.28%	1.35%	0.004%
KgPCo Long-Term Debt	54.78%	3.94%	2.158%
AEP Long-Term Debt	1.90%	2.11%	0.040%
Pre-Tax Debt Cost	**59.75%**		**2.210%**
Pre-Tax Rate of Return	**100.00%**		**8.738%**

[15] KgPCo response to Consumer Advocate Data Request 1-14, Page 35 of 122.

TABLE 5 – Revenue Conversion Factor[16]		
Component	**Amount**	**Balance**
Operating Revenues		1.000000
Plus Forfeited Discounts	0.005660	0.005660
Balance		**1.005660**
Less Uncollectible Expense	-0.006278	-0.006314
Balance		**0.999346**
Less State Excise Tax	-0.065000	-0.064958
Balance		**0.934389**
Less Federal Income Tax	-0.350000	-0.327036
Balance		**0.607353**
Revenue Conversion Factor		**1.646488**

Q26. HOW IS THE DEPRECIATION EXPENSE CALCULATED FOR THE VMP AND SIP CALCULATED?

A26. KgPCo uses the same depreciation rates already approved by the Commission to calculate the annual depreciation charges for the VMP and SIP.

Q27. HOW IS THE INCREMENTAL VEGETATION MANAGEMENT O&M EXPENSE CALCULATED?

A27. KgPCo begins by identifying and isolating the vegetation management O&M expense for each month of the review period. This activity is then reported in the appropriate ledger account and accumulated through the year. KgPCo then deducts the base vegetation management O&M expense of $903,372 that was approved in the last rate case to calculate the incremental vegetation management O&M expense.

[16] KgPCo response to Consumer Advocate Data Request 1-14, Page 36 of 122.

Q28. HOW IS THE INCREMENTAL STORM RESTORATION O&M EXPENSE CALCULATED?

A28. KgPCo begins by identifying and isolating the storm restoration O&M expense for each month of the review period. This activity is then reported in the appropriate ledger account and accumulated through the year. KgPCo then deducts the base storm restoration O&M expense of $392,381 that was approved in the last rate case to calculate the incremental storm restoration O&M expense.

Q29. HOW IS THE TOTAL TRP & MS RIDER COST ALLOCATED TO EACH CUSTOMER CLASS?

A29. The total TRP & MS Rider Cost is allocated to each customer class by using the same allocation factor that was used to allocate KgPCo's revenue deficiency in the last rate case.[17] These allocation factors are shown below in Table 6.

[17] The only customer class allocation that was approved in the last rate case was the one set out in the Settlement Agreement. Although a class cost of service study was filed in that rate case, it was not adopted by the Commission and no such study has been filed in this Docket.

TABLE 6 – Allocation of TRP & MS Rider Costs[18]		
Customer Class	**Rate Increase**	**Increase Allocation**
Residential (RS)	$2,435,820	28.27%
Small General Service (SGS)	269,162	3.12%
Medium General Service-Secondary (MGS)	1,229,391	14.27%
Medium General Service-Time of Day (MGS)	1,348	0.02%
Medium General Service-Primary (MGS)	14,996	0.17%
Large General Service-Secondary (LGS)	2,090,708	24.27%
Large General Service-Primary (LGS)	127,699	1.48%
Industrial Power-Primary (IP)	161,727	1.88%
Industrial Power-Transmission (IP)	1,368,943	15.89%
Church Service (CS)	106,835	1.24%
Public School (PS)	239,203	2.78%
Electric Heating General (EHG)	278,960	3.24%
Outdoor Lighting (OL)	83,290	0.97%
Street Lighting (SL)	206,912	2.40%
Total	**$8,614,994**	**100.00%**

By way of example, the Residential customer class was allocated 28.27% of the rate increase from KgPCo's last rate case as shown above on Table 6. Therefore, residential customers would also be allocated 28.27% of the future TRP & MS Rider costs.

Q30. HOW IS THE ALLOCATED COST OF THE TRP & MS RIDER CONVERTED TO A RATE SURCHARGE FOR EACH CUSTOMER CLASS?

A30. After the TRP & MS Rider Costs are allocated to each customer class, the allocated cost is divided by the appropriate billing determinate for each customer class from KgPCo's last rate case. The surcharge for a particular customer class

[18] KgPCo response to Consumer Advocate Data Request 1-15.

may be formed on the basis of bills, kWh energy, or billing demand. These billing determinants are shown below in Table 7.

TABLE 7 – Customer Class Billing Determinants			
Customer Class	**Bills**	**Energy (kWh)**	**Demand (kW)**
RS (Bills)	495,438	680,836,392	0
SGS (Bills)	43,489	22,662,165	0
MGS-Secondary (Demand)	16,060	114,501,808	425,067
MGS-TOD (Energy)	57	477,775	0
MGS-Primary (Demand)	49	3,905,850	5,381
LGS-Secondary (Demand)	2,839	230,661,679	667,906
LGS-Primary (Demand)	78	13,459,500	52,670
IP-Primary (Demand)	29	85,124,202	145,875
IP-Transmission (Demand)	48	884,274,471	1,314,816
CS (Energy)	2,186	9,850,982	0
PS (Energy)	367	27,413,429	0
EHG (Demand)	6957	24,742,277	96,863
OL (Lamps)	65,663	0	0
SL (Contracts)	47	0	0
Total	**633,307**	**2,097,910,530**	**2,708,578**

By way of example, the total TRP & MS Rider costs allocated to the Residential customer class would be divided by 495,438 bills in order to calculate the appropriate TRP & MS Rider surcharge for the following year.

Q31. HOW WILL ANY UNDER- OR OVER-RECOVERED TRP & MS RIDER COST BE TREATED?

A31. Any under- or over-recovered TRP & MS Rider cost will be tracked for each customer class and then trued-up and included with the cost for that particular customer class in the following year.[19]

[19] Direct testimony of KgPCo witness Allen, Page 10.

Q32. ARE THERE ANY OTHER PROVISIONS OF NOTE IN THE TRP & MS RIDER CALCULATION?

A32. Yes. KgPCo has proposed that the TRP & MS Rider established in this proceeding be sunset after ten years.[20] I agree with this proposed life span. I would also recommend the Commission require that KgPCo provide an attestation that the costs and expenses included in the TRP & MS Rider are complete and accurate and reflect the amounts included on KgPCo's books and records.

Q33. DO YOU AGREE WITH THE METHODOLOGY PROPOSED BY KGPCO TO CALCULATE THE TRP & MS RIDER?

A33. I do agree with the methodology proposed by KgPCo to calculate the TRP & MS Rider.

V. SUMMARY & RATE RECOMMENDATION

Q34. MR. NOVAK, PLEASE SUMMARIZE YOUR RECOMMENDATIONS TO THE COMMISSION.

A34. I recommend that the Commission approve KgPCo's proposal to include the costs associated with the Vegetation Management Program and System Improvement Program within the proposed TRP & MS Rider, with the requirement of an annual review, through the use of appropriate metrics and targets, of the incurred costs for prudency and to determine the accuracy of KgPCo's calculation of the

[20] Direct testimony of KgPCo Witness Castle, Page 8.

components of the TRP & MS Rider. Further, I recommend that the Commission approve the inclusion of the O&M related portion of KgPCo's storm restoration costs within the proposed TRP & MS Rider, with the requirement of an annual review to determine the accuracy of KgPCo's calculation of the components of the TRP & MS Rider. Finally, I recommend that the Commission approve KgPCo's calculation methodology for the TRP & MS Rider. KgPCo's annual filing should also include an attestation requirement appropriately similar to that in recent Commission dockets (for example, Docket No. 14-00146) and also demonstrate a reconciliation of KgPCo's general accounts and those used in the TRP & MS Rider.

Q35. DOES THIS COMPLETE YOUR TESTIMONY?

A35. Yes, it does. However, I reserve the right to incorporate any new data that may subsequently become available.

ATTACHMENT WHN-1

William H. Novak Vitae

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The Woodlands, TX 77381

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Areas of Specialization

Over thirty-five years of experience in regulatory affairs and forecasting of financial information in the rate setting process for electric, gas, water and wastewater utilities. Presented testimony and analysis for state commissions on regulatory issues in four states and has presented testimony before the FERC on electric issues.

Relevant Experience

WHN Consulting – September 2004 to Present
In 2004, established WHN Consulting to provide utility consulting and expert testimony for energy and water utilities. WHN Consulting is a "complete needs" utility regulation firm able to provide clients with assistance in all areas of utility rate analysis. Since 2004, WHN Consulting has provided assistance to public utility commissions and state consumer advocates in over ten state jurisdictions. Some of the topics and issues that WHN Consulting has presented testimony for include net metering, alternative rate regulation, revenue requirement calculations in rate cases, class cost of service studies, rate design, deferred income tax calculations, purchased gas costs, purchased power costs, and weather normalization studies.

Sequent Energy Management – February 2001 to July 2003
Vice-President of Regulatory Compliance for approximately two years with Sequent Energy Management, a gas trading and optimization affiliate of AGL Resources. In that capacity, directed the duties of the regulatory compliance department, and reviewed and analyzed all regulatory filings and controls to ensure compliance with federal and state regulatory guidelines. Engaged and oversaw the work of a number of regulatory consultants and attorneys in various states where Sequent has operations. Identified asset management opportunities and regulatory issues for Sequent in various states. Presented regulatory proposals and testimony to eliminate wholesale gas rate fluctuations through hedging of all wholesale gas purchases for utilities. Also prepared testimony to allow gas marketers to compete with utilities for the transportation of wholesale gas to industrial users.

Atlanta Gas Light Company – April 1999 to February 2001
Director of Rates and Regulatory Analysis for approximately two years with AGL Resources, a public utility holding company serving approximately 1.9 million customers in Georgia, Tennessee, and Virginia. In that capacity, was instrumental in leading

Atlanta Gas Light Company through the most complete and comprehensive gas deregulation process in the country that involved terminating the utility's traditional gas recovery mechanism and instead allowing all 1.5 million AGL Resources customers in Georgia to choose their own gas marketer. Also responsible for all gas deregulation filings, as well as preparing and defending gas cost recovery and rate filings. Initiated a weather normalization adjustment in Virginia to track adjustments to company's revenues based on departures from normal weather. Analyzed the regulatory impacts of potential acquisition targets.

Tennessee Regulatory Authority – Aug. 1982 to Apr 1999; Jul 2003 to Sep 2004

Employed by the Tennessee Regulatory Authority (formerly the Tennessee Public Service Commission) for approximately 19 years, culminating as Chief of the Energy and Water Division. Responsible for directing the division's compliance and rate setting process for all gas, electric, and water utilities. Either presented analysis and testimony or advised the Commissioners/Directors on policy setting issues, including utility rate cases, electric and gas deregulation, gas cost recovery, weather normalization recovery, and various accounting related issues. Responsible for leading and supervising the purchased gas adjustment (PGA) and gas cost recovery calculation for all gas utilities. Responsible for overseeing the work of all energy and water consultants hired by the TRA for management audits of gas, electric and water utilities. Implemented a weather normalization process for water utilities that was adopted by the Commission and adopted by American Water Works Company in regulatory proceedings outside of Tennessee.

Education

B.A, Accounting, Middle Tennessee State University, 1981
MBA, Middle Tennessee State University, 1997

Professional

Certified Public Accountant (CPA), Tennessee Certificate # 7388
Certified Management Accountant (CMA), Certificate # 7880
Former Vice-Chairman of National Association of Regulatory Utility Commission's Subcommittee on Natural Gas

WHN CONSULTING

Witness History for William H. Novak, CPA

Selected Cases

State	Company/Sponsor	Year	Assignment	Docket
Louisiana	CenterPoint Energy/Louisiana PSC	2011	Audit of PGA Filings from 2002 - 2008 of CenterPoint Arkla	S-32534
	CenterPoint Energy/Louisiana PSC	2011	Audit of PGA Filings from 2002 - 2008 of CenterPoint Entex	S-32537
	Louisiana Electric Utilities/Louisiana PSC	2012	Technical Consultant for Impact of Net Meter Subsidy on other Electric Customers	R-31417
Tennessee	Aqua Utilities/Aqua Utilities	2006	Presentation of Rate Case on behal of Aqua Utilities	06-00187
	Atmos Energy Corporation/Atmos Intervention Group	2007	Rate design for Industrial Intervenor Group	07-00105
	Bristol TN Essential Services/BTES	2009	Audit of Cost Allocation Manual	05-00251
	Chattanooga Manufacturers Association/CMA	2009	Spokesperson for Industrial Natural Gas Users before the Tennessee State Legislature	HB-1349
	Piedmont Natural Gas Company/Tennessee AG	2011	Rate Case Audit - Revenue, Class Cost of Service Study & Rate Design	11-00144
	Tennessee-American Water Company/Tennessee AG	2012	Rate Case Audit - Revenues, Rate Base, Class Cost of Service Study and Rate Design	12-00049
	Tennessee-American Water Company/Tennessee AG	2013-2017	Alternative Regulation - Audit of Budget & True-up Filings, Rate Design	16-00126
	Piedmont Natural Gas Company/Tennessee AG	2013-2017	Alternative Regulation - Audit of Budget & True-up Filings, Rate Design	16-00140
	Piedmont Natural Gas Company/Tennessee AG	2014	Audit of Recovery of Compressed Natural Gas Infrastructure Costs	14-00086
	Piedmont Natural Gas Company/Tennessee AG	2014	Audit of Accumulated Deferred Federal Income Tax	14-00017
	Atmos Energy Corporation/Tennessee AG	2014	Rate Case Audit - Revenues, O&M Expenses, Rate Base and Rate Design	14-00146
	Atmos Energy Corporation/Tennessee AG	2015-2017	Alternative Regulation - Audit of Budget & True-up Filings, Rate Design	16-00105
	B&W Gas Company/B&W	2015	Presentation of Rate Case on behalf of B&W Gas Company	15-00042
	AEP & Kingsport Power/Tennessee AG	2015	Audit of Storm Costs and Rate Recovery	15-00024
	AEP & Kingsport Power/Tennessee AG	2016	Rate Case Audit - Revenue, Rate Base, Class Cost of Service Study & Rate Design	16-00001
Alabama	Jefferson County (Birmingham) Wastewater/Alabama AG	2013	Bankruptcy Filing - Allowable Costs and Rate Design	2009-2318
Illinois	Peoples & North Shore Gas Cos./Illinois Commerce Comm.	2007	Management Audit of Gas Purchasing Practices	06-0556
New Mexico	Southwestern Public Service Co./New Mexico PRC	2010	Financial Audit of Fuel Costs for 2009 and 2010	09-00351-UT
New York	National Grid/New York PSC	2011	Audit of Affiliate Relationships and Transactions	10-M-0451
Ohio	Ohio-American Water Company/Ohio Consumers' Counsel	2010	Rate Case Audit - Class Cost of Service and Rate Design	09-0391-WS-AIR
	Vectren Energy Delivery of Ohio/Ohio Consumers' Counsel	2008	Rate Case Audit - Class Cost of Service and Rate Design	07-1080-GA-AIR
	Duke Energy-Ohio/Public Utilities Commission of Ohio	2009	Focused Management Audit of Fuel & Purchased Power (FPP Riders)	07-0723-EL-UNC
Texas	Center Point Energy/Texas AG	2009	Rate Case Audit - Class Cost of Service and Rate Design	GUD 9902
	Sharyland Utilities/St. Lawrence Cotton Growers Assn.	2017	Rate Case Audit - Class Cost of Service and Rate Design	PUC 45414
North Carolina	Aqua Utilities/PSS Legal Fund	2011	Rate Case Audit - Class Cost of Service and Rate Design	W-218, Sub-319
Washington DC	Washington Gas Light Co./Public Service Comm of DC	2011	Audit of Tariff Rider for Infrastructure Replacement Costs	1027
NARUC	National Association of Regulatory Utility Commissioners	2015	Presentation of Regulatory Issues with Net Metering Customers on Rates of Electric Utilities	

NOTE: *Click on Docket Number to view testimony/report for each case where available.*

ATTACHMENT WHN-2

Recommended Metrics and Targets

APCO-Tennessee (YEAR) Reliability Profile

Profile:	**Year**
Total Customer Accounts	
Active Customer Premises	
Residential Customer Accounts	
OH Residential Services	
Total OH Distribution R-O-W (2-/3- phase miles, single phase miles)	
OH Distribution R-O-W Miles Requiring Vegeration Management (2-/3- phase miles, single phase miles)	
Distribution Circuits	
Distribution Pole Miles	
Distribution Cable Miles	
R-O-W Width	
NEW OH & UG SERVICE CONNECTS:	**YEAR**
New Service Connects	
New Service Connects Total Costs	
Average Time to Complete New Service Requests	
Average Daily OT Worked per Lineman (hrs)	
RESOURCES/EXPENSES	**YEAR**
Distribution Employees	
Distribution Reliability Program Employees	
Compay OH Distribution Linemen	
Contract OH Distribution Linemen	
Restoration Vehicles	
Pole Inventory (UOM = each)	
Cross Arm Inventory (UOM = each)	
Wire Inventory (UOM = feet)	
Distribution O&M Expenses	
Distribution Capital Expenses	
Distribution Reliability Improvements Expenses	
Major Storm Resotration Expenses	
Service Restoration Expenses (exlcuding major storms)	
Pole Inspection Program	**YEAR**
Utility or Contractor (provide name) Conducted	
Inspection Cycle (years)	
Number of Distribution Wood Poles on System	
Number of Distribution Wood Poles Inspected	

Distribution Wood Poles Replaced (as a result of routine inspections)	
Distribution Wood Poles Replaced (as a result of rmajor storms)	
Distribution Wood Poles Reinforced	
Reliabilty Improvement Targets:	**YEAR**
Number of Worst Circuits Targeted	
Number of Worst Devices Targeted	
Number of Worst CEI Customers Targeted	
OUTAGES (including major storms)	**YEAR**
Major Storms	
Major Storms Impacting > 100,000 customers	
Number of Outage Events	
Minimum Time of an Outage Event to Qualify as a Sustained Outage (min.)	
Average Number of Hours For Full Restoration (last customer on) Per Event	
Total Customer Hours Out	
Customer Hours Out- UG Mat'l	
Customer Hours Out - Trees	
Customer Hours Out - Weather	
Customer Hours Out - OH Mat'l	
Customer Hours Out - Misc.	
Customer Hours Out - Public	
Customer Hours Out - bulk pwr.	
Customer Hours Out - Company	
Number of Customers with greater than 10 outages	
Number of Customers with 7-10 outages	
Number of Customers with 4-6 outages	
Number of Customers with 1-3 outages	
Number of Customers with 0 outages	
1st Major Cause of Outages	
2nd Major Cause of Outages	
3rd Major Cause of Outages	
4th Major Cause of Outages	
5th Major Cause of Outages	
OUTAGES (Excluding Major Storms)	**YEAR**
Number of Outage Events (excl. Major Storms)	
Average Number of Hours For Full Restoration (last customer on) Per Event (excl. Major Storms)	
Total Customer Hours Out (excl. Major Storms)	
Customer Hours Out- UG Mat'l (excl. Major Storms)	

Customer Hours Out - Trees (excl. Major Storms)	
Customer Hours Out - Weather (excl. Major Storms)	
Customer Hours Out - OH Mat'l (excl. Major Storms)	
Customer Hours Out - Misc. (excl. Major Storms)	
Customer Hours Out - Public (excl. Major Storms)	
Customer Hours Out - bulk pwr. (excl. Major Storms)	
Customer Hours Out - Company (excl. Major Storms)	
Number of Customers with greater than 10 outages	
Number of Customers with 7-10 outages	
Number of Customers with 4-6 outages	
Number of Customers with 1-3 outages	
Number of Customers with 0 outages	
1st Major Cause of Outages	
2nd Major Cause of Outages	
3rd Major Cause of Outages	
4th Major Cause of Outages	
5th Major Cause of Outages	
INDICES EXCLUDING MAJOR STORMS (Distribution Only)	**YEAR**
SAIDI Goal (minutes, excl. Major Storms)	
SAIDI Actual (minutes, excl. Major Storms)	
SAIFI Actual (interruptions, excl. Major Storms)	
CAIDI Actual (minutes, excl. Major Storms)	
CTAIDI Acutal (minutes, excl. Major Storms)	
Service Availability Goal (%, excl. Major Storms)	
Actual Service Availability (%, excl. Major Storms)	
INDICES WITH NO EXCLUSTIONS (Distribution Only)	**YEAR**
SAIDI Actual (minutes, incl. Major Storms)	
SAIFI Actual (interruptions, incl. Major Storms)	
CAIDI Actual (minutes, incl. Major Storms)	
CTAIDI Acutal (minutes, incl. Major Storms)	
Actual Service Availability (%, incl. Major Storms)	
INDICES EXCLUDING MAJOR STORMS (Total Distribution and Bulk Power)	**YEAR**
SAIDI Goal (minutes, excl. Major Storms)	
SAIDI Actual (minutes, excl. Major Storms)	
SAIFI Actual (interruptions, excl. Major Storms)	
CAIDI Actual (minutes, excl. Major Storms)	
CTAIDI Acutal (minutes, excl. Major Storms)	
Service Availability Goal (%, excl. Major Storms)	
Actual Service Availability (%, excl. Major Storms)	

INDICES WITH NO EXCLUSTIONS (Total Distribution and Bulk Power)	**YEAR**
SAIDI Actual (minutes, incl. Major Storms)	
SAIFI Actual (interruptions, incl. Major Storms)	
CAIDI Actual (minutes, incl. Major Storms)	
CTAIDI Acutal (minutes, incl. Major Storms)	
Actual Service Availability (%, incl. Major Storms)	
TREE RELATED DATA	**YEAR**
Routine Tree Trimming Expense	
Tree Removal Prgram Expense	
Hot Spot Trimming Expense	
Tree Trimming Cycle (urban and rural, years)	
Distribution R-O-W Miles Maintained	
Spot Inspections Conducted	
Total Distribution Foresters	
Degreed Distribution Foresters	
Contact Tree Trimmers (approx.)	
Tree Outage Events (excl. major storms)	
Average Number of Hours For Full Restoration (last customer on) Per Event (excl. Major Storms)	
Range for Full Restoration (shortest, longest)	
Tree SAIFI Actual (excl. major storms)	
Tree SAIFI Goal (excl. major storms)	
Tree SAIDI Actual (minutes, excl. major storms)	
Total Tree Trimming Complaints	